Appendix E - Shortlist [Alternatives] Evaluation

Environmental Statement
East-West Arterial Extension:
Section 2 (Woodland Drive – Lookout Road)
Section 3 (Lookout Road – Frank Sound Road)



Shortlist Evaluation

Assessment of Alternatives
Grand Cayman East-West Arterial Extension

NRA
NATIONAL ROADS AUTHORITY

December 11, 2024

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List of Terms

CMW	Central Mangrove Wetland
CO_2e	Carbon dioxide equivalent
CSF	Critical Success Factor
Cu yd	Cubic Yard
EAB	Environmental Assessment Board
EIA	Environmental Impact Assessment
EWA	East-West Arterial
GHG	Greenhouse Gas
ha	Hectare
km	Kilometre
LOAEL	Lowest observed adverse effect level
LTS	Level of Traffic Stress
m^3	Cubic metre
MT	Metric tonnes
NRA	National Roads Authority
NT	National Trust
PAHI-TD	Planning, Agriculture, Housing, Infrastructure, Transport & Development
SOAEL	Significant observed adverse effect level
tCO_2e/yr	Tonnes of carbon dioxide equivalent per year
ToR	Terms of Reference
UK	United Kingdom
VfM	Value for Money
WebTAG	UK Transport Appraisal Guidance

1 Introduction

The East-West Arterial (EWA) Extension Environmental Impact Assessment (EIA) evaluates an alternative east-west travel route between Woodland Drive and Frank Sound Road on Grand Cayman. The purposes of the proposed project are to improve traffic conditions between the eastern and western districts of Grand Cayman, bolster resiliency by adding another travel route between districts, and facilitate better access to amenities. The EWA Extension also provides opportunities for multimodal usage (e.g. pedestrian, biking, and micromobility facilities), transit expansion, and accommodation for a potential solar canopy.

In accordance with the National Conservation Council's (NCC) EIA Directive, issued under section 3(12)(j) and with effect under section 43(2)(c) of the National Conservation Act (NCA), the NCC decided to require an EIA for the proposed EWA road extension in October of 2016. In 2019, an Environmental Assessment Board (EAB) was empanelled to guide the EIA. The EAB is a subcommittee of the NCC and includes members of the Department of Environment (statutory members), Department of Planning, Water Authority Cayman, and the Public Works Department's Major Projects Office. The EAB is a member of the Project Steering Committee, which also includes the National Roads Authority (NRA).

As is required in the EIA Directive, a Final Terms of Reference (ToR) for the proposed EWA Extension EIA was finalized on April 4, 2023. As part of the process described in Section 43 and outlined in the EWA EIA ToR, an alternatives analysis was undertaken. The alternatives analysis process is discussed in more detail in **Section 2: Assessment of Alternatives** below. During the early stages of the EIA, five Build alternatives (B1, B2, B3, B4, and C1), in addition to the No-Build scenario, were developed and assessed as part of the Longlist Alternatives Evaluation (**Figure 1**). A separate Longlist Evaluation Document has been prepared and finalized to document this analysis.

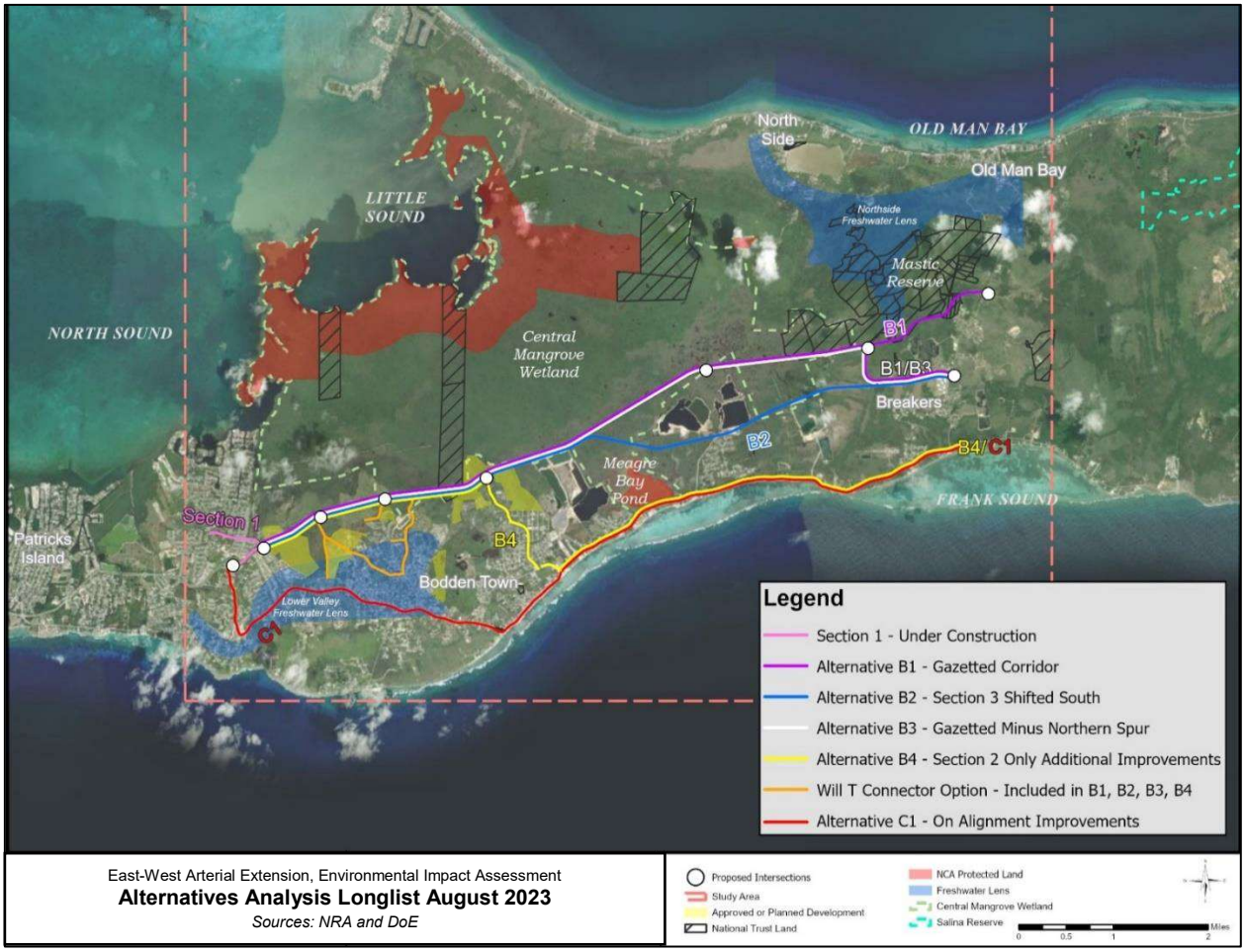

Figure 1: Longlist of Build Alternatives

As a result of the Longlist Alternatives Evaluation, four Build alternatives (B1, B2, B3, and B4) and the No-Build scenario were advanced as a Shortlist of Alternatives (**Figure 2**). As shown in **Figure 2**, the four Build alternatives share the same common section beginning at the western terminus, near Woodland Drive, and continuing east to near Lookout Road. They also share the same common improvements to the local roadway network referred to as the Will T Connector. Additional details describing the Shortlist of Alternatives can be found in **Section 3: Shortlist of Alternatives** of this report and **Attachment B - Engineering – Assessment of Alternatives**. This report focuses on the evaluation of these Shortlisted Alternatives and recommendation of a Preferred Alternative.

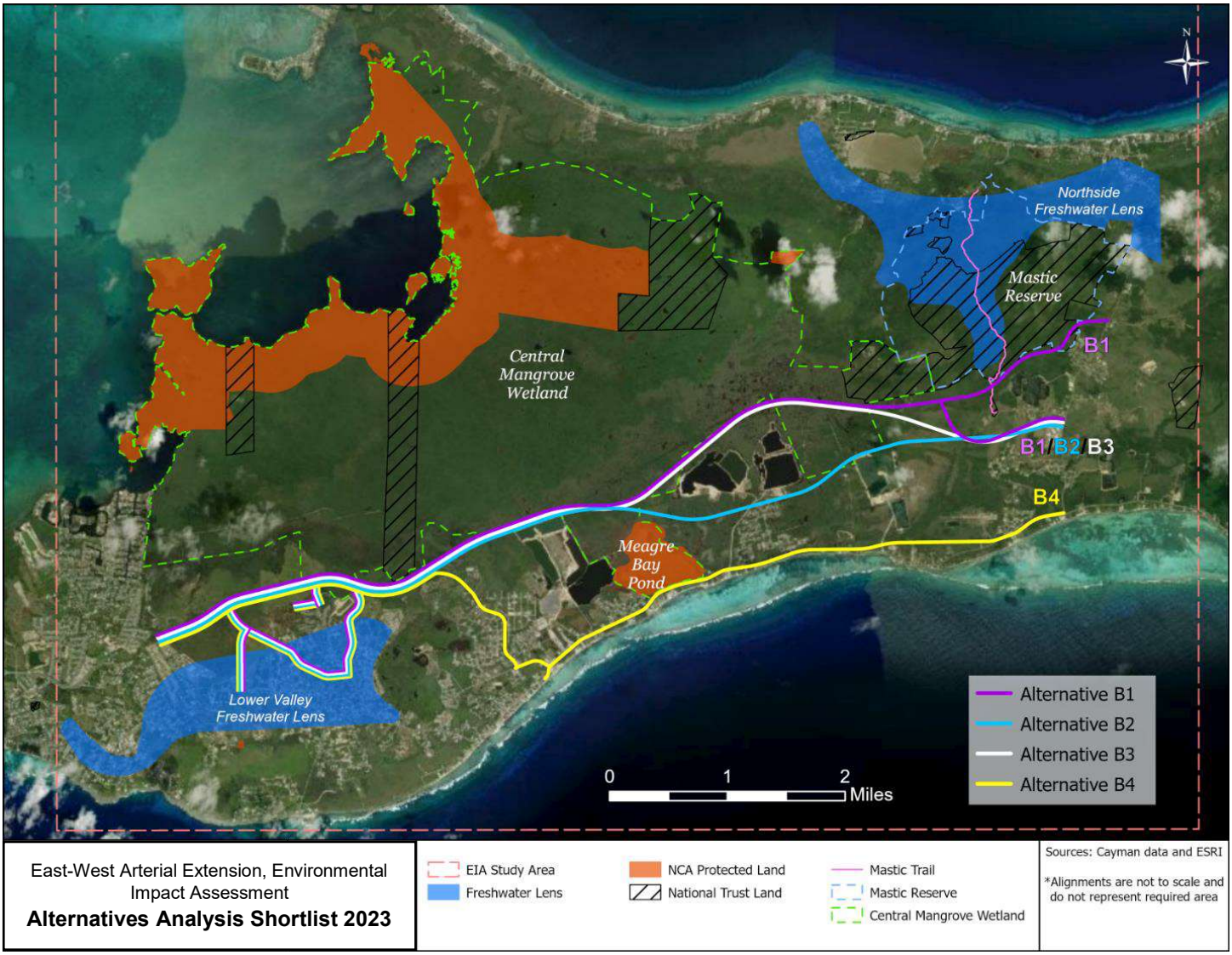

Figure 2: Shortlist of Build Alternatives

2 Assessment of Alternatives

This section describes the overall process that was utiltized for the assessment of alternatives in preparing the EIA for the EWA Extension project. **Figure 3** depicts the steps identified for the assessment of alternatives, as presented in Section 3.2 of the Final ToR. The Critical Success Factors (CSFs) and constraints and dependencies identified in Step 1, and the longlist of alternatives identified in Step 2, can be referenced in the separate Longlist Evaluation Document, which is the deliverable for Step 3.

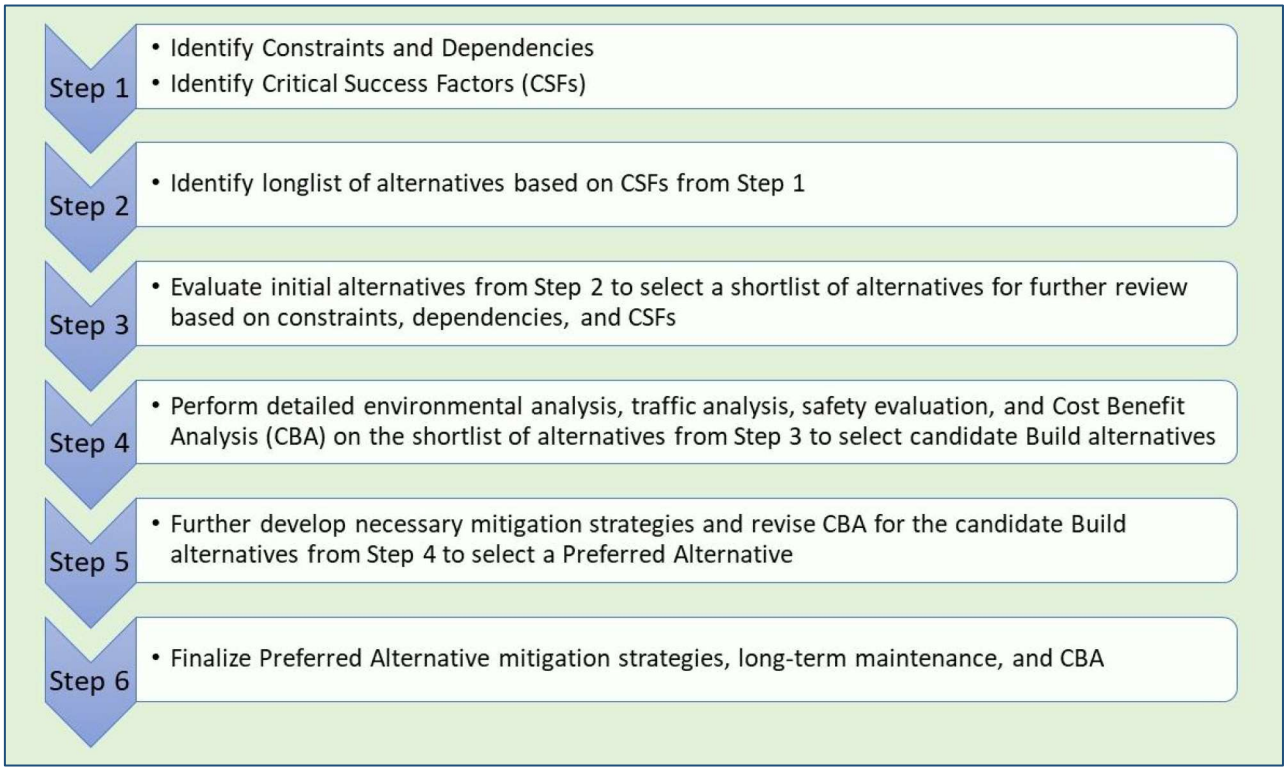

Figure 3: Steps for the Alternative Solutions Evaluation
Source: Section 3.2 of the EWA Extension Final ToR

Based on the limited number of alternatives, it was determined that the steps of the assessment of alternatives would be slightly modified to streamline the evaluation process. **Figure 4** depicts the revised steps of the assessment of alternatives process being prepared for this project. The primary modification to this process is the deletion of Step 5, which indicates the evaluation of Candidate Build alternatives. Based on the development of alternatives, a higher level of detail has been included within the studies performed in Step 4 in order to faciltiate the recommendation of the Preferred Alternative from this step (Step 4). The Shortlist Evaluation is the main deliverable of Step 4, which is satisfied by this document. The following sections describe the alternatives and the analyses conducted for Step 4, the impacts anticipated from each alternative, and the recommendation of a Preferred Alternative.

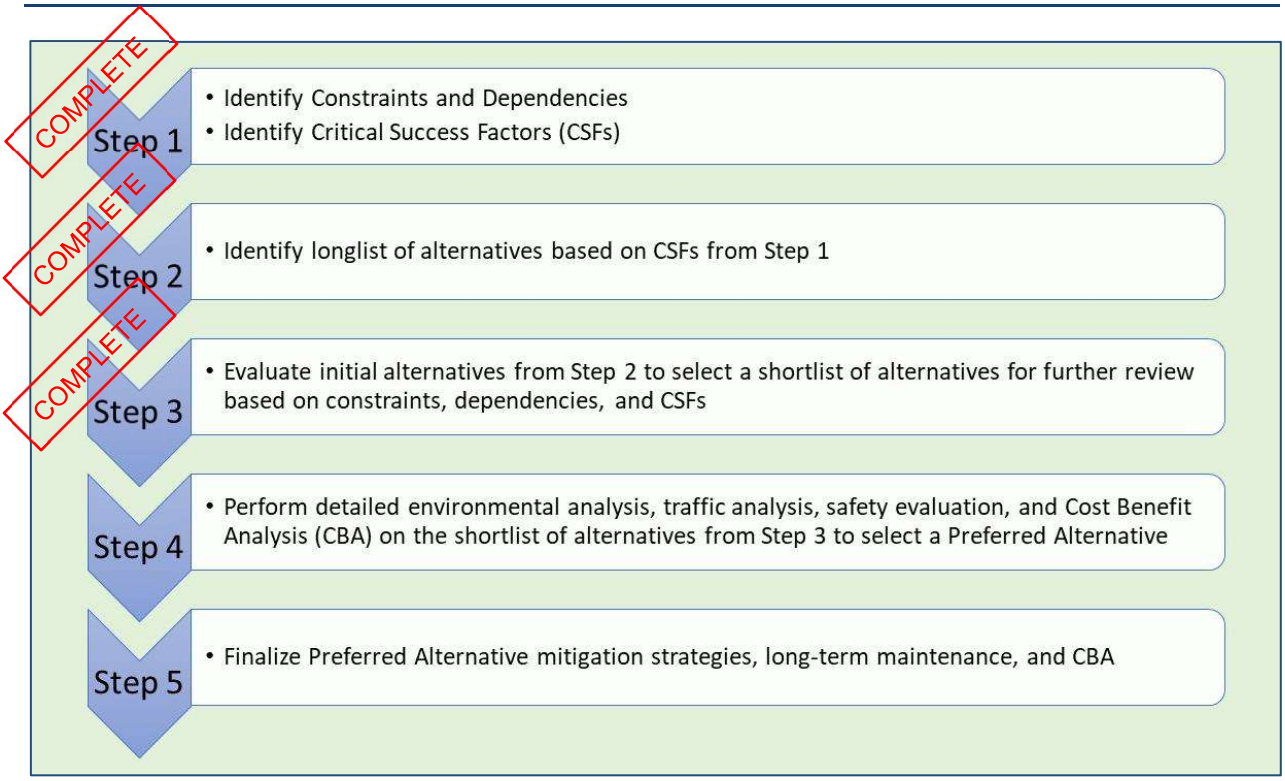

Figure 4: Revised Steps for the Alternative Solutions Evaluation

3 Shortlist of Alternatives

Based on the analysis completed in the Longlist Alternatives Evaluation Document, the following alternatives were carried forward as Shortlisted Alternatives. The Project Steering Committee decided on the following Shortlisted Alternatives:

- Planned Future Roadway Infrastructure (No-Build)
- Alternative B2
- Alternative B3
- Alternative B4

On 5 September 2024, the Project Steering Committee received a memorandum including a directive from the Ministry of PAHITD to carry forward Alternative B1 as one of the Shortlitsed Alternatives. The four Shortlisted Alternatives are shown in **Figure 2**.

Following the Longlist Alternatives Evaluation, additional information was collected on the environmental and man-made features throughout the EIA study area. This included a field verification in July 2023. As a result of the additional and verified information, the locations of the shortlisted build alternatives were modified to best avoid and minimise impacts to these features. Depictions of the revisions in the locations for the Shortlist Alternatives in comparison to the Longlist Alternatives can be found in **Attachment B - Engineering – Assessment of Alternatives**. Summaries and visual representations of the No-Build scenario and the Build alternatives can be found in **Sections 3.1** through **3.5** below.

3.1 Planned Future Roadway Infrastructure (No-Build)

The Planned Future Roadway Infrastructure (No-Build) Alternative describes a scenario under which the EWA Extension is not undertaken. The No-Build scenario is included as a benchmark from which to evaluate and compare the impacts of other alternatives. The difference between No-Build and Build conditions is that the Build conditions will include the proposed project-specific alternatives. The No-Build scenario also:

- Encompasses future year land use assumptions within and around the project study area. Future land use reflects the growth in population, households, and employment.
- Includes planned improvements to the island roadway network independent of Build alternatives B1, B2, B3, and B4. These planned improvements have been included as part of future year traffic evaluations but not evaluated for environmental or social impact as the Cayman Islands Government is planning these improvements as independent projects.

3.2 Build Alternatives

The proposed corridor width for all new roadway construction for the Build alternatives is 220 feet (67 m). This corridor width allows for the area needed to accommodate a variety of features including roadway travel lanes and shoulders, transit transportation lanes, a pedestrian sidewalk, a micromobility path, lighting, utilities, and a solar panel canopy. The transit transportation lanes, lighting, utilities, and solar panel canopy are not within the ambit of the NRA and their inclusion within the corridor is dependent on the appropriate responsible entity. This corridor width also allows for elevating the vertical roadway profile from the existing ground profile to accommodate

a roadway surface elevation above the chosen parameter of a 50-year storm event. These considerations were in support of the CSFs identified during the Longlist Evaluation. Additional information regarding the hydrology evaluation can be found in **Attachment H – Hydrology & Drainage – Assessment of Alternatives**.

The EIA is examining Section 2 and Section 3 of the four shortlisted Build alternatives, B1, B2, B3, and B4. Section 2 is common between the four shortlisted alternatives; it proposes a new section of roadway located from Woodland Drive to Lookout Road and includes a series of improved roadways described as the Will T Connector. As a result of information collected on natural and human features within the study area following the Longlist Evaluation, Section 2 was shifted south near Lookout Road in order to avoid impacting National Trust (NT)-owned Central Mangrove Wetland (CMW) land.

Build alternatives B1, B2, and B3 propose new roadway construction for Section 3. The proposed new roadway would have the same 220-foot (67-m) wide corridor and features as described above. Alternative B4 would primarily follow the existing path of Bodden Town Road for Section 3, therefore a narrower corridor with different accommodations is proposed for Alternative B4.

Details regarding the components of the proposed corridor and timeline of completion can be found in **Attachment B - Engineering – Assessment of Alternatives**. The opening year 2026 and horizon year 2074 roadway typical sections for the Build alternatives are provided in **Figures 5** and **6** below.

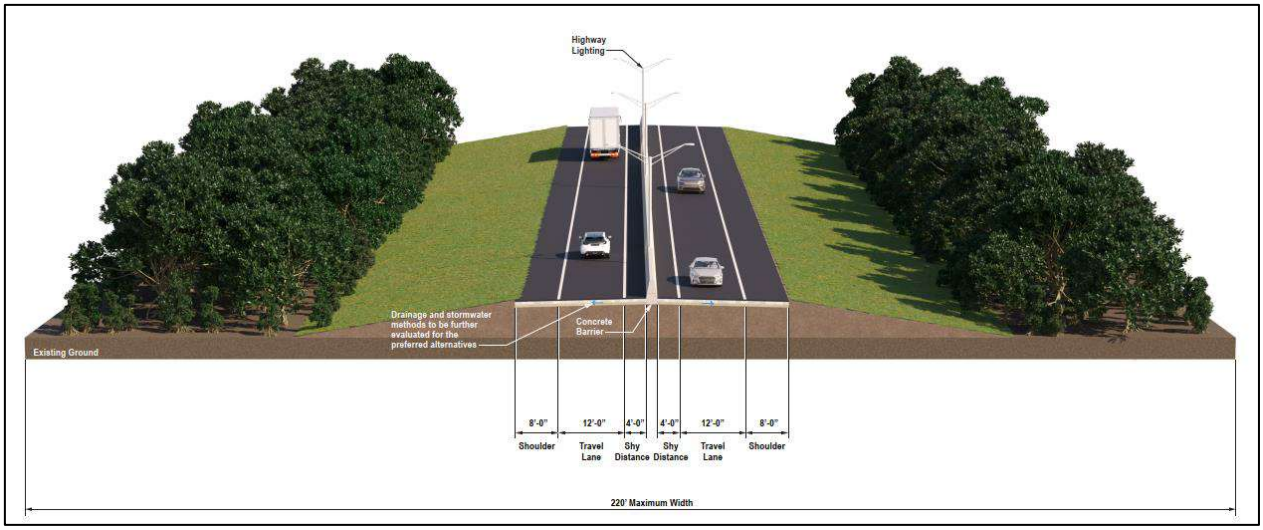

Figure 5: 2026 Build Alternative Section 2 Cross-Section for All Alternatives and Section 3 Cross Section for B1, B2, and B3

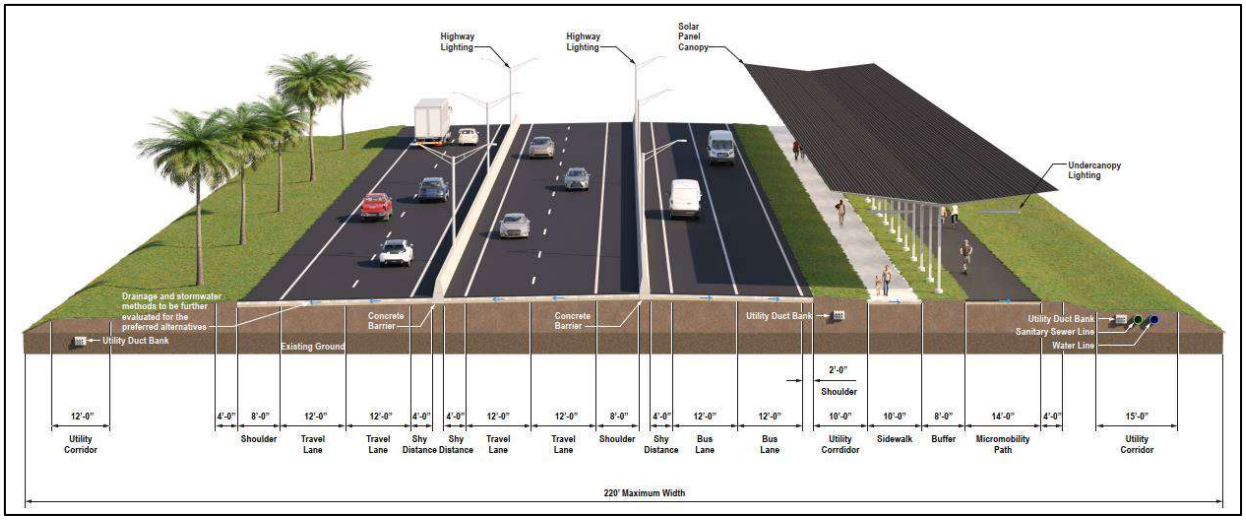

Figure 6: 2074 Build Alternative Section 2 Cross-Section for all Alternatives and Section 3 Cross Section for B1, B2, and B3

Build alternatives B1, B2, B3, and B4 also include a series of improved roadways described as the Will T Connector. These roadways would provide access to the common Section 2 of Build alternatives B1, B2, B3, and B4. **Figure 7** shows the typical section for the Will T Connector. The proposed corridor width for the Will T Connector is 41 feet (12.5 m) including a single travel lane in each direction, bike lanes on both sides of the roadway, and concrete curb and gutter on both sides of the roadway. A sidewalk would also be included along one side of the roadway.

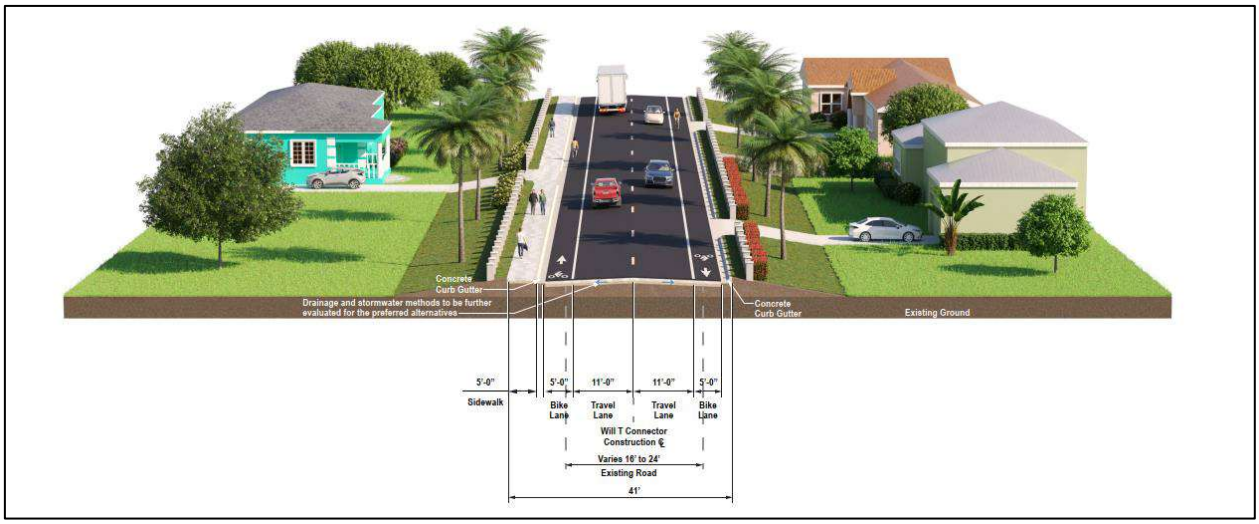

Figure 7: Will T Connector Typical Section for Alternatives B1, B2, B3 and B4

3.3 Alternative B1

Alternative B1, shown in **Figure 8**, was developed to follow the original corridor that was gazetted by the NRA in 2005 as published in the Cayman Islands Gazette, Extraordinary Supplement Number 13/2005, in accordance with Section 25 of the Roads Law (2000 Revision), (now known as Section 26 under the Roads Law (2005 Revision)). The western limit for Alternative B1 begins at the terminus of Section 1 of the EWA (currently under construction) in the area of Woodland Drive and travels east with the construction of a new roadway for approximately 8 miles (13 km) to Frank Sound Road [approximately 9 miles (14 km) with inclusions of the northern connection]. As shown in **Figure 8**, Alternative B1 includes two segments of new roadway with two separate connections to Frank South Road.

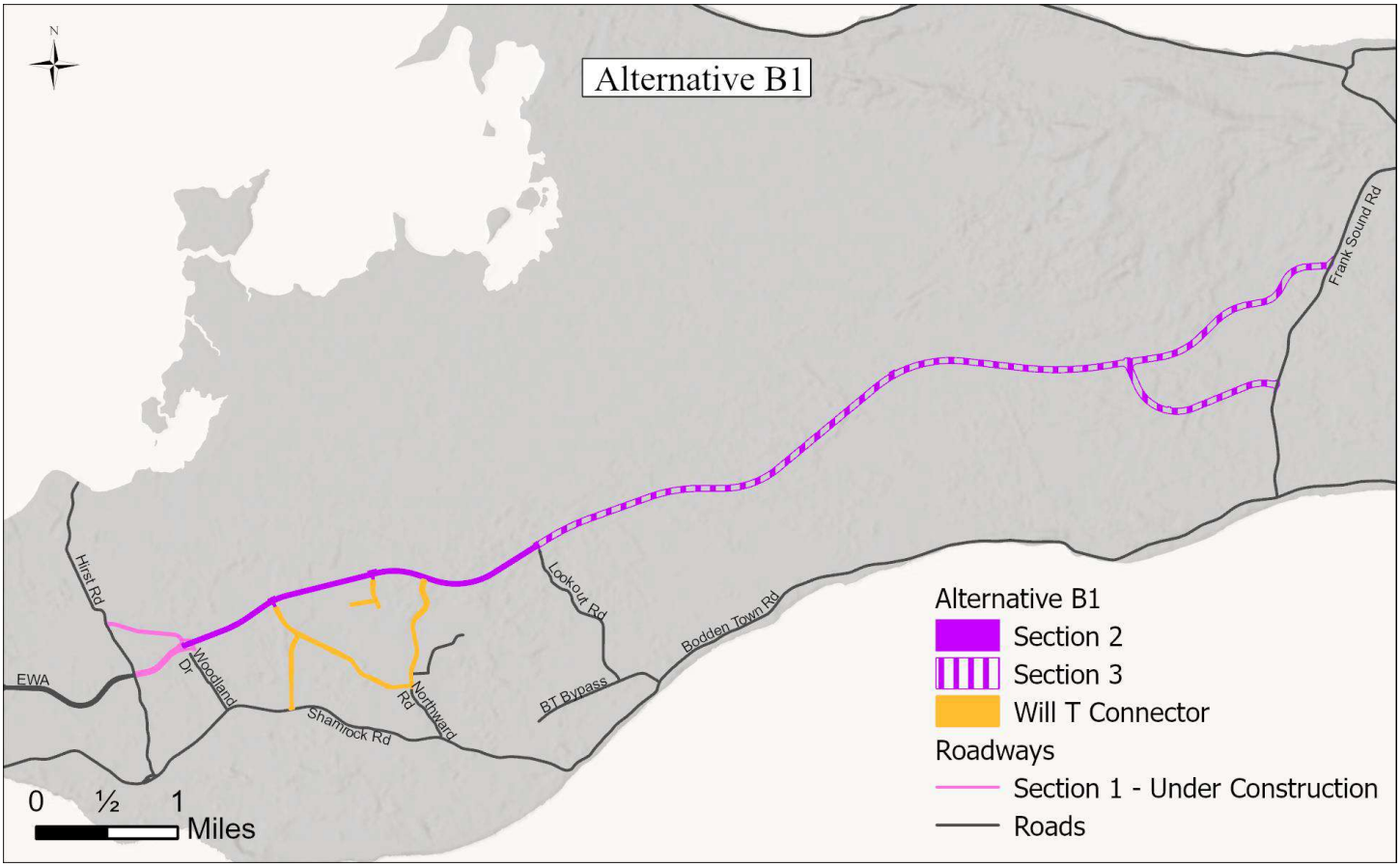

Figure 8: Alternative B1

Following the Longlist Evaluation, the location of segments of Alternative B1 were shifted slightly to the south in areas to avoid impacts to NT-owned Mastic Reserve parcels. In addition, the location of Alternative B1 was also shifted slightly north in some areas to avoid encroachment on active quarries. A figure showing the originally gazetted corridor and the modifications made to Alternative B1 can be found in **Attachment B - Engineering – Assessment of Alternatives**.

3.4 Alternative B2

Alternative B2, shown in **Figure 9**, has the same western limit as Alternative B1. It begins at the terminus of Section 1 of the EWA (currently under construction) in the area of Woodland Drive and travels east with the construction of a new roadway for approximately 8 miles (13 km) to Frank Sound Road. Instead of running north above the quarries like Alternatives B1 and B3, Alternative B2 runs south beneath the quarries. It lacks the northern connection to Frank Sound Road described for Alternative B1, and it ties in at Frank Sound Road at the same place where B1's southern connection ties in.

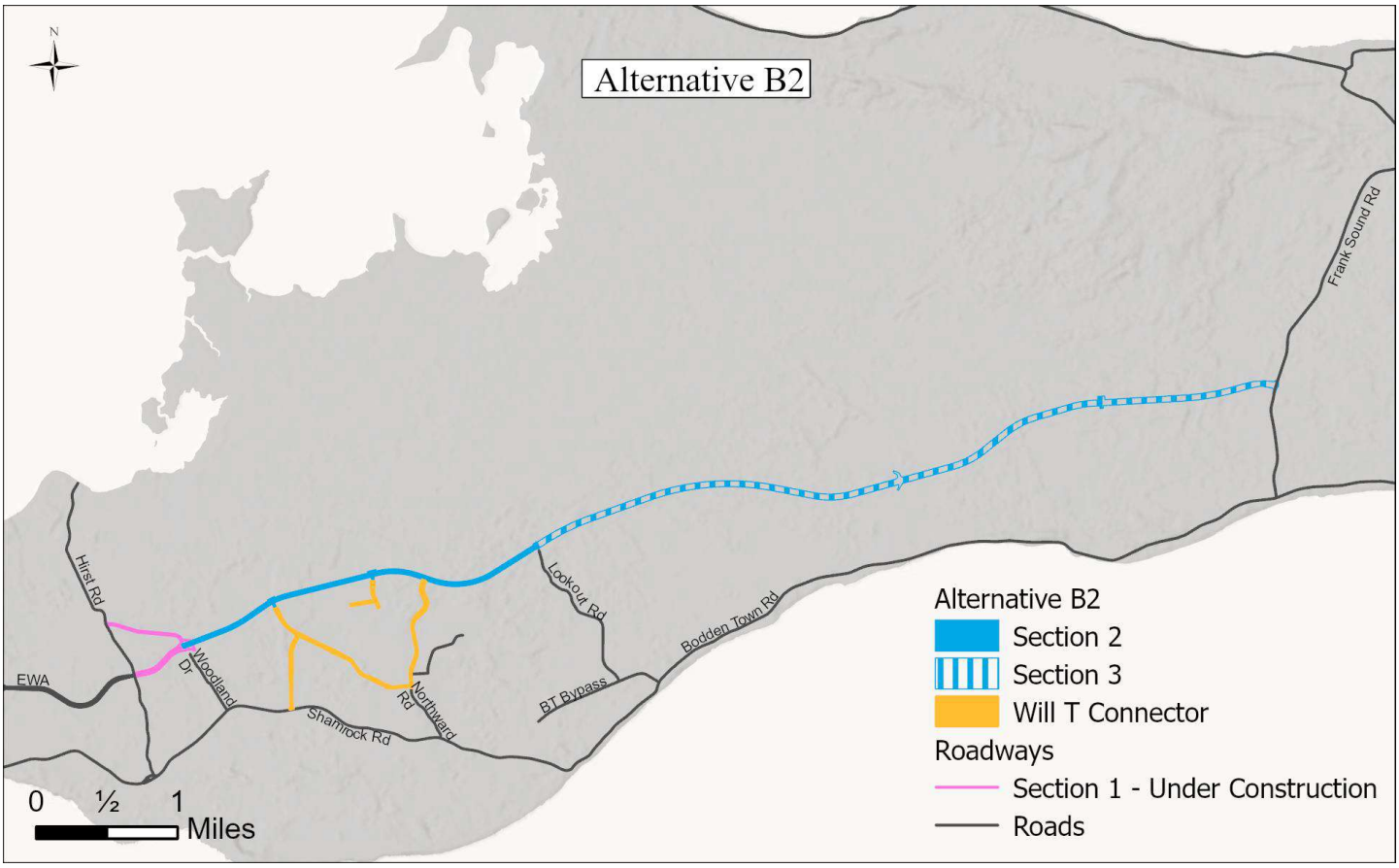

Figure 9: Alternative B2

3.5 Alternative B3

Alternative B3, shown in **Figure 10**, has the same western limit as Alternatives B1 and B2. It begins at the terminus of Section 1 of the EWA (currently under construction) in the area of Woodland Drive and travels east with the construction of a new roadway for approximately 8 miles (13 km) to Frank Sound Road. Within Section 3, Alternative B3 follows the same alignment as Alternative B1 until reaching the Mastic Reserve; at this point, Alternative B3 shifts farther south to connect to Frank Sound Road.

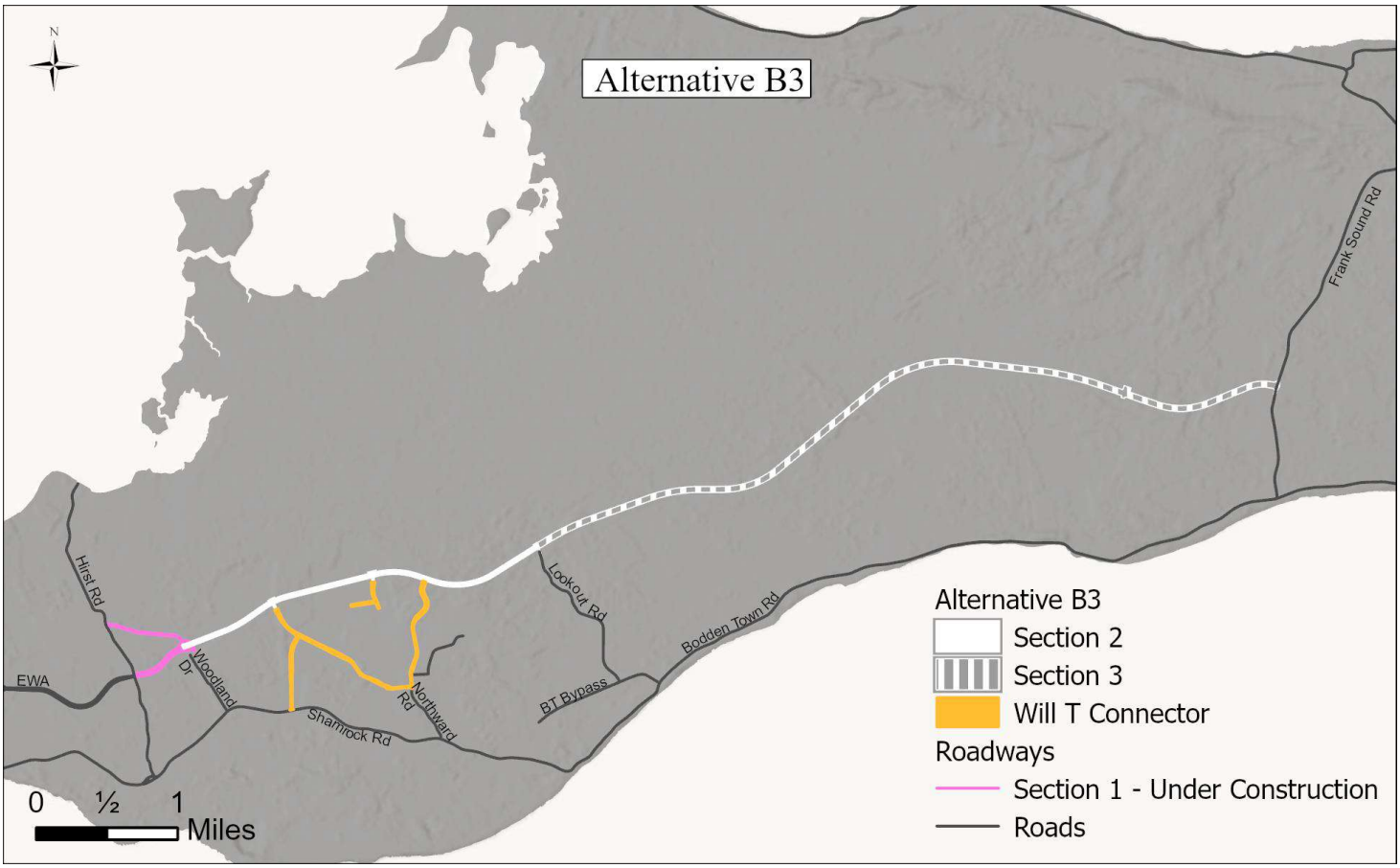

Figure 10: Alternative B3

3.6 Alternative B4

Alternative B4, shown in **Figure 11**, has the same western limit as Alternatives B1, B2, and B3. It begins at the terminus of Section 1 of the EWA (currently under construction) in the area of Woodland Drive and travels east for approximately 8 miles (13 km) to connect to Frank Sound Road at Bodden Town Road's current connection. Alternative B4 follows the same routing as Alternatives B1, B2, and B3 for Section 2 between Woodland Drive and Lookout Road. Within Section 3, Alternative B4 primarily follows the existing roadways of Lookout Road and Bodden Town Road.

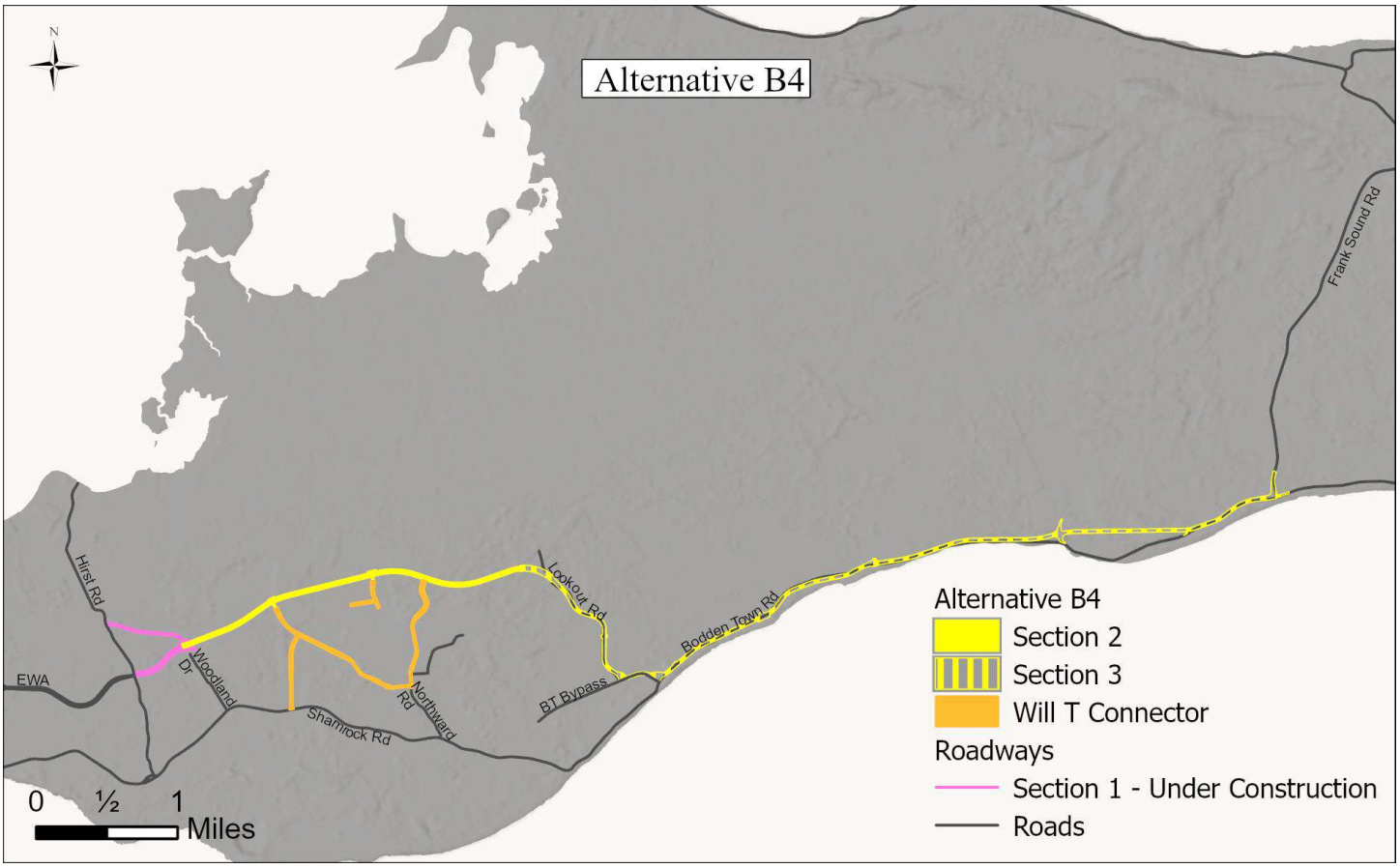

Figure 11: Alternative B4

3.6.1 Resiliency and Elimination from Consideration

As part of the EIA, a *Flood Modeling and Roadway Drainage Openings - Final Report* (Baird and Associates, 2024) was completed. Based on the 2024 report results, Section 3 of Alternative B4 along the southern coast would require an elevation or beach berm of over 20 feet (6 m) above mean sea level to meet the resiliency criteria set forth for this project. This is due to the high risk of the roadway being blocked by sand during a severe event with wave overtopping.

Based on the level of development and its adjacency to the proposed route along Section 3 of Alternative B4, it was determined that satisfying the resiliency criteria would be infeasible without significant social and cost impacts and engineering constraints (i.e., property acquisitions, severing of access, viewshed impacts, and impacts to cross street and driveway connections).

In addition to the hydrological findings, the EWA EIA project team has also completed evaluations in multiple disciplines, and the results provide important insights, particularly through a socio-economic and transportation and mobility lens. In terms of resiliency, Alternative B4 (1) only provides an alternate route west of Lookout Road in the event of road closures or emergency events and (2) the on-alignment improvements, east of Lookout Road, would provide additional travel lanes to the existing road but would likely increase the road's traffic volume, thereby proportionally increasing the likelihood of crashes along the existing road. This inability to provide a complete alternate east-west travel route in the event of road closures or emergencies translates into a diminished journey quality and decreased accessibility, thereby reducing overall quality of life from a socio-economic perspective.

Therefore, the NRA and EAB concurred with the elimination of Alternative B4 from further evaluation on March 14, 2024.

The remainder of the Shortlist Evaluation evaluates Alternative B1, B2, B3, and the No-Build scenario. However, because Alternative B4 was included in the Shortlist Evaluation process for many of the technical disciplines before the decision of its dismissal, Alternative B4 is included in the Technical Reports for Socio-Economics, Traffic, Geo-Environmental, Cultural and Natural Heritage, Terrestrial Ecology, Noise, and Hydrology and Drainage. Alternative B4 is not included within the Engineering, Greenhouse Gases, or Cost-Benefit Analysis attachments. Because of its dismissal, Alternative B4 is also not included or evaluated for anticipated impacts within this Shortlist Evaluation Document.

4 Assumptions

This section describes the key assumptions that were utilized for the Shortlist Evaluation analyses. Additional assumptions related to individual disciplines are provided within the discipline's description and the technical reports prepared for this project. The main objective of the Shortlist Evaluation is to develop and assess the alternatives in a consistent manner to develop a balanced comparison for use in identifying a Preferred Alternative.

4.1 2074 Land Use Scenario

According to the United Kingdom (UK) Green Book, which is the Central Government Guidance on Appraisal and Evaluation, "Costs and benefits should be calculated over the lifetime of an intervention. As a guideline, a time horizon of 10 years is a suitable working assumption for many interventions. In some cases, up to 60 years may be suitable, for example for buildings and infrastructure." Therefore, the EWA EIA Steering Committee chose to use a 50-year time horizon, 2074, that would represent the life-cycle year for construction for all evaluations.

For future year 2074, three land use scenarios of low, medium, and high population and employment growth forecasts were developed based on input from various stakeholders and agencies in Grand Cayman, as detailed in the Land Use Planning Charrette Summary memorandum dated September 8, 2023. Based on WebTAG (Transport Appraisal Guidance) Unit M4, a "core scenario" was selected to reflect the most realistic set of assumptions for the analysis. Of these three 2074 land use scenarios, the medium growth scenario was carried forward as the "core scenario" for the Shortlist Evaluation, assuming a future population of 135,000 people. Details regarding the Land Use Planning Charrette and the "core scenario" can be found in **Attachment A – Traffic – Assessment of Alternatives** and **Attachment C – Socio-Economic – Assessment of Alternatives**.

4.2 Corridor Widths

As part of the EWA EIA Shortlist Evaluation, all evaluations assumed that the entire corridor widths would be disturbed by the project and therefore evaluated for impacts (corridor widths shown in each of the Typical Sections in **Figures 6** and **7**). For Alternatives B1, B2, and B3, the corridor width used for the analysis was 220 feet (67 m) wide. For the Will T Connector portion of Alternatives B1, B2, and B3, the corridor width used for the analysis was 41 feet (12.5 m). The corridor widths represent the maximum width necessary and provide a conservative determination of impact values for the Shortlist Evaluation. As part of the Preferred Alternative Evaluation, further efforts to minimise and reduce disturbance within the Preferred Alternative corridor will be evaluated as applicable.

4.3 Indirect and Cumulative Effects

The Shortlist Evaluation specifically concentrates on analysing direct impacts since these impacts can be more accurately assessed and quantified based on the project's level of design. The potential for possible indirect and cumulative effects has been discussed where applicable; however, since these impacts are less defined due to numerous variables outside of the project's design process, they have only been noted and qualitatively described. Additionally, Alternatives B1, B2, and B3 are anticipated to have similar indirect and cumulative effects. Further evaluation of indirect and

cumulative effects will occur, as applicable, as part of the analyses to be carried out for the Preferred Alternative.

4.4 Induced Growth

The potential for induced growth created by the project along the EWA corridor and adjacent areas is dependent on numerous factors such as island economy, global economy, availability of materials, availability of labour, capacity and location of utilities, buildable land, land use planning and zoning, intersections and access points, and government policy. Based on the current planned development information collected during this study, planned development within the EIA study area is primarily anticipated to be concentrated along Section 2 of the EWA (Woodland Drive to Lookout Road). The proposed designs within Section 2 of the EWA are the same for all Build alternatives (Alternative B1, B2, and B3). The inclusion of the Will T Connector with all the Build alternatives in this area is provided to assist in accommodating travel needs within the Section 2 area. Due to the numerous undetermined future factors, further induced growth was not projected and evaluated for the Shortlist Evaluation. Further evaluation of induced growth will occur, as applicable, as part of the analyses to be carried out for the Preferred Alternative.

4.5 Mitigation

A conceptual level of mitigation measures is presented within the Shortlist Evaluation. Additional evaluation and monetary valuation of mitigation measures will occur as part of the Preferred Alternative Evaluation, as applicable.

5 Anticipated Impacts

5.1 Assessment Methodology

Assessment of the Shortlist of Alternatives utilized methodology from UK guidance, Cayman policies, and international policies, as applicable to each of the individual disciplines being examined. The UK's Department for Transport has extensive guidance for transport projects, called WebTAG (Transport Appraisal Guidance). It extends the UK Treasury's "Green Book" (Guidance on Appraisal and Evaluation) concepts for transport in terms of a Value for Money (VfM) Framework. A key aspect of this framework is the recognition that roads, highways, and rail lines have distinct spatial locations, leading to effects on adjacent communities with unintended consequences such as traffic noise, and the potential for loss of cultural heritage, biodiversity, and others. Those issues are not addressed in the Green Book. However, the VfM framework recognizes them in terms of a split between intended effects that can usually be monetized, and unintended effects that often cannot be monetized.

Applicable WebTAG reference documents have been applied and referenced within the sections below, along with relevant Cayman and international policies. A summary 7-point qualitative scale utilized from WebTAG is depicted in **Table 1** below. Discipline-specific 7-point qualitative scales can be found in the technical reports.

Table 1: Summary 7-Point Scale from WebTAG

Score	Comment
Large Beneficial	The scheme would provide significant improvement or enhancement to the category being examined.
Moderate Beneficial	The scheme would provide an improvement or enhancement to the category being examined.
Slight Beneficial	The scheme would provide a small improvement to the category being examined.
Neutral	The scheme is not in conflict with the category being examined.
Slight Adverse	Some small degradation or damage may result from the scheme.
Moderate Adverse	The scheme may result in direct damage to the category being examined.
Large Adverse	A significant degradation of the category being examined or a major damaging direct impact is predicted to result from the scheme.

5.2 Traffic Operational Impacts

Detailed evaluation of Traffic Operation impacts can be found in the Traffic – Assessment of Alternatives document (**Attachment A – Traffic – Assessment of Alternatives**). Evaluation of traffic operations follows the appropriate WebTAG units, including Unit M4 *Forecasting and Uncertainty*, Unit M1-1 *Principles of Modelling and Forecasting*, and Unit M3-1 *Highway Assignment Modelling*.

The No-Build scenario and each of the Build alternatives (B1, B2, and B3) were assessed in terms of the CSFs established for the Longlist Evaluation, addressing factors such as resiliency, future traffic demand, access to jobs, travel times, intersection delay, safety, and walk/bicycle

accessibility. **Table 2** summarizes qualitative results of each evaluation, organized by their relevant CSFs. Monetization of traffic operation impacts are included within the Cost-Benefit Analysis (**Section 6**).

Table 2: Summary of Traffic Evaluation CSFs

	No-Build	B1	B2	B3
CSF: Create an alternative travel route to the existing two-lane Bodden Town Road. Improve resiliency of existing roadway between North Side/East End and George Town/West Bay				
Alternative Routes	Neutral*	Large Beneficial	Large Beneficial	Large Beneficial
Existing Roadway Resiliency	Neutral*	Large Beneficial	Large Beneficial	Large Beneficial
CSF: Support current and future traffic demand				
Future Traffic Demand	Neutral*	Large Beneficial	Large Beneficial	Large Beneficial
District-to-District Access	Neutral	Large Beneficial	Large Beneficial	Large Beneficial
Employment Access	Neutral	Large Beneficial	Large Beneficial	Large Beneficial
CSF: Improve travel time between North Side/East End and George Town				
Study Area Travel Times	Neutral*	Large Beneficial	Large Beneficial	Large Beneficial
Key Destination Travel Times	Neutral*	Slight Beneficial	Slight Beneficial	Slight Beneficial
CSF: Reduce tourism travel time between North Side/East End and George Town				
Tourist Travel Times	Neutral*	Slight Beneficial	Slight Beneficial	Slight Beneficial
CSF: Improve safe vehicular travel by reducing roadway conflict points				
Conflict Points	Neutral	Large Beneficial	Large Beneficial	Large Beneficial
Safety	Neutral*	Large Beneficial	Large Beneficial	Large Beneficial
Level of Service	Neutral*	Large Beneficial	Large Beneficial	Large Beneficial
CSF: Provide opportunity for enhanced and safe pedestrian and bicycle travel				
Bicycle Level of Traffic Stress (LTS)	Neutral*	Large Beneficial	Large Beneficial	Large Beneficial
Non-Vehicular Accessibility	Neutral*	Large Beneficial	Large Beneficial	Large Beneficial
Overall Qualitative Rating	**Neutral***	**Large Beneficial**	**Large Beneficial**	**Large Beneficial**

*The No-Build scenario is rated "Neutral" because it serves as the baseline for comparison against the Build alternatives. Despite its "Neutral" rating, the No-Build represents anticipated worsening traffic conditions.

The following summarizes the results of the analysis for traffic operations:

Overall, it is projected that the No-Build scenario would have a neutral impact in all categories. The No-Build scenario was evaluated as the baseline for comparison against the Build alternatives, and the traffic evaluation results generally indicate that travel conditions will continue to deteriorate within the EIA study area without any roadway infrastructure improvements.

Build Alternatives B1, B2, and B3 generally have the same qualitative rankings due to design similarities, resulting in an overall anticipated qualitative rating of "Large Beneficial." The breakdown of each target criteria rating for Alternatives B1, B2, and B3 is as follows:

- In terms of resiliency, Alternatives B1, B2, and B3 will likely have a "Large Beneficial" impact by (1) providing an alternate route in the event of road closures or emergency events, and (2) reducing the number of crashes and road closures by shifting most of the east-west traffic volume to the safer EWA facility.
- In terms of supporting future traffic demand, Alternatives B1, B2, and B3 will likely have a "Large Beneficial" impact by (1) reducing the amount of traffic demand that gets held up at upstream congestion in the No-Build scenario, (2) accommodating longer distance commutes between eastern districts and employment opportunities in western districts, and (3) increasing access to job opportunities for eastern residents.
- In terms of improving east-west travel times, Alternatives B1, B2, and B3 will likely have a "Large Beneficial" impact on improving travel times within the study area between Hirst Road and Frank Sound Road, and a "Slight Beneficial" impact on improving travel times between eastern and western districts due to congestion that exists outside the study area.
- In terms of tourist travel times, Alternatives B1, B2, B3 will likely have a "Slight Beneficial" impact on reducing travel times from the Owen Roberts Airport and George Town Cruise Terminal.
- In terms of safety, Alternatives B1, B2, and B3 will likely have a "Large Beneficial" impact by (1) providing a new controlled access roadway facility that significantly reduces conflict points, (2) designing a safer facility that incorporates separated pedestrian/bicycle facilities and roundabout access points, (3) by reducing volume on the existing coastal roadway, and (4) improving operations by reducing intersection delay.
- In terms of pedestrian and bicycle travel, Alternatives B1, B2, and B3 will likely have a "Large Beneficial" impact by (1) providing dedicated sidewalks and bicycle paths on a LTS 1 facility (a facility with the lowest amount of stress for cyclists) connecting Hirst Road to Frank Sound Road, and (2) improving multimodal access to key destinations such as the Mastic Trial, Clifton Hunter High School, and Bodden Town Valu-Med pharmacy.

Therefore, Build Alternatives B1, B2, and B3 are rated as producing an anticipated "Large Beneficial" impact from a traffic perspective.

As part of **Section 6: Cost-Benefit Analysis**, the transportation benefits of each alternative were monetized to further differentiate Alternatives B1, B2, and B3 and determine the most beneficial alternative.

The traffic operational impact values informed the engineering requirements described in Section 5.3 and **Attachment B Engineering – Assessment of Alternatives**. The traffic operational

impacts and engineering impacts assumptions lead to the anticipated impacts to resources described in Sections 5.4 through 5.10 below. Additional coordination regarding avoidance, minimisation, and mitigation measures will occur with the EWA EIA resource teams as appropriate for the Preferred Alternative.

5.3 Engineering Impacts

Detailed evaluation of Engineering impacts can be found in **Attachment B Engineering – Assessment of Alternatives**. The engineering report evaluated design criteria, roadway profiles, bridges, sidewalk and micromobility, right of way acquisitions, constructability, utilities, transit, and estimated construction costs. The engineering report also assessed the No-Build scenario and each of the Build alternatives (B1, B2, and B3) in terms of the CSFs and engineering constraints established for the Longlist Evaluation, addressing factors such as resiliency, utility accommodation, opportunity to accommodate public transportation and other modes, and providing for construction areas and sound geometric design. A summary of results is included in **Table 3**.

Table 3: Summary Table of Qualitative Assessment of CSFs and Engineering Constraints

	No-Build	B1	B2	B3
CSFs Relevant to the Engineering Features*				
CSF: Create an alternative travel route to the existing two-lane Bodden Town Road				
Provide an alternative roadway facility to accommodate travel in the event of a roadway closure (Also included in the Traffic Assessment)	Neutral	Large Beneficial	Large Beneficial	Large Beneficial
CSF: Improve resiliency of existing roadway between North Side/East End and George Town/West Bay				
Improve resiliency of the travel route to flooding from sea level rise, storm surge, wave overtopping, and rainfall (Also included in the Traffic Assessment)	Neutral	Large Beneficial	Large Beneficial	Large Beneficial
CSF: Accommodate utility expansion (electricity, fiber, water, central sewage) **				
Establish area adjacent to roadway to provide for utility needs	Neutral	Large Beneficial	Large Beneficial	Large Beneficial
CSF: Provide opportunity to safely accommodate and expand public transportation **				
Establish public transportation facilities and improve bus travel reliability (Also included in the Socioeconomic Assessment)	Neutral	Large Beneficial	Large Beneficial	Large Beneficial
CSF: Provide opportunity for enhanced and safe pedestrian and bicycle travel				
Establish dedicated pedestrian and bicycle facilities adjacent to vehicular travel lanes (Also included in the Traffic Assessment)	Neutral	Large Beneficial	Large Beneficial	Large Beneficial
CSF: Overall Qualitative Rating	**Neutral**	**Large Beneficial**	**Large Beneficial**	**Large Beneficial**

	No-Build	B1	B2	B3
Engineering Constraints*				
Provide for sound geometric design conditions				
Amount of property affected to improve roadway to achieve sound geometric design conditions	Neutral	Slight Adverse	Slight Adverse	Slight Adverse
Provide for the areas necessary for construction				
Provide areas required for construction staging and for construction activities	Neutral	Slight Adverse	Slight Adverse	Slight Adverse
Engineering Constraints: Overall Qualitative Rating	**Neutral**	**Slight Adverse**	**Slight Adverse**	**Slight Adverse**
Estimated Total Cost US Dollars (CI Dollars)* **	**$71,656,230 ($60,191,233)**	**$924,186,118 ($776,316,339)**	**$831,590,139 ($698,535,717)**	**$834,020,969 ($700,577,613)**

**As identified in the Longlist Evaluation*

*** These criteria are to provide opportunities to accommodate these features. It is outside of ambit of the NRA to provide utilities or public transportation.*

**** Includes estimated costs for Construction, Right-of-Way, & Maintenance. Does not include estimated costs for mitigation measures and utilities relocation.*

The following summarizes the results of the engineering analysis:

- *No-Build* – The No-Build scenario was evaluated as the baseline for comparison against the Build alternatives, and the engineering evaluation results generally indicate that travel conditions will continue to deteriorate within the EIA study area without any large-scale roadway infrastructure improvements. This alternative would also not satisfy any of the CSFs identified for the engineering features for this project. Any individual improvement projects to the existing roadway network would not result in the magnitude of impacts compared to any of the Build alternatives thus resulting in an overall **Neutral** qualitative rating.

- *Alternative B2* – Alternative B2 is anticipated to be the least impactful (in terms of total cost) of the Build alternatives, while meeting the CSFs. Although Alternative B2 has the same qualitative ratings as Alternative B1 and Alternative B3, Alternative B2 is anticipated to have lower total construction and maintenance costs due to the fact that it is a slightly more direct route than Alternatives B1 and B3.

- *Alternative B3* – Alternative B3 is anticipated to be the second least impactful of the Build alternatives, while meeting the CSFs. Although Alternative B3 has the same qualitative ratings as Alternative B1 and Alternative B2, Alternative B3 is anticipated to have the second highest total costs.

- *Alternative B1* - Alternative B1 is anticipated to be the most impactful of the three Build alternatives, while meeting the CSFs. Although Alternative B1 has the same qualitative ratings as Alternative B2 and Alternative B3, Alternative B1 is anticipated to have the highest impacts and costs due to the addition of a northern spur connection to Frank Sound Road which would include two additional bridges for surface drainage runoff and a bridge over the existing Mastic Trail.

The engineering impact values are based on the anticipated requirements to meet CSFs, design criteria, and the traffic operational needs described in Section 5.2 and **Attachment A – Traffic – Assessment of Alternatives**. The traffic operational impacts and engineering impact assumptions lead to the anticipated impacts to resources described in Sections 5.4 through 5.10 below. Coordination with the resource teams occurred as part of the Shortlist Evaluation to avoid and minimise impacts through corridor shifts and bridges. Additional coordination regarding avoidance, minimisation, and mitigation measures will occur with the EWA EIA resource teams as appropriate for the Preferred Alternative.

5.4 Socio-Economics Impacts

Detailed evaluation of Socio-economic impacts can be found in the Socioeconomics – Assessment of Alternatives document (**Attachment C – Socio-Economic – Assessment of Alternatives**). A summary of results is included below. Evaluation of Socioeconomic impacts follows the WebTAG Unit A4-1 *Social Impact Appraisal* and Unit A4-2 *Distributional Impact Appraisal*, which encompassed quality of life impacts associated with the proposed project, including evaluating access to goods and services, vulnerable populations, and ease of travel. Four categories were evaluated: 1) Accessibility (the ability of residents and visitors to reach goods and services), 2) Severance (the potential for the project to increase or decrease community cohesion), 3) Journey Quality (elements of travel quality like the stress caused by travelling the proposed route), and 4) Option Values (the potential for additional choices associated with the project).

The Socio-economic – Assessment of Alternatives included a quantitative analysis and a qualitative analysis for each of the shortlisted Build alternatives along with the No-Build scenario. A monetary assessment is not applicable for socio-economic resources. The listed evaluations have been compiled into **Table 4** below.

Table 4: Socio-economic Shortlist Evaluation Summary Table

	No-Build	B1	B2	B3
Accessibility	Neutral	Large Beneficial	Large Beneficial	Large Beneficial
Severance	Neutral	Moderate Beneficial	Moderate Beneficial	Moderate Beneficial
Journey Quality	Neutral	Large Beneficial	Large Beneficial	Large Beneficial
Option Values	Neutral	Large Beneficial	Large Beneficial	Large Beneficial
Overall Qualitative Rating	**Neutral**	**Large Beneficial**	**Large Beneficial**	**Large Beneficial**

The following summarizes the results of the analysis for the identified socio-economic categories:

- *No-Build* – The No-Build scenario is anticipated to have a "Neutral" impact in the categories of accessibility, severance, journey quality, and option values, due to it being assessed as the baseline for comparison for the Build alternatives. This results in an overall **Neutral** qualitative rating.

- *Alternatives B2 and B3* – Alternatives B2 and B3 would offer significant benefits from a socio-economic standpoint, since both received a "Large Beneficial" rating in three of four categories, resulting in an overall **Large Beneficial** qualitative rating. Though Alternative B1 also received a "Large Beneficial" rating in three of four categories, Alternatives B2 and B3 both received a 22% score under accessibility (the ability to reach goods and services), versus a 21% score for Alternative B1. However, at this level of evaluation, there is no significant difference in the level of benefit between Alternatives B2 and B3.

- *Alternative B1* – Alternative B1 would offer significant benefits from a socio-economic standpoint since it received a "Large Beneficial" rating in three of four categories, resulting in an overall **Large Beneficial** qualitative rating. For the reasons stated in the above paragraph, it is slightly less suitable than Alternatives B2 and B3; however, at this level of evaluation there is no significant difference in the level of benefit between Alternative B1 and Alternatives B2 and B3.

Avoidance, minimisation, and mitigation measures will be further evaluated for socio-economic resources as part of the Preferred Alternative in order to best reduce impacts and compensate for unavoidable impacts. Potential avoidance measures that could be evaluated include identifying measures to maximise the use of local employment. Potential minimisation measures that could be evaluated include recommending updates or new policies to discourage developments within existing communities and sensitive natural areas. Potential mitigation measures that could be evaluated include reviewing existing planning and zoning policies and regulations to account for project components and providing recommendations for updates or revisions. Based on the similarity of Alternatives B1, B2, and B3 in relation to the socio-economic resources impacted, the possible mitigation measures are anticipated to be similar. Therefore, the implementation of mitigation measures is not anticipated to impact the differentiation of alternatives within the Shortlist Evaluation.

5.5 Noise Impacts

Detailed evaluation of Noise impacts can be found in the Noise – Assessment of Alternatives document (**Attachment D – Noise – Assessment of Alternatives**). A summary of results is included below. Evaluation of Noise impacts follows WebTAG Unit A3 *Environmental Impact Appraisal*. This analysis encompassed the potential effects of operational day-time noise of vehicles projected to be travelling along the alternatives. Key parameters for noise impact analysis include detection of the lowest observed adverse effect level (LOAEL), above which adverse effects on quality of life and health can be observed, and the significant observed adverse effect level (SOAEL), above which significant adverse effects on quality of life and health occur.

The Noise – Assessment of Alternatives included a quantitative analysis and a monetary analysis for each of the shortlisted Build alternatives along with the No-Build scenario. A qualitative assessment is not applicable for noise impacts. The listed evaluations have been compiled into **Table 5** below. Additional information regarding the monetisation of noise impacts can be found in **Section 6: Cost-Benefit Analysis.**

Table 5: Noise Evaluation Summary

Year	No-Build	B1	B2	B3
2026	Baseline	Overall decrease (benefit)	Overall decrease (benefit)	Overall decrease (benefit)
2074	Overall increase (disbenefit) 130 noise receptors at or above the SOAEL	Overall increase (disbenefit) 167 noise receptors at or above the SOAEL	Overall increase (disbenefit) 163 noise receptors at or above the SOAEL	Overall increase (disbenefit) 160 noise receptors at or above the SOAEL
Monetized Disbenefit (2026-2074) Net Present Value USD (CI$)	N/A*	**- $11,934,779 (-CI$10,025,214)**	**-$11,323,154 (-CI$9,511,449)**	**- $12,141,363 (-CI$10,198,745)**

**Monetization of benefits compares the Build alternative to the No-Build condition*

The following summarizes the results of the analysis for the identified noise sensitive receptors.

- *No-Build*: The No-Build scenario is the baseline condition of comparison for the opening year (2026). The No-Build scenario results in an overall increase (disbenefit) in noise levels to noise sensitive receptors in 2074 compared to the 2026 No-Build. Compared to the Build alternatives, the No-Build scenario results in lower magnitudes of noise level increase and less noise receptors at or above the SOAEL threshold (68 dBA) in 2074.
    - 2074 Magnitude of Change above Negligible: Increase at 597 noise receptors
    - 2074 Receptors at or above SOAEL (68 dBA): 130 noise receptors

- *Alternatives B1, B2, and B3*: Alternatives B1, B2, and B3 result in an overall decrease (benefit) in noise levels to noise sensitive receptors when compared to the No-Build for the opening year (2026) due to decreases in the volume of traffic along the existing roadway network. However, Alternatives B1, B2, and B3 result in an overall increase (disbenefit) in noise levels to noise sensitive receptors when compared to the No-Build for the horizon year (2074) due to the significant increase in traffic volume and operational speeds along the EWA corridor and existing roadway network. Compared to the No-Build, these alternatives result in higher magnitudes of noise level increase and more noise receptors at or above the SOAEL threshold (68 dBA) in 2074. Overall, these alternatives are anticipated to result in similar noise impacts. Based on the monetization of noise impacts, Alternative

B2 is anticipated to result in the least disbenefit, followed by Alternative B1, with Alternative B3 anticipated to result in the highest disbenefit.

- 2074 Magnitude of Change above Negligible:
  - Alternative B1: Increase at 799 noise receptors
  - Alternative B2: Increase at 884 noise receptors
  - Alternative B3: Increase at 772 noise receptors
- 2074 Receptors at or above SOAEL (68 dBA):
  - Alternative B1: 167 noise receptors
  - Alternative B2: 163 noise receptors
  - Alternative B3: 160 noise receptors

- Monetized Disbenefit (2026-2074):
  - Alternative B1: -$11,934,779 USD (CI$10,025,214)
  - Alternative B2: -$11,323,154 USD (CI$9,511,449)
  - Alternative B3: -$12,141,363 USD (CI$10,198,745)

Avoidance, minimisation, and mitigation measures will be further evaluated for noise impacts as part of the Preferred Alternative to best reduce impacts and compensate for unavoidable impacts. Potential avoidance measures that could be evaluated include the alteration of vertical or horizontal alignments, and noise compatible land use planning. Potential minimisation/mitigation measures that could be evaluated include constructing noise barriers or berms. Based on the similarity of Alternatives B1, B2, and B3 in relation to the noise impacts, the possible mitigation measures are anticipated to be similar. Therefore, the implementation of mitigation measures is not anticipated to impact the differentiation of alternatives within the Shortlist Evaluation.

5.6 Geo-Environmental Impacts

Detailed evaluation of Geo-Environmental impacts can be found in the Geo-Environmental – Assessment of Alternatives document (**Attachment E – Geo-Environmental – Assessment of Alternatives**). A summary of results is included below. Evaluation of Geo-Environmental impacts follows WebTAG Unit A3 *Environmental Impact Appraisal*. The most applicable category for Geo-Environmental impacts is "Impacts to Water Environment". This analysis evaluated the potential effects of the shortlisted alternatives on Geo-Environmental features, including freshwater lenses, brackish groundwater, and peat.

The Geo-Environmental – Assessment of Alternatives included a quantitative analysis and a qualitative analysis for each of the shortlisted Build alternatives along with the No-Build scenario. A monetary assessment is not applicable for geo-environmental resources. The listed evaluations have been compiled into **Table 6** below.

Table 6: Summary Table Geo-Environmental Shortlist Evaluation

Resource	No-Build	B1	B2	B3
Lower Valley Freshwater Lens	Slight Adverse (0 acre; 0 ha of construction)	Moderate Adverse (10.1 acres; 4.1 ha of construction)	Moderate Adverse (10.1 acres; 4.1 ha of construction)	Moderate Adverse (10.1 acres; 4.1 ha of construction)
North Side Freshwater Lens	Slight Adverse	Moderate Adverse	Slight Adverse	Slight Adverse
Brackish Groundwater	Neutral (0 acre; 0 ha)	Neutral (161 acres; 65 ha)	Neutral (132 acres; 53 ha)	Neutral (135 acres; 55 ha)
Peat	Slight Adverse (0 mile; 0 km thru CMW) (0 Cu yd; 0 ***m³)***	Large Adverse (2.8 miles; 4.5 km thru CMW) (550,994 Cu yd; 421,265 m³***)***	Large Adverse (2.1 miles; 3.4 km thru CMW) (223,811 Cu yd; 171,116 m³***)***	Large Adverse (2.8 miles; 4.5 km thru CMW) (454,153 Cu yd; 347,225 m3***)***
Overall Qualitative Rating	**Slight Adverse**	**Large Adverse**	**Large Adverse**	**Large Adverse**

The following summarizes the results of the analysis for the identified geo-environmental resources:

- *No-Build* – Based on the parameters of the evaluation, the No-Build scenario is not anticipated to have additional direct impacts on the identified geo-environmental resources and considered the baseline of comparison. However, even a negligible impact on a resource of very high importance, such as the Freshwater Lenses and the peat, results in a "Slight Adverse" impact per WebTAG Unit A3. Therefore, it results in an overall **Slight Adverse** qualitative rating.

- *Alternative B2*– Based on the parameters of the evaluation, Alternative B2 would be the least impactful of the Build alternatives. While Alternative B2 has the same overall qualitative rating as Alternative B1 and Alternative B3 (**Large Adverse**), Alternative B2 results in less acreage of additional impervious surface area, miles of roadway through the CMW, and volume of peat removal than Alternative B1 or Alternative B3. Therefore, it is anticipated to be less impactful than Alternative B1 and Alternative B3 overall.

- *Alternative B3* – Based on the parameters of the evaluation, Alternative B3 would be the next least impactful of the Build alternatives. Alternative B3 has the same overall qualitative rating as Alternative B1 and Alternative B2 (**Large Adverse**). However, as discussed in the Alternative B2 section above, Alternative B3 is anticipated to overall be more impactful than Alternative B2 based on the higher acreage of additional impervious surface area, miles of roadway through the CMW, and volume of peat removal.

- *Alternative B1* – Based on the parameters of the evaluation, Alternative B1 would be the most impactful of the Build alternatives. While Alternative B1 has the same overall qualitative rating as Alternative B2 and Alternative B3 (**Large Adverse**), Alternative B1 is the closest of the Build alternatives to the North Side Freshwater Lens recharge area, requires the most acreage of additional impervious surface area, miles of roadway through the CMW, and volume of peat removal.

Avoidance, minimisation, and mitigation measures will be further evaluated for geo-environmental resources as part of the Preferred Alternative in order to best reduce impacts and compensate for unavoidable impacts. Potential avoidance measures that could be evaluated include the use of elevated structures in highly vulnerable areas and avoiding the placement of staging or stockpiles in areas of peat or near freshwater lenses. Potential minimisation measures that could be evaluated include developing best practice pollution prevention techniques to minimise release of contaminants during construction and operation. Potential mitigation measures that could be evaluated include the salvage or reuse of mangrove peat and designing measures to maintain good water quality in the discharged water. Based on the similarity of Alternatives B1, B2, and B3 in relation to the geo-environmental resources impacted, the possible mitigation measures are anticipated to be similar. Therefore, the implementation of mitigation measures is not anticipated to impact the differentiation of alternatives within the Shortlist Evaluation.

5.7 Terrestrial Ecology Impacts

Detailed evaluation of Terrestrial Ecology impacts can be found in the Terrestrial Ecology – Assessment of Alternatives document (**Attachment F – Terrestrial Ecology – Assessment of Alternatives**). A summary of results is included below. Evaluation of Terrestrial Ecology impacts follows WebTAG Unit A3 *Environmental Impact Appraisal*. This analysis evaluated the potential effects of the shortlisted alternatives on terrestrial resources, such as protected natural areas and important habitats.

The Terrestrial Ecology – Assessment of Alternatives included a quantitative analysis, a qualitative analysis, and a monetary valuation for each of the shortlisted Build alternatives along with the No-Build scenario. The listed evaluations have been compiled into **Table 7** below.

Table 7: Summary Table Terrestrial Ecology Shortlist Evaluation

Resource	No-Build	B1	B2	B3
Man-Modified	Neutral	Moderate Adverse 93.0 acre (*37.7 ha*)	Moderate Adverse 108.6 acre (*43.9 ha*)	Moderate Adverse 89.5 acre (*36.2 ha*)
Coastal Habitat	Neutral	Neutral	Neutral	Neutral
Upland Habitats	Neutral	Slight Adverse 2.4 acre (*1.0 ha*)	Slight Adverse 1.8 acre (*0.7 ha*)	Slight Adverse 2.5 acre (*1.0 ha*)
Wetland Habitats*	Neutral	Large Adverse 194.3 acre (*78.6 ha*)	Large Adverse 128.2 acre (*51.9 ha*)	Large Adverse 151.1 acre (*61.1 ha*)
Parrot Habitat *(Cayman Parrot Nesting and Density)*	Neutral	Large Adverse 117.5 acre (*47.5 ha*)	Large Adverse 91.4 acre (*37.0 ha*)	Large Adverse 80.1 acre (*32.4 ha*)
Pygmy blue butterfly	Neutral	Neutral	Neutral	Neutral
Tea Banker	Neutral	Neutral	Neutral	Neutral
Overall Qualitative Rating	**Neutral**	**Large Adverse**	**Large Adverse**	**Large Adverse**
Overall Acres of Resource Impacts	**0.0** *(0.0 ha)*	**407.2 acre** *(164.8 ha)*	**330.0 acre** *(133.5 ha)*	**323.2 acre** *(130.8 ha)*
Amenity Value Loss 2017 USD *(CI$)*	**$0**	**-$10,045,000 USD** *(CI$8,437,800)*	**-$7,545,000 USD** *(CI$6,337,800)*	**-$8,345,000 USD** *(CI$7,009,800)*
Carbon Sequestration Loss (tCO2e/yr)	**0.0**	**453.5**	**300.7**	**354.6**

*Wetland Habitat impacts include but are not limited to the Department of Environment's geospatial CMW boundary, as some wetland habitats occur outside of that boundary.

The following summarizes the results of the analysis for the identified terrestrial ecology resources:

- *No-Build* – The No-Build scenario is anticipated to have no direct impacts on the identified resources (0 acres) resulting in an overall **Neutral** qualitative rating, no loss of amenity value, and no loss of carbon sequestration.

- *Alternative B2* – Alternative B2 would be the least impactful of the Build alternatives. While Alternative B2 has the same overall qualitative rating as Alternative B1 and Alternative B3 (**Large Adverse**), Alternative B2 results in less monetary loss of amenity value (a value derived from hedonic pricing based on mangrove location) and lower carbon sequestration loss than either alternative B1 or B3. Alternative B2 results in a slightly higher overall acreage of resource impacts than Alternative B3 (approximately 2% higher).

However, the loss of amenity value and carbon sequestration are approximately 10% and 15% lower than Alternative B3, respectively. Overall, Alternative B2 has a more southerly placement in relationship to the CMW and anticipated to result is less wetland (mangrove) impact. Therefore, it is anticipated to be less impactful than Alternative B3 overall.

- *Alternative B3* – Alternative B3 would be the next least impactful of the Build alternatives. Alternative B3 has the same overall qualitative rating as Alternative B1 and Alternative B2 (**Large Adverse**). However, as discussed in the Alternative B2 section above, Alternative B3 is anticipated to overall be more impactful than Alternative B2 based on the higher loss of amenity value and carbon sequestration.

- *Alternative B1* – Alternative B1 would be the most impactful of the Build alternatives. While Alternative B1 has the same overall qualitative rating as Alternative B2 and Alternative B3 (**Large Adverse**), Alternative B1 results in the highest overall acreage of resource impacts, results in the highest monetary loss of amenity value, and results in the highest amount of carbon sequestration loss.

Avoidance, minimisation, and mitigation measures will be further evaluated for terrestrial ecology resources as part of the Preferred Alternative in order to best reduce impacts and compensate for unavoidable impacts. Potential avoidance and minimisation measures that could be evaluated include incorporating reduced cross sections in highly vulnerable areas and avoiding the placement of staging or stockpiles in areas of high-quality habitat. Other measures include fencing and wildlife crossings to reduce habitat fragmentation and conflicts between the corridor and wildlife. Potential considerations for mitigation measures for unavoidable impacts are broad ranging, including creation of new habitat, restoration of impacted resources, enhancement of degraded areas through hydrological improvements or exotic removal, and preservation and/or purchase of habitat that will be conserved and protected. Based on the similarity of Alternatives B1, B2, and B3 in relation to the terrestrial ecology resources impacted, the possible mitigation measures are anticipated to be similar. However, the overall acreage of impact to high-quality habitats varies by alternative and would impact the anticipated mitigation cost for the Preferred Alternative.

5.8 Cultural and Natural Heritage Impacts

Detailed evaluation of Cultural and Natural Heritage impacts can be found in the Cultural and Natural Heritage – Assessment of Alternatives document (**Attachment G – Cultural & Natural Heritage – Assessment of Alternatives**). A summary of results is included below. Evaluation of Cultural and Natural Heritage impacts follows WebTAG Unit A3 *Environmental Impact Appraisal*. This analysis encompassed the potential impacts of the shortlisted alternatives on resources that contribute to the cultural identity of the Cayman Islands. This section evaluates resources like the CMW and the Mastic Reserve from a heritage perspective *only*, which means acreages of impact are accounted for based on geospatial boundaries provided by the Department of Environment or the NT. To avoid double-counting, ecosystem function and services are addressed in **Attachment F – Terrestrial Ecology – Assessment of Alternatives**.

The Cultural and Natural Heritage – Assessment of Alternatives included a quantitative analysis and a qualitative analysis for each of the shortlisted Build alternatives along with the No-Build scenario. A monetary assessment is not applicable for cultural and natural heritage resources. The listed evaluations have been compiled into **Table 8** below.

Table 8: Summary Table of Qualitative Impacts on Cultural and Natural Resources

Resource	No-Build	B1	B2	B3
CMW	Neutral	Slight Adverse 76 acres (*31 ha*)	Slight Adverse 57 acres (*23 ha*)	Slight Adverse 76 acres (*31 ha*)
Mastic Reserve	Neutral	Slight Adverse 8 acres (*3 ha*)	Neutral	Neutral
Mastic Trail	Neutral	Slight Adverse	Neutral	Neutral
Meagre Bay Pond	Neutral	Neutral	Neutral	Neutral
Cemeteries	Neutral	Neutral	Neutral	Neutral
Overall Qualitative Rating	**Neutral**	**Moderate Adverse**	**Slight Adverse**	**Slight Adverse**
Overall Acres of Resource Impacts	**0.0** *(0.0 ha)*	**84 acres** *(34 ha)*	**57 acres** *(23 ha)*	**76 acres** *(31 ha)*

The following summarizes the results of the analysis for the identified cultural and natural heritage resources:

- *No-Build* – The No-Build scenario is anticipated to have no direct impacts on the identified cultural and natural heritage resources (0 acres) resulting in an overall **Neutral** qualitative rating.

- *Alternative B2* – Alternatives B2 would be the least impactful of the Build alternatives since it is anticipated to have a direct minor impact on one cultural and natural heritage resource: the CMW (57 acres), resulting in an overall **Slight Adverse** impact on cultural and natural heritage resources. While Alternative B2 has the same overall qualitative rating as Alternative B3, Alternative B2 results in less acreage of impact to the CMW in comparison to Alternative B3, with 57 acres and 76 acres, respectively.

- *Alternative B3* – Alternatives B3 would be the next least impactful of the Build alternatives since it is anticipated to have a direct minor impact on one cultural and natural heritage resource: the CMW (76 acres), resulting in an overall **Slight Adverse** impact on cultural and natural heritage resources.

- *Alternative B1* – Alternative B1 would be the most impactful of the Build alternatives since it is anticipated to have direct minor impacts to the CMW (76 acres) and the Mastic Reserve (8 acres). In addition, Alternative B1 would include a bridge that would carry the new roadway over the Mastic Trail allowing for the continued use of the trail but changing the character of the trial as users pass under the bridge section. Based on these impacts Alternative B1 results in a **Moderate Adverse** rating on the identified cultural and natural heritage resources.

Avoidance, minimisation, and mitigation measures will be further evaluated for cultural and natural heritage resources as part of the Preferred Alternative in order to best reduce impacts and compensate for unavoidable impacts. Potential avoidance measures that could be evaluated include the incorporation of reduced cross sections in highly vulnerable areas and avoiding the placement of staging or stockpiles in areas of cultural significance. Potential minimisation measures that could be evaluated include replanting/establishment of temporary habitat impacts. Potential mitigation measures that could be evaluated include conservation of cultural resources, viewshed enhancements, and landscaping. Based on the similarity of Alternatives B1, B2, and B3 in relation to the cultural and natural heritage impacted, the possible mitigation measures are anticipated to be similar. Therefore, the implementation of mitigation measures is not anticipated to impact the differentiation of alternatives within the Shortlist Evaluation.

5.9 Hydrology and Drainage Impacts

Detailed evaluation of Hydrology and Drainage impacts can be found in the Hydrology and Drainage – Assessment of Alternatives document (**Attachment H – Hydrology & Drainage – Assessment of Alternatives**). A summary of results is included below. Evaluation of Hydrology and Drainage impacts follows WebTAG Unit A3 *Environmental Impact Appraisal*. The most applicable category for hydrology and drainage impacts is "Impacts to Water Environment". This analysis encompassed the potential effects of the shortlisted alternatives on hydrologic features and functions within the EIA study area.

The Hydrology and Drainage – Assessment of Alternatives included a quantitative analysis and a qualitative analysis for each of the shortlisted Build alternatives along with the No-Build scenario. A monetary assessment is not applicable for hydrology and drainage resources. The listed evaluations have been compiled into **Table 9** below.

Table 9: Hydrology and Drainage Evaluation Summary

Water Environment Feature	No-Build	B1	B2	B3
Central Mangrove Wetland	Slight Adverse	Moderate Adverse	Moderate Adverse	Moderate Adverse
Mastic Reserve	Slight Adverse	Large Adverse	Moderate Adverse	Moderate Adverse
Meagre Bay Pond	Slight Adverse	Slight Adverse	Slight Adverse	Slight Adverse
Freshwater Lenses	Slight Adverse	Slight Adverse	Slight Adverse	Slight Adverse
Developed Areas	Slight Adverse	Moderate Adverse	Moderate Adverse	Moderate Adverse
Existing Drainage Infrastructure	Neutral	Neutral	Neutral	Neutral
Overall Qualitative Rating	**Slight Adverse**	**Large Adverse**	**Moderate Adverse**	**Moderate Adverse**

The following summarizes the results of the analysis for the identified hydrology and drainage resources:

- *No-Build* – Based on the parameters of the evaluation, the No-Build scenario is not anticipated to have additional direct impacts on the identified water environment features and considered the baseline of comparison. However, even a negligible impact on a resource of very high importance (e.g., the CMW, Mastic Reserve, Freshwater Lenses, etc.) results in a "Slight Adverse" impact per WebTAG Unit A3. The No Build alternative is anticipated to have a "Slight Adverse" impact to five of the six water environment features discussed in this technical report resulting in an overall **Slight Adverse** rating.

- *Alternative B2* – Alternative B2 is anticipated to be the least impactful of the Build alternatives on water environment features. Alternatives B2 and B3 have the same overall qualitative rating (**Moderate Adverse**), and each was assessed to have a "Moderate Adverse" impact on three water environment features (CMW, Mastic Reserve and Developed Areas.) Because Alternative B2 is anticipated to impact 57 acres (23 ha) of CMW and Alternative B3 is anticipated to impact 76 acres (31 ha) of CMW, Alternative B2 is anticipated to be slightly less impactful than Alternative B3.

- *Alternative B3* – Alternative B3 is anticipated to be the second least impactful of the Build alternatives. As described for Alternative B2, Alternative B3 would have a slightly larger impact on the CMW by area (still less than 1% of the total area) than Alternative B2.

- *Alternative B1* – Alternative B1 is anticipated to be the most impactful of the Build alternatives. Alternative B1 has an overall qualitative rating **Large Adverse** due to the **Large Adverse** impact to the Mastic Reserve, as it is the only alternative that would intersect the Mastic Reserve.

Avoidance, minimisation, and mitigation measures will be further evaluated for hydrology and drainage resources as part of the Preferred Alternative in order to best reduce impacts and compensate for unavoidable impacts. Potential avoidance measures that could be evaluated include designing stormwater management plans to avoid or minimise impacts on important resources, such as the freshwater lenses, Meagre Bay Pond, the CMW, and the Mastic Reserve. Potential minimisation measures that could be evaluated include elevating/bridging portions of the road to preserve hydrological flow in critical areas. Potential mitigation measures that could be evaluated include assessing the potential for native plantings and wetland plans to filter pollutants. Based on the similarity of Alternatives B1, B2, and B3 in relation to the hydrology and drainage resources impacted, the possible mitigation measures are anticipated to be similar. Therefore, the implementation of mitigation measures is not anticipated to impact the differentiation of alternatives within the Shortlist Evaluation.

5.10 Greenhouse Gas Impacts

Detailed evaluation of Greenhouse Gas (GHG) impacts can be found in the Greenhouse Gases – Assessment of Alternatives document (**Attachment I – Greenhouse Gas – Assessment of Alternatives**) and Cost-Benefits Analysis – Assessment of Alternatives document (**Attachment J – Cost-Benefit Analysis – Assessment of Alternatives)**. A summary of results is included below. Evaluation of GHG impacts follows WebTAG Unit A3 *Environmental Impact Appraisal*.

The Greenhouse Gases – Assessment of Alternatives included a quantitative analysis and a monetary analysis for each of the shortlisted Build alternatives along with the No-Build scenario. A qualitative assessment is not applicable for GHG impacts. Total GHG emissions and monetization associated with the No-Build scenario and for each of the Build alternatives B1, B2, and B3 are provided in **Tables 10 - 12** below. These emissions include both one-time emissions related to construction (2024-2026) and annual emissions related to traffic operations (2026-2074). The emissions also include benefits from the proposed solar panel canopy along Build alternatives B1, B2, and B3 and annual carbon sequestration loss.

Table 10: GHG One-Time Emissions (2024-2026)

Alternative	Habitat/Peat		Construction		Bulk Material		Total Emissions	Monetized Benefit (Disbenefit) Net Present Value		
	MT CO_2e	Ton CO_2e	MT CO_2e	Ton CO_2e	MT CO_2e	Ton CO_2e	MT CO_2e	Ton CO_2e	USD	CI$
No-Build	0	0	0	0	0	0	**0**	**0**	**$0**	**$0**
B1	90,336	99,578	2,364	2,606	27,199	29,982	**119,899**	**132,166**	**- $42,275,740**	**-$35,511,622**
B2	42,878	47,265	2,001	2,206	22,449	24,745	**67,328**	**74,216**	**- $23,739,489**	**-$19,941,171**
B3	73,703	81,243	2,075	2,288	22,798	25,131	**98,576**	**108,662**	**- $34,757,365**	**-$29,196,187**

Table 11: GHG Annual Operational Traffic Emissions (2026 through 2074)

Alternative	2026 Traffic		2074 Traffic		Average Annual Emissions (2026-2074)		Monetized Benefit/Disbenefit (2026-2074) Net Present Value	
	MT CO_2e	Ton CO_2e	MT CO_2e	Ton CO_2e	MT CO_2e	Ton CO_2e	USD	CI$
No-Build	64,134	70,696	124,739	137,501	**94,437**	**104,099**	**N/A***	**N/A***
B1	68,031	74,991	115,681	127,516	**91,856**	**101,254**	**$7,992,666**	**$6,713,839**
B2	70,044	77,210	115,238	127,028	**92,641**	**102,119**	**-$5,345,402**	**-$4,490,138**
B3	68,038	74,999	114,976	126,740	**91,507**	**100,870**	**$10,988,189**	**$9,230,079**

**Monetization of benefits compares the Build alternative to the No-Build condition*

As shown in **Table 11**, Alternative B2 has a monetized disbenefit for operational traffic emissions (2026 thru 2074). This is due to the fact that Alternative B2 is the alternative in which people are likely to most increase the miles they travel to take advantage of faster speeds to access better opportunities. Therefore, carbon emissions in the opening year are highest under Alternative B2.

A cost-benefit analysis was completed for the proposed solar panel canopy along Alternatives B1, B2, and B3 (**Attachment J – Cost-Benefit Analysis – Assessment of Alternatives)**. Disbenefit from manufacturing of the solar panel canopy and battery components, along with the benefit from carbon savings compared to the current production mode were tabulated over the anticipated 30-year lifespan of the system. The results show a reduction in GHG emissions (benefit) of 566,644 MT (624,618 short ton) and $114,899,000 (CI$$96,515,160) (**Table 13**). The cost-benefit analysis also included the monetization of annual carbon sequestration loss included within **Section 5.7: Terrestrial Ecology Impacts**.

The overall GHG monetized benefit (including habitat/peat removal, construction, bulk material, operational traffic emissions, solar panel canopy, and annual carbon sequestration loss) are shown in **Table 12** below. See **Attachment J – Cost-Benefit Analysis – Assessment of Alternatives** for additional information regarding the monetized benefit.

Table 12: Overall GHG Monetized Benefit (2026 through 2074)

Alternative	Monetized Benefit (2026-2074) Net Present Value	
	USD	CI$
No-Build	**N/A***	**N/A***
B1	**$73,521,000**	**$61,757,640**
B2	**$81,110,000**	**$68,132,400**
B3	**$85,582,000**	**$71,888,880**

**Monetization of benefits compares the Build alternative to the No-Build condition*

The following summarizes the results of the analysis for the identified GHG emissions. Note that this summary incorporates results from both **Attachment I – Greenhouse Gas – Assessment of Alternatives** and **Attachment J – Cost-Benefit Analysis – Assessment of Alternatives.**

- *No-Build*: The No-Build scenario is assumed to require no habitat/peat removal, construction, or bulk materials; therefore, it results in no GHG emissions within these

categories. Compared to the Build alternatives, the No-Build scenario results in the lowest total one-time emissions outlined in **Table 10**. However, the GHG emissions from traffic are projected to generate approximately 9,000 MT (10,000 tons) more than any other alternative by 2074 (**Table 11**) and the No-Build scenario does not include the solar panel canopy, which provides GHG emissions reduction.

- *Alternative B3*: Compared to the other Build alternatives, Alternative B3 is anticipated to result in the second highest GHG emissions from the one-time emissions (**Tables 10**) and the lowest average annual operational traffic emissions (**Tables 11**). Overall, Alternative B3 is anticipated to result in the least GHG emissions based on the overall monetized benefit (**Tables 12**). Note that Alternatives B1, B2, and B3 are all anticipated to result in an overall benefit (reduction in GHG emissions) due to incorporation of the solar panel canopy.
- *Alternative B2*: Compared to the other Build alternatives, Alternative B2 is anticipated to result in the least GHG emissions from the one-time emissions (**Tables 10**) and the highest average annual operational traffic emissions (**Tables 11**). Overall, Alternative B2 is anticipated to result in the second lowest GHG emissions based on the combined monetized benefit (**Tables 12**). Note that Alternatives B1, B2, and B3 are all anticipated to result in an overall benefit (reduction in GHG emissions) due to incorporation of the solar panel canopy.
- *Alternative B1*: Compared to the other Build alternatives, Alternative B1 is anticipated to result in the highest GHG emissions from the one-time emissions (**Tables 10**) and the second lowest average annual operational traffic emissions (**Tables 11**). Overall, Alternative B1 is anticipated to result in the highest GHG emissions based on the combined monetized benefit (**Tables 12**). Note that Alternatives B1, B2, and B3 are all anticipated to result in an overall benefit (reduction in GHG emissions) due to incorporation of the solar panel canopy.

Avoidance, minimisation, and mitigation measures will be further evaluated for GHG impacts as part of the Preferred Alternative in order to best reduce impacts and compensate for unavoidable impacts. Potential avoidance measures that could be evaluated include revising the road design to reduce the need for peat removal. Potential minimisation measures that could be evaluated include the efficient use of materials and prioritising reusable or recyclable materials. Potential mitigation measures that could be evaluated include landscaping bare areas to re-establish vegetative cover. Based on the similarity of Alternatives B1, B2, and B3 in relation to GHG impacts, the possible mitigation measures are anticipated to be similar. Therefore, the implementation of mitigation measures is not anticipated to impact the differentiation of alternatives within the Shortlist Evaluation.

6 Cost-Benefit Analysis

As discussed in **Section 5.1: Assessment Methodology** above, the UK Department for Transport's WebTAG (Transport Appraisal Guidance) was utilized to the extent practicable for the EWA EIA Shortlist Evaluation (**Attachment J – Cost-Benefit Analysis – Assessment of Alternatives**).

After each individual discipline has been assessed with the applicable WebTAG documents and Cayman and international policy, the WebTAG process affords the ability to create a Cost-Benefit Analysis for monetizable portions of the project. **Table 13** below provides a summary of the monetized costs and benefits in 2023 USD.

Table 13: Monetized Costs and Benefits

Monetized Costs and Benefits (US 2023 $M)*			
	B1	**B2**	**B3**
Noise Impact	-11.935	-11.323	-12.141
Electric Cost Savings From Solar Canopy	83.627	83.627	83.627
Amenity Loss from Construction	-11.325	-8.506	-9.408
Total Carbon Benefits	73.521	81.110	85.582
Subtotal - Carbon Emissions from Construction	-42.276	-23.739	-34.757
Subtotal - Carbon Sequestration Impact	-7.094	-4.704	-5.547
Subtotal - Carbon Emissions from Traffic Operations	7.993	-5.345	10.988
Subtotal - Carbon Emissions Savings from Solar Canopy	114.899	114.899	114.899
Total Transportation Benefits	510.405	521.37	509.898
*Subtotal - Economic Efficiency: Consumer Users (Commuting)***	123.04	126.47	121.95
*Subtotal - Economic Efficiency: Consumer Users (Other)***	246.22	249.93	245.32
*Subtotal - Economic Efficiency: Business Users and Providers***	130.09	134.12	131.14
*Subtotal – Freight and Reliability***	11.065	10.867	11.488
Present Value of Benefits (PVB)	644.293	666.285	657.558
Total Construction Cost with Contingency	489.039	439.328	439.32
Right of Way Cost	21.78	20.782	19.477
Solar Canopy Cost	36.043	36.043	36.043
Present Value of Costs (PVC)	546.863	496.154	494.841
OVERALL IMPACTS			
Net Present Value (NPV)	97.430	170.131	162.717
Benefit to Cost Ratio (BCR)***	**1.2**	**1.3**	**1.3**

** It should be noted for this Shortlist Evaluation that traffic and cost estimate components assumed discrete benchmark years, while some of the components assumed conservative assumptions in the timeline of impacts. See **Attachment J – Cost-Benefit Analysis – Assessment of Alternatives** for additional information regarding the CBA assumptions and methodology.*

***Transportation benefit subtotals include the value of disbenefits from non-carbon emissions (VOCs, NOX, SO_2, $PM_{2.5}$), associated with travel, totalling -$1.885M for Alternative B1, -$2.14M for Alternative B2, and -$1.806M for Alternative B3.*

****A BCR above 1.0 represents the anticipated benefits being greater than the anticipated costs.*

The following summarizes the results of the CBA:

- *No-Build* – The CBA evaluates each of the Build alternatives (B1, B2, and B3) in comparison to the No-Build scenario. Therefore, the No-Build scenario does not have a separate CBA.

- *Alternative B2* – Alternative B2 is anticipated to provide the highest present value of benefits (~$666,285,000 USD) and require the second highest present value of costs (~$496,154,000 USD). Overall, Alternative B2 and Alternative B3 both provide the highest benefit/cost ratio at 1.3.

- *Alternative B3* – Alternative B3 is anticipated to provide the second highest present value of benefits (~$657,558,000 USD) and require the lowest present value of costs (~$494,841,000 USD). Overall, Alternative B2 and Alternative B3 both provide the highest benefit/cost ratio at 1.3.

- *Alternative B1* – Alternative B1 is anticipated to provide the least present value of benefits (~$644,293,000 USD) and require the highest present value of costs (~$546,863,000 USD). Overall, Alternative B1 provides the lowest benefit/cost ratio at 1.2.

7 Summary & Conclusion

This section provides a summary of the anticipated impacts (**Section 5**) and Cost-Benefit Analysis (**Section 6**) to compare the Shortlist of Alternatives. The information is grouped to address CSFs, engineering constraints, social impacts, natural environment impacts, and project costs.

The CSFs are the aspects of the project that are vital to its success. These are the main goals that the completed project would accomplish. The CSFs were developed based on the purpose and need statements from the original Gazetting of the EWA Extension and further refined through the ToR and Longlist Evaluation process. **Table 14** provides a summary of the alternatives and the degree to which they meet the CSFs based on the 7-point qualitative scale (**Table 1**).

Table 14: Summary of Critical Success Factors (CSFs)

Critical Success Factors		No-Build	B1	B2	B3
Traffic Evaluation					
Create an alternative travel route to the existing two-lane Bodden Town Road. Improve resiliency of existing roadway between North Side/East End and George Town/West Bay	Alternative Routes	Neutral*	Large Beneficial	Large Beneficial	Large Beneficial
	Existing Roadway Resiliency	Neutral*	Large Beneficial	Large Beneficial	Large Beneficial
Support current and future traffic demand	Future Traffic Demand	Neutral*	Large Beneficial	Large Beneficial	Large Beneficial
	District-to-District Access	Neutral	Large Beneficial	Large Beneficial	Large Beneficial
	Employment Access	Neutral	Large Beneficial	Large Beneficial	Large Beneficial
Improve travel time between North Side/East End and George Town	Study Area Travel Times	Neutral*	Large Beneficial	Large Beneficial	Large Beneficial
	Key Destination Travel Times	Neutral*	Slight Beneficial	Slight Beneficial	Slight Beneficial
Reduce tourism travel time between North Side/East End and George Town	Tourist Travel Times	Neutral*	Slight Beneficial	Slight Beneficial	Slight Beneficial
Improve safe vehicular travel by reducing roadway conflict points	Conflict Points	Neutral	Large Beneficial	Large Beneficial	Large Beneficial
	Safety	Neutral*	Large Beneficial	Large Beneficial	Large Beneficial
	Level of Service	Neutral*	Large Beneficial	Large Beneficial	Large Beneficial
Provide opportunity for enhanced and safe pedestrian and bicycle travel	Bicycle Level of Traffic Stress	Neutral*	Large Beneficial	Large Beneficial	Large Beneficial
	Non-Vehicular Accessibility	Neutral*	Large Beneficial	Large Beneficial	Large Beneficial

Critical Success Factors		No-Build	B1	B2	B3
Engineering Evaluation					
Create an alternative travel route to the existing two-lane Bodden Town Road	Provide an alternative roadway facility to accommodate travel in the event of a roadway closure +	Neutral	Large Beneficial	Large Beneficial	Large Beneficial
Improve resiliency of existing roadway between North Side/East End and George Town/West Bay	Improve resiliency of the travel route to flooding from sea level rise, storm surge, wave overtopping, and rainfall +	Neutral	Large Beneficial	Large Beneficial	Large Beneficial
Accommodate utility expansion (electricity, fiber, water, central sewage)	Establish area adjacent to roadway to provide for utility needs	Neutral	Large Beneficial	Large Beneficial	Large Beneficial
Provide opportunity to safely accommodate and expand public transportation	Establish public transportation facilities and improve bus travel reliability +	Neutral	Large Beneficial	Large Beneficial	Large Beneficial
Provide opportunity for enhanced and safe pedestrian and bicycle travel	Establish dedicated pedestrian and bicycle facilities adjacent to vehicular travel lanes +	Neutral	Large Beneficial	Large Beneficial	Large Beneficial
Overall Qualitative Rating		**Neutral**	**Large Beneficial**	**Large Beneficial**	**Large Beneficial**

*The No-Build scenario is rated "Neutral" because it serves as the baseline for comparison against the Build alternatives. Despite its "Neutral" rating, the No-Build represents anticipated worsening traffic conditions.

+ Also included in the Traffic Assessment

The Engineering Constraints include the necessities to construct the proposed project. The goal of the project is to construct a sound and resilient roadway that best meets the identified CSFs for the project. The Engineering Constraints below were developed based on the anticipated constructability challenges and evaluated using professional experience and desktop analysis. **Table 15** provides a summary of the engineering constraints.

Table 15: Summary of Engineering Constraints

Resource	No-Build	B1	B2	B3
Provide for sound geometric design conditions				
Amount of property affected to improve roadway to achieve sound geometric design conditions	Neutral	Slight Adverse	Slight Adverse	Slight Adverse
Provide for the areas necessary for construction				
Provide areas required for construction staging and for construction activities	Neutral	Slight Adverse	Slight Adverse	Slight Adverse
Engineering Constraints: Overall Qualitative Rating	**Neutral**	**Slight Adverse**	**Slight Adverse**	**Slight Adverse**

Sensitive social resources were considered during the Shortlist Evaluation, with a goal of developing alternatives that best meet the CSFs and offer benefits to people and their quality of life while minimising negative impacts to social categories. Social impacts in the categories of Noise and Socio-economics were evaluated quantitatively, qualitatively, and monetarily (where applicable) using the UK's WebTAG guidance. **Table 16** provides a summary of the impacts each of the Build alternatives would have on these social categories. Note that all three Build alternatives (Alternative B1, B2, and B3) are anticipated to provide similar benefits and disbenefits regarding social impacts.

Table 16: Summary of Social Impacts

Resource		No-Build	B1	B2	B3
Socio-economics	**Overall Qualitative Rating**	Neutral	Large Beneficial	Large Beneficial	Large Beneficial
Resource		**No-Build**	**B1**	**B2**	**B3**
Noise	**2074 Horizon Year compared to 2026 No-Build noise levels**	Overall increase (disbenefit)	Overall increase (disbenefit)	Overall increase (disbenefit)	Overall increase (disbenefit)
	Monetized Disbenefit (2026-2074) Net Present Value USD (CI$)	N/A*	**-$11,934,779 (-$10,025,214)**	**-$11,323,154 (-$9,511,449)**	**- $12,141,363 (-$10,198,745)**
**Monetization of benefits compares the Build alternative to the No-Build condition*					

Natural environment impacts in the categories of Terrestrial Ecology, Cultural and Natural Heritage, Greenhouse Gas, Hydrology and Drainage, and Geo-Environmental were evaluated quantitatively, qualitatively, and monetarily (where applicable) using the UK's WebTAG guidance. **Table 17** provides a qualitative summary of the impacts each Build alternative would have on environmental resources. Where appropriate, quantitative details are included.

Table 17: Summary of Natural Environment Impacts

Category		No-Build	B1	B2	B3
Terrestrial Ecology	**Overall Qualitative Rating**	Neutral	Large Adverse	Large Adverse	Large Adverse
	Overall Acres of Wetland Impacts*	**0.0** *(0.0 ha)*	**194.3 acre** (*78.6 ha*)	**128.2 acre** (*51.9 ha*)	**151.1 acre** (*61.1 ha*)
Cultural & Natural Heritage	**Overall Qualitative Rating**	Neutral	Moderate Adverse	Slight Adverse	Slight Adverse
	Overall Acres of Resource Impacts	**0.0** *(0.0 ha)*	**84 acres** *(34 ha)*	**57 acres** *(23 ha)*	**76 acres** *(31 ha)*
Greenhouse Gas Impacts	**One-time CO2e Emissions (2024-2026)**	**0.0 MT** *(0.0 ton)*	**119,899 MT** *(132,166 ton)*	**67,328 MT** *(74,216 ton)*	**98,576 MT** *(108,662 ton)*
	Monetized Benefit (2026-2074) Net Present Value USD *(CI$)*	**N/A****	**$73,521,000** *($61,757,640)*	**$81,110,000** **(***$68,132,400)*	**$85,582,000** *($71,888,880)*
Hydrology & Drainage	**Overall Qualitative Rating**	Slight Adverse	Large Adverse	Moderate Adverse	Moderate Adverse
Geo-Environmental	**Overall Qualitative Rating**	Slight Adverse	Large Adverse	Large Adverse	Large Adverse
Overall Qualitative Rating		**Slight Adverse**	**Large Adverse**	**Moderate Adverse**	**Moderate Adverse**

*See additional habitat impacts in **Section 5.7: Terrestrial Ecology** above. Wetland Habitat impacts include but are not limited to the Department of Environment's geospatial CMW boundary, as some wetland habitats occur outside of that boundary.

***Monetization of benefits compares the Build alternative to the No-Build condition

A CBA was performed by monetizing the anticipated costs and quantitative benefits of construction of the EWA Extension Alternatives B1, B2, and B3 compared to a No-Build scenario using the UK's WebTAG guidance. **Table 18** provides a summary of the total anticipated benefits, costs, and benefit to cost ratio.

Table 18: Summary of Cost-Benefit Analysis

Resource	No-Build	B1	B2	B3
Present Value of Benefits (PVB)	N/A	$644,293,000 USD	$666,285,000 USD	$657,558,000 USD
Present Value of Costs (PVC)	N/A	$546,863,000 USD	$496,154,000 USD	$494,841,000 USD
Benefit to Cost Ratio (BCR)	N/A	1.2	1.3	1.3

The following describes the conclusions of this Shortlist Evaluation including the similarities and differences between each of the Build alternatives.

From a CSFs and Engineering Constraints perspective, all three Build alternatives are comparable due to design similarities by providing an alternate route in the event of road closures that shifts most east-west traffic volume to the safer, restricted access EWA facility, which is anticipated to significantly reduce conflict points, thereby reducing the number of crashes. This alternate corridor is expected to provide improved resiliency and opportunities for multimodal accessibility with separated/dedicated facilities for transit, pedestrians, bicycles, and other micromobility modes of travel. The proposed corridor width also allows for the area needed to accommodate additional features including lighting, utilities, and a solar panel canopy that would not only provide electricity generation but also shade for the sidewalk and micromobility facilities. Even though some of these features, particularly the dedicated transit lanes and the solar panel canopy, are not within the ambit of the NRA, both components are expected to provide benefits. The solar panel canopy benefits alone (in terms of avoiding diesel fuel costs and carbon emissions) are expected to significantly exceed the investment cost of purchasing, installing, and operating the proposed solar facility.

From a Social Impacts perspective, all three Build alternatives are comparable: providing a Large Beneficial impact for socio-economics and a monetary disbenefit for noise.

From a Natural Environment Impacts perspective, Alternatives B2 and B3 result in the same overall qualitative rating (Moderate Adverse), whereas Alternative B1 is anticipated to be the most impactful of the Build alternatives with an overall qualitative rating of Large Adverse.

From a Cost-Benefit Analysis perspective, Alternatives B2 and B3 both resulted in the highest B/C ratio of 1.3 (versus a B/C ratio of 1.2 for Alternative B1).

8 Preferred Alternative

As described throughout this Shortlist Evaluation Document, the studies conducted for each of the Build alternatives (Alternatives B1, B2, and B3) as well as the No-Build scenario included a comprehensive analysis of the established CSFs and the anticipated direct impacts to environmental and social features along with evaluations of the engineering features. The alternatives were evaluated quantitatively, qualitatively, and monetarily (where applicable) using the UK's WebTAG guidance. A comprehensive CBA was also completed. The goal of the Shortlist Evaluation was to develop alternatives that best meet the CSFs while avoiding and minimising impacts to sensitive and important environmental and social resources. This evaluation focused on determining the most suitable alternative by evaluating the anticipated direct natural environment impacts, including possible considerations for avoidance or minimisation of impacts through design, to identify a Preferred Alternative that meets the CSFs while resulting in as little environmental and social impacts as possible.

The EWA EIA Steering Committee met on May 7th, May 8th, and May 13th of 2024 to discuss the Shortlist Alternatives Evaluation. The EAB recommended Alternative B2 due to its lower overall quantitative impact on natural resources compared to the other Build alternatives (B1 and B3). See **Attachment K** for additional details regarding EAB's recommendation. The NRA/ PAHI-TD recommendation was Alternative B3 for constructability reasons and to avoid disturbance to the trafficked area and residential and commercial routes. In addition, the NRA/PAHI-TD also viewed the Alternative B3 as providing a protective boundary between developed areas in the south and naturally preserved areas at the north but recognised that currently there is no legal or policy means to give effect to this. The PAHI-TD recommended Alternative B3 due to its higher GHG benefit, not having the potential impact of Alternative B2 on quarry operations, and, in their view, lower impact on Cayman parrot habitat.

A High-Level Summary Report of the EWA EIA Study Findings for the Selection of a Preferred Alternative memorandum was provided to the Cabinet (**Attachment L**). On June 27, 2024, Cabinet granted approval for the selection of **Alternative B3** as the Preferred Alternative. See **Attachment M** for the memorandum from the PAHI-TD Ministry noting the progress made to date on the EWA EIA and approval for selection of Alternative B3 as the preferred route.

Planned Future Roadway Infrastructure (No-Build) Alternative: The Planned Future Roadway Infrastructure Alternative (No-Build) is to be carried forward through the entire EIA evaluation process per the UK Greenbook guidance as a baseline of comparison.

Alternative B1: Alternative B1 will **not** be carried forward, as agreed by all members of the Project Steering Committee.

Alternative B2: Alternative B2, chosen by the EAB as the least impactful option, will **not** be carried forward.

Alternative B3: **Alternative B3 is chosen to be carried forward by Cabinet approval.**

X

Digitally signed by Gina Petrie
DN: cn=Gina Petrie, o=Cayman Islands Government, ou=Department of Environment, email=gina.ebanks-petrie@gov.ky, c=US
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Gina Ebanks-Petrie
Environmental Assessment Board Chair

X

Edward Howard
National Roads Authority Managing Director

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Appendix E, Attachment A – Traffic [Transportation & Mobility] – Assessment of Alternatives

Environmental Statement
East-West Arterial Extension:
Section 2 (Woodland Drive – Lookout Road)
Section 3 (Lookout Road – Frank Sound Road)



Traffic [Transportation & Mobility] FINAL

Assessment of Alternatives

Grand Cayman East-West Arterial Extension

NRA
NATIONAL ROADS
AUTHORITY

November 14, 2024

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List of Terms

AASHTO	American Association of State Highway and Transportation Officials
ADT	Average Daily Traffic
ATR	Automatic Traffic Recorder
CMF	Crash Modification Factor
EIA	Environmental Impact Assessment
ESO	Economics and Statistics Office
FFS	Free-Flow Speed
FHWA	Federal Highway Administration
GCM	Grand Cayman Travel Demand Model
GPS	Global Positioning System
HCM	Highway Capacity Manual
HSA	Health Services Authority
LOS	Level of Service
MPH	Miles Per Hour
NRA	National Roads Authority
PHF	Peak Hour Factor
PFFS	Percent of Free-Flow Speed
RCIPS	Royal Cayman Islands Police Service
ROW	Right of Way
TMC	Turning Movement Count
ToR	Terms of Reference
TWSC	Two-Way STOP Control
UK	United Kingdom
US	United States
WebTAG	UK Department for Transport “Transport Analysis Guidance”

1 Introduction

The East-West Arterial (EWA) Extension Environmental Impact Assessment (EIA) is proposed to evaluate an alternative east-west travel route on Grand Cayman. The Terms of Reference (ToR) for the proposed EWA Extension EIA was finalized on April 4, 2023. Since then, five Build alternatives (B1, B2, B3, B4, and C1), in addition to the No-Build scenario, were developed and assessed as part of the Longlist Alternatives Evaluation. A separate Longlist Alternatives Evaluation Document has been prepared to document this analysis.

As a result of the Longlist Alternatives Evaluation, four Build alternatives (B1, B2, B3, and B4) and the No-Build scenario were advanced as a shortlist for evaluation. This report focuses on the assessment of traffic impacts for these shortlisted alternatives. Information from this report will be incorporated within the Shortlist Alternatives Evaluation Document and Environmental Statement.

2 Shortlist Evaluation

Traffic components including resiliency, travel times, and safety affect how individuals live and travel. Assessing the proposed project's potential to affect changes in these components provides an understanding of the comprehensive and interrelated needs of individuals and the local communities.

The following provides information on the anticipated impacts of the shortlisted alternatives on the traffic components described in Section 4.1. The Shortlist of Alternatives includes the No-Build scenario and four Build alternatives (B1, B2, B3, and B4) as depicted in **Figure 1**. The four Build alternatives all share the same common section beginning at the western terminus, near Woodland Drive, and continuing east to near Lookout Road. They also share the same common improvements to the local roadway network referred to as the Will T Connector. Additional details describing the Shortlist of Alternatives including full descriptions of each alternative along with typical design sections can be found in Section 0 of this report as well as in the Shortlist Evaluation Document.

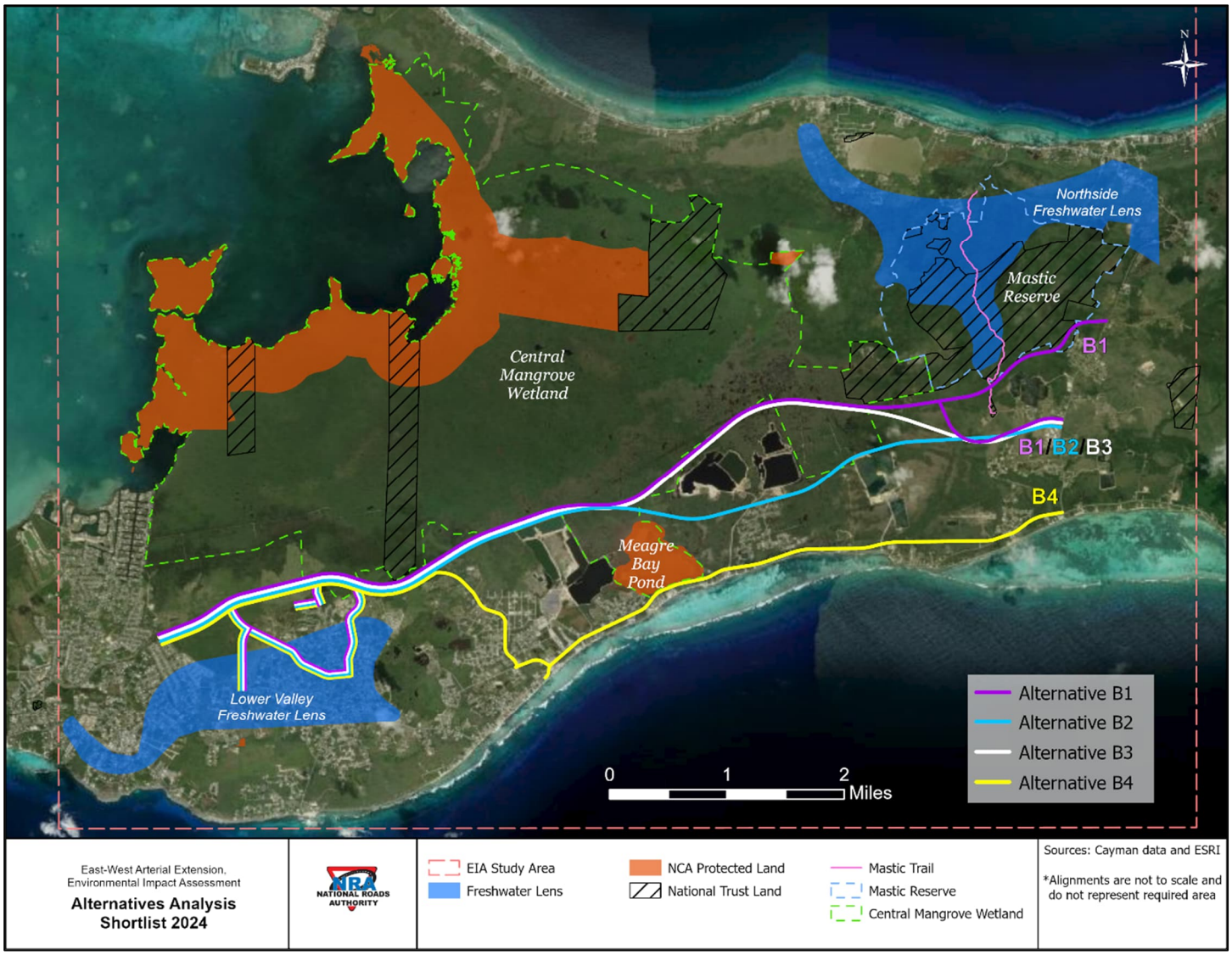

Figure 1: Build Alternative Alignments

3 Baseline Conditions

3.1 Description of Study Area

The traffic study area spans from Hirst Road to Frank Sound Road, encompassing the existing coastal roads of Shamrock Road and Bodden Town Road, as well as the entire proposed East-West Arterial (EWA) corridor, as shown in **Figure 2**.

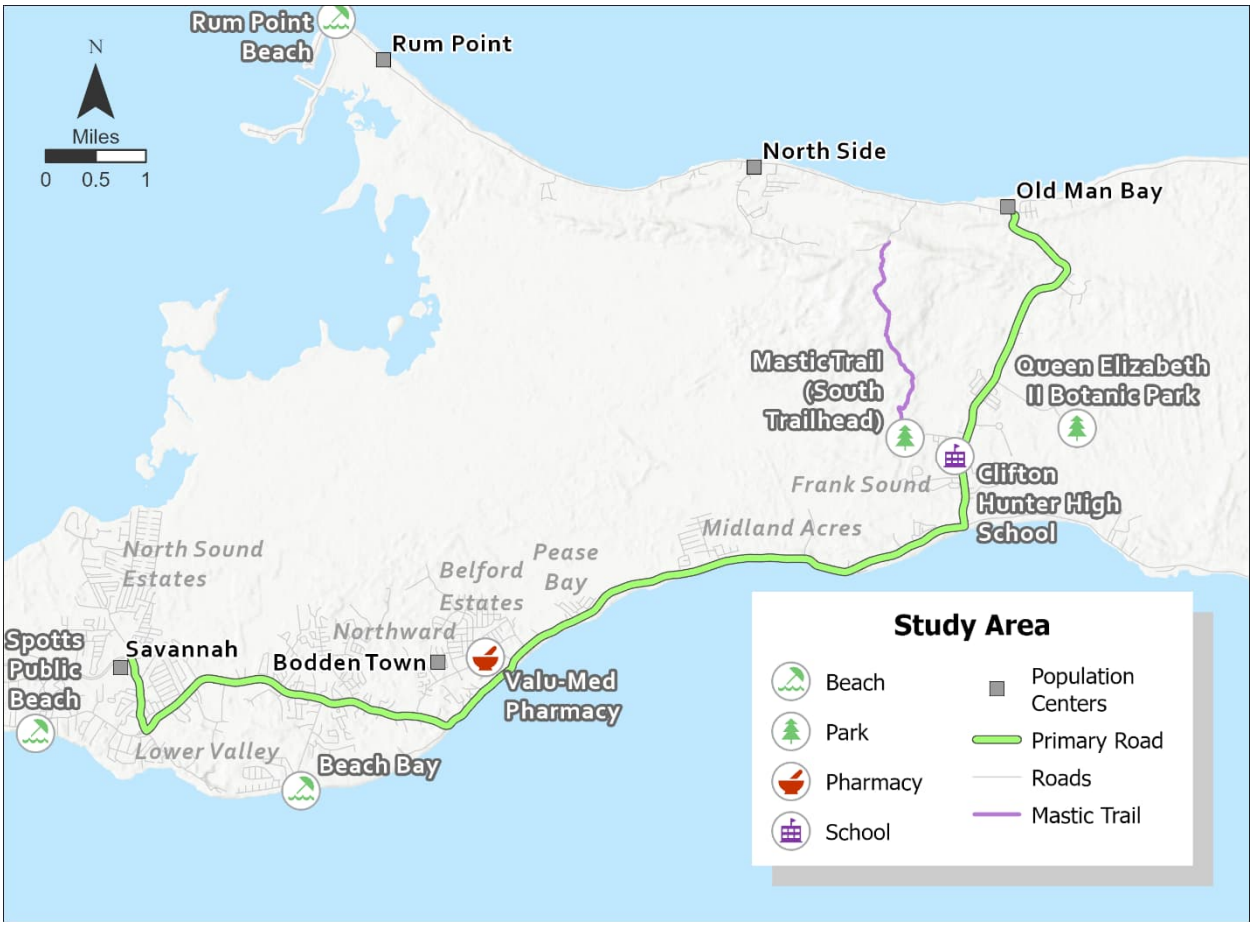

Figure 2: Traffic Study Area

Grand Cayman is comprised of five districts as shown in **Figure 3**. Given the location of the project, the traffic analysis primarily discusses impacts on the districts of Bodden Town, North Side, and East End.

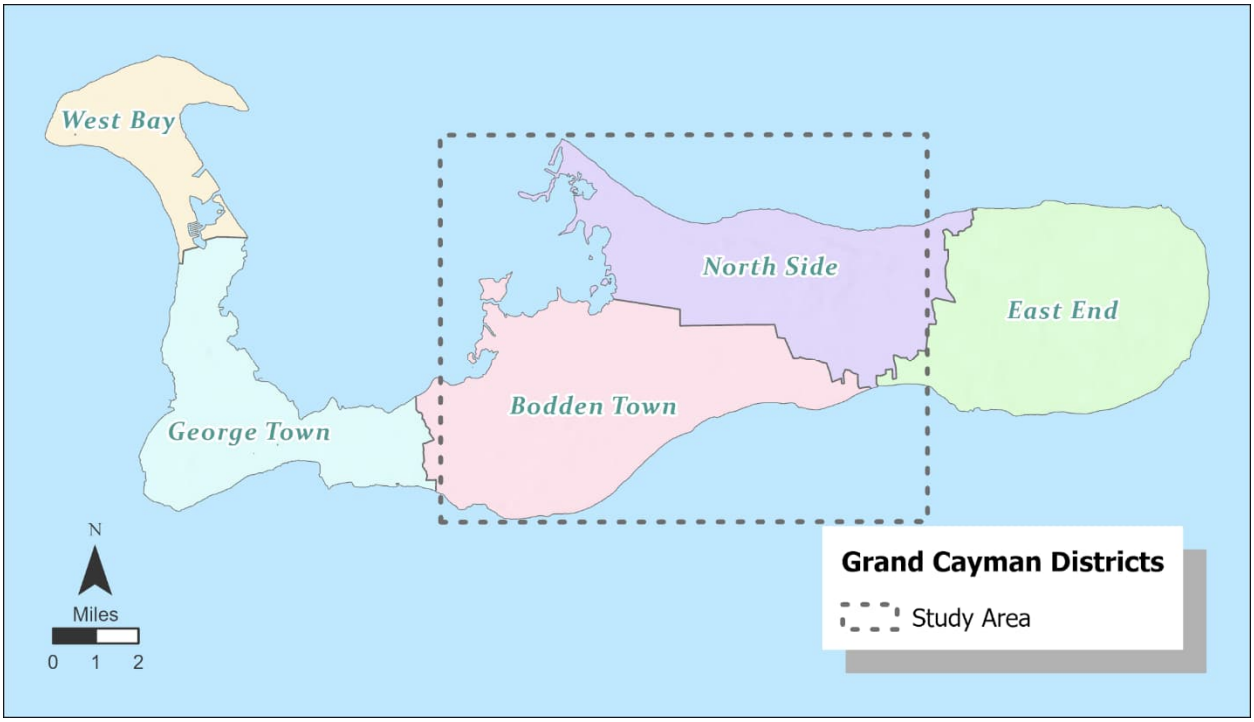

Figure 3: Grand Cayman Districts

Speed limits in Grand Cayman range from 25 to 50 miles per hour (MPH) as shown in **Figure 4**.

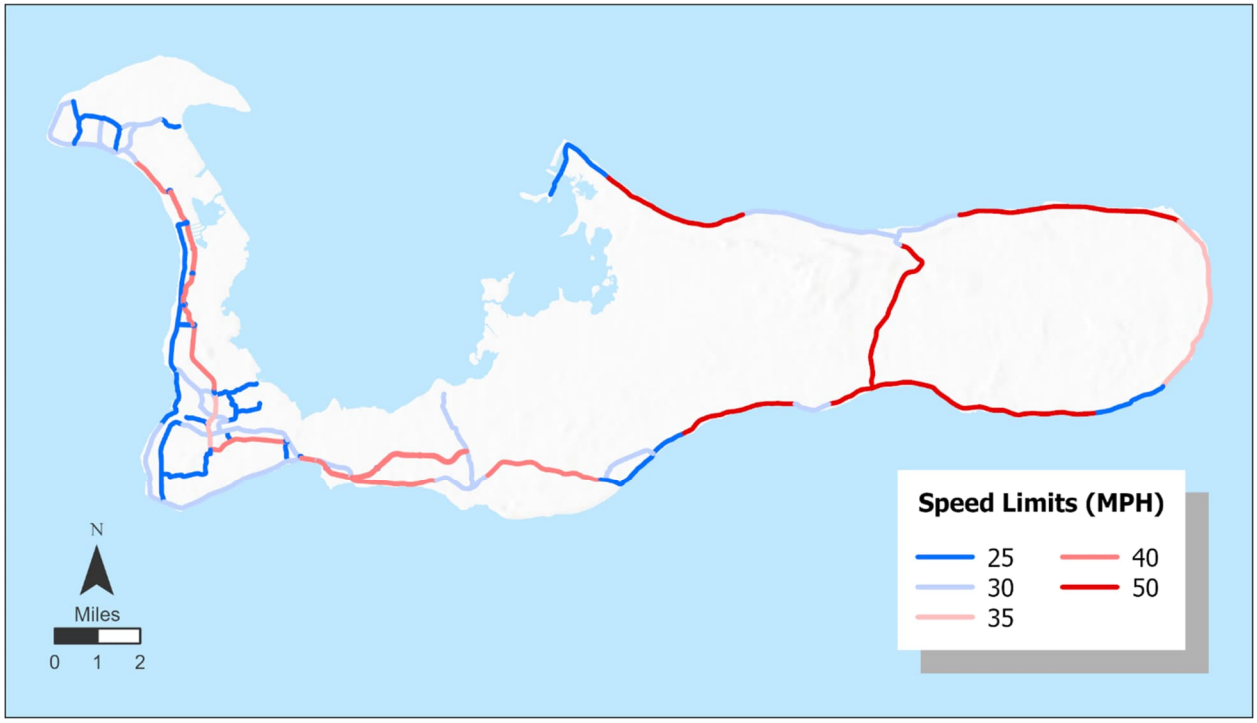

Figure 4: Grand Cayman Speed Limits

3.2 Data Collection

The data collected to support the traffic analysis included (Attachment A – Data Collection Memorandum):

- Turning Movement Counts (TMCs) - Traffic counts collected in the peak hours at key study intersections to support analyses for existing and future traffic operations in the study area.
- Automatic Traffic Recorder (ATR) Counts - Continuous traffic counts over several days, including both peak and off-peak traffic volumes to determine peak hours and peak periods.
- Travel Time Runs - End-to-end corridor runs in both directions of key roadway segments during both peak and off-peak hours to ensure analyses are calibrated to existing conditions.

Figure 5 displays the location of TMC and ATR count data that was collected within the study area. The following subsections discuss the data collection efforts conducted for this EWA EIA, with additional detail provided in Attachment A.

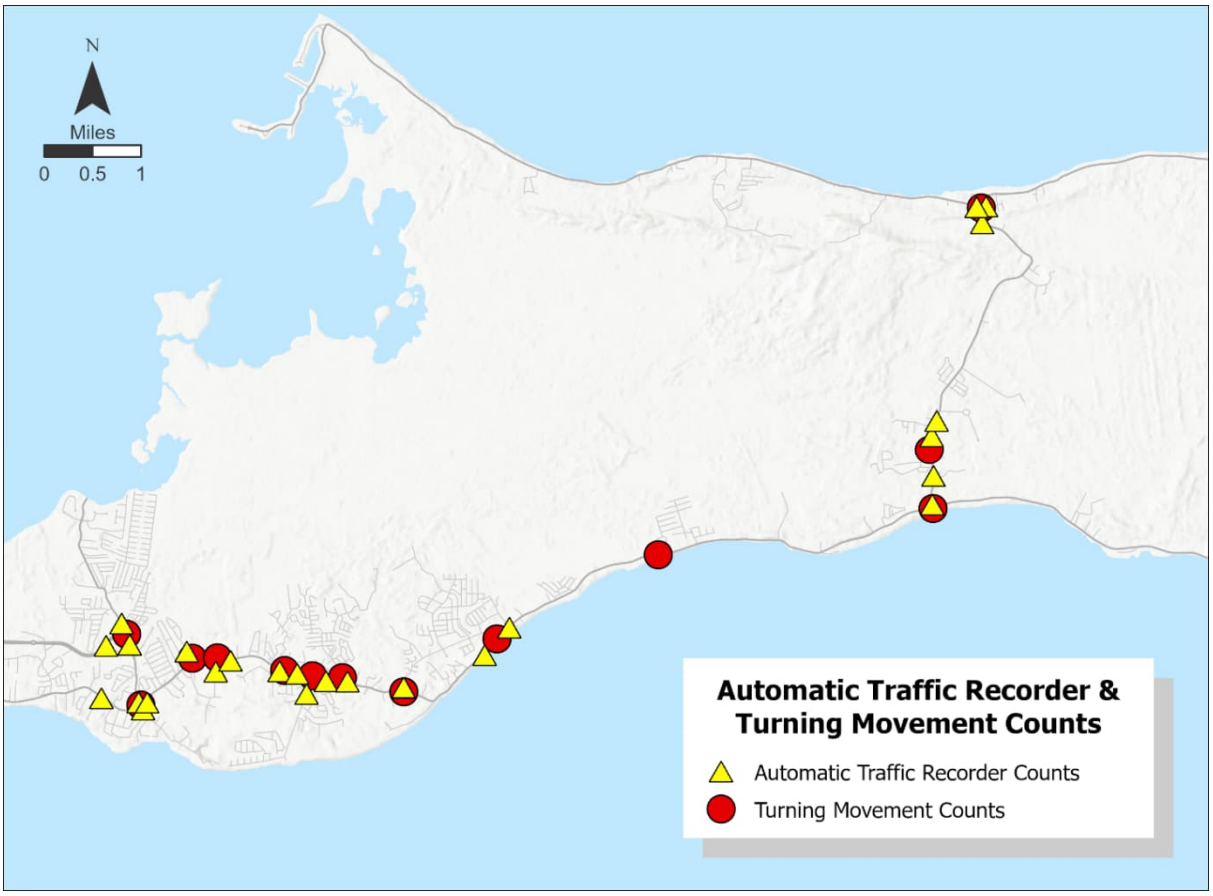

Figure 5: Count Locations

3.2.1 Turning Movement Counts

TMCs were collected at the 15-minute level, and covered the 6 AM to 9 AM and 3 PM to 7 PM peak periods, on the following dates:

- June 6, 2023
- June 9, 2023
- June 13, 2023
- June 15, 2023

TMCs were collected at the following key intersections (**Figure 5**):

- EW Arterial Road at Hirst Road
- Shamrock Road at Hirst Road
- Shamrock Road at Woodland Drive
- Shamrock Road at Agricola Drive
- Shamrock Road at Will T Drive
- Shamrock Road at Beach Bay Road
- Shamrock Road at Northward Road
- Shamrock Road at Condor Road
- Bodden Town Road at Bodden Town Bypass
- Bodden Town Road at Longfellow Drive
- Bodden Town Road / Seaview Road at Frank Sound Road
- Frank Sound Road at Mastic Road
- Frank Sound Road / North Side Road at Old Robin Road

3.2.2 Automatic Traffic Recorder Counts

Multi-daylong ATR counts were collected using tube counters, and covered at least 24 hours of a weekday, on the following dates:

- June 6, 2023
- June 8, 2023
- June 9, 2023
- June 13, 2023
- June 15, 2023

ATRs were collected at 25 locations (**Figure 5**):

- Hirst Road north of Shamrock Road
- EW Arterial Road west of Hirst Road
- Hirst Road north of EW Arterial Road
- Hirst Road south of EW Arterial Road
- Shamrock Road west of Hirst Road
- Shamrock Road east of Hirst Road
- Walbridge Drive north of Shamrock Road
- Agricola Drive south of Shamrock Road
- Shamrock Road east of Agricola Drive
- Pedro Castle Road south of Shamrock Road
- Bodden Town Road west of Frank Sound Road
- Frank Sound Road north of Mastic Road
- Frank Sound Road south of Stepping Stone Drive
- Bodden Town Road east of Bodden Town Bypass
- Shamrock Road east of Will T Road
- Shamrock Road east of Northward Road
- Beach Bay Road south of Shamrock Road
- Shamrock Road west of Beach Bay Road
- Shamrock Road west of Arrow Drive
- Condor Road north of Shamrock Road
- Bodden Town Road west of Bodden Town Bypass
- Frank Sound Road south of Clifton Hunter High School Northern Access Road
- Frank Sound Road south of Old Robin Road
- Old Robin Road east of Frank S
- North Side Road north of Old Robin Road

3.2.3 Travel Time Runs

Travel time runs were conducted by the National Roads Authority (NRA) on four key roadways as shown in **Figure 6**: East-West Arterial, Shamrock Road West of Hirst Road, Shamrock Road East of Hirst Road, and Frank Sound Road.



Figure 6: Travel Time Corridor Limits

The travel time and speed data were collected using laptop computers equipped with GPS units and Tru-Traffic travel time software while following the floating car method where the driver, of the vehicle recording travel times, drives at the prevailing speed of traffic.

The Highway Capacity Manual (HCM) is the chief guidebook documenting performance measures, analysis techniques, and concepts to aid in assessing roadway operations. The HCM provides methodologies to analyze roadway networks, as well as standard definitions for interpretation of the results of those analyses. Per Chapter 15 (Two Lane Highways) of the 6th edition of the HCM (2022), the existing study roads are considered Class III two-lane highways, which are highways passing through moderately developed areas. For Class III two-lane highways, level of service (LOS) is defined as percent of free-flow speed (PFFS) for the probe vehicle. LOS ranges from "A" which indicates excellent operations and minimal delay, and traffic is close to free-flowing, to "F" which indicates failing characteristics such as high delay, systemic breakdowns, long queues, or slow travel. Free-flow speed (FFS) is the average speed of vehicles on a given segment, measured under low-

volume conditions, when drivers are free to drive at their desired speed and are not constrained by the presence of other vehicles or downstream traffic control devices.

Per Exhibit 15-3 of HCM 6, the LOS thresholds for Class III two-lane highways are as follows (**Table 1**):

Table 1: LOS Thresholds for Class III Two-Lane Highways per HCM

LOS	Class III Highways PFFS (%)
A	> 91.7
B	> 83.3 – 91.7
C	> 75.0 – 83.3
D	> 66.7 – 75.0
E	≤ 66.7
F	Demand exceeds capacity

Source: HCM 6, Exhibit 15-3 (p. 15-8)

The travel time data was post-processed, wherein each data point was translated into tables, which could then be sorted, summarized, and compared. The post-processing assumed the design speed – the selected speed used to determine the various geometric features of the roadway, such as lane widths, grades, shoulder widths, and curve radii – of each segment as the free-flow speed, and then applied the above thresholds to determine LOS on a segment-by-segment basis. This resulted in the creation of congestion (heat) maps which show trip-by-trip, direction-by-direction LOS for each study roadway.

3.2.3.1 Google Earth Congestion Maps

Additionally, the travel time data was used to create Google Earth-based congestion (heat) maps, which plotted the second-by-second data points along the travelled route(s), using the LOS thresholds and color schemes defined in **Table 1**. These heat maps easily indicate where delay occurs with orange and red data points representing slower speeds, while green data points represent travel at or near free-flow conditions. **Figure 7** through **Figure 10** show existing conditions for the AM and PM peak hours in each direction of the travel corridor, in which delay at intersections throughout the corridor can be noted by red hot spots with otherwise green points on either side.



Figure 7: Eastbound AM Peak Hour Heat Map



Figure 8: Westbound AM Peak Hour Heat Map

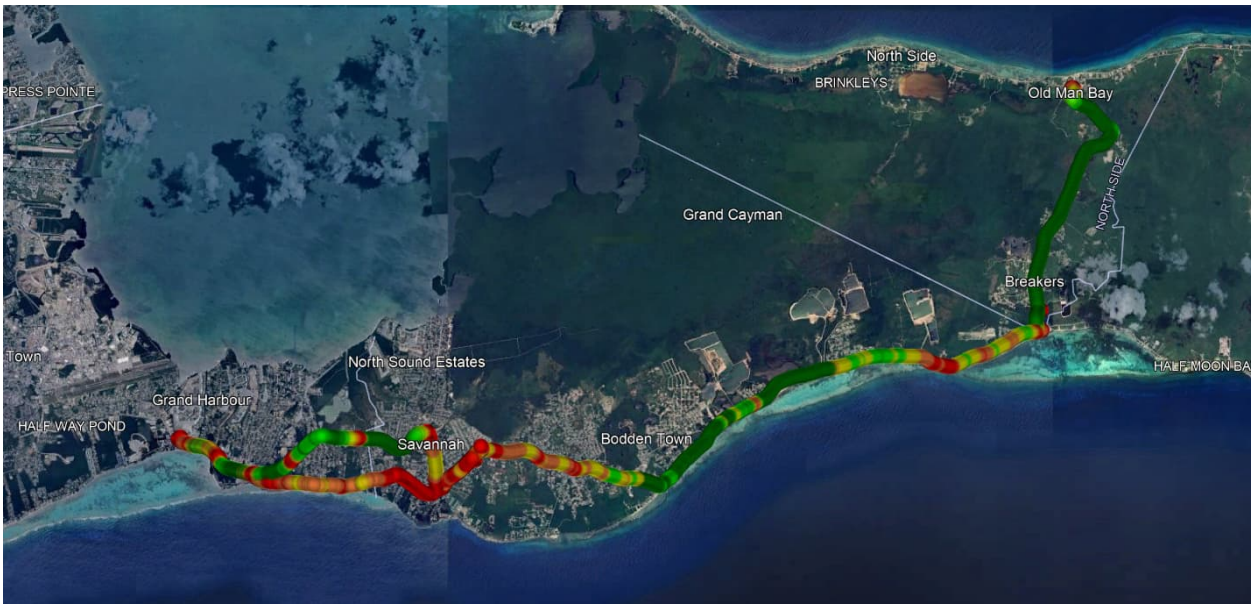

Figure 9: Eastbound PM Peak Hour Heat Map



Figure 10: Westbound PM Peak Hour Heat Map

3.3 Travel Demand Model

A travel demand model (TDM) is a software program used to forecast future traffic flows in a transportation system based on demographic and land use data, available travel modes, the transportation network (number of lanes, traffic control, operating speed), and the most up-to-date estimate of travel costs. These models are typically used to evaluate the impact of transportation improvements or changes in land use by forecasting the future traffic conditions.

The Grand Cayman Travel Demand Model (GCM) is a four-step trip-based travel demand model that includes trip generation, trip distribution, mode choice, and traffic assignment. The GCM was initially developed in 2019 by the NRA using PTV VISUM modelling software. The GCM was purposefully created to encompass the diverse spectrum of travel patterns observed on Grand Cayman, including that of residents of the island, short-term visitors such as cruise passengers, and long-term visitors who usually arrive via the airport. The GCM underwent a calibration process where model parameters were adjusted to ensure the model would accurately reflect observed travel patterns. The model was originally calibrated to represent baseline 2016 conditions and was then evaluated for future analysis years 2026 and 2036, drawing upon a comprehensive dataset including census socioeconomic data, cruise passenger surveys, long-term visitor surveys, and traffic counts collected across the island. The original baseline model calibration—including model structure, assumptions, and validation results—was documented and reviewed by outside experts as part of an independent modelling task.

For the EWA Environmental Impact Assessment (EIA), it was necessary to update the model to incorporate more recent data, with particular focus on the roadways of the eastern districts of Bodden Town, North Side, and East End. Using the 2021 Economics and Statistics Office (ESO) census data, GCM land use inputs and demographic data were updated to base year 2021 (Attachment B – Model Inputs Memorandum). The data collected for the EIA was used to validate the GCM vehicle assignment, which is used to allocate trips by route and calculate the traffic volume on each roadway in the network. Within the study area, the GCM was calibrated to existing count data and travel time data to ensure the model reflects observed existing conditions and can ultimately forecast realistic results under future year conditions (Attachment C – Model Validation Memorandum).

The GCM was used as the primary tool to evaluate the impacts of potential improvement alternatives on future traffic conditions. The model was used to produce estimates of multimodal travel including cars, trucks, walking, biking, and transit to capture potential impacts for all users. These results are discussed in subsequent sections of this report.

3.4 Anticipating Future Conditions

3.4.1 Land Use

To assess the impacts of potential roadway improvements, the GCM was used to forecast travel conditions for the future years 2026, 2036, 2046, and 2074 while the alternatives analysis for the Shortlist Evaluation focused specifically on impacts for years 2026 and 2074.

Population growth for each future year was determined using historic district growth from the 2021 ESO census data. Demographic and land use inputs such as households, population, hotel rooms, education, etc. were developed for 2021 by building upon previous 2015 model inputs, incorporating

any additional completed developments identified by the NRA. For future years 2026, 2036, and 2046, model inputs are based on planned development projects identified by the NRA over the next 30 years, including commercial and residential developments and Planned Area Developments.

According to the UK Green Book, which is the Central Government Guidance on Appraisal and Evaluation, "Costs and benefits should be calculated over the lifetime of an intervention. As a guideline, a time horizon of 10 years is a suitable working assumption for many interventions. In some cases up to 60 years may be suitable, for example for buildings and infrastructure." Therefore, the EWA EIA Steering Committee chose to use a 50-year time horizon, 2074, that would represent the life-cycle year for construction and the common year used for all evaluations.

For future year 2074, three land use scenarios of low, medium, and high growth were developed based on input from stakeholders and various agencies in Grand Cayman, as detailed in the Land Use Planning Charrette Summary memorandum dated September 8, 2023. Based on WebTAG Unit M4, a “core scenario” was selected to reflect the most realistic set of assumptions for the analysis. Of these three 2074 land use scenarios, the medium growth scenario was carried forward as the “core scenario” for the Shortlist Evaluation, assuming a population of 135,000 people (Attachment B). **Figure 11** illustrates the planning charrette map used to develop the land use assumptions for this 2074 medium growth scenario, with a summary of population by district provided in **Table 2**. The forecasted growth assumptions for future years 2026, 2036, and 2046 were also developed to coincide with the 2074 core scenario.

Table 2: 2074 Medium Growth Scenario Population

District	Population (no. of people)
George Town	67,919
West Bay	29,312
Bodden Town	22,532
North Side	6,269
East End	8,968
Grand Cayman	135,000

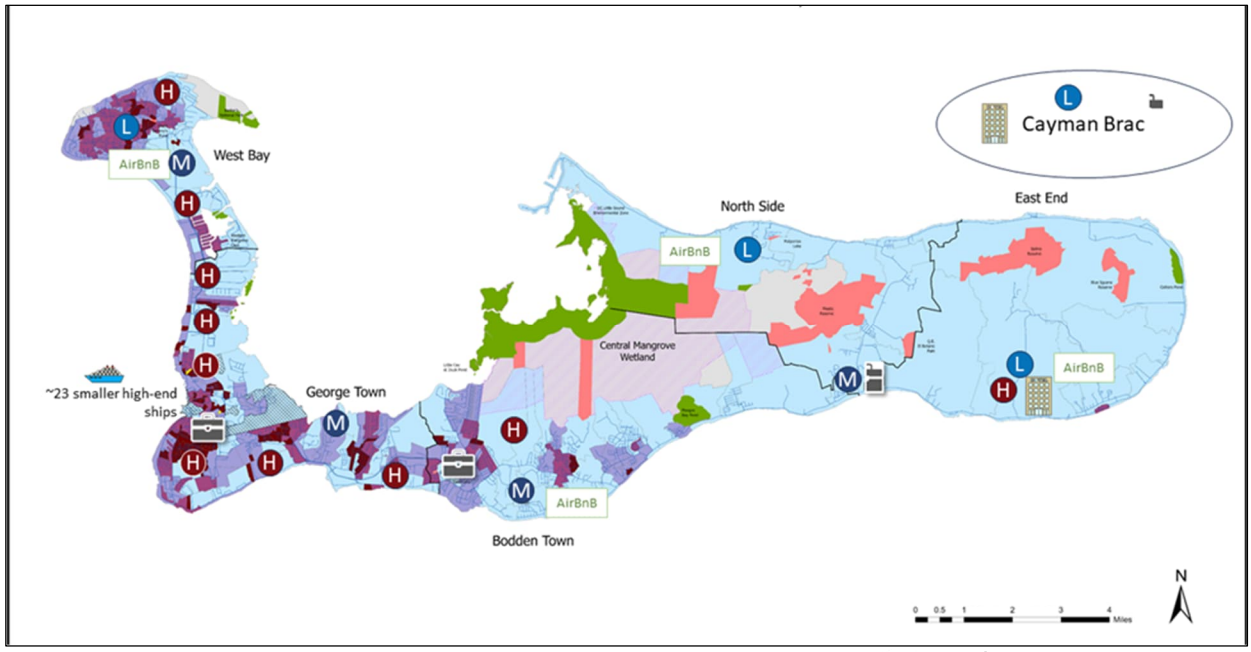

Figure 11: 2074 Medium Growth Land Use Map

3.4.2 Planned Future Roadway Infrastructure

The NRA provided information regarding planned future roadway infrastructure projects, which were built upon the existing roadway network to reflect the roadway network of each future year. For each forecast year, the No-Build scenario includes the planned improvements anticipated to be in place for the respective year. This evaluation incorporates these planned projects to capture the context of the entire project life cycle by representing the overall plan for future roadway infrastructure; however, inclusion of these projects does not imply that they are approved or funded for implementation. These projects are meant to serve as a consistent, common baseline comparison scenario for decision-making, to assess against each Build alternative.

The 2026 planned roadway infrastructure includes the following:

- **East-West Arterial (EWA) Extension** to Woodland Drive
- **Agricola Drive Connector** from EWA to Agricola Drive – one lane in each direction
- **EWA Widening** between Tomlinson Roundabout and Hirst Road – two lanes in each direction
- **EWA Widening** between Silver Oaks Roundabout and Tomlinson Roundabout – three lanes in each direction
- **Parallel Service Road** from Silver Oaks Roundabout to Red Bay via Grand Harbour development
- **Bobby Thompson Way (BTW) & Linford Pierson Highway (LPH) Widening** – three lanes in each direction
- **Linford Pierson Highway (LPH) Extension** to Outpost Road – one lane in each direction
- **Agnes Way Extension** from Linford Pierson Highway to Cayman Enterprise and Fairbanks Road – one lane in each direction
- **Fairbank Road Widening** between LPH and Agnes Way Ext. – two lanes in each direction
- **Airport Collector Road (ACR)** to Industrial Park – one lane in each direction
- **Eastern Avenue Extension** from Elgin Avenue to Smith Road – one lane in each direction
- **Godfrey Nixon Way (GNW) Extension** to North Church Street – one lane in each direction
- **Olympic Way Connector** to Academy Way for school/stadium complex – one lane in each direction
- **Printer Way** widened to two-direction road from Elgin Avenue to Shedden Road – one lane in each direction
- **Esterly Tibbetts Highway (ETH) Widening** between North Sound Road and Airport Collector Road – three lanes in each direction
- **ETH Connector** to Reverend Blackman Road – one lane in each direction
- **Canal Point Drive Connector** to West Bay Road – one lane in each direction
- **BP40 – Anton Bodden Connector** to Manse Road, including roundabout at Shamrock Road – one lane in each direction

The 2036 No-Build scenario includes all 2026 planned improvements as well as the following additional projects:

- **Airport Connector Roadway (ACR) –** Full build out between Esterly Tibbetts Highway and Airport – two lanes in each direction
- **Roberts Drive Extension** between North Sound Road and Dorcy Drive – one lane in each direction
- **Eastern Avenue Extension** from Shedden Road to Elgin Avenue and from Smith Road to Outpost Street – one lane in each direction
- **South Sound By-Pass Corridor –** one lane in each direction
- **LPH Extension** to Walkers Rd – two lanes in each direction between Bobby Thompson Way and Outpost Street; one lane in each direction between Outpost Street and Walkers Road
- **Fairbanks Road Widening** between Cayman Enterprise and LPH – two lanes in each direction
- **Hell Road Extension** to Northwest Point Road – one lane in each direction
- **BP 40 coastal** collector roadway from Pedro Castle Road to BP 40 Anton Bodden Connector – one lane in each direction
- **Godfrey Nixon Way Connectors** to Fort Street and Bodden Road – one lane in each direction

The 2046 No-Build scenario includes all 2026 and 2036 planned improvements as well as the following additional projects:

- **ACR to West Bay Road connectors** with two branches as collector roadways (one connector to Jasmin Blossom Way and another to Marbel Drive)
- **South Sound By-Pass Corridor Widening –** two lanes in each direction along the main section to Cayman Enterprise City from Old Crewe Road
- **Agnes Way Connector widening** – two lanes in each direction
- **South Sound Road -** two lanes in each direction from Shamrock Rd/Crewe Rd to Old Crewe Road
- **Spotts-Connector** - New connector from International College Cayman Islands and Hirst Road to the EWA at Chime Street, then to Shamrock Road – one lane road in each direction
- **Extension of John McLean Drive to High Rock Drive** – one lane in each direction
- **East End Interior** – between southern Spur of the EWA corridor by Clifton Hunter High School to Farm Road – one lane in each direction

The 2074 No-Build scenario includes all 2026, 2036, and 2046 planned improvements. No additional planned roadway infrastructure projects were provided from 2046 to 2074.

Figure 12 displays the location of planned future roadway infrastructure assumed within the EWA EIA traffic study area, which were incorporated into all No-Build and Build alternatives discussed in the following Shortlist Evaluation analyses. Additional figures illustrate the remaining planned projects outside the EWA EIA study area by year from 2026 to 2046 (Attachment H).

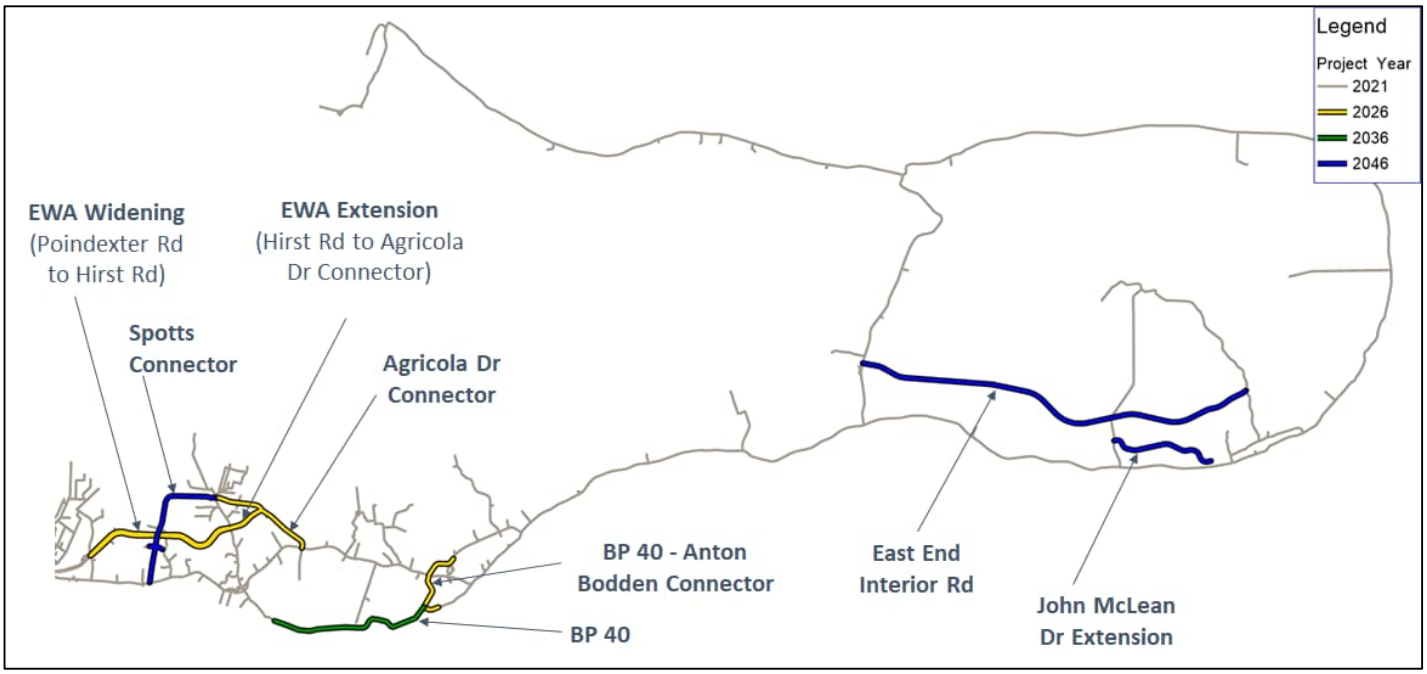

Figure 12: Planned Future Roadway Infrastructure

4 Traffic Evaluation

4.1 Critical Success Factors

Critical Success Factors (CSFs) are the aspects of the project that are vital to its success. These are the main goals that the completed project would accomplish. The CSFs were developed based on the Final ToR for the EWA Extension. **Table 3** below provides a list of the CSFs.

This chapter will evaluate the benefits of the proposed alternatives compared to baseline conditions by assessing the direct beneficial effect the project is likely to have. Beneficial and neutral effects are assessed qualitatively based on the direct benefits provided by each alternative. This 4-point scale allows the results of the traffic assessment to be reported in the Appraisal Summary Table for the Shortlist Alternatives Evaluation. **Table 4** below defines how the 4-point scale is applied to evaluate traffic impacts as part of the Shortlist Evaluation. UK WebTAG guidance does not provide specific thresholds for the traffic evaluation, so these criteria were derived from multiple sources: some are based on thresholds outlined in the Longlist Alternatives Evaluation Document, other thresholds have been updated for this report using updated data from the GCM, and some were refined to better align with scaling used in the **Socioeconomic Technical Report Section 4.1: Accessibility**, which references WebTAG Unit A4-2 to evaluate travel conditions. The **Shortlist Evaluation Document Section 6**: **Transportation Project Appraisal** will rely on the Cost Benefit Analysis to monetize the transportation benefits of each alternative and further differentiate the alternatives.

Table 3: Critical Success Factors List

Criteria	Target
a. Create an alternative travel route to the existing two-lane Bodden Town Road	Provide an alternative roadway facility to accommodate travel in the event of a roadway closure (**4.4 Resiliency**)
b. Improve resiliency of the existing roadway travel route between North Side/East End and George Town/West Bay.	Reduce existing roadway volumes to decrease traffic accidents and improve overall travel time reliability (**4.3.2 Screenline Volumes**)
c. Support current and future traffic demand.	Provide additional capacity to accommodate existing and projected trips/volumes (**4.3.2 Screenline Volumes**) Improve access to jobs from North Side/East End to employment centers in George Town/West Bay (**4.3.3 District-to-District Trips** & **0 Employment Access**)
d. Improve travel time between North Side/East End and George Town/West Bay	Reduce travel time within the study area between Frank Sound Road and Hirst Road (**4.5.1 Study Area Travel Times**) Reduce travel time between North Side/East End and George Town/West Bay (**4.5.2 Key Destination Travel Times**)
e. Accommodate utility expansion (electricity, fiber, water, central sewage) *	Establish area adjacent to roadway to provide for utility needs. Discussion of utilities is included in the **Engineering Technical Report Section 4: Utilities**.
f. Provide opportunity to safely accommodate and expand public transportation *	Establish public transportation facilities and improve bus travel time reliability. Discussion of potential public transportation opportunities is included in the **Engineering Technical Report Section 5: Transit** and the **Socioeconomic Technical Report Section 4.4: Option Values**.
g. Reduce tourism travel time between North Side/East End and George Town	Reduce travel times between Owen Roberts International Airport and the North Side (**4.5.2 Key Destination Travel Times**) Reduce travel time between George Town Cruise Port and Bodden Town/North Side/East End (**4.5.3 Tourist Travel Times**)
h. Improve safe vehicular travel by reducing roadway conflict points	Improve traffic operations and intersection delay (**4.6: Operations**) Reduce cross street intersections and driveway access points along the primary east-west corridor (**4.6.3 Roadway Conflict Points**) Improve safety by providing a restricted access roadway facility with separate pedestrian/bicycle facilities (**4.7 Safety**)
i. Provide opportunity for enhanced and safe pedestrian and bicycle travel	Establish dedicated pedestrian and bicycle facilities adjacent to vehicular travel lanes (**4.8.1 Bicycle Level of Traffic Stress**) Improve pedestrian and bicycle access to key locations in Bodden Town, North Side, or East End (**4.8.2 Non-Vehicular Access**)
**These criteria are to provide opportunities to accommodate these features. It is outside of ambit of the NRA to provide utilities or public transportation.*	

Table 4: Definitions of Assessment Scores

Score	Definition
Large Beneficial Effect	• **Resiliency:** Consists of 100% new roadway connection between Woodland Drive and Frank Sound Road; reduces existing road volume by at least 50%. • **Traffic Demand**: Provides access for at least 16% more traffic volume compared to the No-Build scenario. • **Travel Time**: Reduces peak direction travel time by more than 25% compared to the No-Build scenario. • **Operations**: At least 60% of intersections operate at LOS D or better in both peak hours; reduces the number of cross-street intersections and driveway access points along the primary east-west corridor by at least 75% compared to the No-Build scenario. • **Safety**: Consists of 100% of new roadway with median barrier / multimodal facilities; new intersections consist of 100% roundabouts • **Multimodal**: Consists of 100% bicycle facility connection (LTS 1 or 2) between Woodland Drive and Frank Sound Road; provides non-vehicular access to at least 15% of eastern district residents.
Moderate Beneficial Effect	• **Resiliency**: Consists of 75-99% new roadway connection between Woodland Drive and Frank Sound Road; reduces existing road volume by 25-49%. • **Traffic Demand**: Provides access for 6-15 % more traffic volume compared to the No-Build scenario. • **Travel Time**: Reduces peak direction travel time by 15-25% compared to the No-Build scenario. • **Operations**: From 40-59% of intersections operate at LOS D or better in both peak hours; reduces the number of cross-street intersections and driveway access points along the primary east-west corridor by 50-74% along the primary east-west corridor. • **Safety**: Consists of 75-99% of new roadway with median barrier and multimodal facilities; consists of at least 75-99% roundabouts on new intersections. • **Multimodal**: Consists of 75-99% bicycle facility connection (LTS 1 or 2) between Woodland Drive and Frank Sound Road; provides non-vehicular access to 10-14% of eastern district residents.
Slight Beneficial Effect	• **Resiliency**: Consists of 1-74% new roadway connection between Woodland Drive and Frank Sound Road; reduces existing road volume by 10-24%. • **Traffic Demand**: Provides access for 2-5 % more traffic volume compared to the No-Build scenario. • **Travel Time**: Reduces peak direction travel time by 5-14% as compared to the No-Build. • **Operations**: From 20-39% of intersections operate at LOS D or better in both peak hours; reduces the number of cross-street intersections and driveway access points along the primary east-west corridor by at least 25-49% along the primary east-west corridor. • **Safety**: Consists of at least 1-74% of new roadway with median barrier and multimodal facilities; consists of at least 1-74% roundabouts on new intersections. • **Multimodal**: Consists of 1-74% bicycle facility connection (LTS 1 or 2) between Woodland Drive and Frank Sound Road; provides non-vehicular access to 5-9% of eastern district residents.
Neutral Effect	• **Resiliency**: Provides no separation or new roadway connection between Woodland Dr and Frank Sound Rd; reduces existing road volume by less than 10%. • **Traffic Demand**: Provides access for 0-1 % more traffic volume compared to the No-Build scenario. • **Travel Time**: Reduces peak direction travel time by 0-4% compared to the No-Build scenario. • **Operations**: Less than 20% of intersections operate at LOS D or better in both peak hours; reduces the number of cross-street intersections and driveway access points along the primary east-west corridor by less than 25% along the primary east-west corridor. • **Safety**: Consists of no new roadway with median barrier and multimodal facilities; consists of no roundabouts on new intersections. • **Multimodal**: Provides no new bicycle facility connection (LTS 1 or 2) between Woodland Drive and Frank Sound Road; provides non-vehicular access to 0-4% of eastern district residents.

4.2 Alternatives Evaluated

Following evaluation of the longlist of alternatives, the No-Build scenario along with four Build alternatives (B1, B2, B3, and B4) were carried forward as shown in **Figure 1**.

All four Build alternatives proceed east from the proposed Agricola Drive Connector until the intersection with the proposed Lookout Road Connector. From there, Alternatives B1, B2, and B3 proceed east from Lookout Road Connector, each taking different paths to the east, parallel to Bodden Town Road, until they ultimately intersect with Frank Sound Road near Clifton Hunter High School. Alternative B1 includes a northern spur that provides an additional access point on Frank Sound Road. From the Lookout Road Connector, Alternative B4 turns south along Lookout Road, ultimately rejoining with Bodden Town Bypass, and onto Bodden Town Road.

Beginning in 2026, the new EWA Extension will consist of a single lane in each direction, divided by a median barrier as shown in **Figure 13**. Additional lanes will be added at each interim year by 2036, 2046, and ultimately in 2074 for the full design. Key additions to the design include widening the vehicular traveled way to two lanes in each direction, adding corridor lighting, incorporating sidewalks and micromobility paths, adding dedicated transit lanes, including a solar panel canopy over multimodal facilities, and fully separated Right of Way (ROW) for utility lines as shown in **Figure 14**. Alternative B4 rejoins the existing coastal roadway but will also receive upgrades as shown in **Figure 15**. Please note that these layouts are tentative, and subject to change with future designs.

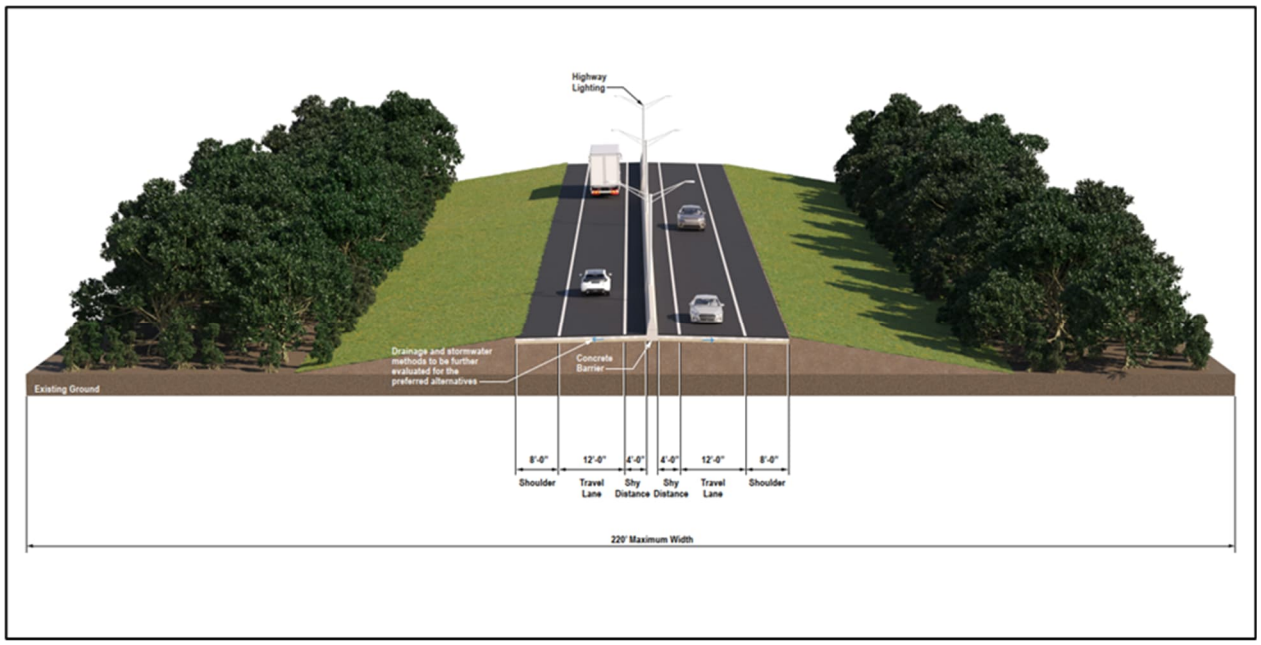

Figure 13: 2026 Build Alternative Cross-Section

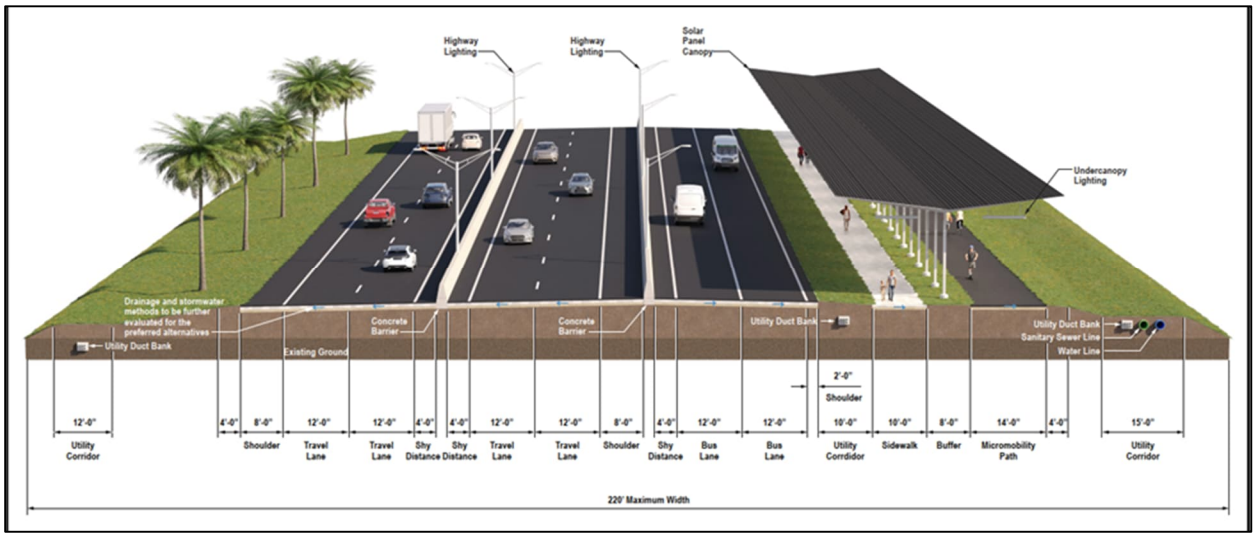

Figure 14: 2074 Build Alternative Section 2 Cross-Section for all Alternatives and Section 3 Cross Section for B1, B2, and B3

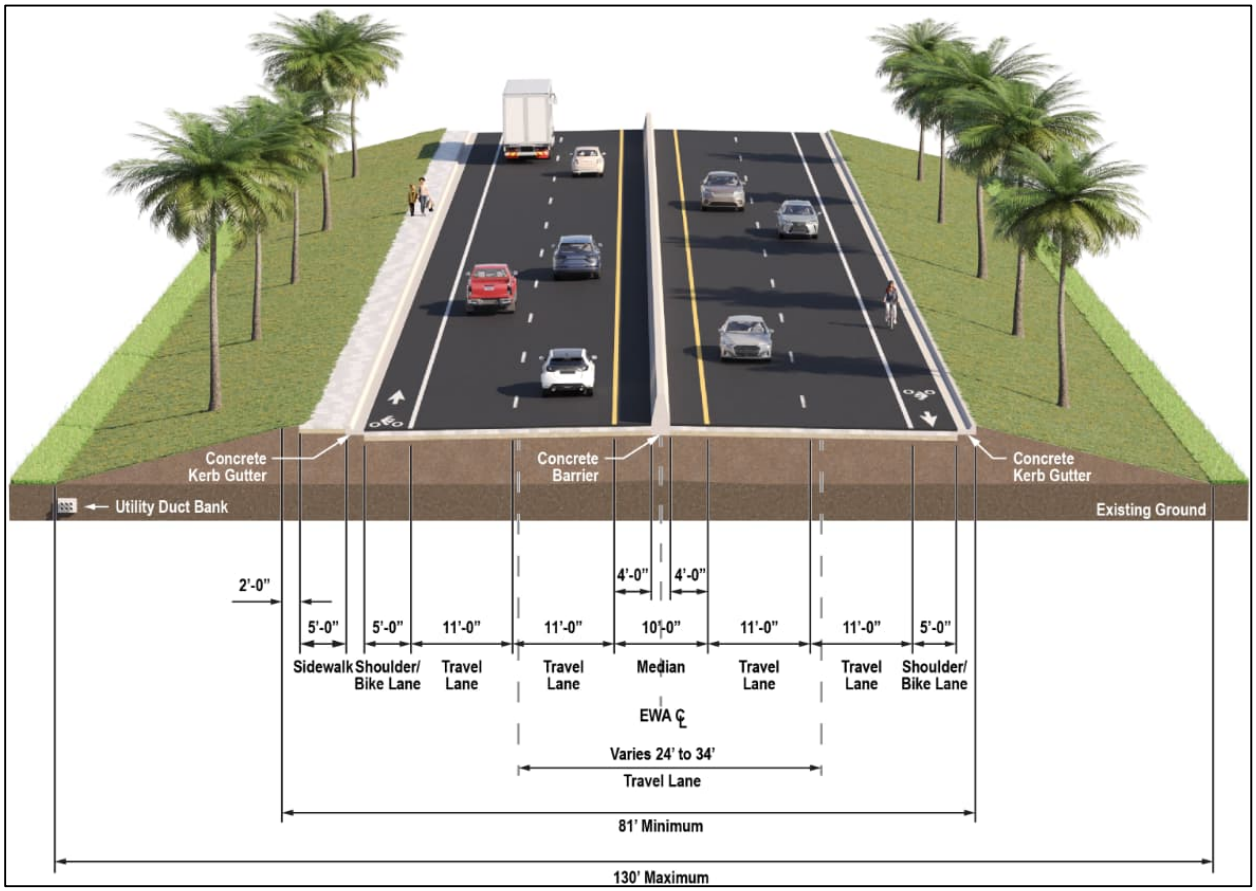

Figure 15: Build Alternative Section 3 Cross-Section for B4

The corridor is split into three sections, with the portion between Agricola Drive Connector and Lookout Road Connector being denoted as Section 2, and from Lookout Road Connector to Frank Sound Road being denoted as Section 3. **Table 5** through **Table 7** show the additional features to be added to the Build Alternative corridors as they come online between 2026 and 2074 for Section 2 and Section 3.

Table 5: Build Alternatives Section 2 Phased Improvements

Typical Section Components	2026	2036	2046	2074
# of Travel Lanes	2	2	4	4
Utilities		X		
Highway Lighting	X			
Transit Lanes (1 Each Dir.)		X		
Sidewalk		X		
Solar Array			X	
Micromobility Path		X		

Table 6: Build Alternatives B1, B2 and B3 Section 3 Phased Improvements

Typical Section Components	2026	2036	2046	2074
# of Travel Lanes	2	2	2	4
Utilities		X		
Highway Lighting	X			
Transit Lanes (1 Each Dir.)		X		
Sidewalk			X	
Solar Array			X	
Micromobility Path			X	

Table 7: Build Alternative B4 Section 3 Phased Improvements

Typical Section Components	2026	2036	2046	2074
# of Travel Lanes	4	4	4	4
Utilities	X			
Highway Lighting	X			
Transit Pull-Offs	X			
Sidewalk	X			

4.3 Traffic Demand

Supporting current and future traffic demand is a critical success factor when considering the Build alternatives. The No-Build scenario falls short in providing adequate capacity for both the current traffic demand and anticipated future traffic demand. Current residents of North Side and East End often face widespread congestion on the existing coastal road, highlighting the need for additional roadway infrastructure as the population of Grand Cayman continues to grow. **Figure 16** shows existing morning peak hour congestion along westbound Shamrock Road near Will T Road that was observed in February 2023, illustrating the congestion issues prevalent in the study area.



Figure 16: AM Westbound Congestion, Shamrock Road looking east near Will T Road (February 2023)

The Build alternatives were each modelled assuming an appropriate number of travel lanes to meet each future year's projected capacity requirements. This approach was important to evaluate the evolving needs of Grand Cayman's future traffic demand.

4.3.1 Variable Demand Model

Induced traffic refers to the phenomenon where roadway infrastructure projects intended to alleviate existing traffic congestion may ultimately lead to a rise in overall vehicle trips. As an example, if a new road is built to alleviate existing congestion and accommodate additional vehicles, more people may choose to drive due to improved accessibility of the new road.

When modelling future year scenarios, the GCM captures the induced traffic anticipated as a result of the EWA Extension by using a "variable demand" approach that reflects how travel conditions may change in response to the additional roadway capacity, rather than using a "fixed demand" approach that would assume the same travel patterns across all alternatives. According to WebTAG

Unit M1-1 *Principles of Modelling and Forecasting*, the fixed demand approach is deemed "inadequate for transport schemes aimed at resolving congestion." Instead, variable demand models are more appropriate to best capture variations in demand as travel opportunities change. Therefore, the results discussed throughout this document reflect the potential induced demand generated by the EWA Extension, and traffic volumes may differ between alternatives representing the same future year depending on each alternative impacts accessibility. As roadway capacity increases and travel becomes more attractive, traffic volumes typically increase to meet the demand of longer-distance trips that drivers previously could not make.

4.3.2 Screenline Volumes

A screenline is used to illustrate all traffic heading eastbound, westbound, or both directions at a specific location using all available routes. Screenlines are drawn across multiple parallel routes in a roadway network to compare total traffic flows at a given location. Three screenlines were placed at key corridor locations: (1) east of the Agricola Drive Connector, (2) east of Lookout Rd, and (3) west of Frank Sound Road to capture how traffic volumes vary between the No-Build scenario and Build alternatives as shown in **Figure 17**.

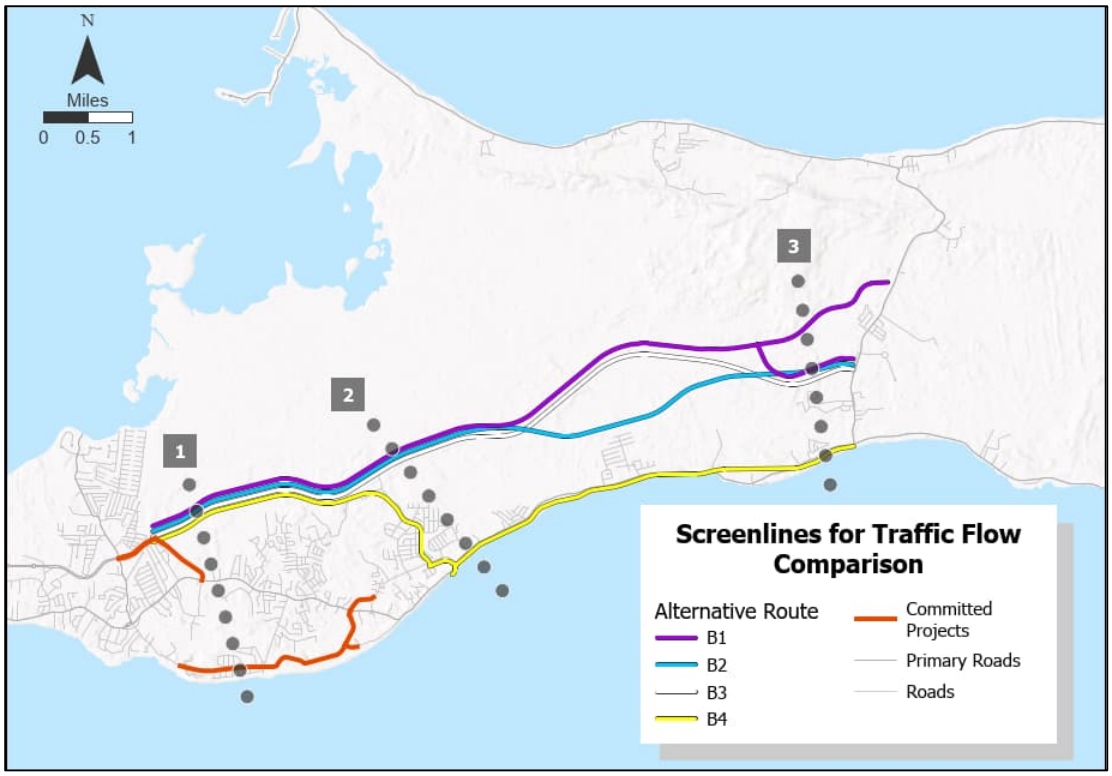

Figure 17: Screenlines for Traffic Flow Comparison

Two-way screenline volumes comparisons are displayed for future years 2026 and 2074 in **Table 8** and **Table 9**, respectively, indicating the anticipated demand volume traveling in both directions. For each alternative, the screenline volumes reflect how people are expected to travel differently in response to changing accessibility, likely making longer-distance trips as access improves. Volumes

differ between alternatives as a result of the variable demand approach recommended by WebTAG Unit M1-1 (see **Section 4.3.1: Variable Demand Model**).

The Build Alternatives B1, B2, B3, and B4 are projected to accommodate more east-west volume through the study area compared to the No-Build scenario, while reducing traffic volumes on the existing roadways of Shamrock Road and Bodden Town Road. The increased east-west volumes projected for each Build alternative indicate that east-west travel is expected to become more accessible due to the EWA Extension's added capacity.

Table 8: 2026 Screenline Volumes (Two-way)

Screenline	Road	No-Build	B1		B2		B3		B4	
		vehicles	veh	%Δ	veh	%Δ	veh	%Δ	veh	%Δ
2026 AM										
1	Shamrock Rd	1,726	794	-54%	798	-54%	802	-54%	756	-56%
	EWA	–	1,131	–	1,152	–	1,141	–	1,078	–
	Two-Way Total	1,726	1,925	12%	1,951	13%	1,943	13%	1,834	6%
2	Bodden Town Rd	863	193	-78%	170	-80%	182	-79%	939	9%
	EWA	–	814	–	863	–	843	–	–	–
	Two-Way Total	863	1,007	17%	1,032	20%	1,024	19%	939	9%
3	Bodden Town Rd	612	73	-88%	47	-92%	58	-90%	670	9%
	EWA	–	725	–	715	–	692	–	–	–
	Two-Way Total	612	798	30%	762	24%	751	23%	670	9%
2026 PM										
1	Shamrock Rd	1,905	802	-58%	783	-59%	807	-58%	839	-56%
	EWA	–	1,293	–	1,336	–	1,304	–	1,181	–
	Two-Way Total	1,905	2,094	10%	2,119	11%	2,111	11%	2,020	6%
2	Bodden Town Rd	1,125	284	-75%	219	-81%	283	-75%	1,221	9%
	EWA	–	980	–	1,071	–	998	–	–	–
	Two-Way Total	1,125	1,264	12%	1,291	15%	1,281	14%	1,221	9%
3	Bodden Town Rd	837	149	-82%	112	-87%	144	-83%	896	7%
	EWA	–	943	–	879	–	832	–	–	–
	Two-Way Total	837	1,092	30%	991	18%	976	17%	896	7%
AM/PM Average Two-Way Volume		**837**	**1,092**	**30%**	**991**	**18%**	**976**	**17%**	**896**	**7%**

Table notes: Screenline locations are shown in **Figure 17.** For each alternative, two-way volumes reflect how people are expected to travel differently in response to changing accessibility, likely making longer-distance trips as access improves. Volumes differ between alternatives due to the variable demand approach recommended by WebTAG Unit M1-1 (see **Section 4.3.1: Variable Demand Model**).

Table 9: 2074 Screenline Volumes (Two-way)

Screenline	Road	No-Build	B1		B2		B3		B4	
		vehicles	veh	%Δ	veh	%Δ	veh	%Δ	veh	%Δ
2074 AM										
1	BP 40	1,114	576	-48%	585	-48%	578	-48%	588	-47%
	Shamrock Rd	4,627	2,033	-56%	1,976	-57%	2,020	-56%	1,731	-63%
	EWA	–	3,768	–	3,841	–	3,792	–	3,855	–
	Two-Way Total	5,741	6,377	11%	6,402	12%	6,389	11%	6,174	8%
2	Bodden Town Rd	3,583	962	-73%	876	-76%	940	-74%	3,958	10%
	EWA	–	3,060	–	3,187	–	3,100	–	–	–
	Two-Way Total	3,583	4,023	12%	4,063	13%	4,040	13%	3,958	10%
3	Bodden Town Rd	3,312	853	-74%	752	-77%	831	-75%	3,672	11%
	EWA	–	2,794	–	2,864	–	2,768	–	–	–
	Two-Way Total	3,312	3,647	10%	3,617	9%	3,599	9%	3,672	11%
2074 PM										
1	BP 40	940	592	-37%	593	-37%	594	-37%	591	-37%
	Shamrock Rd	4,698	1,872	-60%	1,732	-63%	1,801	-62%	2,222	-53%
	EWA	–	3,695	–	3,859	–	3,775	–	3,250	–
	Two-Way Total	5,639	6,159	9%	6,184	10%	6,171	9%	6,063	8%
2	Bodden Town Rd	3,592	986	-73%	812	-77%	894	-75%	3,993	11%
	EWA	–	3,088	–	3,287	–	3,185	–	–	–
	Two-Way Total	3,592	4,073	13%	4,099	14%	4,079	14%	3,993	11%
3	Bodden Town Rd	3,288	872	-73%	704	-79%	789	-76%	3,667	12%
	EWA	–	2,983	–	3,042	–	2,943	–	–	–
	Two-Way Total	3,288	3,855	17%	3,746	14%	3,732	14%	3,667	12%
AM/PM Average Two-Way Volume		**4,193**	**4,689**	**12%**	**4,685**	**12%**	**4,668**	**11%**	**4,588**	**9%**

Table notes: Screenline locations are shown in **Figure 17.** For each alternative, two-way volumes reflect how people are expected to travel differently in response to changing accessibility, likely making longer-distance trips as access improves. Volumes differ between alternatives due to the variable demand approach recommended by WebTAG Unit M1-1 (see **Section 4.3.1: Variable Demand Model**).

Table 10 summarizes each alternative's qualitative impact on supporting future traffic demand at the screenline level (See **Table 8**, **Table 9**, and **Figure 17**). Qualitative ratings are based on the degree of improvement expected by each alternative: "Large beneficial" (accommodates at least 16% more volume), "Moderate beneficial (increases by 6 to 15%), "Slight beneficial" (increases by 2 to 5%), or "Neutral" (increases by 0 to 1%).

Table 10: Screenline Volume Summary Table

	No-Build	B1	B2	B3	B4
Future Traffic Demand	Neutral*	Large Beneficial	Large Beneficial	Large Beneficial	Moderate Beneficial

*Table note: The No-Build scenario is rated "Neutral" because it serves as the baseline for comparison against the Build alternatives, but the No-Build represents worsening future traffic conditions as traffic volumes and congestion are forecasted to grow.

No-Build: The No-Build scenario serves as the baseline for comparison against the Build alternatives and is ranked "Neutral" for its impact on supporting current and future traffic demand. With no additional travel lanes or capacity added except for those planned roadway projects that are included in the baseline No-Build conditions for each future scenario year, the No-Build is anticipated to be overcapacity along the existing coastal roads of Shamrock Road and Bodden Town Road.

Alternatives B1, B2, B3: The Build Alternatives B1, B2, and B3 are projected to accommodate more east-west volume through the study area compared to the No-Build scenario, while reducing traffic volumes on the existing roadways of Shamrock Road and Bodden Town Road. As shown in **Table 8** and **Table 9**, Alternatives B1, B2, and B3 are anticipated to accommodate higher future demand volumes during peak periods, increasing total traffic flows through the study area by 10 to 30% in 2026 and by 9 to 17% in 2074 at each screenline. Therefore, Build Alternatives B1, B2, and B3 are determined to have a "Large Beneficial" impact for accommodating future travel demand.

Alternative B4: Alternative B4 is projected to accommodate more east-west volume through the study area compared to the No-Build scenario. Alternative B4 is anticipated to accommodate higher future demand volumes during peak periods due to on-alignment improvements, increasing total traffic flows through the study area by 6 to 9% in 2026 and by 8 to 12% in 2074 at each screenline, as shown in **Table 8** and **Table 9**. Therefore, Alternative B4 is determined to have a "Moderate Beneficial" impact for accommodating future travel demand.

To illustrate how the Build alternatives serve more people when compared to the No-Build scenario, the following section considers the anticipated throughput volumes of each alternative for an example directional roadway segment.

The GCM is a capacity-constrained model, meaning the model reflects the maximum number of vehicles that each roadway can accommodate within a given timeframe. The GCM takes these capacity constraints into account to estimate vehicle delay along heavily congested roadways, capturing field-representative conditions and providing more realistic estimates for the following key volumes:

- Unconstrained demand volume: The model calculates the traffic volume that would exist if capacity constraints were not a limiting factor. This reflects the total demand in a scenario if traffic could flow without hindrance.
- Throughput volume: The model determines the traffic volume that successfully makes it to the study area after being constrained by upstream congestion. This represents the throughput of traffic under real-world capacity limitations after considering delays and queues imposed by congested conditions.

Using these two estimates, the GCM provides insight on both the potential demand and the actual volume that can be accommodated within the study area, which may differ in some cases based on upstream congestion outside the study area. The difference between the unconstrained demand volume and the throughput volume is considered "unserved demand," which indicates how many drivers are already on the road but are unable to reach their destination due to upstream congestion during a particular timeframe.

An example of "unserved demand" is shown in **Table 11**, which illustrates the key volumes: unconstrained demand, throughput, and unserved demand between Agricola Drive Connector and Will T Connector (indicated in **Figure 17** as Screenline 1) for all available westbound routes during the AM peak hour. This example location was summarized during the AM peak hour to illustrate the congestion within the study area that the EWA Extension could potentially relieve. The majority of AM commuters continue west beyond Hirst Road, so this location was chosen at the western end of the EWA Extension to capture the overall traffic volume impacted by congestion across the entire study area under the No-Build scenario as well as the overall volume that would benefit from the EWA Extension's additional capacity. Volumes differ between alternatives due to the variable demand approach recommended by WebTAG Unit M1-1 (see **Section 4.3.1: Variable Demand Model**).

As shown in **Table 11**, although there is unserved demand under the Build conditions, the volume throughput along this screenline segment is expected to increase by as much as approximately 1,200 vehicles compared to No-Build conditions, particularly in 2074.

Table 11: Unserved Demand Volume between Agricola Drive Connector & Will T Connector

Volume Type (vehicles)	No-Build	Alt B1	Alt B2	Alt B3	Alt B4
2026 AM Westbound					
Unconstrained Demand	1,350	1,451	1,464	1,459	1,406
Constrained Throughput	1,260	1,441	1,454	1,449	1,398
Unserved Demand	**90**	**10**	**10**	**10**	**8**
2074 AM Westbound					
Unconstrained Demand	3,729	4,107	4,114	4,110	3,973
Constrained Throughput	2,359	3,619	3,626	3,621	3,360
Unserved Demand	**1,370**	**488**	**488**	**489**	**613**

Table notes: Example location indicated in **Figure 17** as Screenline 1**.** For each alternative, the unconstrained demand volume reflects how people travel differently in response to changing accessibility, likely making longer-distance trips as access improves. Volumes differ between alternatives due to the variable demand approach (WebTAG Unit M1-1).

With the construction of the proposed EWA, the GCM projects that the additional capacity will allow more east-west travel, producing volumes that surpass the No-Build scenario in both 2026 and 2074, as summarized below and in **Table 11**:

- By 2074, the No-Build scenario throughput volumes are anticipated to reach nearly 2,400 westbound vehicles during the AM peak hour, but the anticipated congestion along existing Shamrock Road, Bodden Town Road, and other roads east of the Agricola Drive Connector will prevent nearly 1,400 vehicles from reaching their morning destination. This value represents drivers who would be travelling regardless of the proposed EWA but are unable to reach their destination in a reasonable time due to upstream congestion.
- In 2074 for Build Alternatives B1, B2, and B3, the proposed EWA is expected to increase the constrained throughput to over 3,600 vehicles, allowing an additional 1,200 vehicles to travel through the study area during the AM peak hour compared to the No-Build scenario. Alternatives B1, B2, and B3 will likely constrain about 500 remaining vehicles east of the Agricola Drive Connector due to upstream congestion outside the study area.
- In 2074 for Build Alternative B4, the proposed EWA is expected to increase the constrained throughput to nearly 3,400 vehicles, allowing an additional 1,000 vehicles to travel through the study area during the AM peak hour compared to the No-Build scenario. Alternative B4 will likely constrain about 600 remaining vehicles east of the Agricola Drive Connector due to upstream congestion outside the study area.

4.3.3 District-to-District Work Trips

Another way to illustrate the advantages of increasing east-west capacity is to examine the anticipated changes in district-to-district travel patterns under the Build alternatives, such as whether farther commutes to employment centres in George Town become more accessible to drivers residing in North Side and East End. **Figure 18** illustrates the distribution of Grand Cayman's population and employment centres based on 2021 ESO census data, showing a large majority of jobs in George Town. For residents of North Side and East End, the result is that they must endure a lengthy commute to access these jobs in George Town.

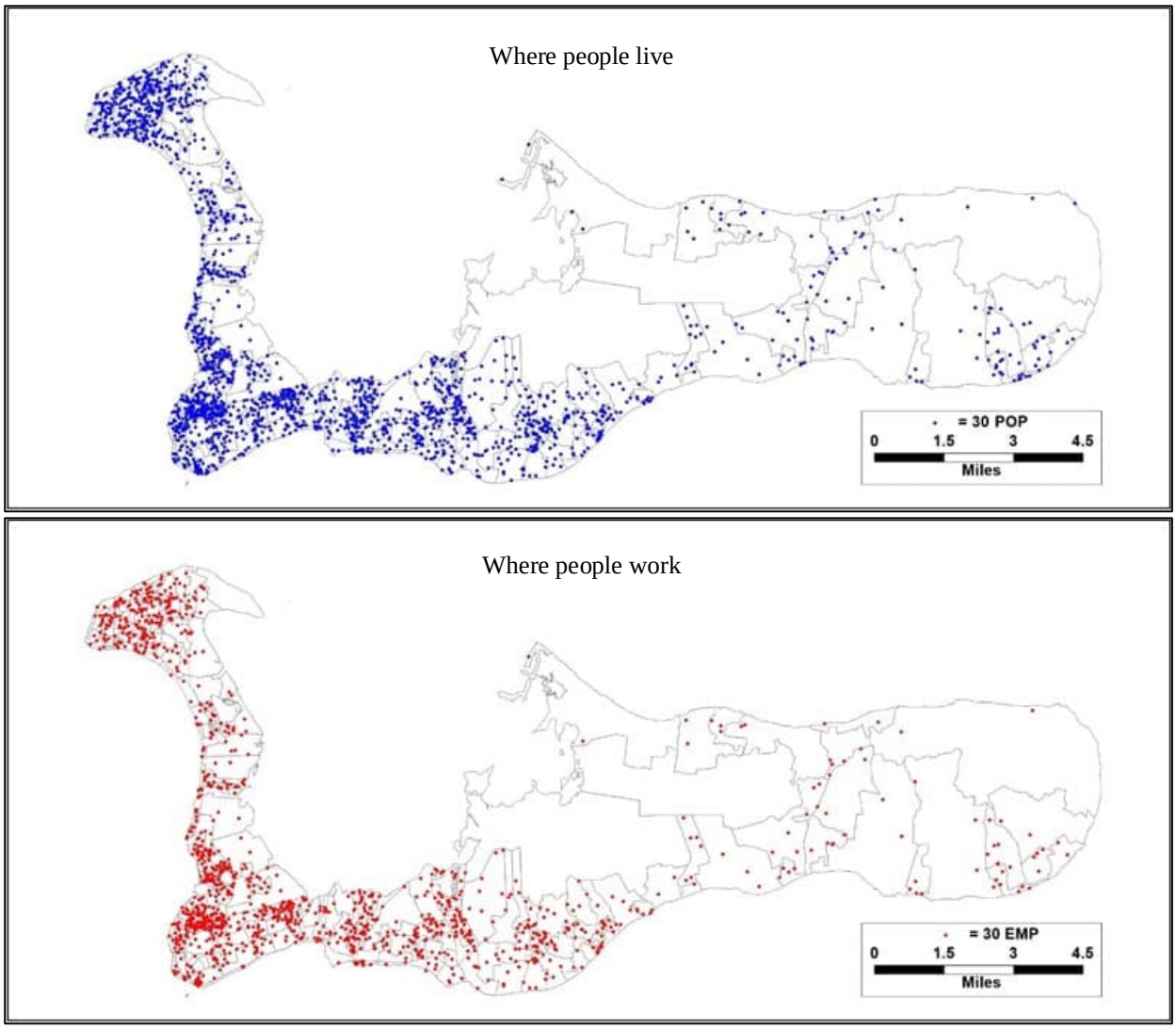

Figure 18: Grand Cayman 2021 Population and Employment Distribution

The GCM uses a variable demand approach, meaning the model will react to changing travel costs and will forecast drivers choosing longer-distance trips if that becomes more practical with the construction of the EWA. Such shifts are evident in **Figure 19** and **Figure 20** which illustrate the anticipated breakdown of district-to-district work-related trips from North Side and East End during the morning commute. Trip numbers between the eastern and western districts were calculated from home to work (east to west) during the morning peak.

Under No-Build conditions, a larger percentage of work trips from North Side and East End will likely be confined within these eastern districts as shown in **Figure 19** and **Figure 20**, indicating that jobs in George Town will be less accessible due to long commutes. Instead of commuting to the abundant job opportunities available in George Town, many eastern residents would be more inclined to rely, where possible, on the opportunities available within their own districts to avoid the extended commutes to George Town. Conversely, under Build Alternatives B1, B2, B3, and B4, the percentage

of work trips destined for George Town is expected to notably increase, demonstrating that access to these vital resources and employment opportunities become more viable with the construction of the EWA Extension. It is worth noting that by 2074, the work trips for the Build alternatives do not shift as drastically toward the western districts of George Town/West Bay as they do in 2026 due to shifting employment opportunities and increased congestion anticipated outside the study area.

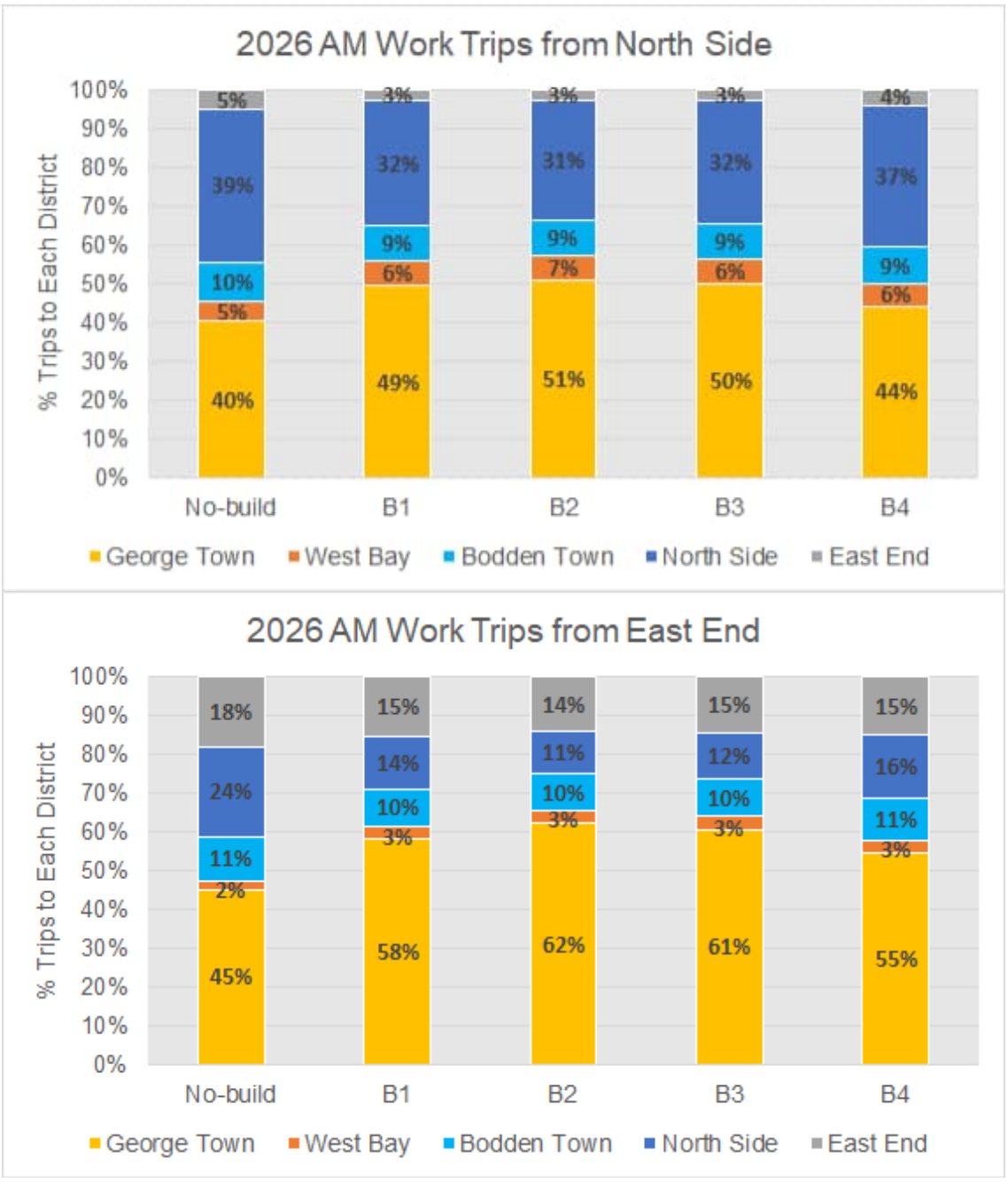

Figure 19: 2026 AM District-to-District Work Trips from North Side and East End

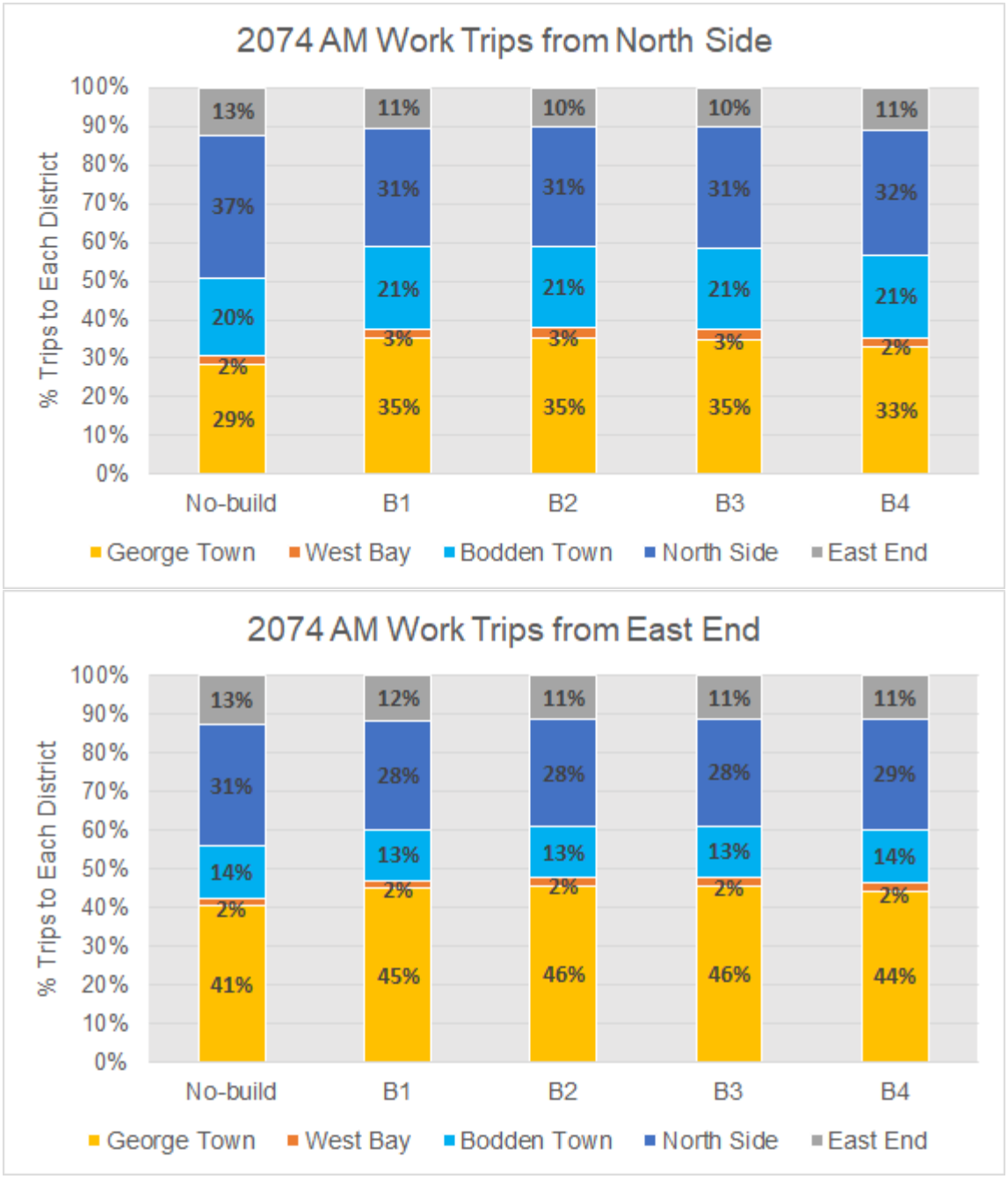

Figure 20: 2074 AM District-to-District Work Trips from North Side and East End

Table 12: Work Trip Numbers and % Improvement, 2026 and 2074

	No-Build	B1	B2	B3	B4
2026 - Eastern Districts / Western Districts Work Trips					
North Side / George Town	327	412	426	419	361
North Side / West Bay	37	46	47	46	40
East End / George Town	123	142	147	144	136
East End / West Bay	3	5	5	5	4
Total AM and PM Car Trips	490	605	625	614	541
% Improvement from No-Build*	-	**24%**	**28%**	**25%**	**10%**
2074 - Eastern Districts / Western Districts Work Trips					
North Side / George Town	800	971	977	958	908
North Side / West Bay	55	66	68	70	62
East End / George Town	757	832	845	844	822
East End / West Bay	31	33	34	35	33
Total AM and PM Car Trips	1,643	1,902	1,924	1,907	1,825
% Improvement from No-Build*	-	**15%**	**17%**	**16%**	**11%**

*Table note: "% Improvement from No-Build" refers to the percent increase in work trips between the eastern and western districts, which reflect improvements in accessibility between these districts.

Relative to the No-Build scenario, Alternatives B1, B2, B3, and B4 are expected to exhibit the following changes in travel patterns in 2026, as indicated in **Table 12**:

- In 2026, work trips to George Town and West Bay from North Side and East End are projected to grow by 24%, 28%, 25%, and 10%, respectively.
- In 2074, work trips to George Town and West Bay from North Side and East End are projected to grow by 15%, 17%, 16%, and 11%, respectively.

When the model predicts an increase in longer-distance trips between the east and west sides of the island, it signifies improved accessibility to western districts for the eastern district commuters. As shown in **Table 12**, Alternative B2 is anticipated to provide the highest increase in work trips.

Table 13 summarizes the qualitative ratings for district-to-district accessibility based on the degree of improvement expected for each alternative: "Large beneficial" (work trips increase by at least 16%), "Moderate beneficial (increases by 6 to 15%), "Slight beneficial" (increases by 2 to 5%), or "Neutral" (increases by 0 to 1%).

Table 13: District-to-District Access Evaluation Summary Table

	No-Build	B1	B2	B3	B4
District-to-District Access	Neutral	Large Beneficial	Large Beneficial	Large Beneficial	Moderate Beneficial

No-Build: Under the No-Build, 40 to 50% of eastern residents will likely commute to job opportunities within North Side and East End, despite employment centres in George Town vastly outnumbering those in the eastern districts. This suggests that job opportunities in George Town will not be readily accessible to eastern residents. The No-Build scenario serves as the baseline for comparison to Build alternatives, so it is ranked as "Neutral" impact.

Alternatives B1, B2, and B3: These Build alternatives are anticipated to have a "Large Beneficial" impact on accommodating longer-distance commutes between the eastern and western districts, increasing work trips for eastern residents to western employment hubs by 24 to 28% in 2026 and by 15 to 17% in 2074. This growth signifies improved access to the resources and job opportunities in George Town for residents of North Side and East End.

Alternative B4: Alternative B4 is anticipated to have a "Moderate Beneficial" impact on improving access between eastern and western districts, increasing work trips for eastern residents to western employment centres by 10% in 2026 and by 11% in 2074. This benefit is lower relative to Alternatives B1, B2, and B3 but still indicates improved access to job opportunities in George Town.

4.3.4 Employment Access

Another anticipated benefit of the EWA Extension is that it would improve access to employment opportunities for residents of North Side and East End. As discussed in **Section 4.3.3**, most of Grand Cayman's employment centres are currently located in George Town. The EWA would likely improve access to many job opportunities by reducing travel times between the eastern and western districts of the island. To quantify these benefits, representative locations in North Side and East End (**Figure 21**) were selected to calculate the number of jobs available within various commute times, as shown in **Table 14.** Based on the average calculated for each year, a percent change from No-Build was calculated to demonstrate the anticipated increase in job access for each Build alternative.

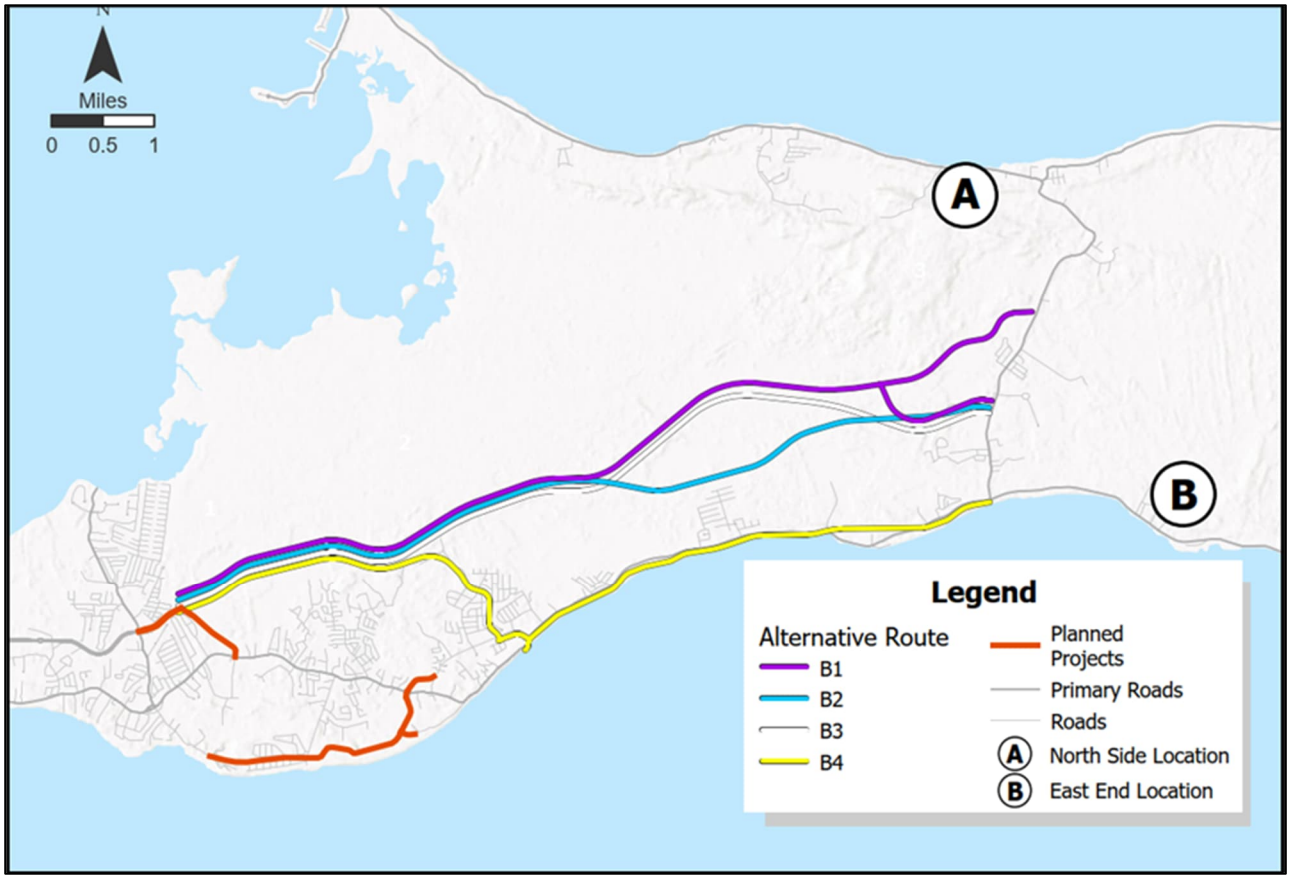

Figure 21: Representative Location in North Side for Employment Access Evaluation

Table 14: Employment Access from North Side and East End by Commute Time

	No-Build	B1	B2	B3	B4
2026					
Employment Access from North Side (no. of jobs)					
15 Minutes	1,187	1,536	1,536	1,536	1,310
30 Minutes	3,124	3,759	3,759	3,759	3,592
45 Minutes	4,833	6,407	6,407	6,407	5,980
Employment Access from East End (no. of jobs)					
15 Minutes	1,437	1,485	1,707	1,707	1,485
30 Minutes	3,581	3,759	3,759	3,759	3,759
45 Minutes	5,954	6,667	6,667	6,667	6,667
Average Number of Jobs	**3,353**	**3,936**	**3,973**	**3,973**	**3,799**
% Change from No-Build	-	**17%**	**18%**	**18%**	**13%**
2074					
Employment Access from North Side (no. of jobs)					
15 Minutes	2734	9083	9083	9083	8957
30 Minutes	9119	13100	13100	13100	13100
45 Minutes	9,799	19,344	19,344	19,344	19,344
Employment Access from East End (no. of jobs)					
15 Minutes	8,447	8,802	8,802	8,802	8,804
30 Minutes	9,715	13,100	13,038	13,100	13,038
45 Minutes	13,102	19,336	19,336	19,336	19,344
Average Number of Jobs	**8,819**	**13,794**	**13,784**	**13,794**	**13,765**
% Change from No-Build	-	**56%**	**56%**	**56%**	**56%**

Table note: Average number of jobs is calculated by year across all commute times and locations, and percent (%) change from No-Build is calculated by year based on this average.

Table 15 summarizes the qualitative rating for employment access from North Side and East End based on the degree of improvement anticipated for each alternative: "Large beneficial" (access increases by at least 16%), "Moderate beneficial (increases by 6 to 15%), "Slight beneficial" (increases by 2 to 5%), or "Neutral" (increases by 0 to 1%).

Table 15: Employment Access Evaluation Summary Table

	No-Build	B1	B2	B3	B4
Employment Access	Neutral	Large Beneficial	Large Beneficial	Large Beneficial	Large Beneficial

No-Build: The No-Build scenario is anticipated to have a neutral effect on improving access to jobs from North Side/East End, so it is deemed to have a "Neutral" impact.

Alternatives B1, B2, B3, and B4: All four Build alternatives are anticipated to have a "Large Beneficial" impact on improving access to jobs from North Side and East End, likely increasing the number of jobs accessible within fifteen, thirty, and forty-five minutes by 13% to 18% in 2026 and by 56% in 2074.

4.4 Resiliency

Resiliency is a key item in determining any alternative's success. The CSFs directly relevant to the resiliency of the system include: (a) creation of an alternative travel route to the existing two-lane Bodden Town Road, and (b) improving resiliency of the existing roadway travel route between North Side/East End and George Town/West Bay.

4.4.1 Road Closures and Alternative Routes

Today, Bodden Town Road is the only roadway that can carry traffic from George Town/West Bay to North Side/East End and vice versa, meaning any roadway closure along that route completely cuts off east-west traffic. Roadway closures can occur due to natural events such as flooding and fallen debris, as well as from manmade incidents such as traffic accidents or roadway maintenance. The absence of an alternative route to carry traffic during such events leaves thousands of individuals unable to travel east-west, essentially stranding them on one end of the island for several hours or up to several days depending on the cause of the closure. Although some medical services are offered in the eastern districts at the Health City Cayman Islands Hospital (also known as Shetty Hospital) in East End and at health clinics in each district, critical emergency services like the Health Services Authority (HSA) hospital in George Town may become inaccessible (limited or reduced access) to eastern districts during storm or flood events. It is worth noting that the HSA Hospital in George Town is the only authorized provider of 24-hour Accident and Emergency Services in Grand Cayman. Eastern residents may also be cut off from jobs, schools, and other resources located in western districts.

Table 16 shows the projected population of Grand Cayman from 2026 to 2074 obtained from the GCM. The GCM projects that the population will increase by nearly 60,000 people between 2026 and 2074, resulting in an ever-higher demand for accessibility to all parts of the island.

Table 16: Population in Grand Cayman by Year

Year	Population
2026	76,373
2036	88,299
2046	100,017
2074	135,000

To evaluate the resiliency of each alternative, the impacts of a road closure were assessed for five segments along Bodden Town Road, as shown in **Figure 22**:

- Segment 1: Frank Sound Road to Betty Bay Pond Driveway
- Segment 2: Betty Bay Pond Driveway to Long Fellow Road
- Segment 3: Long Fellow Road to Bodden Town Bypass
- Segment 4: Bodden Town Bypass to Condor Road
- Segment 5: Condor Road to Hirst Road

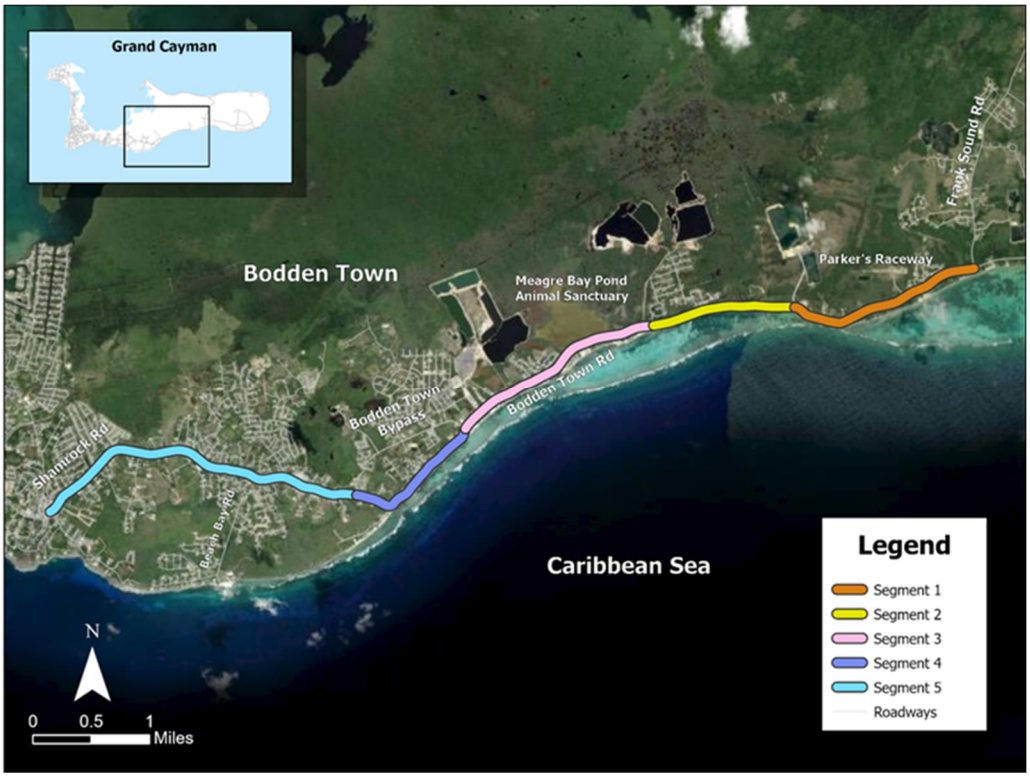

Figure 22: Roadway Closure Segments

Table 17 shows the eastern population who will lose access under the No-Build scenario when different roadway segments are unavailable if no alternative routes are provided. The number of people with a projected loss of access was compared with the projected population of Grand Cayman to compute the population percentage that would lose access to western district services. Depending on which segment becomes unavailable, anywhere from 4% to 12% of the island's population in 2026 will lose the ability to make east-west travel; by 2074, those numbers increase to anywhere from 8% to 15% of the population.

Table 17: Population Losing Access Due to Road Closure by Year Under No-Build Scenario

Unavailable Segment	2026		2036		2046		2074	
	Impacted Population	% of Pop.	Impacted Population	% of Pop.	Impacted Population	% of Pop.	Impacted Population	% of Pop.
Segment 1	3,082	4%	5,840	7%	9,893	10%	10,893	8%
Segment 2	4,056	5%	6,929	8%	10,982	11%	14,515	11%
Segment 3	4,431	6%	7,304	8%	11,357	11%	15,356	11%
Segment 4	7,882	10%	11,135	13%	15,730	16%	19,729	15%
Segment 5	8,820	12%	9,774	11%	9,774	10%	14,772	11%

Table note: Impacted population for Segment 5 is the same for 2036 and 2046 because no additional developments are planned along this segment between 2036 and 2046.

Based on this accessibility need, three alternatives – Alternative B1, B2, and B3 – provide new roadways parallel to the existing Bodden Town Road from Agricola Drive Connector to Frank Sound Road; Alternative B4 only provides a parallel route from Shamrock Road to Lookout Road.

Each alternative was evaluated for each future year to determine the amount of the island's population that would be impacted by roadway closures, thus providing resiliency to the roadway network. Per **Table 18**, Alternative B1, B2, and B3 provide 100% resiliency to the system – that is, there are no losses to east-west travel due to a closure on Bodden Town Road. However, for Alternative B4, if there is any roadway closure east of Bodden Town Bypass, there is no alternative parallel route, resulting in everyone living east of the closure losing east-west access.

Table 18: Population Losing Access Due to Road Closure Under Build Alternatives

Year	Unavailable Segment	B1	B2	B3	B4
2026	Segment 1	0	0	0	3,082
	Segment 2	0	0	0	4,056
	Segment 3	0	0	0	4,431
	Segment 4	0	0	0	7,882
	Segment 5	0	0	0	0
2074	Segment 1	0	0	0	10,893
	Segment 2	0	0	0	14,515
	Segment 3	0	0	0	15,356
	Segment 4	0	0	0	19,729
	Segment 5	0	0	0	0

Table 19 provides a qualitative assessment for each alternative's impact on providing an alternative route based on the degree of improvement expected by each alternative: "Large beneficial" (100% new roadway connection between Woodland Drive and Frank Sound Road), "Moderate beneficial (75 to 99% new roadway connection), "Slight beneficial" (1 to 74% new roadway connection), or "Neutral" (no new roadway connection).

Table 19: Resiliency Evaluation Summary Table

	No-Build	B1	B2	B3	B4
Alternative Routes	Neutral*	Large Beneficial	Large Beneficial	Large Beneficial	Slight Beneficial

*Table note: The No-Build scenario is rated "Neutral" because it serves as the baseline for comparison against the Build alternatives, but the No-Build represents an adverse impact on resiliency because it does not provide an alternative travel route.

No-Build: Under No-Build conditions, there are no alternative routes for east-west travel in the event of a roadway closure on Bodden Town Road; therefore, the No-Build scenario does not meet the resiliency critical success factor to provide an alternative route to the existing road. Because the No-Build scenario is the baseline for comparison to the Build alternatives, it is ranked as "Neutral."

***Alternatives B1, B2, B3*:** Alternative B1, B2 and B3 all provide a new roadway connection between Woodland Drive and Frank Sound Road, so they are determined to have a "Large Beneficial" impact as they meet the 100% threshold as noted in **Table 4**.

Alternative B4: Alternative B4 only provides resiliency for population west of Bodden Town Bypass and does not provide an alternative route in the event of a roadway closure east of Lookout Road. Therefore, B4 has a "Slight Beneficial" impact on resiliency, as the alternative consists of approximately 1-75% new roadway connection between Woodland Drive and Frank Sound Road as noted in **Table 4**.

4.4.2 Existing Roadway Resiliency

Shamrock Road and Bodden Town Road provide access to residential neighborhoods, schools, and businesses, so it is important to improve the existing road's resiliency to ensure its continued functionality in the event of crashes, vehicle breakdowns, or other unforeseen traffic incidents.

The EWA Extension will be designed to modern standards, providing a safer facility that is likely to attract more drivers and divert traffic away from the existing roadway. As a result, Shamrock Road and Bodden Town Road will likely experience a decrease in traffic volume once the EWA is constructed. By reducing the anticipated number of drivers along the existing roadway, the Build Alternatives would proportionally reduce the number of crashes and other incidents that could interrupt traffic flow. The addition of the EWA Extension would therefore likely improve the resiliency and reliability of the existing roadway.

Build Alternatives B1, B2, B3, and B4 are anticipated to divert volume from the existing roadway to the proposed EWA Extension (**Table 8** and **Table 9** in **Section 4.3.2: Screenline Volumes**). For each alternative, the forecasted volumes along Shamrock Road and Bodden Town Road are summarized for 2026 and 2074 based on the screenline locations shown in **Figure 17**, and an overall percent change from the No-Build was calculated for each Build alternative (**Table 20**).

Table 20: Existing Roadway Screenline Volumes (Two-way)

Screenline	Road	No-Build	B1		B2		B3		B4	
		vehicles	veh	%Δ	veh	%Δ	veh	%Δ	veh	%Δ
2026 AM										
1	Shamrock Rd	1,726	794	-54%	798	-54%	802	-54%	756	-56%
2	Bodden Town Rd	863	193	-78%	170	-80%	182	-79%	939	9%
3	Bodden Town Rd	612	73	-88%	47	-92%	58	-90%	670	9%
2026 PM										
1	Shamrock Rd	1,905	802	-58%	783	-59%	807	-58%	839	-56%
2	Bodden Town Rd	1,125	284	-75%	219	-81%	283	-75%	1,221	9%
3	Bodden Town Rd	837	149	-82%	112	-87%	144	-83%	896	7%
2074 AM										
1	Shamrock Rd	4,627	2,033	-56%	1,976	-57%	2,020	-56%	1,731	-63%
2	Bodden Town Rd	3,583	962	-73%	876	-76%	940	-74%	3,958	10%
3	Bodden Town Rd	3,312	853	-74%	752	-77%	831	-75%	3,672	11%
2074 PM										
1	Shamrock Rd	4,698	1,872	-60%	1,732	-63%	1,801	-62%	2,222	-53%
2	Bodden Town Rd	3,592	986	-73%	812	-77%	894	-75%	3,993	11%
3	Bodden Town Rd	3,288	872	-73%	704	-79%	789	-76%	3,667	12%
Average Two-Way Volume		**2,514**	**823**	**-67%**	**748**	**-70%**	**796**	**-68%**	**2,047**	**-19%**

Table note: Screenline locations are shown in **Figure 17.** Average two-way volumes are calculated using all years and locations, and percent change (%Δ) from the No-Build is calculated based on this average.

Table 21 provides a qualitative assessment of each alternative's impact improving the existing roadway's resiliency. Qualitative ratings are based on the degree of improvement projected for each alternative: "Large beneficial" (reduces existing road volume by at least 50%), "Moderate beneficial (reduces by 25-49%), "Slight beneficial" (reduces by 10 to 24%), or "Neutral" (reduces by less than 10%).

Table 21: Resiliency Evaluation Summary Table

	No-Build	B1	B2	B3	B4
Existing Roadway Resiliency	Neutral*	Large Beneficial	Large Beneficial	Large Beneficial	Slight Beneficial

*Table note: The No-Build scenario is rated "Neutral" because it serves as the baseline for comparison against the Build alternatives, but the No-Build represents an adverse impact on resiliency. As traffic volumes and congestion are forecasted to grow, resiliency of the existing road is also anticipated to worsen.

No-Build: Under No-Build conditions, there are no alternative routes for east-west travel in the event of a roadway closure on Bodden Town Road. Traffic volumes and congestion are forecasted to grow, meaning the number of crashes, vehicle breakdowns, and other traffic incidents that interrupt traffic flow may proportionally increase in the future. Therefore, the No-Build has an adverse effect on resiliency of the existing road. Because the No-Build scenario is the baseline for comparison to the Build alternatives, it is ranked as "Neutral."

***Alternatives B1, B2, B3*:** For Build Alternatives B1, B2, and B3, volume is anticipated to decrease on the existing coastal roads of Shamrock Road and Bodden Town Road by at least 50% compared to the No-Build (**Table 20)**, improving overall resiliency of the existing roadway by proportionally reducing the number of crashes, vehicle breakdowns, or other incidents that would interrupt traffic flow. Therefore, Alternatives B1, B2, and B3 provide a "Large Beneficial" impact on improving the existing roadway's resiliency.

Alternative B4: West of Lookout Road, Alternative B4 is anticipated to reduce volume on Shamrock Road by at least 50% at Screenline 1 (**Table 20**). East of Lookout Road, Alternative B4 is anticipated to increase volume on the existing coastal road by about 10% at Screenlines 2 and 3, primarily due to on-alignment enhancements that add capacity to the existing road without providing any alternative route options. Based on these screenlines, volume on the existing road is expected to decrease by about 20% on average, which will help improve the resiliency of the existing roadway by proportionally reducing the number of crashes, vehicle breakdowns, or other incidents that would interrupt traffic flow. Therefore, Alternative B4 provides a "Slight Beneficial" impact on improving the existing roadway's resiliency.

4.5 Travel Time

Improving travel times between the eastern districts of Bodden Town/North Side/East End and the western districts of George Town/West Bay is a critical success factor when considering the Build alternatives. Currently, residents of North Side and East End endure extended commutes, sometimes lasting hours, due to congestion on the existing roadway. **Figure 23** shows existing morning peak hour congestion along westbound Shamrock Road near Will T Road that was observed in February 2023, illustrating the congestion issues prevalent in the study area. The following sections will discuss anticipated travel time improvements provided by the Build alternatives at key locations.



Figure 23: AM Westbound Congestion, Shamrock Road near Will T Road (February 2023)

4.5.1 Study Area Travel Time

The GCM was used to evaluate travel times along the existing coastal road and proposed EWA to capture localized congestion effects for residents of Bodden Town. The anticipated travel times between Frank Sound Road and Hirst Road were assessed for the AM westbound direction and PM eastbound direction for each alternative; this comparison illustrates changes in travel times along the available route(s) that Bodden Town residents would be using within the study area (**Figure 24** and **Figure 25**). The percent change from the No-Build scenario was calculated after AM and PM travel times were averaged per Build alternative (**Table 22**).

Under No-Build conditions, residents traverse the existing Bodden Town Road and Shamrock Road between Frank Sound Road and the Agricola Drive Connector, at which point they can choose to either: 1.) continue on Shamrock Road between the Agricola Drive Connector and Hirst Road or 2.) use the Agricola Drive Connector and Section 1 of the EWA extension. With Alternatives B1, B2, and B3, residents can choose to traverse either available route: 1.) Bodden Town Road and Shamrock Road or 2.) EWA Extension, between Frank Sound Road and Hirst Road, depending on their origin or destination within Bodden Town. With Alternative B4, an improved route along Bodden Town Road is available when compared to the No-Build scenario. As shown in **Figure 24** and **Figure 25**, the introduction of the EWA in Build Alternatives B1, B2, B3, and B4 is expected to significantly improve travel times on both the existing coastal road and the proposed EWA.

In 2026, Build Alternatives B1, B2, B3, and B4 each improve the anticipated travel time between Frank Sound Road and Hirst Road (approximately 8.5 miles) as follows:

- The projected AM westbound commute travel times are reduced by 6 to 8 minutes (32 to 42%) via the EWA and by 2 to 4 minutes (11 to 22%) via Shamrock / Bodden Town Road.
- The projected reciprocal PM eastbound commute travel times are reduced by 4 to 7 minutes (21 to 37%) via the EWA and by 2 to 3 minutes (12 to 18%) via Shamrock Road / Bodden Town Road.

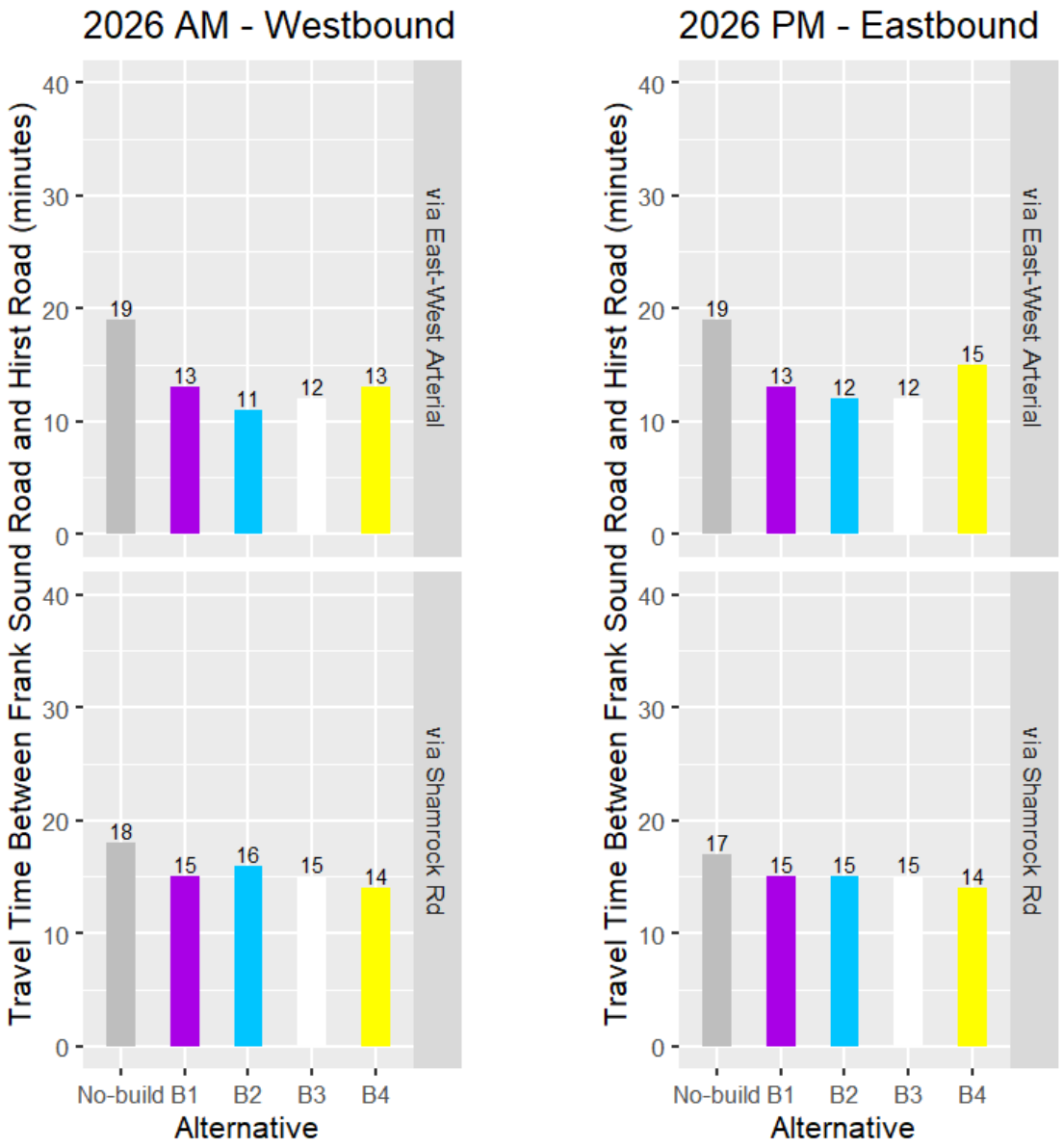

Figure 24: 2026 Travel Times between Hirst Road and Frank Sound Road

By 2074, the EWA will be widened to 2 lanes in each direction, further improving travel times along the proposed road compared to the existing Shamrock Road. The AM westbound commute between Frank Sound Road and Hirst Road is expected increase by over 10 minutes under No-Build conditions, deteriorating from 18 minutes in 2026 to 31 minutes in 2074. The reciprocal PM eastbound commute is also anticipated to worsen from 17 minutes in 2026 to 25 minutes in 2074.

In 2074, the Build Alternatives B1, B2, B3, and B4 each reduce the anticipated travel time between Frank Sound Road and Hirst Road (approximately 8.5 miles) as follows:

- The projected AM westbound travel times are reduced by 15 to 17 minutes (50 to 57%) via the EWA and by 7 to 8 minutes (23 to 26%) via Shamrock Road / Bodden Town Road.
- The projected PM eastbound travel times are reduced by 11 to 15 minutes (44 to 60%) via the EWA and 7 to 8 minutes (32 to 36%) via Shamrock Road / Bodden Town Road.

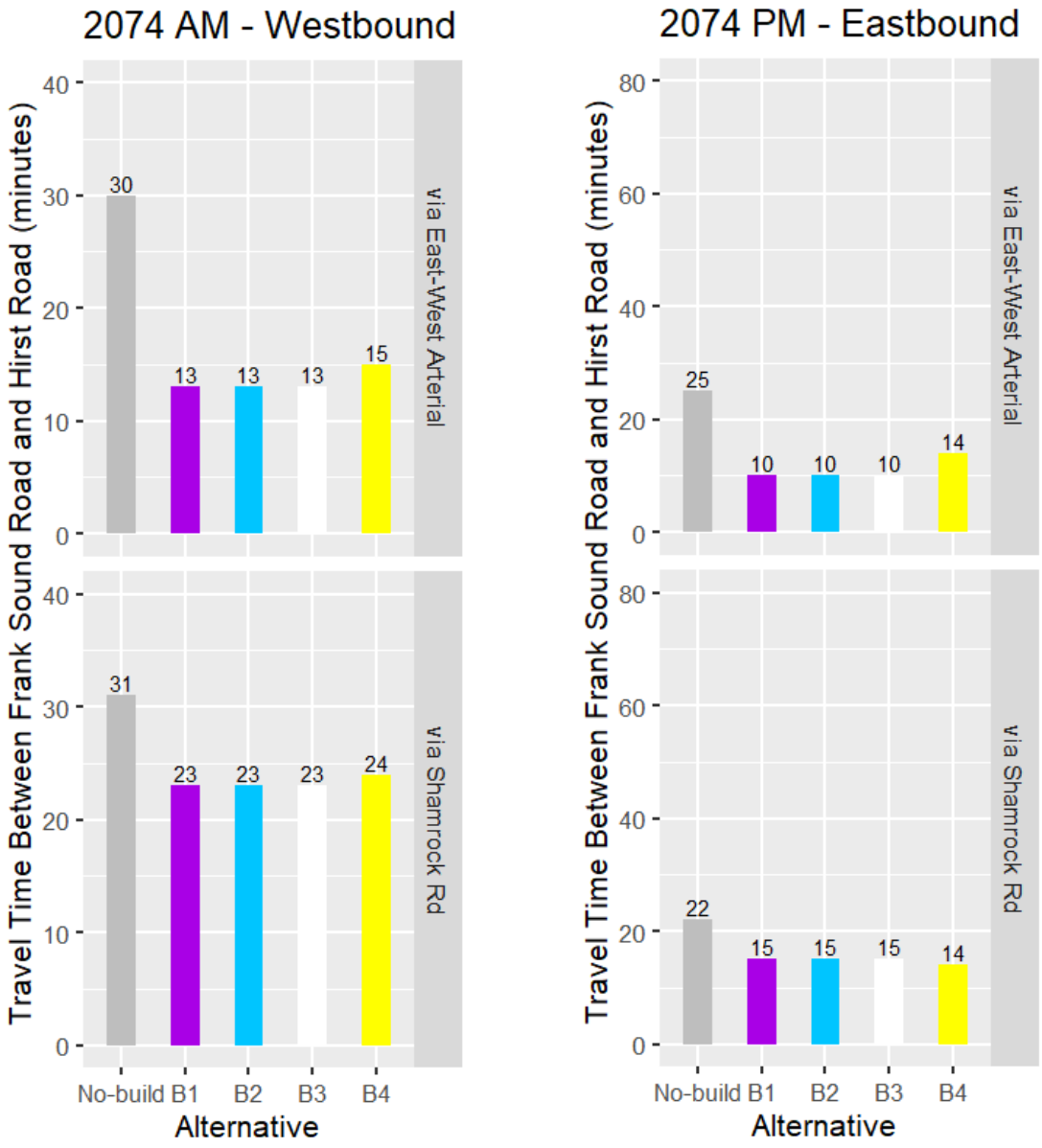

Figure 25: 2074 Travel Times between Hirst Road and Frank Sound Road

Table 22: Frank Sound Road to Hirst Road Travel Times and % Change, 2026 and 2074

	No-Build	B1	B2	B3	B4
2026 – Frank Sound Road/Hirst Road travel time (minutes)					
Via Bodden Town/Shamrock (AM)	18	15	16	15	14
Via EWA (AM)	19	13	11	12	13
Via Bodden Town/Shamrock (PM)	17	15	15	15	14
Via EWA (PM)	19	13	12	12	15
Average Travel Time East / West	18.3	14.0	13.5	13.5	14.0
% Change from No-Build	-	**23%**	**26%**	**26%**	**23%**
2074 – Frank Sound Road/Hirst Road travel time (minutes)					
Via Bodden Town/Shamrock (AM)	31	23	23	23	24
Via EWA (AM)	30	13	13	13	15
Via Bodden Town/Shamrock (PM)	22	15	15	15	14
Via EWA (PM)	25	10	10	10	14
Average Travel Time East / West	27.0	15.3	15.3	15.3	16.8
% Change from No-Build	-	**43%**	**43%**	**43%**	**38%**

Table note: Average travel time is calculated by year across all routes, and percent (%) change is calculated by year based on this average.

Notably, the EWA is expected to produce the greater travel time improvements of the two roads and will likely become the most viable path for commuters between the east and west districts. Alternatives B2 and B3 are the most effective at improving travel times along the EWA. Alternative B4 is least impactful along the EWA, but due to its increased capacity along the existing coastal road, Alternative B4 will likely improve travel times along Shamrock Road slightly more than Alternatives B1, B2, and B3. Congestion will likely significantly worsen under No-Build conditions if no improvement is added.

Table 23 summarizes the qualitative rating for improving travel times within the study area based on the degree of improvement anticipated by each alternative: “Large beneficial” (reduces peak direction travel time by more than 25%), “Moderate beneficial (reduces by 15 to 25%), “Slight beneficial” (reduces by 5 to 14%), or “Neutral” (reduces by 0 to 4%).

Table 23: Study Area Travel Times Evaluation Summary Table

	No-Build	B1	B2	B3	B4
Study Area Travel Times	Neutral*	Large Beneficial	Large Beneficial	Large Beneficial	Large Beneficial

*Table note: The No-Build scenario is rated “Neutral” because it serves as the baseline for comparison against the Build alternatives, but travel times will likely worsen under the No-Build scenario as volumes continue to grow under future conditions.

No-Build: Under the No-Build scenario, travel times within the study area between Frank Sound Road and Hirst Road will likely worsen to approximately 17 and 19 minutes in 2026, and further deteriorating to approximately 22 and 31 minutes in 2074. The No-Build is rated as having a "Neutral" impact on travel time within the study area as conditions will continue to deteriorate particularly during the morning commute.

Alternatives B1, B2, B3, B4: The four Build alternatives each improve the anticipated travel time between Frank Sound Road and Hirst Road by nearly 20 minutes during the morning commute in 2074. The EWA route is expected to produce greater travel time savings than the existing coastal roadway. Therefore, Build Alternatives B1, B2, B3, and B4 are ranked as having a "Large Beneficial" impact on travel times within the study area.

4.5.2 Travel Time to Key Destinations in George Town/West Bay

Travel times were also evaluated between North Side/East End and key western destinations in George Town and West Bay such as the George Town Hospital, Camana Bay, Walkers Road schools, and Owen Roberts International Airport. These travel times were calculated for North Side/East End based on the average travel times of the entire district to/from each key destination.

In 2026, the Build alternatives are anticipated to produce the following travel time benefits between these key destinations and North Side or East End, as shown in **Table 24** and **Table 25**:

- During the morning (AM) westbound commute, drivers from North Side are expected to experience travel time improvements of 12 to 15% for Alternatives B1, B2, and B3, and improvements of 7 to 8% for Alternative B4.
- During the morning (AM) westbound commute, drivers from East End are expected to experience travel time improvements of 6 to 8% for Alternatives B1, B2, B3, and B4.
- During the evening (PM) eastbound commute, drivers to North Side are expected to experience travel time improvements of 10 to 16% for Alternatives B1, B2, and B3, and improvements of 4 to 8% for Alternative B4.
- During the evening (PM) eastbound commute, drivers from East End are expected to experience travel time improvements of 2 to 12% for Alternatives B1, B2, B3, and B4.

These 2026 travel time trends indicate that travelers from North Side will likely benefit most from Build Alternatives B1, B2, and B3 as they are positioned to access the EWA from Frank Sound Road. Travelers from East End may often still take the existing coastal road as the most direct route west, so they may experience similar benefits across all Build Alternatives B1, B2, B3, and B4 at a lesser magnitude than North Side drivers.

Table 24: 2026 AM – Westbound Origin-Destination Travel Times

Origin	Destination	No-Build	B1		B2		B3		B4	
		Travel time (min)	Travel time (min)	% Reduction	Travel time (min)	% Redn.	Travel time (min)	% Redn.	Travel time (min)	% Redn.
North Side	George Town Hospital	55	47	15%	47	15%	47	15%	51	7%
	Camana Bay	60	52	13%	52	13%	52	13%	55	8%
	Walkers Rd schools	52	45	13%	44	15%	44	15%	48	8%
	Airport	57	50	12%	50	12%	50	12%	53	7%
East End	George Town Hospital	56	52	7%	52	7%	52	7%	52	7%
	Camana Bay	61	57	7%	56	8%	56	8%	57	7%
	Walkers Rd schools	53	50	6%	49	8%	49	8%	50	6%
	Airport	59	55	7%	55	7%	55	7%	55	7%
Average Travel Time		**57**	**51**	**10%**	**51**	**11%**	**51**	**11%**	**53**	**7%**

Table note: Travel times are calculated from North Side/East End based on the average travel times across the entire district to each key destination.

Table 25: 2026 PM – Eastbound Origin-Destination Travel Times

Origin	Destination	No-Build	B1		B2		B3		B4	
		Travel time (min)	Travel time (min)	% Reduction	Travel time (min)	% Redn.	Travel time (min)	% Redn.	Travel time (min)	% Redn.
George Town Hospital	North Side	54	47	13%	48	11%	48	11%	51	6%
	East End	55	53	4%	54	2%	54	2%	52	5%
Camana Bay	North Side	49	43	12%	44	10%	44	10%	46	6%
	East End	51	48	6%	49	4%	49	4%	48	6%
Walkers Road schools	North Side	45	40	11%	40	11%	40	11%	43	4%
	East End	47	45	4%	44	6%	45	4%	45	4%
Airport	North Side	49	41	16%	42	14%	42	14%	45	8%
	East End	52	46	12%	47	10%	47	10%	48	8%
Average Travel Time		**50**	**45**	**10%**	**46**	**8%**	**46**	**8%**	**47**	**6%**

Table note: Travel times are calculated to North Side/East End based on the average travel times of the entire district from each key destination.

In 2074, the Build alternatives are anticipated to produce the following travel time benefits between these key destinations and North Side or East End, as shown in **Table 26** and **Table 27**:

- During the morning (AM) westbound commute, drivers from North Side are expected to experience travel time improvements of 26 to 28% for Alternatives B1, B2, and B3, and improvements of 22 to 25% for Alternative B4.
- During the morning (AM) westbound commute, drivers from East End are expected to experience travel time improvements of 8 to 10% for Alternatives B1, B2, B3, and B4.
- During the evening (PM) eastbound commute, drivers to North Side are expected to experience travel time improvements of 6 to 20% for Alternatives B1, B2, and B3, and improvements of 0 to 17% for Alternative B4.
- During the evening (PM) eastbound commute, drivers from East End are expected to experience travel time improvements of 0 to 14% for Alternatives B1, B2, B3, and B4.

Like 2026, these 2074 travel time trends indicate that travelers from North Side will likely benefit most from Build Alternatives B1, B2, and B3, where they will have direct access to the EWA from Frank Sound Road. Although the Build alternatives are expected to provide benefits to motorists from the East End, it is anticipated that these drivers may still prefer the existing coastal road as the most direct route west. Consequently, they may experience similar benefits across all Build Alternatives B1, B2, B3, and B4, albeit at a lesser magnitude compared to North Side drivers. By 2074, the alternatives are anticipated to provide the greatest benefit during the AM commute by relieving congestion points within the study area as commuters drive west.

Table 26: 2074 AM – Westbound Origin-Destination Travel Times

Origin	Destination	No-Build	B1		B2		B3		B4	
		Travel time (min)	**Travel time (min)**	%Δ	**Travel time (min)**	%Δ	Travel time (min)	%Δ	**Travel time (min)**	%Δ
North Side	**George Town Hospital**	94	70	26%	68	28%	69	27%	73	22%
	Camana Bay	96	71	26%	70	27%	71	26%	74	23%
	Walkers Rd schools	93	68	27%	68	27%	67	28%	70	25%
	Airport	93	67	28%	67	28%	67	28%	70	25%
East End	**George Town Hospital**	79	73	8%	71	10%	73	8%	72	9%
	Camana Bay	82	75	9%	74	10%	75	9%	75	9%
	Walkers Rd schools	79	72	9%	73	8%	72	9%	71	10%
	Airport	78	71	9%	72	8%	72	8%	71	9%
Average Travel Time		**87**	**71**	**18%**	**70**	**19%**	**71**	**18%**	**72**	**17%**

Table note: Travel times are calculated from North Side/East End based on the average travel times across the entire district to each key destination.

Table 27: 2074 PM – Eastbound Origin-Destination Travel Times

Origin	Destination	No-Build	B1		B2		B3		B4	
		Travel time (min)	Travel time (min)	%Δ	Travel time (min)	%Δ	Travel time (min)	%Δ	Travel time (min)	%Δ
George Town Hospital	North Side	65	56	14%	52	20%	58	11%	60	8%
	East End	65	59	9%	56	14%	59	9%	60	8%
Camana Bay	North Side	64	59	8%	59	8%	58	9%	63	2%
	East End	66	64	3%	65	2%	64	3%	66	0%
Walkers Road schools	North Side	72	61	15%	61	15%	68	6%	72	0%
	East End	75	67	11%	66	12%	75	0%	75	0%
Airport	North Side	66	54	18%	57	14%	53	20%	55	17%
	East End	66	59	11%	62	6%	58	12%	57	14%
Average Travel Time		**67**	**60**	**11%**	**60**	**11%**	**62**	**9%**	**64**	**6%**

Table note: Travel times are calculated to North Side/East End based on the average travel times of the entire district from each key destination.

Table 28 summarizes the qualitative rating for improving travel times between North Side/East End and key destinations in George Town/West Bay based on the degree of improvement anticipated for each alternative: "Large beneficial" (reduces peak direction travel time by more than 25%), "Moderate beneficial (reduces by 15 to 25%), "Slight beneficial" (reduces by 5 to 14%), or "Neutral" (reduces by 0 to 4%).

Table 28: Key Destination Travel Time Evaluation Summary Table

	No-Build	B1	B2	B3	B4
Key Destinations	Neutral*	Slight Beneficial	Slight Beneficial	Slight Beneficial	Slight Beneficial

*Table note: The No-Build scenario is rated "Neutral" because it serves as the baseline for comparison against the Build alternatives, but travel times will likely worsen under the No-Build scenario as volumes continue to grow under future conditions.

No-Build: For the No-Build scenario, 2074 travel times between North Side/East End and key destinations in George Town and West Bay are projected to deteriorate to nearly 90 minutes for AM westbound travel and nearly 70 minutes for PM eastbound travel. The No-Build is rated as having a "Neutral" impact on travel time between the eastern and western districts as conditions will continue to deteriorate particularly during the morning commute.

Alternatives B1, B2, B3, B4: The four Build alternatives are each anticipated to improve average travel times between North Side/East End and western key destinations, providing a "Slight

Beneficial" impact. The most significant benefit will likely occur for the 2074 morning commute, where alternatives B1, B2, B3, and B4 improve the average anticipated travel time by 15 minutes compared to the No-Build scenario. Alternatives B1, B2, and B3 will likely produce slightly larger travel time savings than Alternative B4, but these savings translate to only a few additional minutes on average.

4.5.3 Tourist Travel Times

As a tourist destination, Grand Cayman faces the distinct challenge of accommodating cruise passengers who have unique travel patterns. These visitors travel from the George Town Cruise Terminal to various tourist destinations throughout the island, including Rum Point, Bodden Town Mission House, and Queen Elizabeth II Botanical Gardens located in Bodden Town and North Side. Because these passengers typically arrive to the George Town Cruise Terminal in the morning, their travel patterns are opposite than that of the typical commuters living in Bodden Town, North Side, and East End. **Table 29** and **Table 30** provide travel times between the cruise port and potential tourist destinations to show how the Build alternatives are expected to improve tourist travel times.

In 2026, tourist travel times are summarized as follows, as shown in **Table 29** and **Table 30**.

- Morning (AM) travel times from the cruise port to Rum Point and the Botanical Gardens are expected to improve by 9 to 13% for Alternatives B1, B2, and B3, and by 0 to 6% for Alternative B4.
- Morning (AM) travel times from the cruise port to Bodden Town Mission House are expected to remain the same as No-Build conditions, likely because drivers will favor the existing Shamrock Road as the most direct path.
- Afternoon/evening (PM) travel times from Rum Point and the Botanical Gardens to the cruise port are expected to improve 9 to 12% for Alternatives B1, B2, and B3, and by 6 to 7% for Alternative B4.
- Afternoon/evening (PM) travel times from the Bodden Town Mission House to the cruise port are expected to improve 4% for all Build Alternatives B1, B2, B3, and B4.

Table 29: 2026 AM – Eastbound Tourist Travel Times

Origin	Destination	No-Build	B1		B2		B3		B4	
		Travel time (min)	**Travel time (min)**	%Δ	**Travel time (min)**	%Δ	Travel time (min)	%Δ	**Travel time (min)**	%Δ
George Town Cruise Terminal	**Rum Point**	45	39	13%	39	13%	39	13%	45	0%
	Bodden Town Mission House	24	24	0%	24	0%	24	0%	24	0%
	Botanical Gardens	33	30	9%	30	9%	30	9%	31	6%
Average Travel Time		**34**	**31**	**9%**	**31**	**9%**	**31**	**9%**	**33**	**2%**

Table 30: 2026 PM – Westbound Tourist Travel Times

Origin	Destination	No-Build	B1		B2		B4		B4	
		Travel time (min)	Travel time (min)	%Δ	Travel time (min)	%Δ	Travel time (min)	%Δ	Travel time (min)	%Δ
Rum Point	**George Town Cruise Terminal**	46	41	11%	41	11%	41	11%	43	7%
Bodden Town Mission House		23	22	4%	22	4%	22	4%	22	4%
Botanical Gardens		32	29	9%	28	12%	29	9%	30	6%
Average Travel Time		**34**	**31**	**9%**	**30**	**10%**	**31**	**9%**	**32**	**6%**

In 2074, tourist travel times are summarized as follows, as shown in **Table 31** and **Table 32**:

- Morning (AM) travel times from the cruise port to Rum Point and Botanical Gardens are expected to improve by 9 to 14% for Alternatives B1, B2, and B3, and by -1 to 1% for Alternative B4.
- Morning (AM) travel times from the cruise port to Bodden Town Mission House are expected to improve by 5 to 10% across all Build alternatives B1, B2, B3, and B4. Bodden Town destinations will benefit similarly across all Build alternatives because they each contain EWA connection to Lookout Gardens.
- Afternoon/evening (PM) travel times from Rum Point and the Botanical Gardens to the cruise port are expected to improve 11 to 20% for all Alternatives B1, B2, B3, and B4.
- Afternoon/evening (PM) travel times from the Bodden Town Mission House to the cruise port are expected to improve 2 to 5% for all Build alternatives B1, B2, B3, and B4.

Table 31: 2074 AM – Eastbound Tourist Travel Times

Origin	Destination	No-Build	B1		B2		B3		B4	
		Travel time (min)	Travel time (min)	%Δ	Travel time (min)	%Δ	Travel time (min)	%Δ	Travel time (min)	%Δ
George Town Cruise Terminal	**Rum Point**	96	85	11%	85	11%	84	13%	95	1%
	Bodden Town Mission House	59	56	5%	55	7%	53	10%	55	7%
	Botanical Gardens	81	70	14%	74	9%	73	10%	82	-1%
Average Travel Time		**79**	**70**	**11%**	**71**	**9%**	**70**	**11%**	**77**	**2%**

Table 32: 2074 PM – Westbound Tourist Travel Times

Origin	Destination	No-Build	B1		B2		B4		B4	
		Travel time (min)	Travel time (min)	%Δ	Travel time (min)	%Δ	Travel time (min)	%Δ	Travel time (min)	%Δ
Rum Point	**George Town Cruise Terminal**	74	58	17%	58	17%	56	19%	59	16%
Bodden Town Mission House		36	33	5%	35	2%	35	2%	35	2%
Botanical Gardens		67	51	20%	52	19%	58	11%	52	19%
Average Travel Time		**59**	**47**	**20%**	**48**	**18%**	**50**	**16%**	**49**	**18%**

Based on the selected tourist destinations, Alternatives B1, B2, and B3 are anticipated to provide the greatest travel time benefits, particularly to destinations in the North Side such as Rum Point and Queen Elizabeth II Botanical Gardens. Alternative B4 will likely still provide some travel time benefit but to a lesser degree. All Build alternatives will also provide more modest travel time improvements to Bodden Town tourist destinations as drivers may still favor the existing coastal road as a more direct route.

Table 33 summarizes the qualitative impact for improving tourist travel times based on the degree of improvement anticipated for each alternative: "Large beneficial" (reduces travel time by more than 25%), "Moderate beneficial (reduces by 15 to 25%), "Slight beneficial" (reduces by 5 to 14%), or "Neutral" (reduces by 0 to 4%).

Table 33: Tourist Travel Times Evaluation Summary Table

	No-Build	B1	B2	B3	B4
Tourist Travel Times	Neutral*	Slight Beneficial	Slight Beneficial	Slight Beneficial	Slight Beneficial

*Table note: The No-Build scenario is rated "Neutral" because it serves as the baseline for comparison against the Build alternatives, but travel times will likely worsen under the No-Build scenario as volumes continue to grow under future conditions.

No-Build: The No-Build is rated as having a "Neutral" impact on tourist travel times, which are projected to deteriorate to about 80 minutes for eastbound AM travel and to about 60 minutes for westbound PM travel.

Alternatives B1, B2, B3: Build Alternatives B1, B2, and B3 each improve anticipated tourist travel times between the cruise port and eastern tourist destinations, particularly for those traveling to North Side destinations such as Rum Point and Botanical Gardens. For Alternatives B1, B2, and B3, anticipated travel time savings in 2026 translate to only 3 minutes improvement on average between the selected destinations, but these benefits increase to about 10 minutes of savings on average by 2074. Therefore, Alternatives B1, B2, and B3 are determined to have "Slight Beneficial" impact.

Alternative B4: Alternative B4 may only improve average tourist travel times between the cruise port and eastern destinations by 2 minutes on average for 2026 AM eastbound and PM westbound travel as well as 2074 AM eastbound travel. Alternative B4 likely improves only PM westbound travel times by an average of 10 minutes for the selected destinations. Therefore, Alternative B4 is determined to have "Slight Beneficial" impact on tourist travel times.

4.6 Operations

Once traffic volumes were forecasted for the various years and alternatives in VISUM, they were analyzed using PTV VISTRO 2022 (VISTRO). VISTRO is a macroscopic capacity analysis computer program that follows HCM methodologies. Using VISTRO, traffic operations could be discerned at the intersection, approach, and individual traffic movement levels to best determine which alternatives provided the most benefit, or where additional improvements may be needed. Traffic operations were analyzed for the AM and PM peak hours for all future years, and for all the alternatives (Attachment D). Existing roadway geometries were coded, including number and configuration of turn lanes at each study intersection; speed limits, lane widths, roadway grades and overall intersection peak hour factors (PHFs) were also entered. The 13 existing intersections analyzed, as shown below in **Figure 26** are:

- 100: East West Arterial Boulevard at Hirst Road
- 200: Shamrock Road at Hirst Road
- 300: Shamrock Road at Woodland Drive
- 400: Shamrock Road at Agricola Drive
- 500: Shamrock Road at Brightview Drive / Calla Lily Drive
- 600: Shamrock Road at Beach Bay Road
- 700: Shamrock Road at Northward Road
- 800: Shamrock Road at Condor Road
- 902: Bodden Town Road at Bodden Town Bypass
- 1000: Bodden Town Road at Long Fellow Drive
- 1100: Bodden Town Road at Frank Sound Road
- 1200: Frank Sound Road at Clifton Hunter High School
- 1300: Frank Sound Road at North Side Road / Old Robin Road

Please note, there is one additional intersection – 901: Lookout Road at Bodden Town Bypass – that is an existing intersection, but is only analyzed as part of Alternative B4. Intersection 901 was not considered one of the original 13 study intersections.

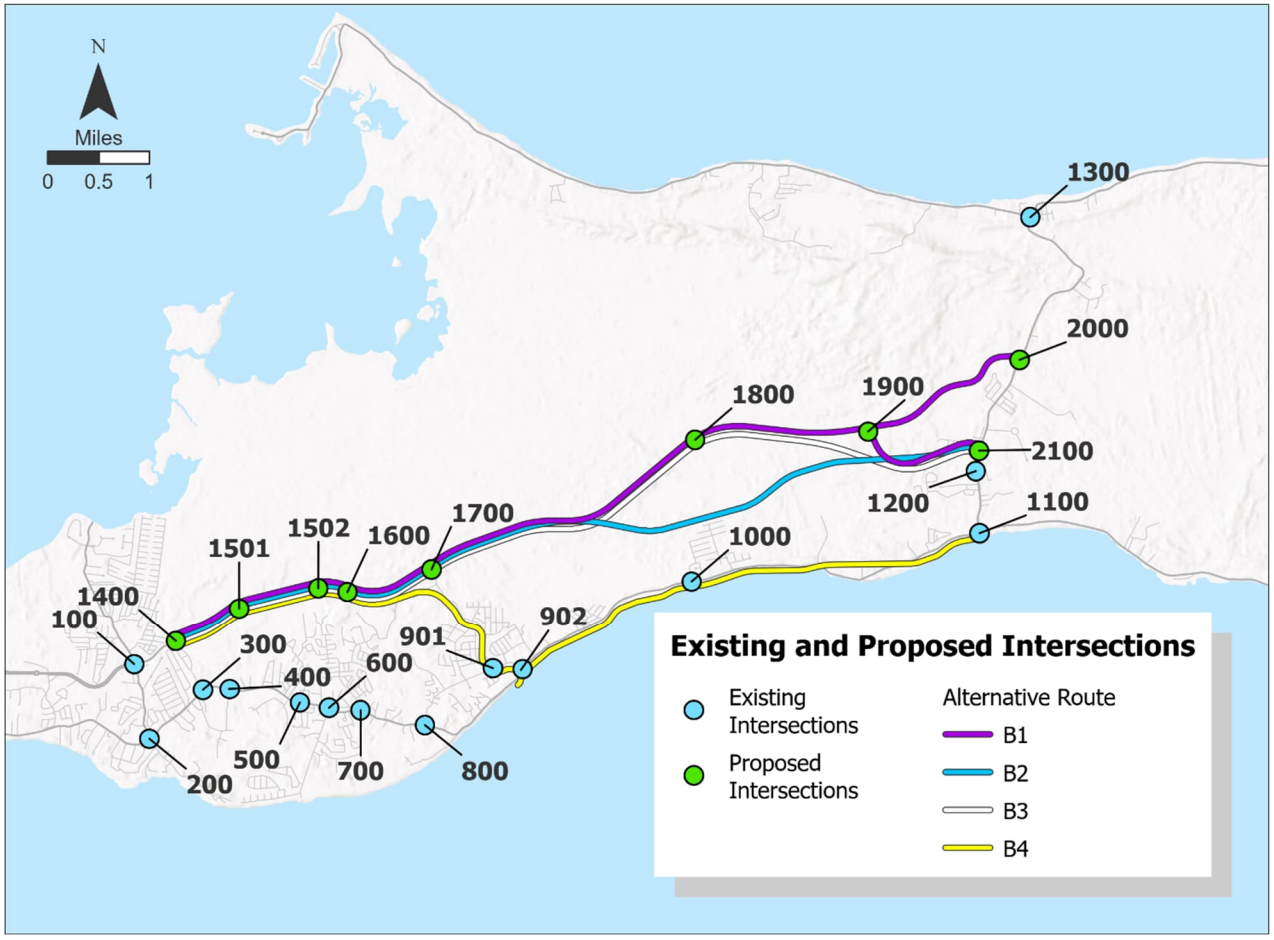

Figure 26: Traffic Analysis Intersections

Figure 26 also shows the proposed Build alternative centerlines, as well as the proposed Build intersections:

- 1400: East West Arterial Boulevard at Agricola Drive Connector
- 1501: East West Arterial Boulevard at Will T Connector 1
- 1502: Shamrock Road at Will T Connector 2
- 1600: East West Arterial Boulevard at Northward Road
- 1700: East West Arterial Boulevard at Lookout Road
- 1800: East West Arterial Boulevard at Long Fellow Road
- 1900: East West Arterial Boulevard at North / South Spurs
- 2000: Frank Sound Road at East West Arterial Boulevard North
- 2100: Frank Sound Road at East West Arterial Boulevard South

Using HCM methodologies, VISTRO reports on delay, which is the amount of time each vehicle will be slowed when moving through an intersection. Delay is first calculated at the individual movement level (left-turn, through, right-turn) for each vehicle, then at approach level (eastbound, westbound, northbound, southbound) for all vehicles on that approach, and then at the overall intersection level.

Delay is then translated into a letter grade known as level of service (LOS). LOS ranges from "A" which indicates excellent operations and minimal delay, to "F" which indicates failing characteristics such as high delay, systemic breakdowns, long queues, or slow travel. LOS results were compiled for all scenarios by intersection (Attachment E).

In some locations, the roadway geometry could not accurately be modeled as a single intersection; for example, Shamrock Road at Hirst Road features a total of three intersections, which accounts for the fact that Shamrock Road splits into two one-way streets, which each intersect with Hirst Road individually. Furthermore, that intersection also features a jughandle configuration, again due to the bifurcation of Shamrock Road. Therefore, there may be additional points on the summary maps; however, in the summary tables, these individual intersections were combined to accurately reflect how the overall intersection operates.

In the study area, all intersections being analyzed are currently under two-way STOP control (TWSC) – wherein the mainline road is free-flow, but the side streets have STOP signs. TWSC intersections do not have an overall LOS, but instead default to the worst approach. **Table 34** below displays the delay thresholds for LOS letter grades for a TWSC intersection. LOS D is considered acceptable operations for traffic analysis.

Table 34: LOS Thresholds for Two-Way STOP Control Intersections per HCM

LOS	Delay (sec)
A	≤ 10
B	≤ 15
C	≤ 25
D	≤ 35
E	≤ 50
F	> 50 or Demand exceeds capacity

Source: HCM 6, Exhibit 20-2 (p. 20-6)

For each alternative, volumes generated by VISUM were compiled at the intersection TMC level for (Attachment D) and provided as Average Daily Traffic (ADT) link volumes (Attachment F).

4.6.1 Future Year 2026

4.6.1.1 No-Build Scenario

Traffic volumes for the 2026 No-Build scenario were input into the proposed No-Build roadway network, as a future year basis for comparison to the Build alternatives. Changes to the No-Build network included the modification of the intersection of East West Arterial Boulevard at Hirst Road to a roundabout, as well as the addition of a new intersection at East West Arterial Boulevard and the new Agricola Drive Connector. **Figure 27** and **Figure 28** below show the results of the AM and PM peak hour for the 2026 No-Build scenario operations.

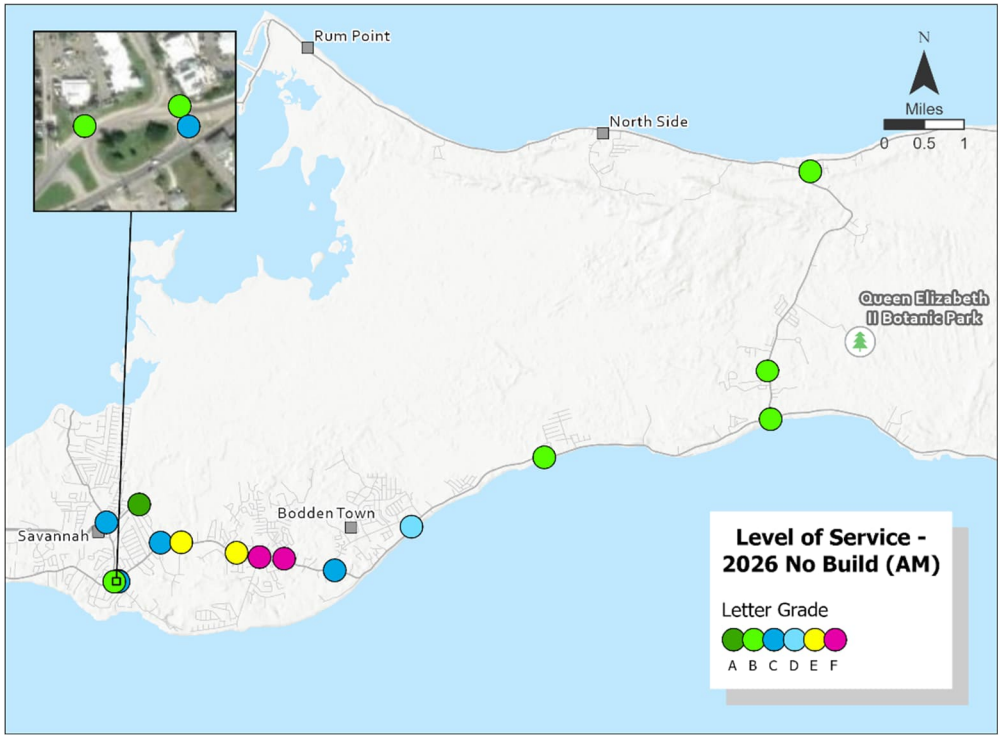

Figure 27: 2026 No-Build Scenario Traffic Operations AM Peak

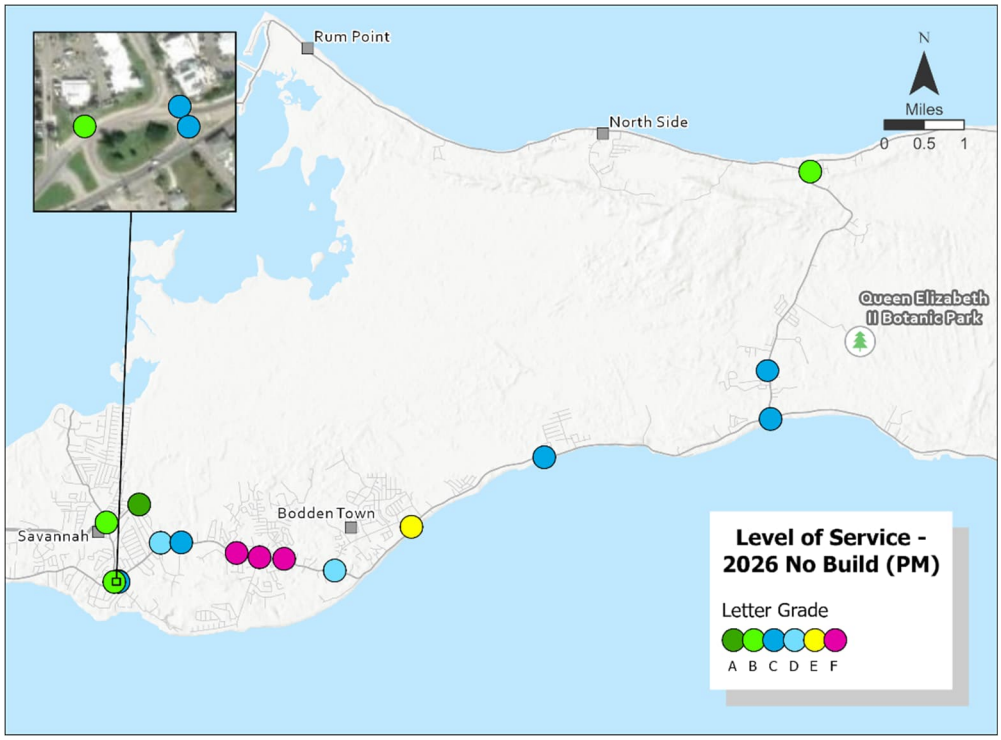

Figure 28: 2026 No-Build Scenario Traffic Operations PM Peak

In the 2026 No-Build scenario, nine intersections operate at LOS D or better in both peak hours; two intersections operate at LOS D or better in one peak hour, but at LOS E/F in the other peak hour; three intersections operate at LOS E/F in both peak hours.

4.6.1.2 Build Alternatives B1 through B4

The 2026 Build alternative volumes generated by VISUM for Alternatives B1 through B4 were compiled at the intersection TMC level (Attachment D).

Traffic volumes for 2026 Build Alternatives B1 through B4 were entered into the respective proposed Build roadway networks. **Figure 29** through **Figure 36** and **Table 35** and **Table 36** show the results of the AM and PM peak hour for 2026 Build Alternatives B1 through B4 operations. Intersection operations denoted with a "-" indicate that that intersection is not present in that alternative.

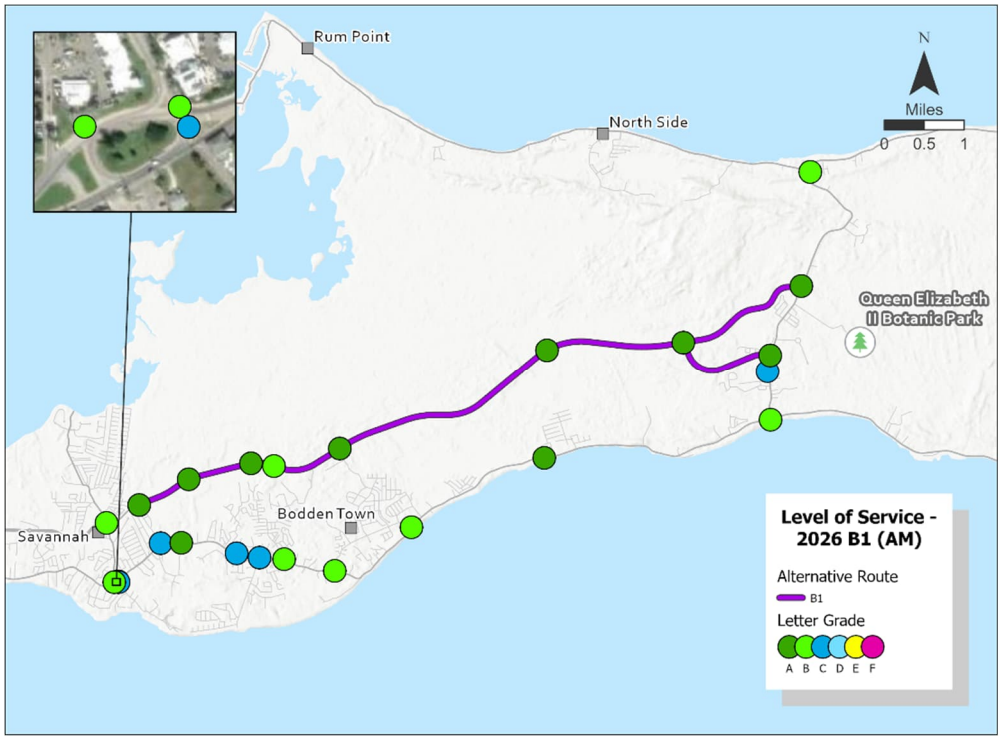

Figure 29: 2026 Build Alternative B1 Traffic Operations AM Peak

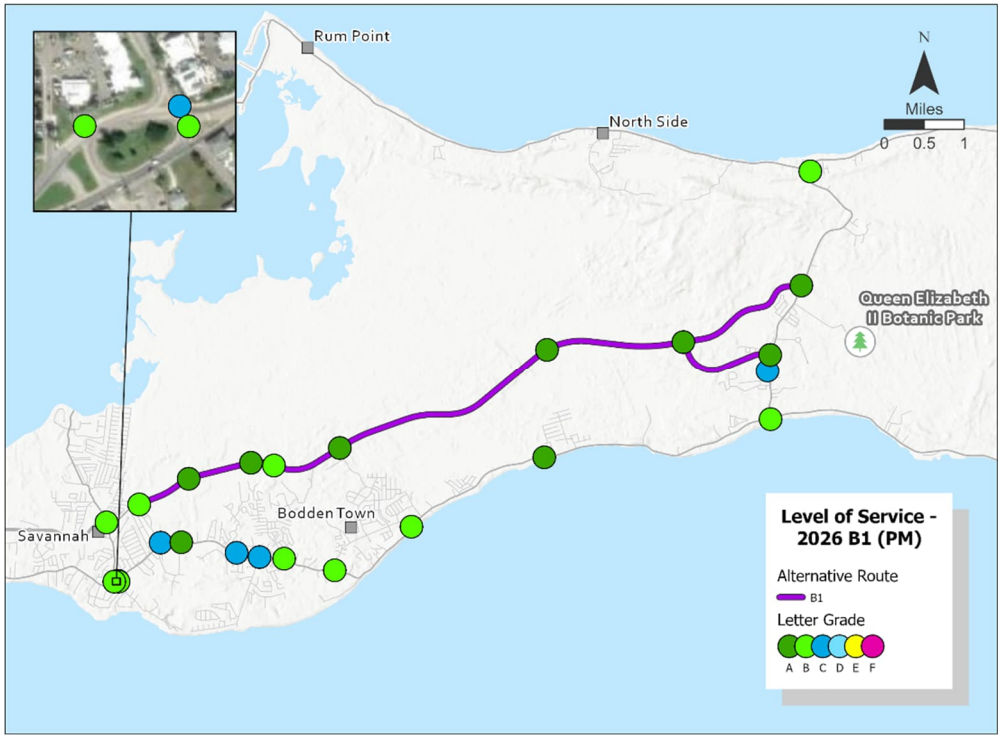

Figure 30: 2026 Build Alternative B1 Traffic Operations PM Peak

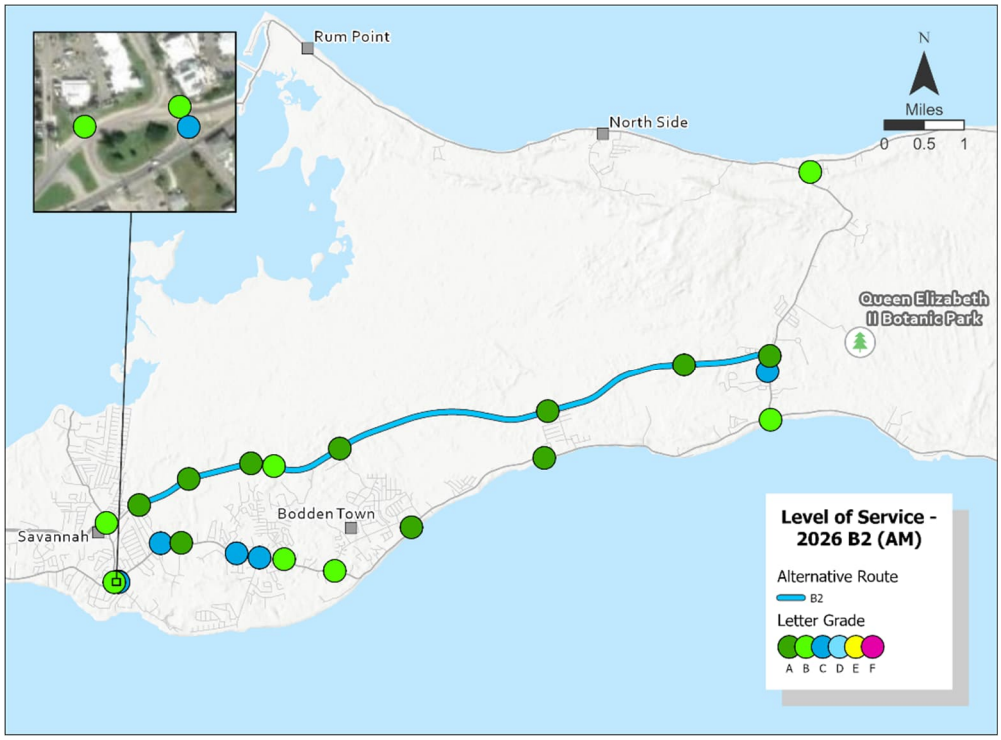

Figure 31: 2026 Build Alternative B2 Traffic Operations AM Peak

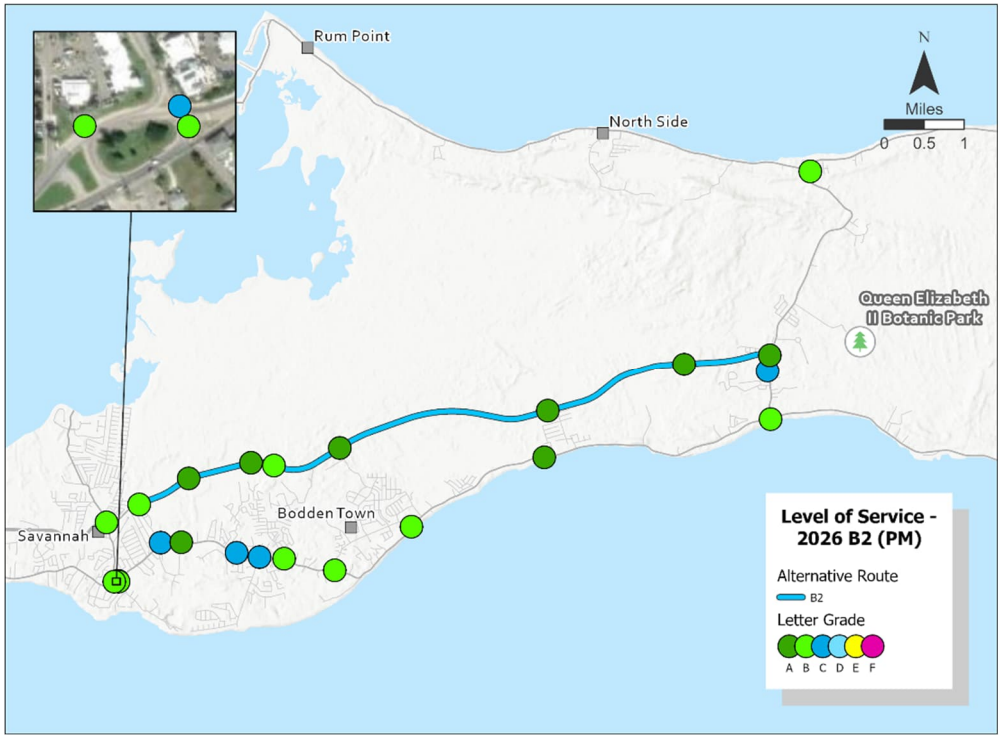

Figure 32: 2026 Build Alternative B2 Traffic Operations PM Peak

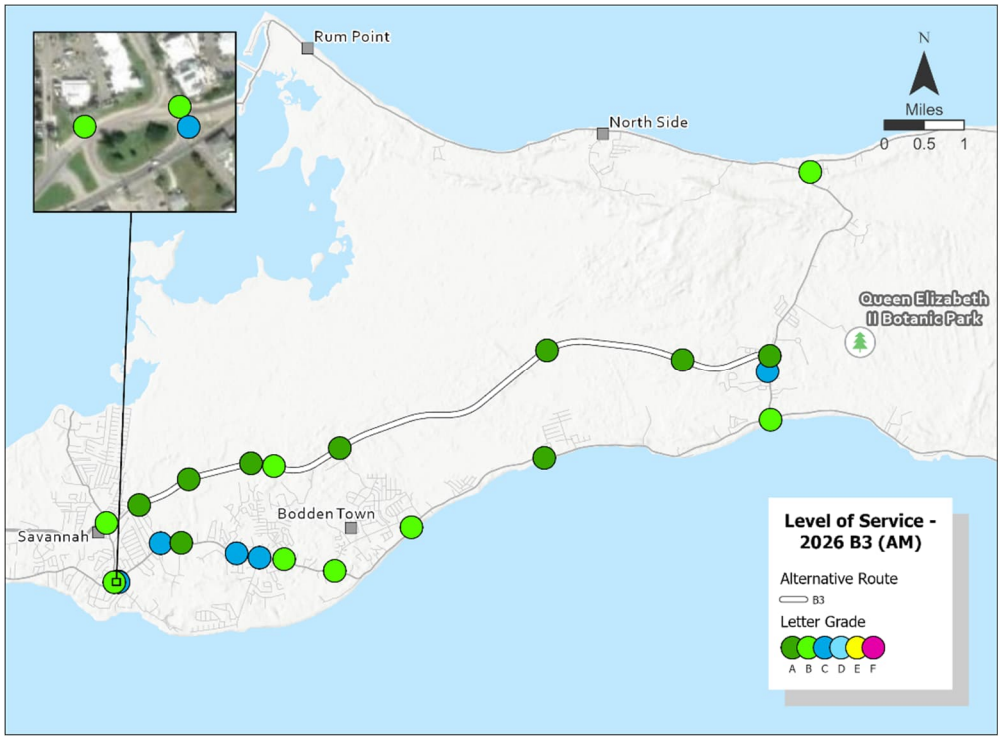

Figure 33: 2026 Build Alternative B3 Traffic Operations AM Peak

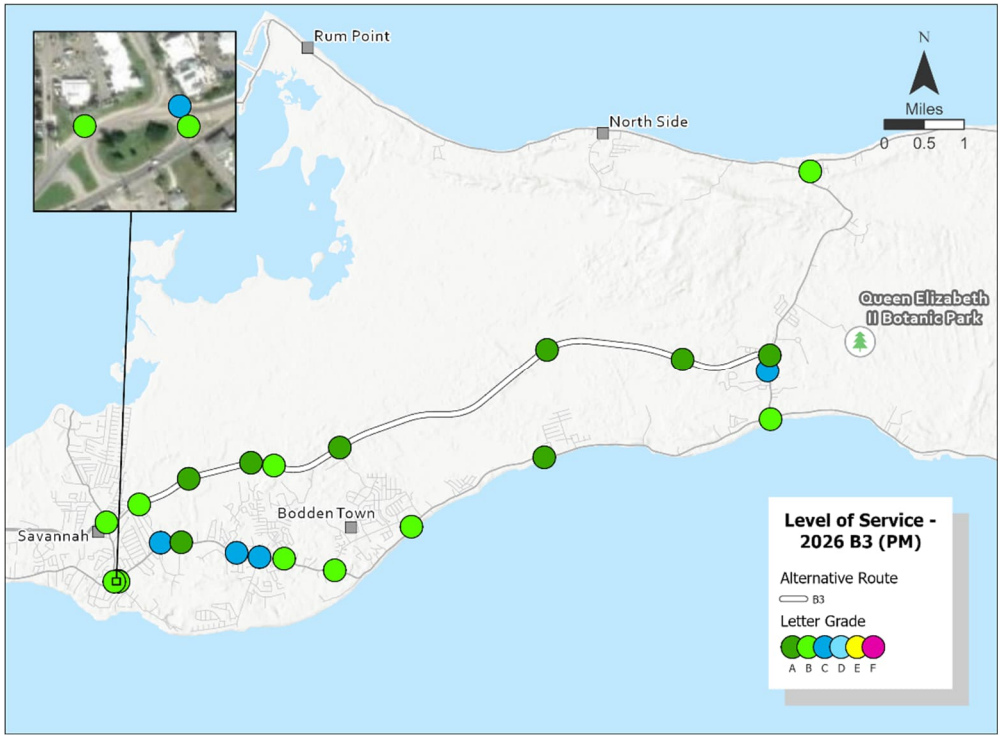

Figure 34: 2026 Build Alternative B3 Traffic Operations PM Peak

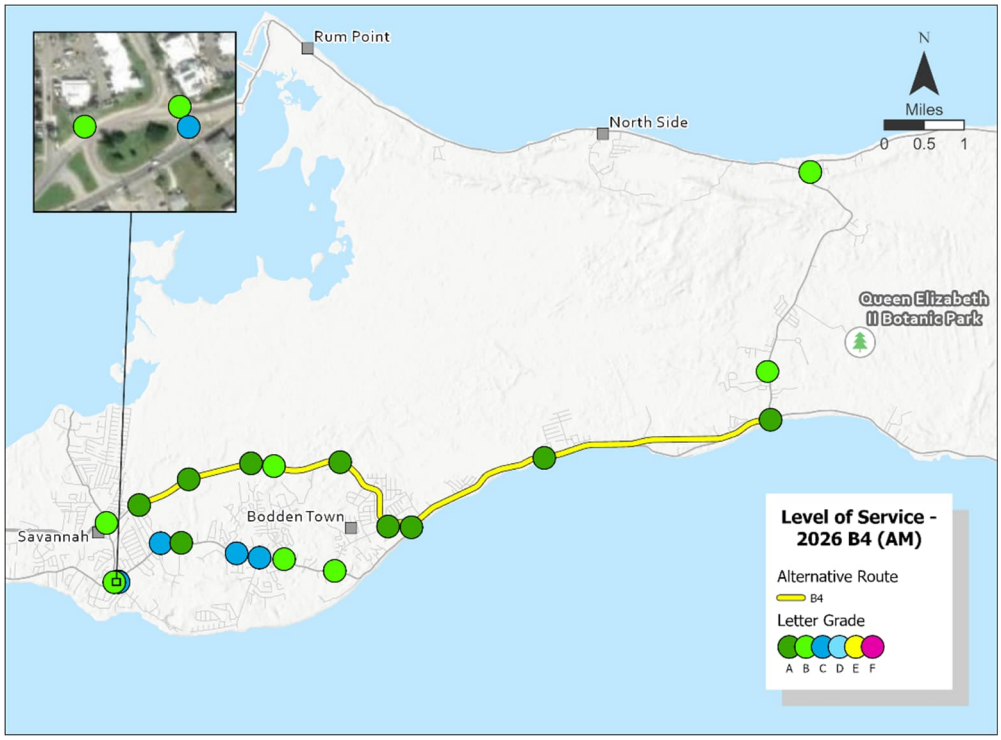

Figure 35: 2026 Build Alternative B4 Traffic Operations AM Peak

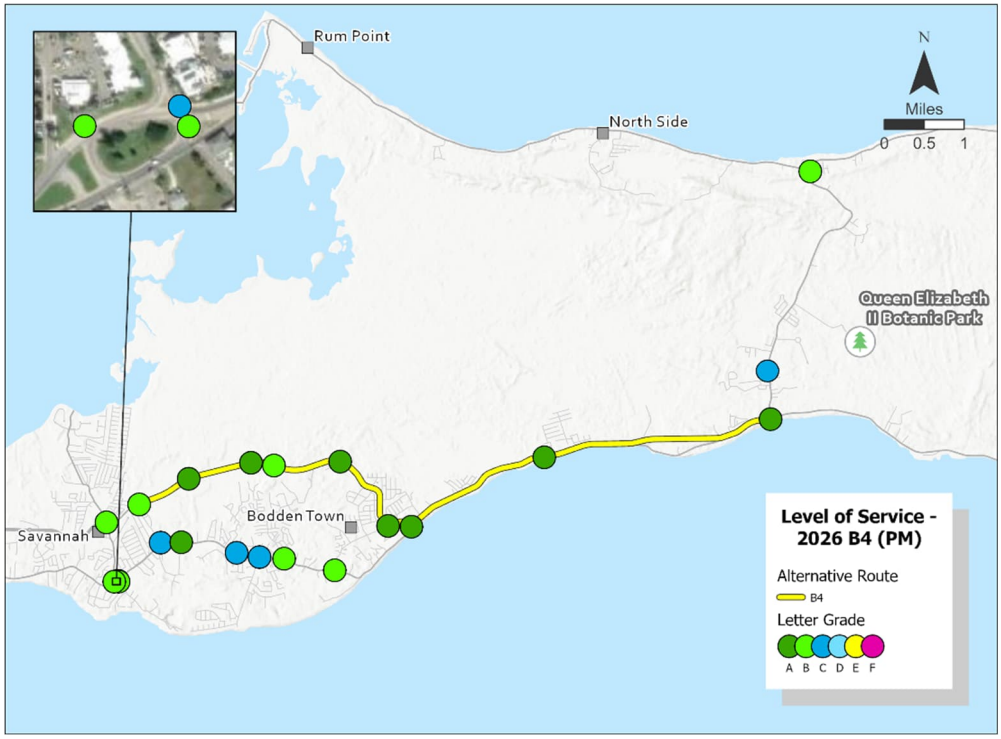

Figure 36: 2026 Build Alternative B4 Traffic Operations PM Peak

Table 35: 2026 Traffic Operations Summary Table Existing Intersections

#	Intersection	Level of Service (AM / PM)				
		2026 NB	2026 B1	2026 B2	2026 B3	2026 B4
100	East West Arterial Blvd at Hirst Rd	C / B	B / B	B / B	B / B	B / B
200	Shamrock Rd at Hirst Rd	C / C	C / C	C / C	C / C	C / C
300	Shamrock Rd at Woodland Ave	C / D	C / C	C / C	C / C	C / C
400	Shamrock Rd at Agricola Dr	E / C	A / A	A / A	A / A	A / A
500	Shamrock Rd at Brightview Dr / Calla Lily Dr	E / F	C / C	B / C	C / C	C / C
600	Shamrock Rd at Beach Bay Rd	F / F	C / C	C / C	C / C	C / C
700	Shamrock Rd at Northward Rd	F / F	B / B	B / B	B / B	B / B
800	Shamrock Rd at Condor Rd	C / D	B / B	B / B	B / B	B / B
901	Lookout Rd at Bodden Town Bypass	-	-	-	-	A / A
902	Bodden Town Rd at Bodden Town Bypass	D / E	B / B	A / B	B / B	A / A
1000	Bodden Town Rd at Long Fellow Dr	B / C	A / A	A / A	A / A	A / A
1100	Bodden Town Rd at Frank Sound Rd	B / C	B / A	B / B	B / B	A / A
1200	Frank Sound Rd at Clifton Hunter HS / East West Arterial	B / C	C / C	C / C	C / C	B / C
1300	Frank Sound Rd at North Side Rd / Old Robin Rd	B / B	B / B	B / B	B / B	A / B

*Table Note: Refer to **Figure 26** for map of intersection locations.*

Table 36: 2026 Traffic Operations Summary Table Proposed Intersections

#	Intersection	Level of Service (AM / PM)				
		2026 NB	2026 B1	2026 B2	2026 B3	2026 B4
1400	**East West Arterial Blvd at Agricola Drive Connector**	A / A	A / B	A / B	A / B	A / B
1501	**East West Arterial Blvd at Will T Connector 1**	-	A / A	A / A	A / A	A / A
1502	**Shamrock Rd at Will T Connector 2**	-	A / A	A / A	A / A	A / A
1600	**East West Arterial Blvd at Northward Rd**	-	B / B	B / B	B / B	B / B
1700	**East West Arterial Blvd at Lookout Rd**	-	A / A	A / A	A / A	A / A
1800	**East West Arterial Blvd at Long Fellow Rd**	-	A / A	A / A	A / A	-
1900	**East West Arterial Blvd at North / South Spurs**	-	A / A	A / A	A / A	-
2000	**Frank Sound Rd at East West Arterial Blvd North**	-	A / A	-	-	-
2100	**Frank Sound Rd at East West Arterial Blvd South**	-	A / A	A / A	A / A	-

*Table Note: Refer to **Figure 26** for map of intersection locations.*

In all Build alternatives, all intersections are anticipated to operate at LOS C or better in both peak hours.

Relative to the 2026 No-Build, the 2026 Build alternatives are expected to improve operations. No failing operations are expected at any location in the network. Operations improve due to the new EWA Extension, which will be a two-lane divided roadway in 2026, as well as the inclusion of roundabouts at all the new Build intersections. The new roadway is expected to pull a large portion of the volume away from the existing roadway, improving operations there, and the new roundabouts will be designed to meet operational acceptability.

All the new roundabouts were designed with minimal footprints to simply match approach and departure roadway characteristics – two lanes entering result in two lanes circulating, for instance – with one exception: the intersection of East West Arterial Boulevard at Hirst Road required one additional westbound through lane, and one additional eastbound left-turn lane.

4.6.2 Future Year 2074

4.6.2.1 No-Build Scenario

Traffic volumes for the 2074 No-Build scenario were input into the proposed No-Build roadway network, as a future year basis for comparison to the Build alternatives. Changes to the No-Build network included the modification of the intersection of East West Arterial Boulevard at Hirst Road to a roundabout, as well as the addition of a new intersection at East West Arterial Boulevard and the new Agricola Drive Connector. **Figure 37** and **Figure 38** show the results of the AM and PM peak hour for the 2074 No-Build scenario operations.

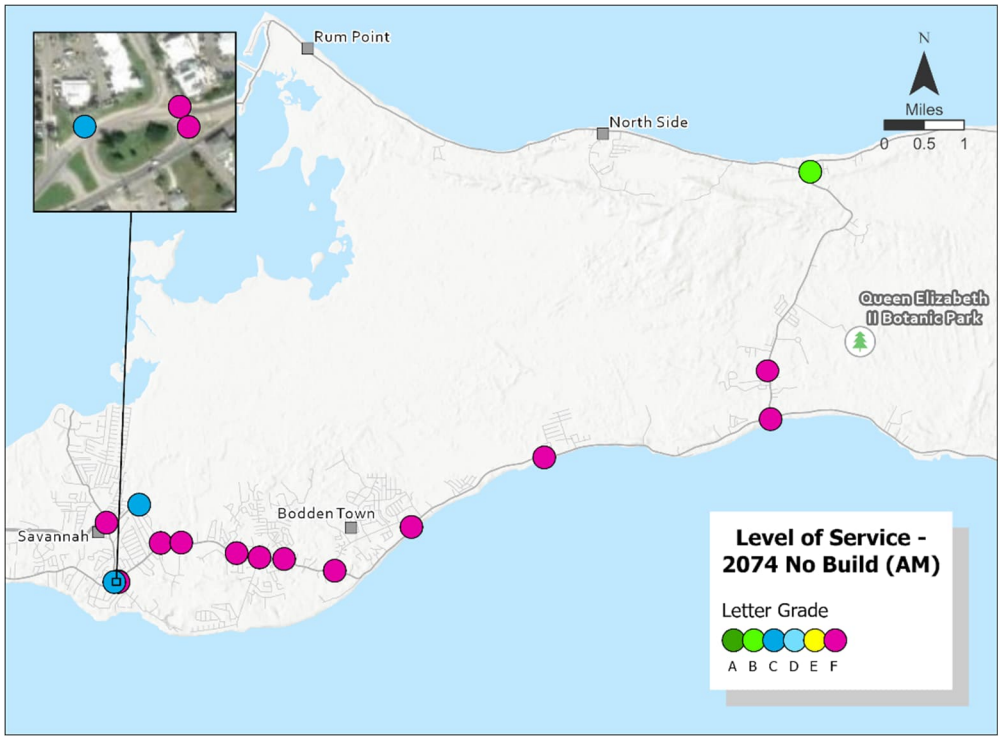

Figure 37: 2074 No-Build Scenario Traffic Operations AM Peak

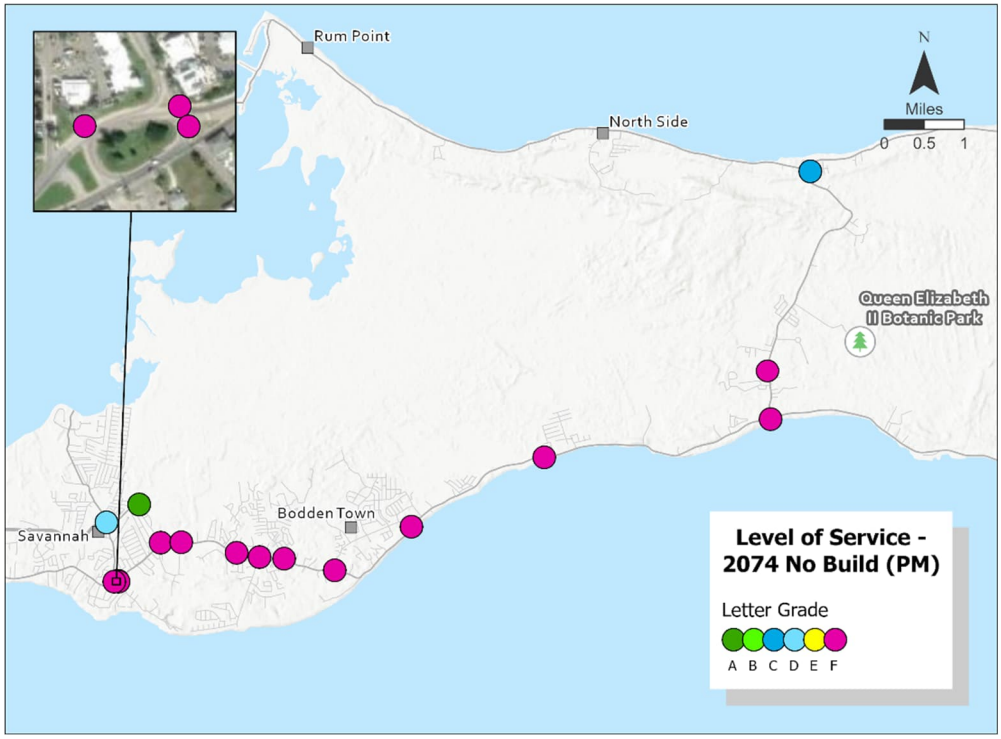

Figure 38: 2074 No-Build Scenario Traffic Operations PM Peak

In the 2074 No-Build scenario, just two intersections are expected to operate at LOS D or better in both peak hours; one intersection is expected to operate at LOS D or better in one peak hour, but at LOS E/F in the other peak hour; 11 intersections are projected to operate at LOS E/F in both peak hours.

Relative to the 2026 No-Build, the 2074 No-Build likely worsens in operations. Even with the improvements along East West Arterial Boulevard at Hirst Road and at the new Agricola Drive Connector, traffic volumes are expected to overwhelm the available capacity on the existing roadway infrastructure. Despite the improvements drawing traffic away from the existing roadway, most intersections are projected to fail in 2074.

4.6.2.2 Build Alternatives B1 through B4

The 2074 Build alternative volumes generated by VISUM for Alternatives B1 through B4 were compiled at the intersection TMC level (Attachment D).

Traffic volumes for 2074 Build Alternatives B1 through B4 were entered into the respective proposed Build roadway networks. **Figure 39** through **Figure 46**, **Table 37,** and **Table 38** show the results of the AM and PM peak hour for 2074 Build Alternatives B1 through B4 operations. Intersection operations denoted with a "-" indicate that that intersection is not present in that alternative.

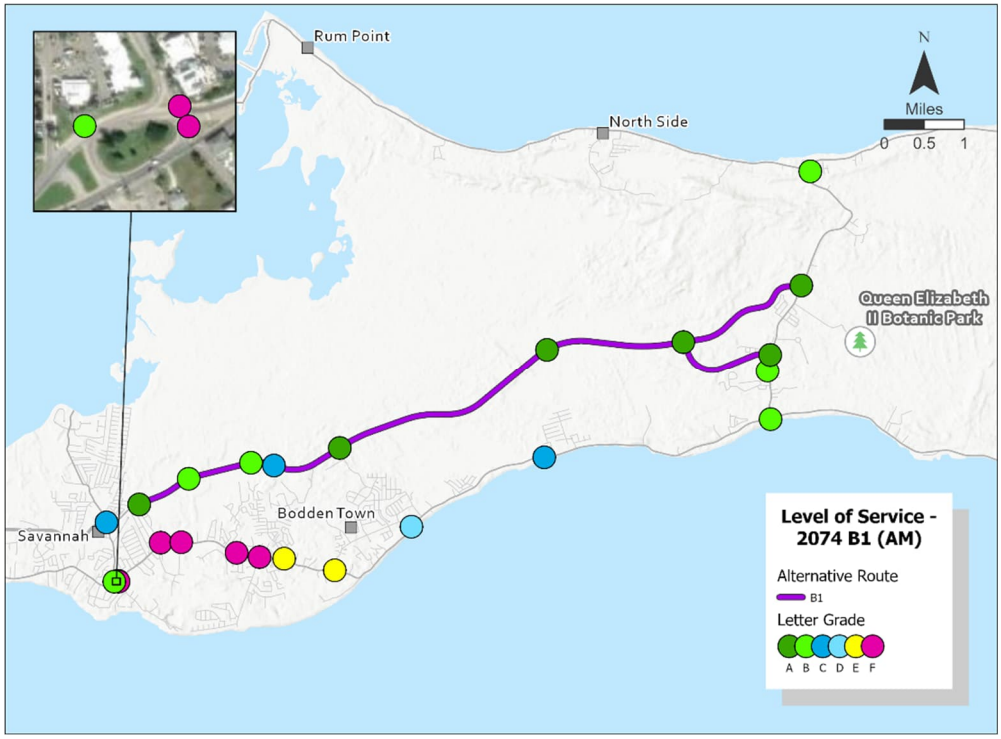

Figure 39: 2074 Build Alternative B1 Traffic Operations AM Peak

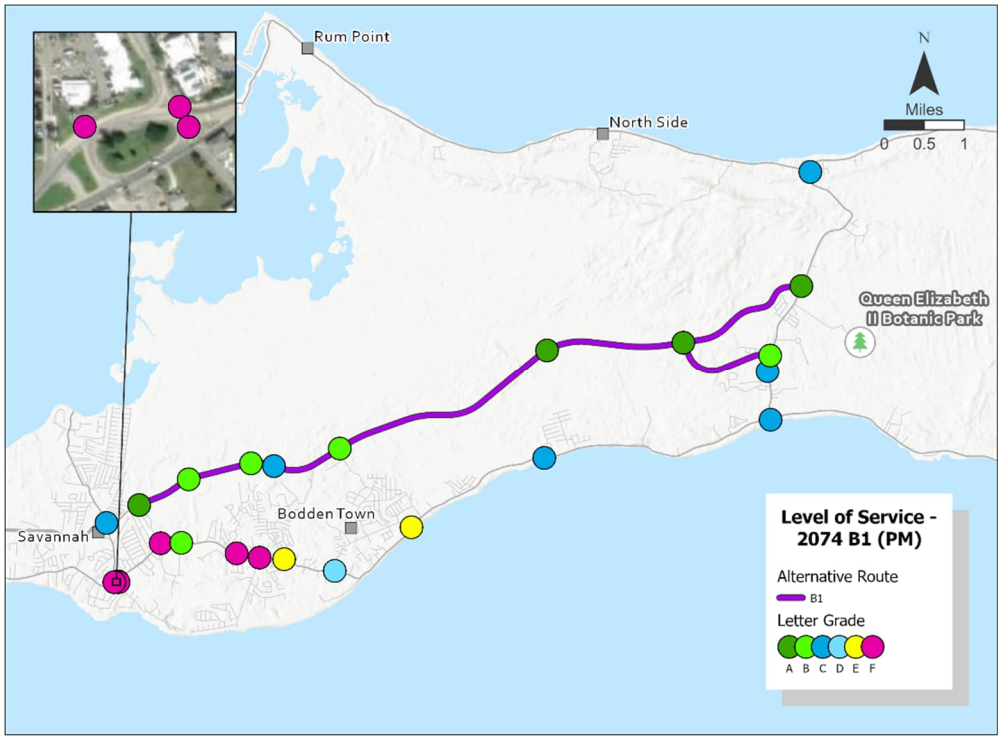

Figure 40: 2074 Build Alternative B1 Traffic Operations PM Peak

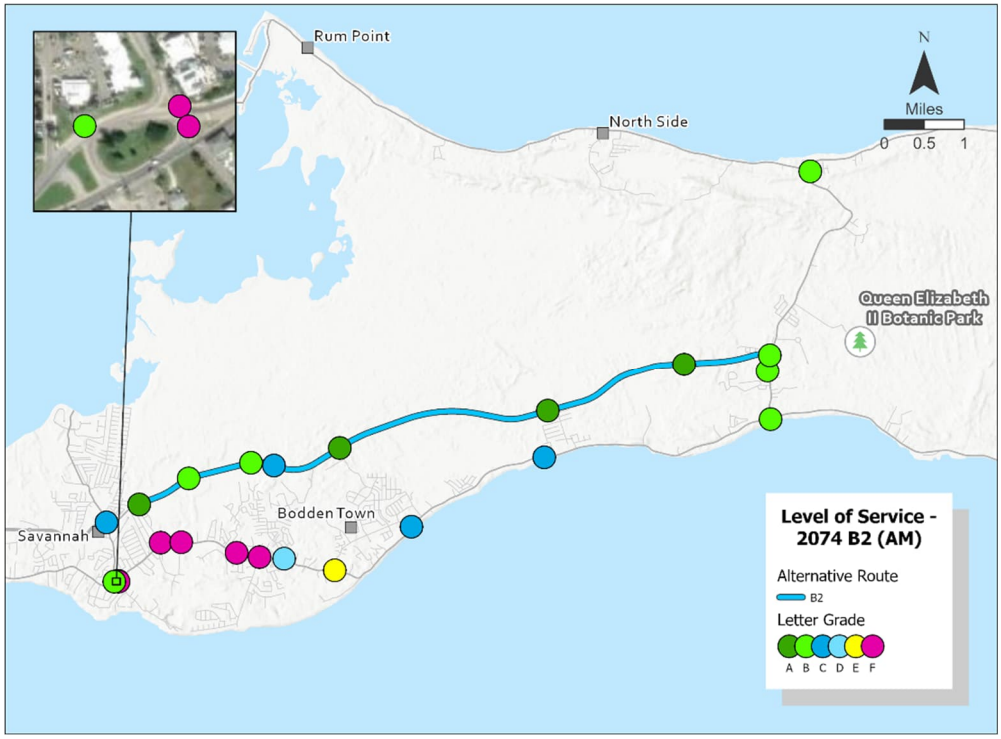

Figure 41: 2074 Build Alternative B2 Traffic Operations AM Peak

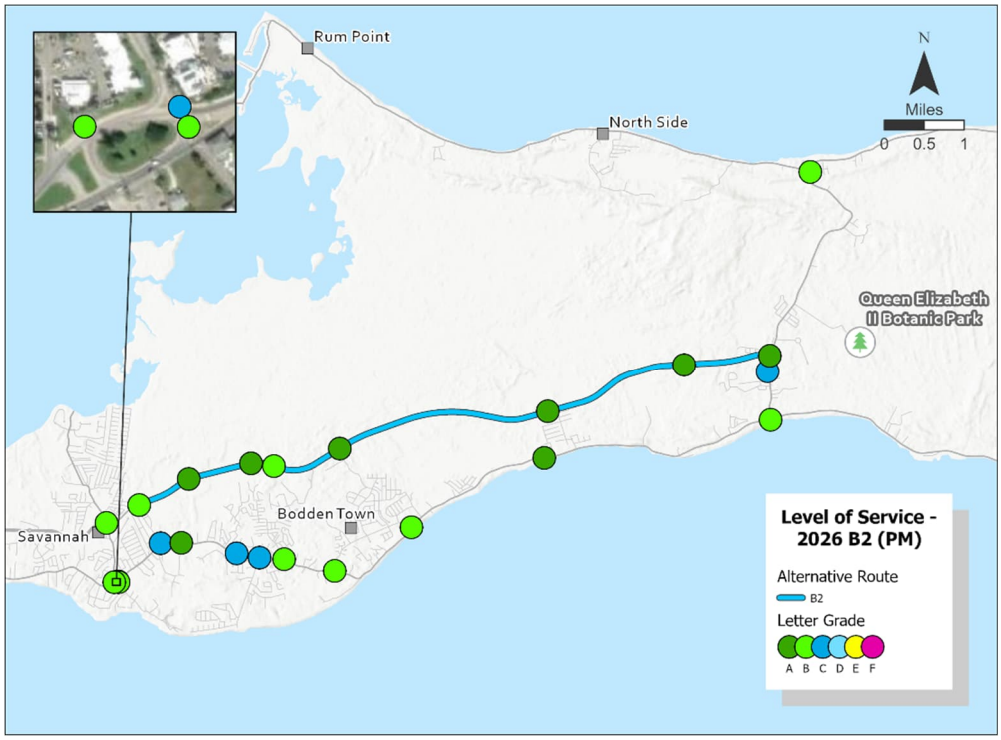

Figure 42: 2074 Build Alternative B2 Traffic Operations PM Peak

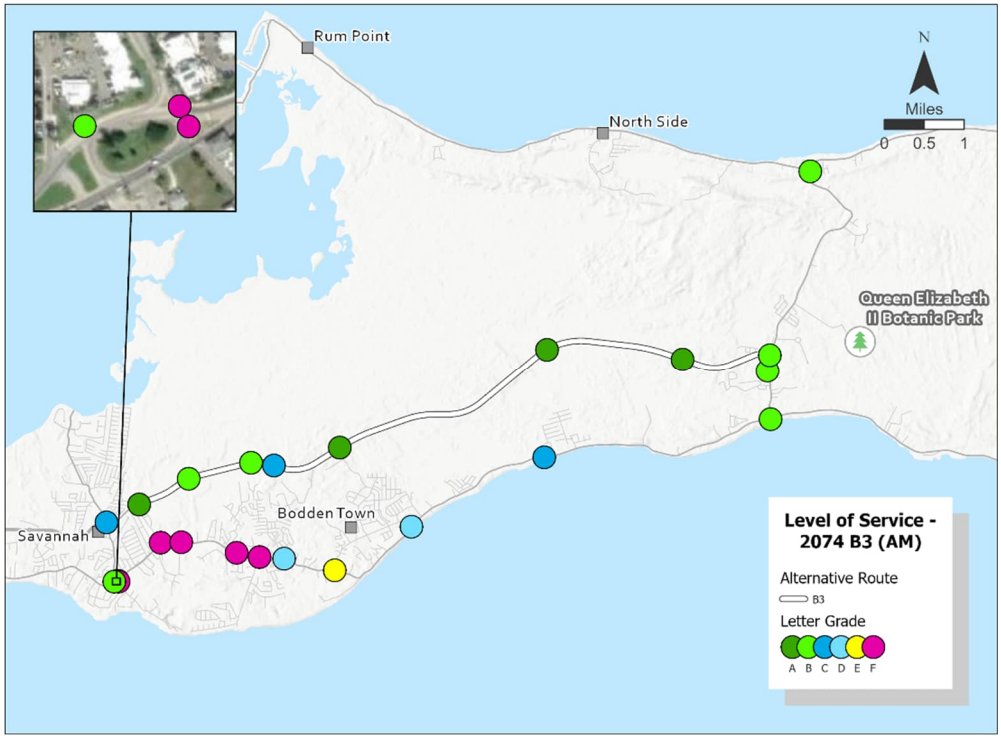

Figure 43: 2074 Build Alternative B3 Traffic Operations AM Peak

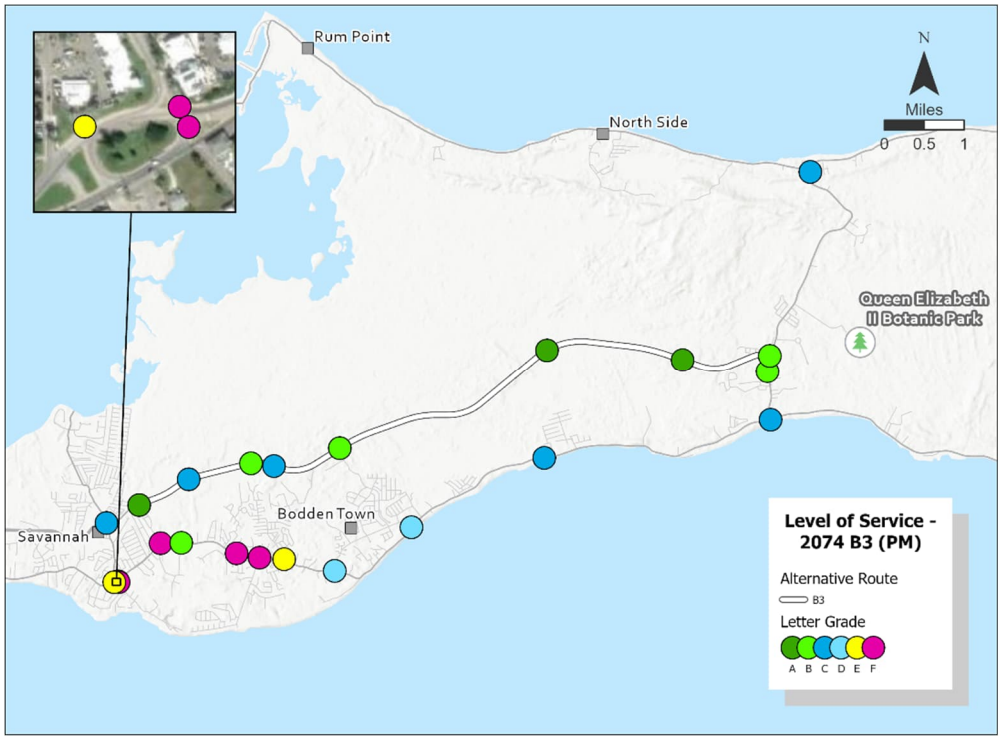

Figure 44: 2074 Build Alternative B3 Traffic Operations PM Peak

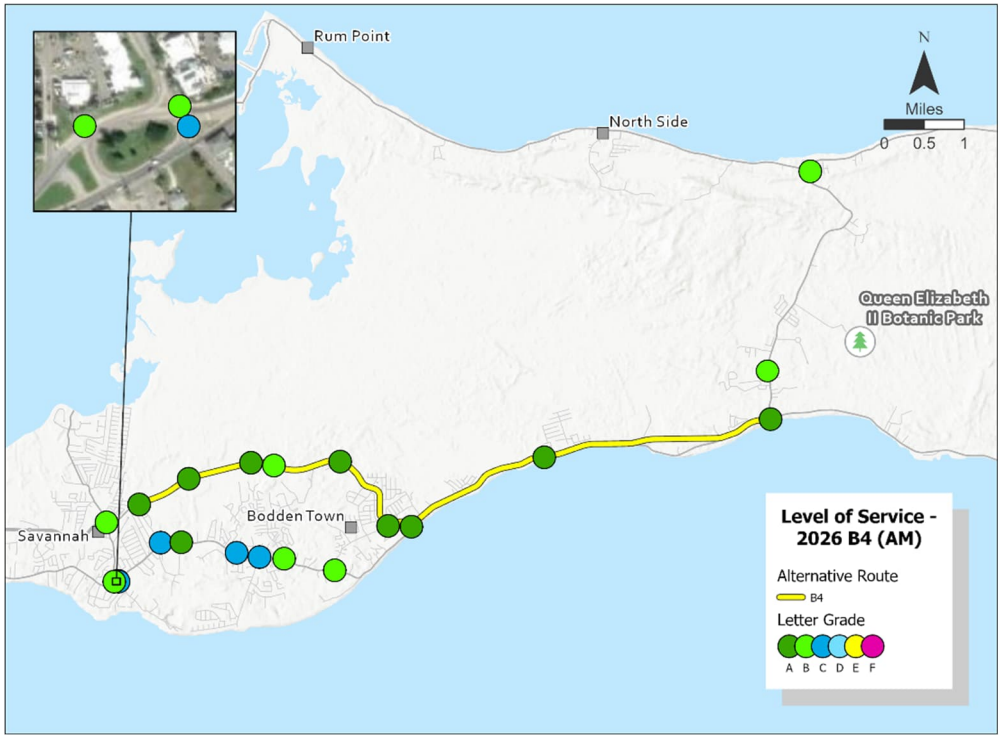

Figure 45: 2074 Build Alternative B4 Traffic Operations AM Peak

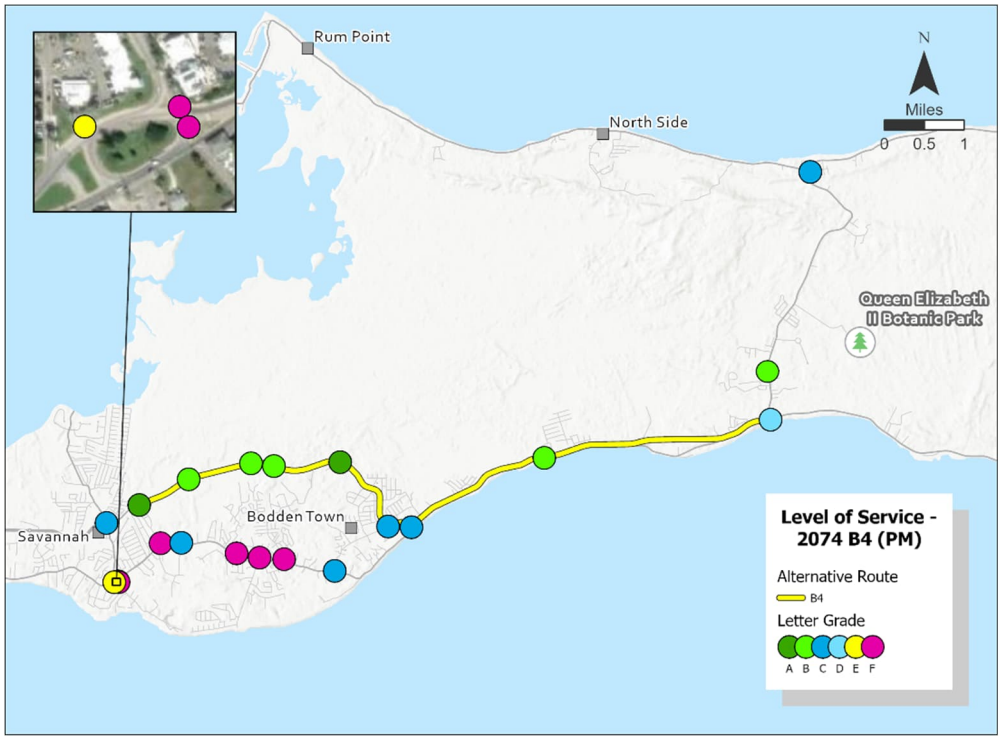

Figure 46: 2074 Build Alternative B4 Traffic Operations PM Peak

Table 37: 2074 Traffic Operations Summary Table Existing Intersections

#	Intersection	Level of Service (AM / PM)				
		2074 NB	2074 B1	2074 B2	2074 B3	2074 B4
100	East West Arterial Blvd at Hirst Rd	F / D	C / C	C / D	C / C	C / C
200	Shamrock Rd at Hirst Rd	F / F	F / F	F / F	F / F	F / F
300	Shamrock Rd at Woodland Ave	F / F	F / F	F / F	F / F	F / F
400	Shamrock Rd at Agricola Dr	F / F	F / B	F / B	F / B	F / C
500	Shamrock Rd at Brightview Dr / Calla Lily Dr	F / F	F / F	F / E	F / F	E / F
600	Shamrock Rd at Beach Bay Rd	F / F	F / F	F / F	F / F	F / F
700	Shamrock Rd at Northward Rd	F / F	E / E	D / D	D / E	D / F
800	Shamrock Rd at Condor Rd	F / F	E / D	E / C	E / D	C / C
901	Lookout Rd at Bodden Town Bypass	-	-	-	-	C / C
902	Bodden Town Rd at Bodden Town Bypass	F / F	D / E	C / D	D / D	C / C
1000	Bodden Town Rd at Long Fellow Dr	F / F	C / C	C / B	C / C	B / B
1100	Bodden Town Rd at Frank Sound Rd	F / F	B / C	B / C	B / C	D / D
1200	Frank Sound Rd at Clifton Hunter HS / East West Arterial	F / F	B / C	B / C	B / B	B / B
1300	Frank Sound Rd at North Side Rd / Old Robin Rd	B / C	B / C	B / C	B / C	B / C

*Table Note: Refer to **Figure 26** for map of intersection locations.*

Table 38: 2074 Traffic Operations Summary Table Proposed Intersections

#	Intersection	Level of Service (AM / PM)				
		2074 NB	2074 B1	2074 B2	2074 B3	2074 B4
1400	East West Arterial Blvd at Agricola Drive Connector	C / A	A / A	A / A	A / A	A / A
1501	East West Arterial Blvd at Will T Connector 1	-	B / B	B / C	B / C	B / B
1502	Shamrock Rd at Will T Connector 2	-	A / B	B / B	B / B	B / A
1600	East West Arterial Blvd at Northward Rd	-	C / C	C / C	C / C	C / B
1700	East West Arterial Blvd at Lookout Rd	-	A / B	A / B	A / B	B / A
1800	East West Arterial Blvd at Long Fellow Rd	-	A / A	A / A	A / A	-
1900	East West Arterial Blvd at North / South Spurs	-	A / A	A / A	A / A	-
2000	Frank Sound Rd at East West Arterial Blvd North	-	A / A	-	-	-
2100	Frank Sound Rd at East West Arterial Blvd South	-	A / B	B / B	B / B	-

*Table Note: Refer to **Figure 26** for map of intersection locations.*

In all Build alternatives, all intersections from Bodden Town Road at Long Fellow Drive and east, including all new Build intersections, are projected to operate at LOS D or better in both peak hours. To the west, intersection operations will likely degrade steadily as volumes increase farther to the west, with all intersections expected to operate with failing LOS in at least one peak hour, and many intersections failing in both peak hours. This is largely due to the nature of TWSC intersections, which do not have an overall intersection LOS, but instead are governed by the worst approach – the STOP-controlled side street. Still, in the future year 2074, the side streets are expected to exhibit exceedingly high delay.

Relative to the 2074 No-Build, the 2074 Build alternatives are expected to improve operations; however, additional improvements will likely be needed throughout the network beyond what was considered for the 2026 Build alternative conditions. These additional improvements are included as part of the 2074 Build alternatives B1, B2, B3, and B4 to maintain operations on par with the 2074 No-Build scenario at existing intersections and to maintain LOS D or better operations at proposed intersections. Descriptions of the 2074 Build network intersection improvements beyond the 2026 Build alternatives are summarized in **Table 39** and **Table 40**.

Table 39: 2074 Build Alternative Additional Improvements for Existing Intersections

#	Intersection	Improvement Needed	2074 B1	2074 B2	2074 B3	2074 B4
100	**East West Arterial Blvd at Hirst Rd**	Conversion to grade-separated interchange	Yes	Yes	Yes	Yes
901	**Lookout Rd at Bodden Town Bypass**	Additional EB through lane	No	No	No	Yes
902	**Bodden Town Rd at Bodden Town Bypass**	Additional EB through lane	No	No	No	Yes
1100	**Bodden Town Rd at Frank Sound Rd**	Conversion to a roundabout	Yes	Yes	Yes	No
		Additional EB left-turn lane	Yes	Yes	Yes	Yes
		Additional WB right-turn lane	Yes	Yes	Yes	Yes
		Additional SB left-turn lane	Yes	Yes	Yes	Yes
1200	**Frank Sound Rd at Clifton Hunter HS / East West Arterial**	Conversion to a roundabout	Yes	Yes	Yes	Yes

*Table Note: Refer to **Figure 26** for map of intersection locations.*

Table 40: 2074 Build Alternative Additional Improvements for Proposed Intersections

#	Intersection	Improvement Needed	2074 B1	2074 B2	2074 B3	2074 B4
1400	**East West Arterial Blvd at Agricola Drive Connector**	Conversion to East West Arterial Blvd overpass with a roundabout	Yes	Yes	Yes	Yes
1501	**East West Arterial Blvd at Will T Connector 1**	Additional NB left-turn lane	Yes	Yes	Yes	Yes
1502	**Shamrock Rd at Will T Connector 2**	Additional NB left-turn lane	Yes	Yes	Yes	Yes
1900	**East West Arterial Blvd at North / South Spurs**	Additional WB through lane	Yes	No	No	No
2100	**Frank Sound Rd at East West Arterial Blvd South**	Restripe EB approach	Yes	Yes	Yes	No
		Additional NB left-turn lane	Yes	Yes	Yes	No
		Additional SB right-turn lane	No	Yes	Yes	No

*Table Note: Refer to **Figure 26** for map of intersection locations.*

When evaluating LOS, future year 2026 is anticipated to operate well, with large-scale infrastructure improvements across the various Build alternatives but minor traffic growth; conversely, future year

2074 is largely operating with the same infrastructure in the study area (**Table 5** through **Table 7, Table 39**, and **Table 40**), but with much more traffic growth. Therefore, future year 2074 was used to determine LOS benefits for each alternative, as it better captures the anticipated delay, congestion, and strain on the roadway network in the future.

To assess the ability to travel locally within Bodden Town and the EWA EIA study area, LOS was examined during both AM and PM peak hours to determine the worst-case peak for each study area intersection; a percentage of intersections operating acceptably at LOS D or better was then calculated for both 2026 and 2074 (**Table 41**). This evaluation considered the conditions of these intersections under the No-Build scenario and the four Build alternatives.

Table 41: Percentage of Intersections Operating at LOS D or Better (2026 and 2074)

% Operating at LOS D or Better	NB	B1	B2	B3	B4
2026: Based on worst-case peak hour (AM or PM)	64%	100%	100%	100%	100%
2074: Based on worst-case peak hour (AM or PM)	14%	64%	71%	67%	68%

Source: Grand Cayman Travel Demand Model & Associated Operational Model

In 2026, the No-Build is expected to have approximately 64% of intersections operating at LOS D or better whereas all Build alternatives are expected to have 100% of intersections operating at LOS D or better based on worst-case peak hour.

In 2074, the No-Build will likely only have approximately 14% of intersections operating acceptably; this indicates that several intersections within the study area are expected to have high delay, systemic breakdowns, long queues, and/or slow travel. All Build alternatives are anticipated to have at least 64% of intersections operating acceptably at LOS D or better, with Alternative B2 operating the best at approximately 71% based on the worst-case peak hour. The existing intersections expected to show the most improvement in operations include those at and east of Bodden Town Road at Anton Bodden Road Town Bypass (intersection 902 in **Figure 39**). The number of people using these intersections is projected to be more than 10,000 per day by 2074, therefore each Build alternative receives a score of “Large Beneficial.”

Table 42 below summarizes the 2074 LOS benefits for based on the degree of improvement anticipated in each alternative: “Large beneficial” (at least 60% of intersections operate LOS D or better in both peak hours), “Moderate beneficial (40 to 60% of intersections), “Slight beneficial” (20 to 40% of intersections), or “Neutral” (less than 20% of intersections).

Table 42: Level of Service Evaluation Summary Table

	No-Build	B1	B2	B3	B4
Level of Service	Neutral*	Large Beneficial	Large Beneficial	Large Beneficial	Large Beneficial

*Table note: The No-Build scenario is rated "Neutral" because it serves as the baseline for comparison against the Build alternatives, but the No-Build represents an anticipated degradation in traffic operations along the existing roadway as traffic volumes continue to grow under future conditions.

No-Build: Under No-Build conditions, traffic operations will likely worsen on the already-congested existing roadway due to growing traffic volumes and lack of intersection improvements or additional lane capacity. Only 14% of intersections in the No-Build scenario are anticipated to operate at LOS D or better in both peak hours in 2074, so it is deemed to have a "Neutral" impact as it is below the 20% threshold as noted in **Table 4**, and therefore does not meet the critical success factors. Because the No-Build scenario is the baseline comparison to the Build alternatives, it is ranked as "Neutral."

Alternatives B1, B2, B3, and B4: At least 64% of intersections in all four Build alternatives are anticipated to operate at LOS D or better in both peak hours in 2074, with all proposed intersections projected to operate at LOS D or better with intersection improvements that are inherent with each alternative. Therefore, all four Build alternatives will have a "Large Beneficial" impact by improving delay and level of service as they are above the 60% threshold as noted in **Table 4**.

4.6.3 Roadway Conflict Points

As discussed in the Longlist Evaluation, dated September 6, 2023, a desired benefit of new roadway alignments included the reduction of cross-street intersections on the primary east-west corridor, and the reduction of driveway access points on the primary east-west corridor. Conflict points occur when two objects (e.g., vehicle/vehicle, pedestrian/pedestrian, vehicle/pedestrian, etc.) try to occupy the same space at the same time. As stated in the AASHTO publication *A Policy on Geometric Design of Highways and Streets*, "Elimination or minimization of crossing and turning conflicts can be very effective in reducing crash frequency, especially at intersections." More access points (e.g., cross-street intersections and driveways) along a roadway create more conflict points as vehicles enter and exit the roadway. People travelling along a corridor create opportunities for crashes at these conflict points, so roadways with higher traffic volumes result in more potential for conflicts.

As shown below in **Table 43**, the No-Build scenario does not reduce the number of driveway access points along the primary east-west corridor. Alternatives B1, B2, and B3 are all expected to reduce the number of driveway access points by at least 75%, and Alternative B4 is expected to reduce the number of driveway access points by 25-50%.

Table 43: Cross Street Intersection and Driveway Access Points Comparison

	No-Build	B1	B2	B3	B4
Cross Street Intersection Reduction	No reduction	75-100% reduction	75-100% reduction	75-100% reduction	50-75% reduction
Driveway Access Point Reduction	No reduction	75-100% reduction	75-100% reduction	75-100% reduction	25-50% reduction

Table 44 summarizes the qualitative impact on conflict points based on the degree of improvement offered by each alternative: "Large beneficial" (reduces the number of cross-street intersections and driveway access points along the primary east-west corridor by at least 75%), "Moderate beneficial (reduces by 50 to 75%), "Slight beneficial" (reduces by 25 to 50%), or "Neutral" (reduces by less than 25%).

Table 44: Roadway Conflict Points Evaluation Summary Table

	No-Build	B1	B2	B3	B4
Conflict Points	Neutral	Large Beneficial	Large Beneficial	Large Beneficial	Slight Beneficial

No-Build: The No-Build scenario does not reduce conflict points along the primary east-west corridor, so it is deemed to have a "Neutral" impact. Because the No-Build scenario is the baseline comparison to the Build alternatives, it is ranked as "Neutral."

Alternatives B1, B2, and B3: These Build alternatives are anticipated to have a "Large Beneficial" impact on reducing conflict points, decreasing the number of conflict points and driveway access points by at least 75%. As part of their new alignments, Alternative B1, B2 and B3 will only provide a handful of cross-street intersections which will all be roundabouts or left-in/left-out access, with additional access to neighborhoods and other destinations from those cross-streets. While these three alternatives would not reduce the number of conflict points on the existing Shamrock Road/Bodden Town Road, traffic diversions to the new parallel route will reduce the traffic volume on the existing roads, and therefore provide a more efficient route for through-traffic. This reduction of traffic on the existing Shamrock Road/Bodden Town Road will also result in fewer potential conflicts.

Alternative B4: Build Alternative B4 is anticipated to have a "Slight Beneficial" impact on reducing conflict points, as it is expected to decrease the number of conflict points by up to 75% but is only expected to reduce driveway access points by up to 50%. Alternative B4 only provides fewer conflict points for its new alignment to Lookout Road Connector; from there, it rejoins the existing Bodden Town Road centerline, resulting in a higher amount of both cross-streets and driveway access points.

4.7 Safety

Build Alternatives B1 through B4 will each provide safety improvements to the current state of travel to and from the east end. Today, drivers utilize Shamrock Road, Bodden Town Road, and Frank Sound Road to traverse the island. Those facilities are all two-lane, undivided roadways, with speed

limits as high as 50 miles per hour (MPH). High-speed travel with vehicles traveling in opposite directions just feet apart is an inherently unsafe design, further compounded by the amount of cross-streets and driveways found throughout the roadway network. With traffic volumes that are high today and projected to increase in the future, motorists can become frustrated and aggressive, further reducing road safety.

The Royal Cayman Islands Police Service (RCIPS) provided a compilation of motor vehicle accident statistics in Grand Cayman by district from 2012 to 2022, as well as a list of road fatalities from 2018 to 2020. However, this data was insufficient to conduct a detailed quantitative safety analysis for this project.

The US Federal Highway Administration (FHWA) has developed crash modification factors (CMFs) to determine how well various improvements affect crashes. The methodology behind the development of any CMF is to compare the number of crashes at a given location before and after the improvement was implemented. In this way, a CMF can be calculated that will give a potential reduction in crashes, though every situation is different, with slightly different roadway geometries and driver characteristics. Nevertheless, CMFs are an excellent way to gauge how well a roadway improvement will improve safety and are a key component of any Highway Safety Manual (HSM) analysis. The HSM uses a technical approach to quantify safety impacts when planning roadways, or when evaluating operations, design, or maintenance. However, due to limited crash data availability, a qualitative discussion of CMFs (Attachment G) can help to provide some insights into potential crash reductions as a result of the Build alternatives being implemented.

The new EWA Extension, regardless of alternative, will be a safer facility for all road users. The new facility will be a divided roadway, which removes the possibility of high-speed vehicles traveling in opposite directions from crashing with each other, hence preventing or eliminating head-on collisions. CMFs suggest that adding a median barrier can reduce crashes by over 80%. The new road will be context-sensitive and will seek to minimize its footprint but will be designed with anticipated traffic volumes in mind. The number of lanes constructed along the EWA will be added in phases based on the forecasted traffic growth and the anticipated capacity needed to operate acceptably based on HCM thresholds. Where volumes are projected to exceed capacity of a two-lane road, the EWA will be constructed as a four-lane facility, which will double the capacity of the roadway and reduce driver frustration. CMFs indicate that doubling a road from two to four lanes could reduce crashes by over 60%.

Another key feature of the new roadway is the limitation of cross-streets and driveway access points. As discussed previously, only a small number of cross-streets will be allowed to intersect with the new extension, creating a “limited access” roadway. True limited access roadways, such as freeways, are only accessible via interchanges, which are typically spaced several miles apart. The extension will seek to utilize only a handful of cross streets, which will then feed into other local roads, thus reducing friction on the extension. Similarly, driveways will be kept to a minimum on the extension. When needed, U-turn locations will be added to avoid vehicles having to traverse several miles in the wrong direction to the next cross street before backtracking to their destination. This access control will enhance safety by reducing friction points along the extension. CMFs show that the absence of access points could reduce crashes by over 40%.

For non-vehicular traffic, such as pedestrians and bicyclists, the extension will also be a safety boon. Sidewalks will be included, which will provide a physically separated facility that non-motorized road users can utilize. CMFs suggest that installing a sidewalk may lead to a reduction in crashes of over 40%. Today, no such facilities exist along the roadway network, and at times shoulder widths are so small that pedestrians and bicyclists must use the outside edge of the traveled way; not only does this present a risk of being struck by a vehicle traveling in the same direction, but it also causes vehicles to shy away from the shoulder, toward the roadway centerline and toward oncoming traffic.

At the intersection level, the installation of roundabouts will result in safer operations. Roundabouts require all vehicles to yield, including the mainline movements. Today, the mainline movements are free flow, with side streets operating under STOP control. Side street traffic must, therefore, wait for an acceptable gap in traffic to enter the mainline, or, as delay increases and drivers become more frustrated, accept smaller gaps until they are darting out and cutting off mainline traffic. Having all vehicles pause before entering an intersection provides an opportunity for all approaching vehicles to enter the intersection safely. CMFs vary on the specifics of the roundabout – one lane circulating versus multiple lanes circulating – but they show a decrease in crashes of anywhere from 5% to 70%, depending on the local context.

Lastly, and as previously discussed, adding a parallel route to the existing east-west road will more than double the existing capacity for vehicles to move from one end of the island to the other. Noting that the new facility will have more lanes, reduced access points, a median divider, and sidewalks, it is expected that a large portion of the existing traffic will be rerouted onto that facility. This has the secondary benefit of reducing the amount of traffic on the existing roadways. While there will still be a fairly high number of cross streets and driveways on the existing roadways, the mainline free-flow volume will be substantially lower, reducing friction and allowing side-street traffic to enter the roadway network with less delay and frustration.

While all the alternatives offer improvements as discussed, Alternatives B1, B2 and B3 offer more safety improvements. They reduce conflict points for the full length of the EWA Extension, with fewer chances for vehicles to cross paths. The new alignments will feature a median with a full barrier, as well as dedicated transit and bicycle/pedestrian facilities. All new intersections on the new alignments will be roundabouts, which are safer than STOP controlled intersections. By comparison, Alternative B4 only offers a new alignment to Lookout Road Connector before it rejoins the existing coastal roadway; therefore, the number of conflict points is greater than the other alternatives. Alternative B4 will provide mountable curb and bicycle facilities, but without any buffer. Lastly, Alternative B4 retains many existing STOP-controlled intersections.

Table 45 below summarizes the safety benefits based on the degree of improvement offered by each alternative: “Large beneficial” (consists of 100% of new roadway with median barrier and multimodal facilities, and 100% roundabouts on new intersections), “Moderate beneficial” (consists of 75-99% of new roadway with median barrier and multimodal facilities, and at least 75-99% roundabouts on new intersections), “Slight beneficial” (consists of 1-74% of new roadway with median barrier and multimodal facilities, and at least 1-74% roundabouts on new intersections), or “Neutral” (consists of no new roadway with median barrier and multimodal facilities, and no new roundabouts on new intersections).

Table 45: Safety Evaluation Summary Table

	No-Build	B1	B2	B3	B4
Safety	Neutral*	Large Beneficial	Large Beneficial	Large Beneficial	Moderate Beneficial

*Table note: The No-Build scenario is rated "Neutral" because it serves as the baseline for comparison against the Build alternatives, but the No-Build represents a degradation in safety conditions as future traffic volumes are projected to grow along the existing two-lane undivided roadway. The No-Build does not satisfy the CSF to improve safety.

No-Build: The No-Build scenario does not improve safety because it maintains the existing two-lane undivided roadway, which poses additional safety risks due to high speeds, numerous cross-streets, and lack of multimodal facilities. As traffic volumes continue to increase under future conditions, safety will further deteriorate in the absence of improvements such as a median barrier, multimodal facilities, or intersection improvements. Therefore, No-Build is deemed to have a "Neutral" impact, as noted in **Table 4**, and therefore does not meet the critical success factors.

Alternatives B1, B2, and B3: These Build alternatives are anticipated to have a "Large Beneficial" impact on improving safety by reducing conflict points for the full length of the EWA Extension, resulting in fewer chances for vehicles to cross paths. The new alignments will feature a median with a full barrier, as well as dedicated transit and bicycle/pedestrian facilities. All new intersections on the new alignments will be roundabouts, which are safer than STOP-controlled intersections, meeting the threshold as noted in **Table 4**.

Alternative B4: Build Alternative B4 is anticipated to have a "Moderate Beneficial" impact on improving safety, as it only offers a new alignment to Lookout Road Connector before it rejoins the existing coastal roadway, resulting in a greater number of conflict points than the other alternatives. Alternative B4 will provide mountable curb and bicycle facilities, but without any buffer. Lastly, Alternative B4 retains many existing STOP-controlled intersections.

4.8 Multimodal Access

An important aspect of the EWA is the potential accessibility improvement for all modes of travel, including for pedestrians, bicyclists, and micromobility, which refer to any small, low-speed (typically less than 30 miles per hour), electric-powered transportation devices such as electric bikes or electric scooters. By providing amenities such as sidewalks, micromobility paths, and separate bus lanes, the EWA will improve access and mobility for all populations, including those who do not own personal vehicles.

Under existing conditions, Shamrock Road and Bodden Town Road often experience vehicular traffic congestion but lack consistent provision of sidewalks to protect pedestrians; **Figure 47**, taken in July 2023 during midday travel conditions, illustrates this lack of sidewalk and/or bicycle facilities as well as inconsistent shoulder provisions on either side of Bodden Town Road, near Frank Sound Road. Pedestrians and bicyclists are forced to share the road with cars, creating unsafe conditions for all users and demonstrating a need for separated pedestrian and bicycle facilities. The following sections will discuss anticipated improvements for walk, bicycle, and micromobility accessibility.



Figure 47: Bodden Town Road near Frank Sound Road looking west (July 2023 – Midday)

4.8.1 Bicycle Level of Traffic Stress

Level of Traffic Stress (LTS) is a performance measure that ranks how suitable roadway facilities are for bicycle access. LTS considers bicycle infrastructure alongside traffic volume, traffic speeds, and number of lanes. Each facility is ranked on a scale of 1 to 4, with 1 being the most suitable for bicycle access and 4 being the least, as shown in **Figure 48**.

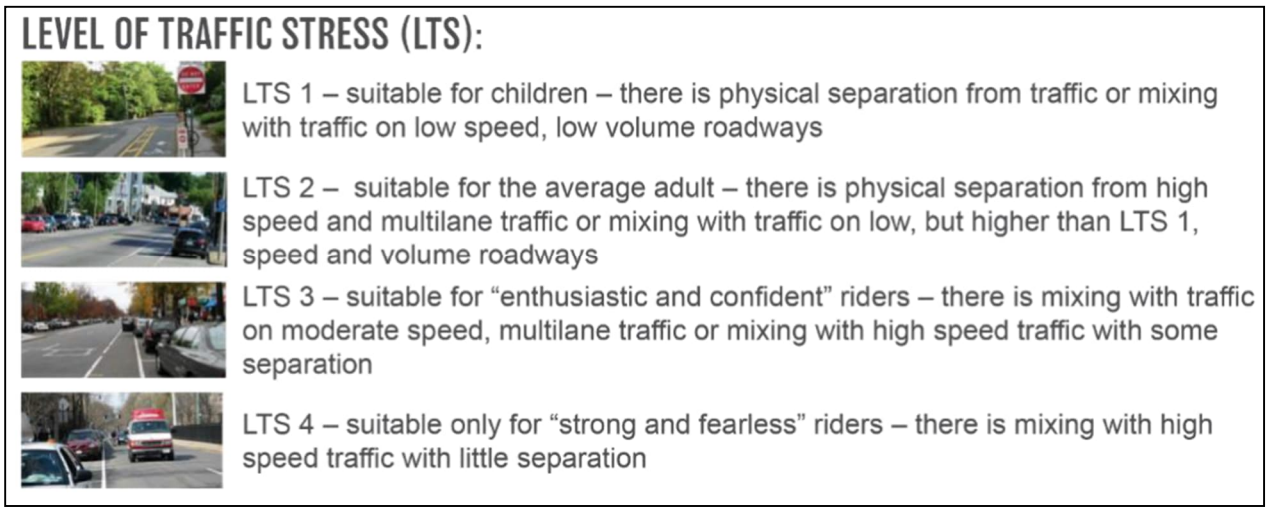

Figure 48: Bicycle Level of Traffic Stress Definitions

Source: Furth & Putta (2016), *Visualizing and Measuring Low-Stress Bicycle Network Connectivity in Delaware*

The study area was evaluated for LTS under existing conditions, as shown in **Figure 49**. Under existing conditions, Hirst Road, Shamrock Road, Bodden Town Road, and Frank Sound Road are classified as LTS 3 or 4 due to a combination of high speeds, high volumes, and lack of bicycle facilities.

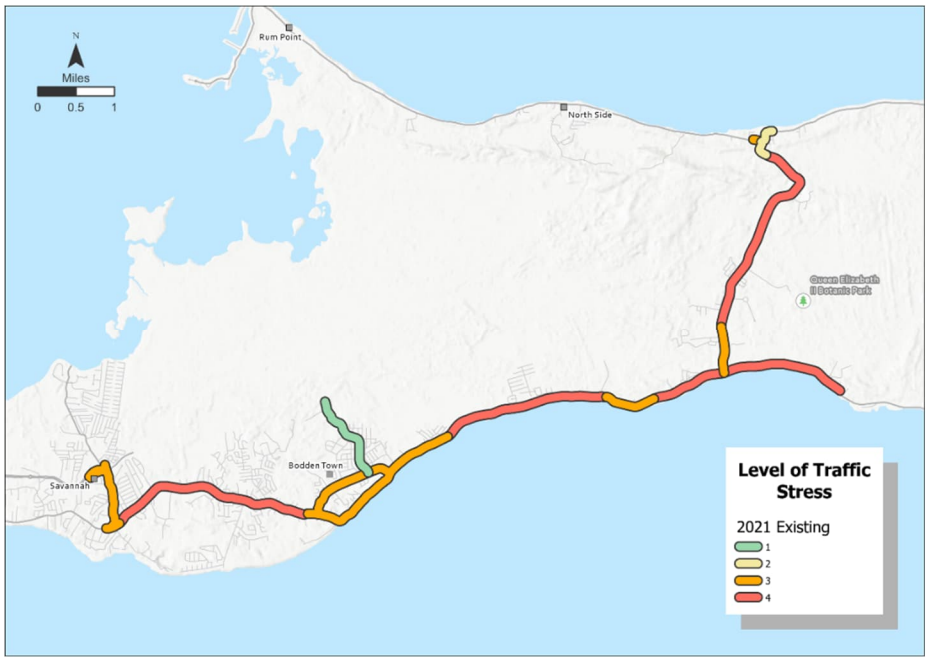

Figure 49: Bicycle Level of Traffic Stress – 2021 Base Year Conditions

Bicycle facilities including bike lanes, sidewalks, and micromobility paths will be constructed for the Build alternatives as follows:

- By 2026, five-foot-wide bike lanes will be constructed along Shamrock Road between Lookout Road and Frank Sound Road as part of Alternative B4.
- By 2036, sidewalks, multi-use paths and micromobility paths will be constructed along the EWA between Hirst Road and Lookout Road for Build alternatives B1, B2, B3, and B4.
- By 2046, sidewalks, multi-use paths and micromobility paths will be constructed along the EWA between Hirst Road and Frank Sound Road for Build alternatives B1, B2, and B3.

LTS is shown for the 2074 No-Build and Build alternatives in **Figure 50**. When separated micromobility paths are installed, the EWA will become a LTS 1 facility, significantly improving bicycle access between Hirst Road and Frank Sound Road for Alternatives B1, B2, and B3. In contrast, Alternative B4 provides a narrow bike lane without any separated bike facilities, so long stretches of the proposed four-lane coastal road between Lookout Road and Frank Sound Road will remain LTS 4 due to high speeds, projected high volumes, and a narrow bike lane.

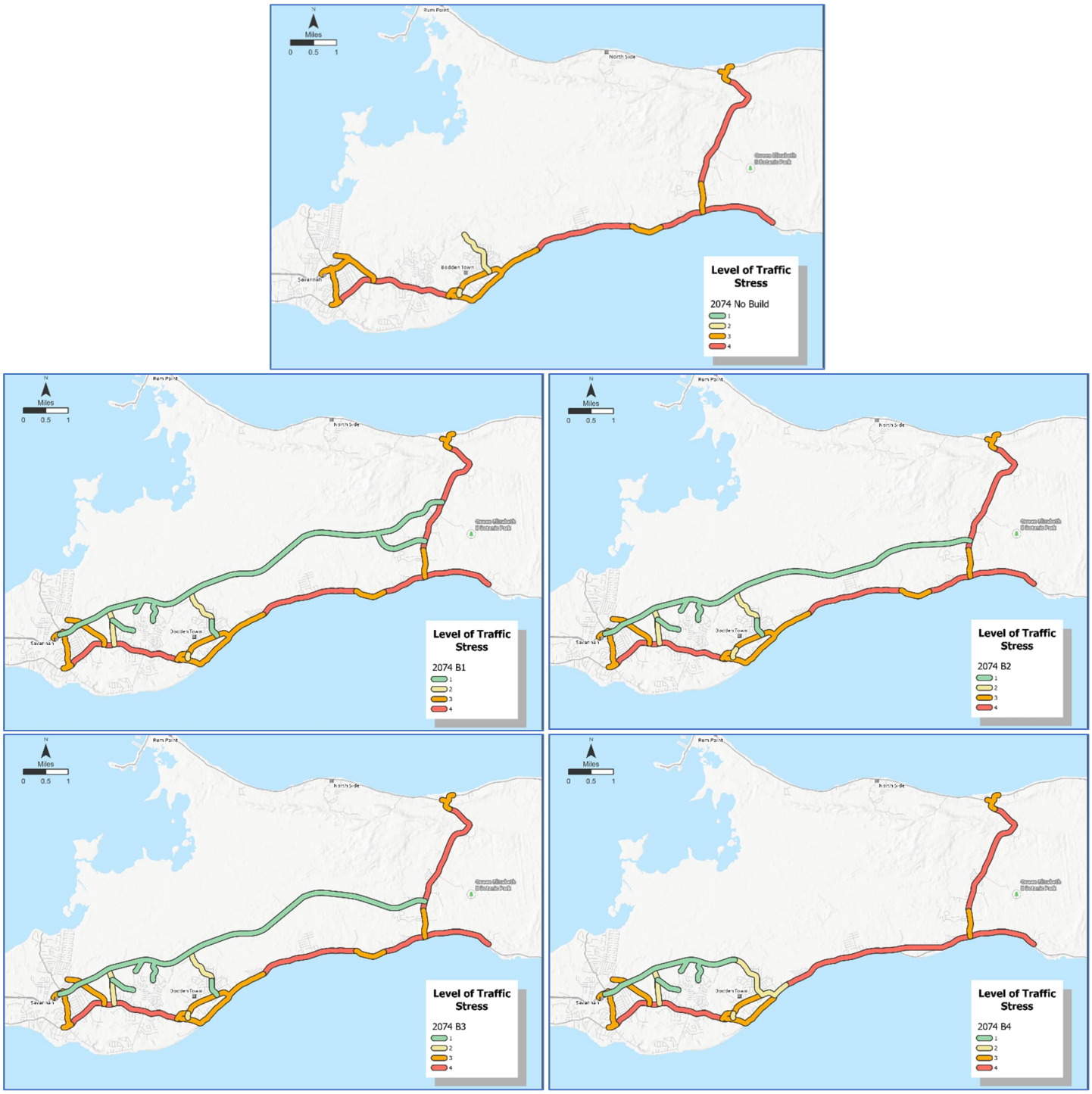

Figure 50: Bicycle Level of Traffic Stress – 2074 No-Build and Build Alternatives
From top, left to right: No-Build, B1, B2, B3, B4
Figure note: Bodden Town Road segments are shown as LTS 3 in the No-Build scenario and Build Alternatives B1, B2, and B3 due to stretches of reduced speed limits (see **Figure 4**). For Build Alternative B4, Bodden Town Road degrades to LTS 4 due to increased speed limits, increased daily traffic volumes, and lack of physically separated bike lanes.

Table 46 provides a qualitative assessment of bicycle LTS based on the degree of improvement anticipated for each alternative: "Large beneficial" (100% connection between Woodland Drive and Frank Sound Road using bicycle facilities with LTS 1 or 2), "Moderate beneficial (75 to 99% LTS 1 or 2 connection), "Slight beneficial" (1 to 74% LTS 1 or 2 connection), or "Neutral" (no new bicycle facility connection of LTS 1 or 2).

Table 46: Bicycle Level of Traffic Stress Evaluation Summary Table

	No-Build	B1	B2	B3	B4
Bicycle Level of Traffic Stress	Neutral*	Large Beneficial	Large Beneficial	Large Beneficial	Slight Beneficial

*Table note: The No-Build scenario is rated "Neutral" because it serves as the baseline for comparison against the Build alternatives, but the No-Build represents a degradation in LTS because traffic volumes are projected to increase along existing roads that lack any pedestrian/bicycle facilities The No-Build does not satisfy the CSF to accommodate safe pedestrian/bicycle travel.

No-Build: The No-Build scenario does not provide bicycle facilities of LTS 1 or 2 to connect Woodland Drive and Frank Sound Road, nor does it improve LTS along any existing roadways. Therefore, the No-Build scenario does not satisfy the CSF to provide multimodal access. The No-Build serves as the baseline for comparison against the Build alternatives, so the impact is determined to be "Neutral."

Alternatives B1, B2, and B3: Under these three Build alternatives, the full limits (100%) of the EWA between Hirst Road and Frank Sound Road will become a LTS 1 facility by 2046, providing separated sidewalks and multi-use paths for bikes and other micromobility modes of travel. All three alternatives would provide a LTS 1 facility to connect residential neighborhoods located between Frank Sound Road and Hirst Road, so they are ranked as a "Large Beneficial" impact.

Alternative B4: Alternative B4 would provide separated sidewalks and multi-use paths along the EWA between Hirst Road and Lookout Road, providing a LTS 1 facility along less than 50% of the distance between Woodland Drive and Frank Sound Road. East of Lookout Road, Bodden Town Road will likely degrade to LTS 4 due to increased speed limits, increased daily traffic volumes, and lack of physically separated bike paths, so it is determined to have "Slight Beneficial" impact.

4.8.2 Non-Vehicular Access

Accessibility for pedestrians, bicycles, and micromobility modes can be evaluated by determining how many people would have access to various locations using these modes of travel. Micromobility refers to any small, low-speed (typically less than 30 MPH) electric-powered transportation devices such as electric bikes/scooters. To assess the impact of the Build alternatives on non-vehicular accessibility, particular consideration was given to the following locations (**Figure 51**), which were selected to represent community centres that many eastern residents would need or desire access to:

- The Mastic Trail southern trailhead, which is situated in the Mastic Reserve near Frank Sound Road and provides access to one of Grand Cayman's natural heritage sites.
- The Valu-Med Pharmacy located on Anton Bodden Drive in Bodden Town.
- Clifton Hunter High School located on Frank Sound Road.

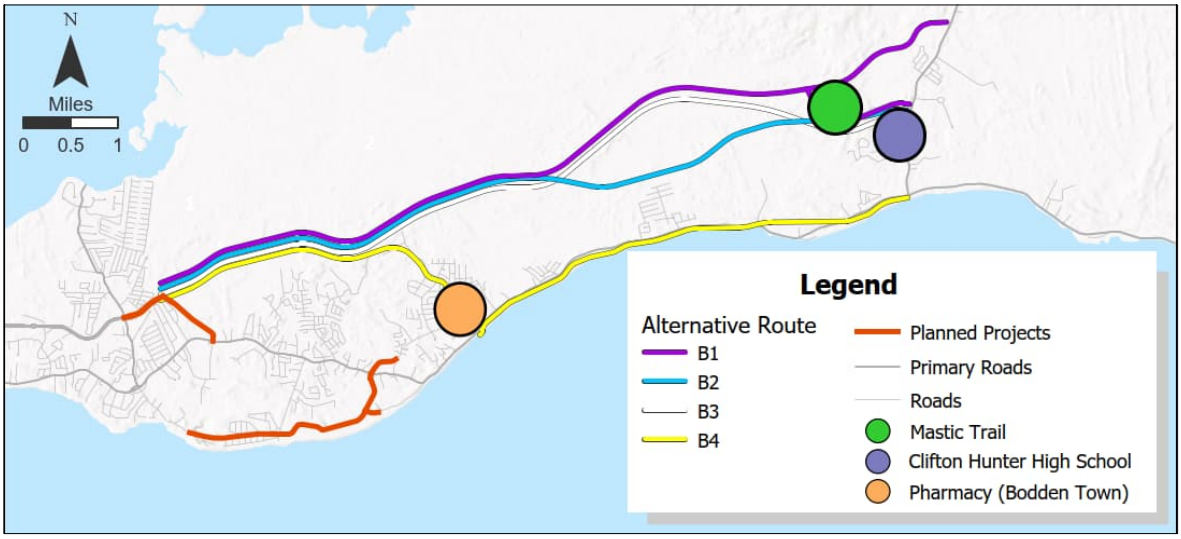

Figure 51: Location of Mastic Trail, High School, and Pharmacy

Access to these three locations was evaluated for walk, bicycle, and micromobility modes based on the following criteria:

- Walk accessibility evaluates how long it would take to walk to each location using only sidewalks, trails, or LTS 1 facilities.
- Bicycle accessibility evaluates how long it would take to bike to each location using only LTS 1 or LTS 2 facilities.
- Micromobility accessibility evaluates how long it would take to travel using a micromobility vehicle (such as electric bikes or electric scooters) to each location using only LTS 1 or LTS 2 facilities.

As shown in **Figure 52**, **Figure 53**, and **Figure 54** access to these points of interest was evaluated by determining the projected 2074 population that would be able to reach these locations within a 30-minute walk, bike, or micromobility commute. These locations are each accessible via the proposed EWA alignment, so access likely significantly improves for Build Alternatives B1, B2, and B3. Meanwhile, Alternative B4 is expected to improve access to the Bodden Town pharmacy but not access to the Mastic Trail or Clifton Hunter High School because the EWA would terminate at Lookout Road, providing no additional LTS 1 or 2 pedestrian/bicycle connectivity to these community centres along the coastal road between Lookout Road and Frank Sound Road.

For each alternative, the anticipated population that would receive access to these points of interest via LTS 1 or 2 within a 30-minute walk, bike, or micromobility trip was calculated across all three destinations and three modes of transport. This average population was used to determine the percent of total eastern district residents in Bodden Town, North Side, and East End who would have potential access to these destinations (**Table 47**).

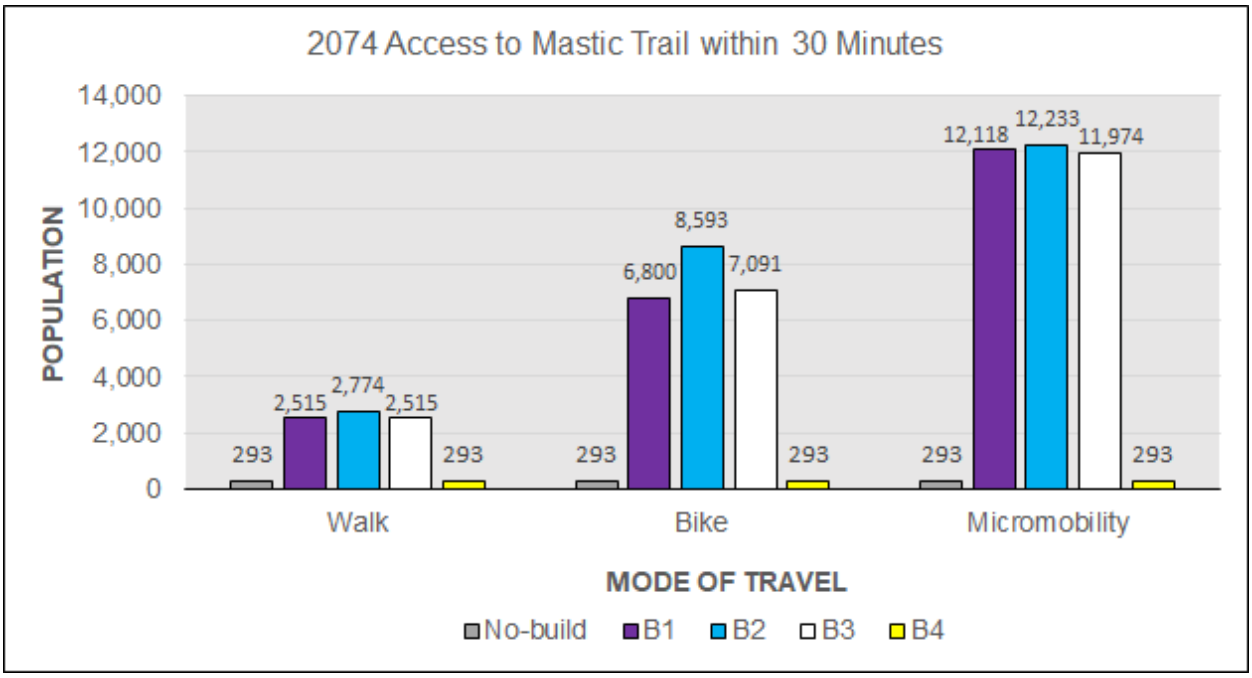

Figure 52: Potential Non-Vehicular Access to Mastic Trail

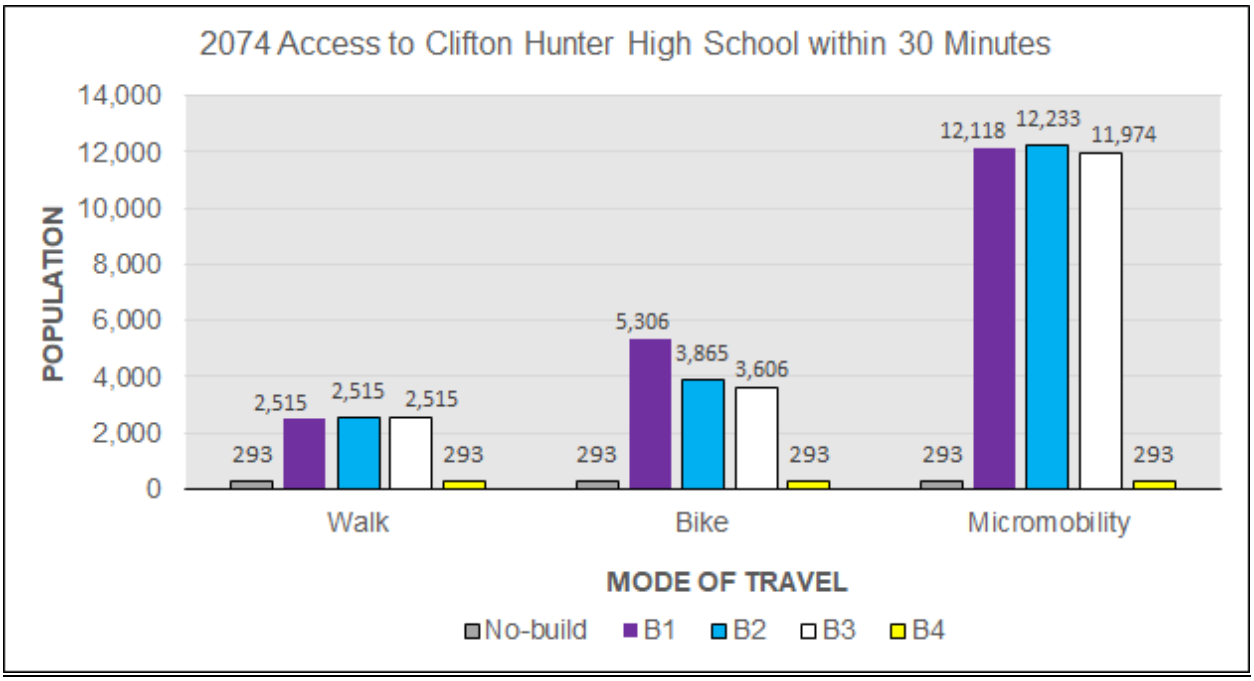

Figure 53: Potential Non-Vehicular Access to High School

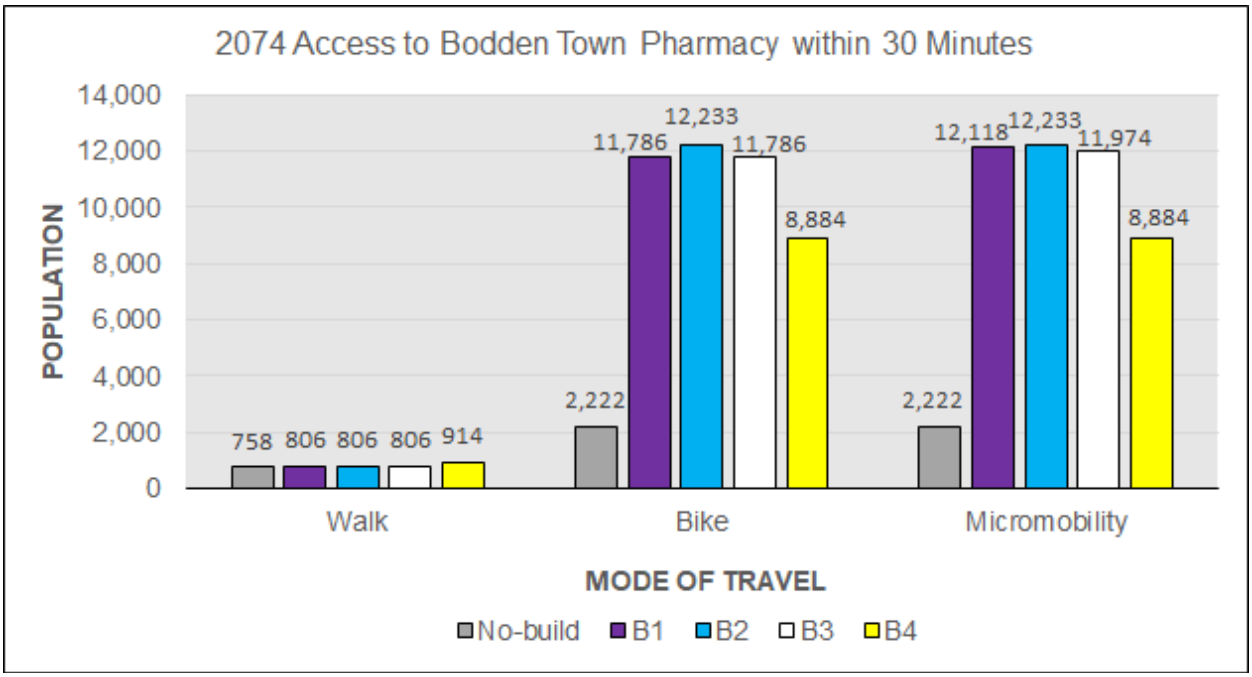

Figure 54: Potential Non-Vehicular Access to Pharmacy

Table 47: Potential Non-Vehicular Access by Mode and % Change, 2074

	No-Build	B1	B2	B3	B4
2074 Access to Mastic Trail within 30 minutes (population)					
Walk	293	2,515	2,774	2,515	293
Bike	293	6,800	8,593	7,091	293
Micromobility	293	12,118	12,233	11,974	293
2074 Access to Clifton Hunter High School within 30 minutes (population)					
Walk	293	2,515	2,515	2,515	293
Bike	293	5,306	3,865	3,606	293
Micromobility	293	12,118	12,233	11,974	293
2074 Access to Bodden Town Pharmacy within 30 minutes (population)					
Walk	758	806	806	806	914
Bike	2,222	11,786	12,233	11,786	8,884
Micromobility	2,222	12,118	12,233	11,974	8,884
Average Impacted Population	**773**	**7,342**	**7,498**	**7,138**	**2,271**
% Eastern District Population Impacted	**2%**	**20%**	**20%**	**19%**	**6%**

Table notes: For each alternative, the potential non-vehicular access represents the total anticipated population who would have access to each destination via LTS 1 or 2 facilities. Average impacted population was calculated across all destinations and modes, and the "percent (%) eastern district population impacted" was calculated as a percent of the total projected population of Bodden Town, North Side, and East End.

Figure 55 and **Figure 56** illustrate anticipated walk and bicycle access to key destinations as travel time contour maps, visually mapping how access changes under the Build alternatives based on the LTS criteria previously described in this section. These maps provide an interpretation of each alternative's quantitative LTS data (**Figure 50**) and are only a representative sample to demonstrate how improvements in walk/bicycle accessibility may impact the quality of life for residents of the eastern districts. It is worth noting that Alternative B4 does not provide LTS 1 or 2 facility connections to the Mastic Trail, Clifton Hunter High School, or east of the Bodden Town Pharmacy.

Table 48 summarizes the qualitative impact on improving non-vehicular accessibility based on the degree of improvement anticipated by each alternative: "Large beneficial" (provides access for at least 15% of eastern district residents), "Moderate beneficial (access to 10 to 14%), "Slight beneficial" (access to 5-9%), or "Neutral" (access to 0 to 4%).

Table 48: Non-Vehicular Accessibility Evaluation Summary Table

	No-Build	B1	B2	B3	B4
Non-Vehicular Accessibility	Neutral*	Large Beneficial	Large Beneficial	Large Beneficial	Slight Beneficial

*Table note: The No-Build scenario is rated "Neutral" because it serves as the baseline for comparison against the Build alternatives, but the No-Build represents worsening conditions for pedestrian/bicycle travel because traffic volumes are projected to increase along existing roads that lack any pedestrian/bicycle facilities. The No-Build does not satisfy the CSF to accommodate safe pedestrian/bicycle travel.

No-Build: The No-Build scenario does not improve walk, bike, or micromobility facilities along any existing roadways and only provides anticipated access on average to 2% of eastern district residents. The No-Build serves as the baseline for comparison against the Build alternatives, so the impact to non-vehicular access is determined to be "Neutral."

Alternatives B1, B2, and B3: Build Alternatives B1, B2, and B3 provide significantly improved access to the Mastic Trail, Clifton Hunter High School, and the Bodden Town pharmacy, with Alternative B2 providing access to slightly more of the population due to its proximity to existing neighborhoods. Alternatives B1, B2, and B3 are expected to provide non-vehicular access to 19 to 20% of eastern district residents on average, so these alternatives are ranked as having a "Large Beneficial" impact on non-vehicular access.

Alternative B4: Alternative B4 improves access to the pharmacy but does not improve access to the Mastic Trail or Clifton Hunter High School because the EWA would terminate at Lookout Road, providing no additional connectivity to area attractions not located directly along the coastal road between Lookout Road and Frank Sound Road. Alternatives B4 is expected to provide non-vehicular access to 6% of eastern district residents on average, so Alternative B4 is ranked as having a "Slight Beneficial" impact.

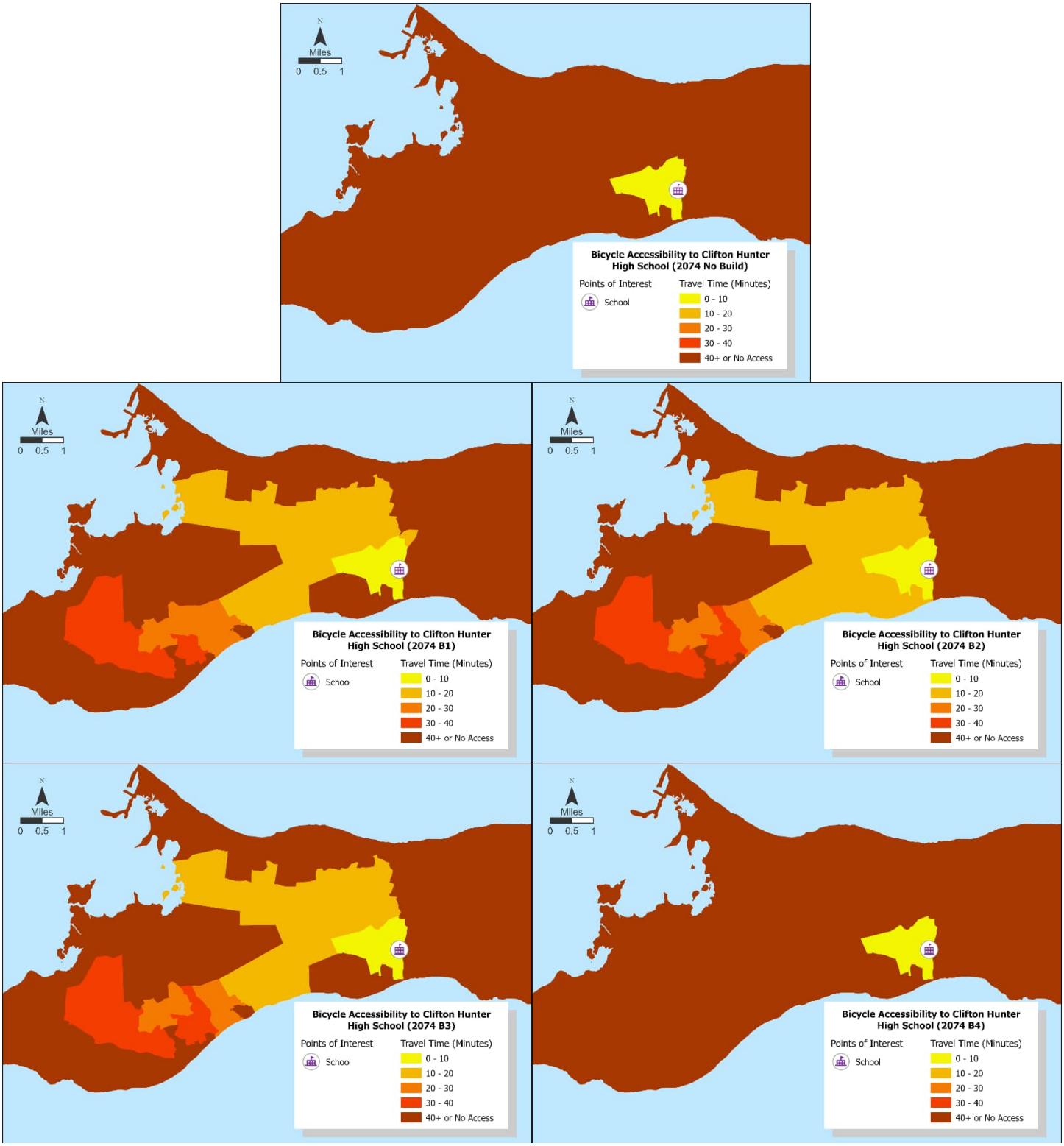

Figure 55: Bicycle Access to Clifton Hunter High School
From top, left to right: 2074 No-Build, B1, B2, B3, B4
Figure note: No-Build and Alternative B4 do not provide LTS 1 or 2 facility connections to high school.

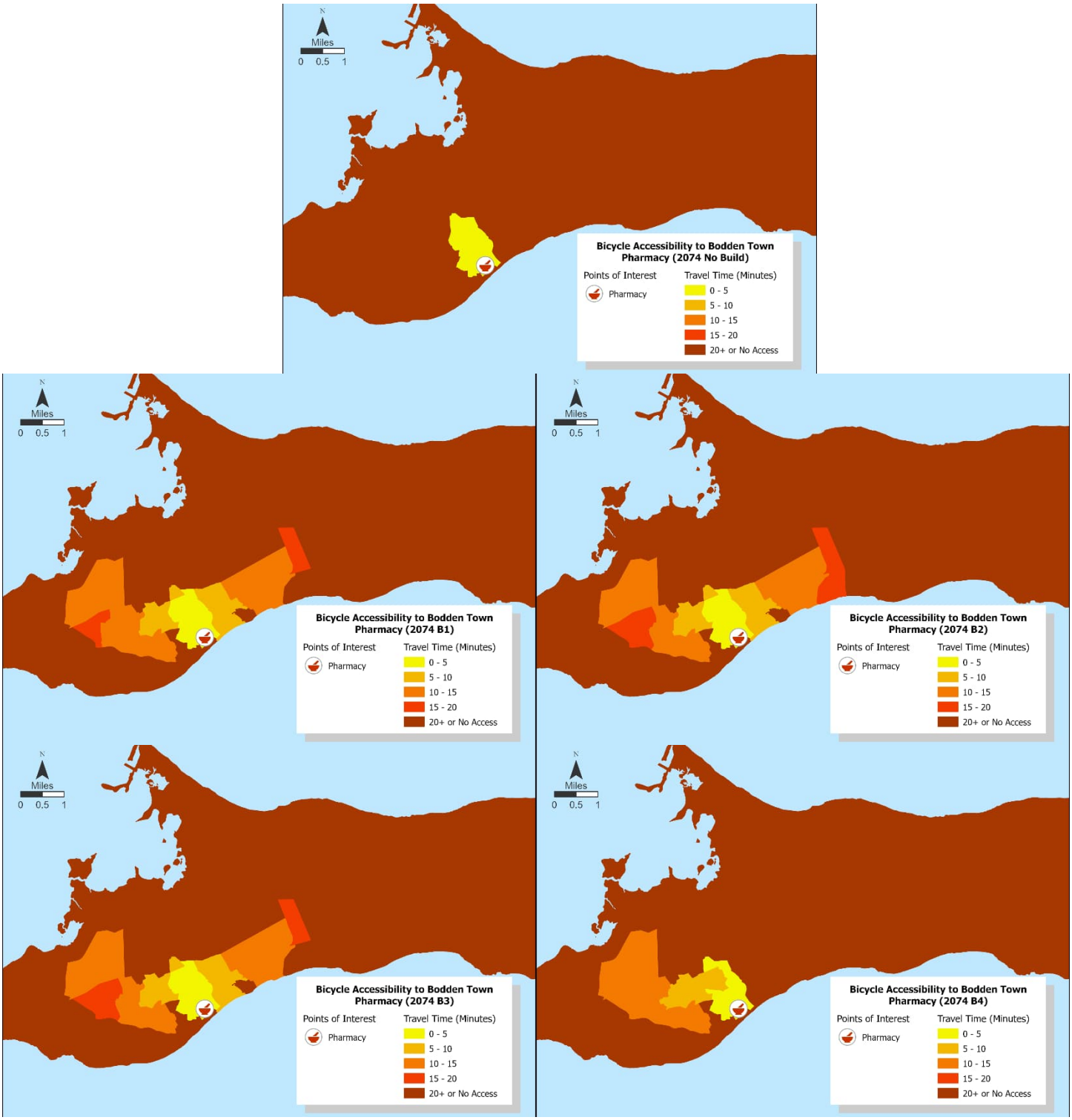

Figure 56: Bicycle Access to Bodden Town Pharmacy

From top, left to right: 2074 No-Build, B1, B2, B3, B4

Figure note: In Alternative B4, Bodden Town Road degrades to LTS 4 due to increased speed limits, increased volumes, and lack of separated bike lanes, providing unsuitable bicycle access east of Lookout Road.

5 Shortlist Evaluation Summary

The No-Build scenario and each of the Build alternatives (B1, B2, B3 and B4) were assessed in terms of the CSFs established for the Longlist Evaluation, addressing factors such as resiliency, future traffic demand, access to jobs, travel times, intersection delay, safety, and walk/bicycle accessibility. **Table 49** summarizes qualitative results of each evaluation, organized by their relevant CSFs and based on the criteria defined in **Table 4**. The CBA will provide a distinct quantitative evaluation of the mobility impacts of each alternative.

Overall, it is projected that the No-Build scenario would have a neutral impact in all categories. The No-Build scenario was evaluated as the baseline for comparison against the Build alternatives, and the traffic evaluation results generally indicate that travel conditions will continue to deteriorate within the study area without any roadway infrastructure improvements.

Build Alternatives B1, B2, and B3 generally have the same qualitative rankings due to design similarities, resulting in an overall anticipated qualitative rating of "Large Beneficial." The breakdown of each target criteria rating for Alternatives B1, B2, and B3 is as follows:

- In terms of resiliency, Alternatives B1, B2, and B3 will likely have a "Large Beneficial" impact by (1) providing an alternate route in the event of road closures or emergency events, and (2) reducing the number of crashes and road closures by shifting most of the east-west traffic volume to the safer EWA facility.
- In terms of supporting future traffic demand, Alternatives B1, B2, and B3 will likely have a "Large Beneficial" impact by (1) reducing the amount of traffic demand that gets held up at upstream congestion in the No-Build scenario, (2) accommodating longer distance commutes between eastern districts and employment opportunities in western districts, and (3) increasing access to job opportunities for eastern residents.
- In terms of improving east-west travel times, Alternatives B1, B2, and B3 will likely have a "Large Beneficial" impact on improving travel times within the study area between Hirst Road and Frank Sound Road, and a "Slight Beneficial" impact on improving travel times between eastern and western districts due to congestion that exists outside the study area.
- In terms of tourist travel times, Alternatives B1, B2, B3 will likely have a "Slight Beneficial" impact on reducing travel times from the Owen Roberts Airport and George Town Cruise Terminal.
- In terms of safety, Alternatives B1, B2, and B3 will likely have a "Large Beneficial" impact by (1) providing a new restricted access roadway facility that significantly reduces conflict points, (2) designing a safer facility that incorporates separated pedestrian/bicycle facilities and roundabout access points, (3) by reducing volume on the existing coastal roadway, and (4) improving operations by reducing intersection delay.
- In terms of pedestrian and bicycle travel, Alternatives B1, B2, and B3 will likely have a "Large Beneficial" impact by (1) providing dedicated sidewalks and bicycle paths on a LTS 1 facility connecting Hirst Road to Frank Sound Road, and (2) improving multimodal access to key destinations such as the Mastic Trial, Clifton Hunter High School, and Bodden Town Valu-Med pharmacy.

Build Alternative B4 differs from Alternatives B1, B2, and B3 because it only provides off-alignment improvements from Hirst Road to Lookout Road and then provides on-alignment improvements east of Lookout Road, resulting in an overall anticipated qualitative rating of "Slight Beneficial." The breakdown of each target criteria for Alternative B4 is as follows:

- In terms of resiliency, Alternative B4 will likely have a "Slight Beneficial" impact because (1) it only provides an alternate route west of Lookout Road in the event of road closures or emergency events and (2) the on-alignment improvements east of Lookout Road would provide additional travel lanes to the existing road but would likely increase the road's traffic volume, thereby proportionally increasing the likelihood of crashes along the existing road.
- In terms of supporting future traffic demand, Alternative B4 will likely have a "Moderate Beneficial" impact by (1) reducing the amount of traffic demand that gets held up at upstream congestion in the No-Build scenario, and (2) accommodating longer-distance commutes between eastern districts and job opportunities in western districts since B4 provides less significant travel time savings than Alternatives B1, B2, and B3. Alternative B4 will likely have a "Large Beneficial" impact on increasing access to job opportunities for eastern residents.
- In terms of improving east-west travel times, Alternative B4 will likely have a "Large Beneficial" impact on improving travel times within the study area between Hirst Road and Frank Sound Road, and a "Slight Beneficial" impact on improving travel times between eastern and western districts due to congestion that exists outside the study area.
- In terms of tourist travel times, Alternative B4 will likely have a "Slight Beneficial" impact on reducing travel times from the Owen Roberts Airport and George Town Cruise Terminal.
- In terms of safety, Alternative B4 will likely have a "Slight Beneficial" impact on reducing overall conflict points on the new restricted access roadway facility. Alternative B4 will likely have a "Moderate Beneficial" overall safety impact by designing a safer facility west of Lookout Road that incorporates separated pedestrian/bicycle facilities and roundabout access points; however, east of Lookout Road, B4 will provide improvements such as a median barrier while still retaining many existing stop-controlled intersections and conflict points. Alternative B4 will likely a "Large Beneficial" impact on improving operations by reducing intersection delay.
- In terms of pedestrian and bicycle travel, Alternative B4 will likely have a "Slight Beneficial" impact by (1) providing dedicated sidewalks and bicycle paths on a LTS 1 facility connecting Hirst Road to Lookout Road and (2) improving multimodal access to destinations like Bodden Town Valu-Med pharmacy but not providing adequate access east of Lookout Road. Between Lookout Road and Frank Sound Road, B4 includes dedicated bike lanes as part of its on-alignment improvements; however, this road will qualify as LTS 4 due to the roadway's high design speeds, anticipated high traffic volume, and lack of physical separation between vehicles and bikes.

Therefore, Build Alternatives B1, B2, and B3 are rated as producing an anticipated "Large Beneficial" impact from a traffic perspective, while Build Alternative B4 is rated as producing a "Slight Beneficial" impact. Alternative B4 does not meet the alternate route critical success factor for the project.

As part of the Cost Benefit Analysis prepared for this project, the transportation benefits of each alternative will be monetized to further differentiate Alternatives B1, B2, and B3 and determine the most beneficial alternative.

This Traffic Assessment is one in a series of Technical Reports that have been prepared for the Shortlist Evaluation. The level of impacts and the identification of the least impactful or most beneficial alternative will differ based on the resource/feature evaluated in each of the Technical Reports. Therefore, the most beneficial alternative described in this evaluation summary and in each technical document **does not** move an alternative forward to the Preferred Evaluation nor does it constitute any special weighting or extra consideration in the Shortlist Evaluation Document. The comprehensive analysis of all the resources/features evaluated along with the rationale for the identification of the Preferred Alternative are presented in the Shortlist Evaluation Document.

Table 49: Traffic Shortlist Evaluation Summary Table

	No-Build	B1	B2	B3	B4
CSF: Create an alternative travel route to the existing two-lane Bodden Town Road. Improve resiliency of existing roadway between North Side/East End and George Town/West Bay					
Alternative Routes	Neutral*	Large Beneficial	Large Beneficial	Large Beneficial	Slight Beneficial
Existing Roadway Resiliency	Neutral*	Large Beneficial	Large Beneficial	Large Beneficial	Slight Beneficial
CSF: Support current and future traffic demand					
Future Traffic Demand	Neutral*	Large Beneficial	Large Beneficial	Large Beneficial	Moderate Beneficial
District-to-District Access	Neutral	Large Beneficial	Large Beneficial	Large Beneficial	Moderate Beneficial
Employment Access	Neutral	Large Beneficial	Large Beneficial	Large Beneficial	Large Beneficial
CSF: Improve travel time between North Side/East End and George Town					
Study Area Travel Times	Neutral*	Large Beneficial	Large Beneficial	Large Beneficial	Large Beneficial
Key Destination Travel Times	Neutral*	Slight Beneficial	Slight Beneficial	Slight Beneficial	Slight Beneficial
CSF: Reduce tourism travel time between North Side/East End and George Town					
Tourist Travel Times	Neutral*	Slight Beneficial	Slight Beneficial	Slight Beneficial	Slight Beneficial
CSF: Improve safe vehicular travel by reducing roadway conflict points					
Conflict Points	Neutral	Large Beneficial	Large Beneficial	Large Beneficial	Slight Beneficial
Safety	Neutral*	Large Beneficial	Large Beneficial	Large Beneficial	Moderate Beneficial
Level of Service	Neutral*	Large Beneficial	Large Beneficial	Large Beneficial	Large Beneficial
CSF: Provide opportunity for enhanced and safe pedestrian and bicycle travel					
Bicycle Level of Traffic Stress	Neutral*	Large Beneficial	Large Beneficial	Large Beneficial	Slight Beneficial
Non-Vehicular Accessibility	Neutral*	Large Beneficial	Large Beneficial	Large Beneficial	Slight Beneficial
Overall Qualitative Rating	**Neutral***	**Large Beneficial**	**Large Beneficial**	**Large Beneficial**	**Slight Beneficial**

*The No-Build scenario is rated "Neutral" because it serves as the baseline for comparison against the Build alternatives. Despite its "Neutral" rating, the No-Build represents anticipated worsening traffic conditions. Refer to **Section 4: Traffic Evaluation** for additional details.

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Attachment A:
Data Collection Memorandum

1 Data Collection

1.1 Introduction

The purpose of this Technical Memorandum is to document the data collection that was conducted as part of the Environmental Impact Assessment (EIA) for the EW Arterial Road Extension. This data collection is critical to ensuring that the model design for both the demand and operational analysis model is supported by relevant real-world data, and closely matches existing conditions.

This data collection report is organized as follows:

Part 1 – Turning Movement Counts: Traffic counts collected in the peak hours at key study intersections to support analysis for existing and future traffic operations in the study area.

Part 2 – Automatic Traffic Recorder (ATR) Counts: Continuous traffic counts over several days, including both peak and off-peak traffic volumes to help determine peak hours and peak periods.

Part 3 – Traffic Count Balancing: Adjustments were made to the raw traffic counts to create a continuous, balanced set of volumes throughout the study area.

Part 4 – Travel Time Runs: End-to-end corridor runs in both directions of key roadway segments during both peak and off-peak hours to ensure analyses are calibrated to existing conditions.

1.2 Turning Movement Counts

Turning movement counts (TMCs) were collected at key intersections on the following dates:

- Tuesday, June 6, 2023
- Friday, June 9, 2023
- Tuesday, June 13, 2023
- Thursday, June 15, 2023

Traffic counts covered the 6 AM to 9 AM and 3 PM to 7 PM peak periods. TMCs were collected at the following intersections (Figure 1 through Figure 3):

- 1 – EW Arterial Road at Hirst Road
- 2 – Shamrock Road at Hirst Road
- 3 – Shamrock Road at Woodland Drive
- 4 – Shamrock Road at Agricola Drive
- 5 – Shamrock Road at Will T Drive
- 6 – Shamrock Road at Beach Bay Road
- 7 – Shamrock Road at Northward Road
- 8 – Shamrock Road at Condor Road
- 9 – Bodden Town Road at Bodden Town Bypass
- 10 – Bodden Town Road at Longfellow Drive
- 11 – Bodden Town Road / Seaview Road at Frank Sound Road
- 12 – Frank Sound Road at Mastic Road
- 13 – Frank Sound Road / North Side Road at Old Robin Road



Figure 1: Western TMC Locations

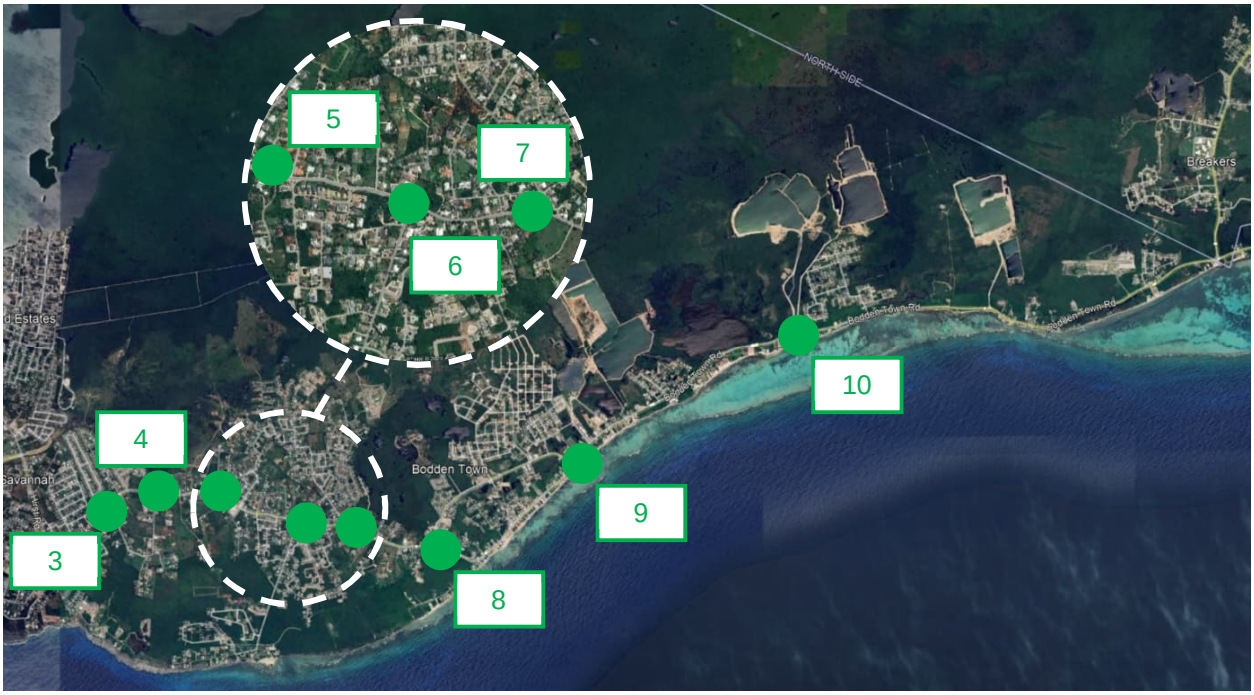


Figure 2: Central TMC Locations

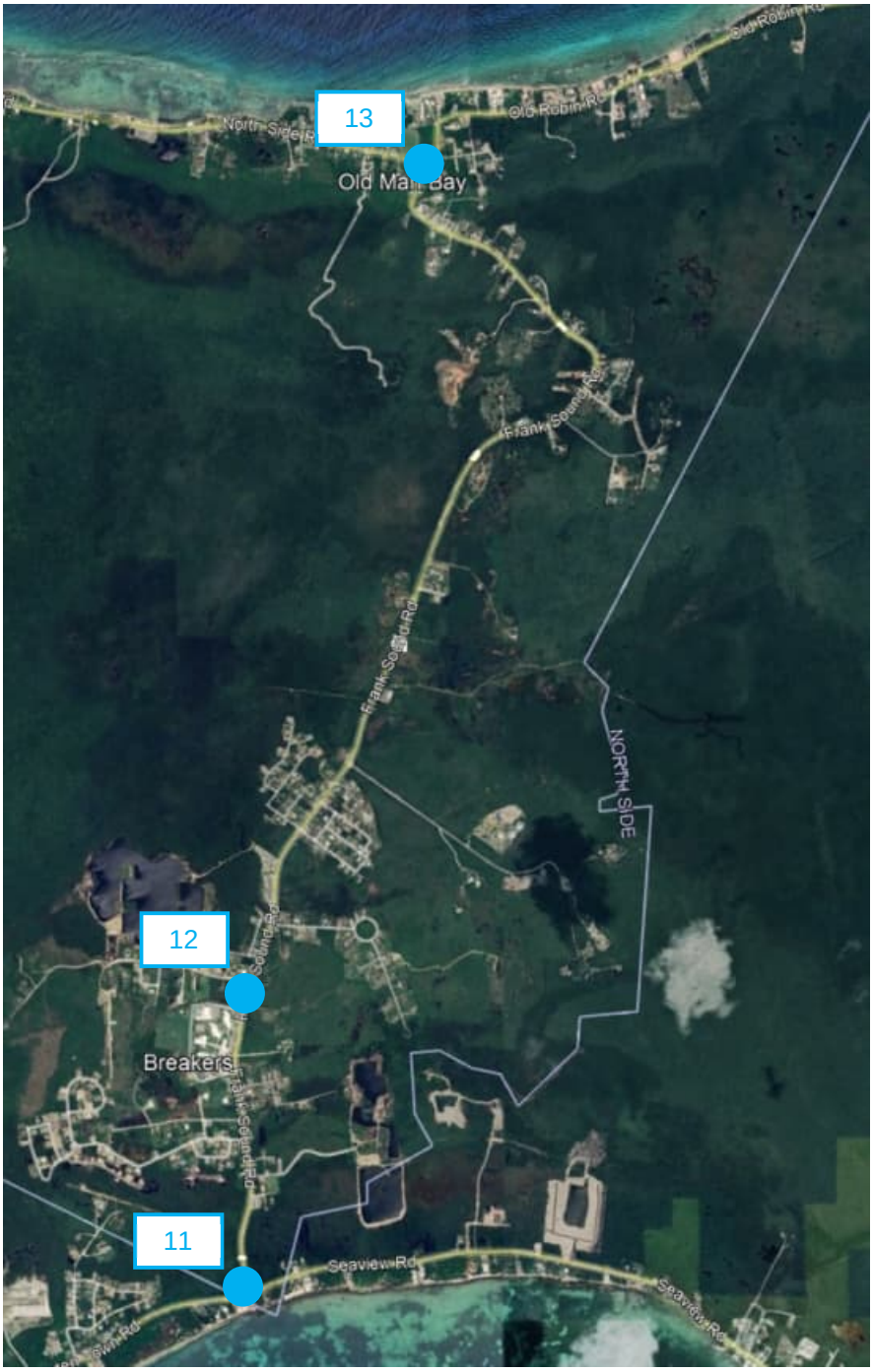


Figure 3: Eastern TMC Locations

TMCs were completed utilizing MioVision Scout Cameras except for the intersections of Shamrock Road at Hirst Road, and Shamrock Road at Condor Road. At these locations, only left- and right-turning volumes were collected, with the intention of using adjacent automatic traffic recorder (ATR) counts to determine the through volumes.

1.3 Automatic Traffic Recorder Counts

Multi-daylong automatic traffic recorder (ATR) counts were collected at key locations using tube counters on the following dates:

- Tuesday, June 6, 2023
- Thursday, June 8, 2023
- Friday, June 9, 2023
- Tuesday, June 13, 2023
- Thursday, June 15, 2023

ATR counts covered at least 24 hours of a weekday. ATRs were collected at a total of 41 locations, but due to faulty equipment and incomplete data, only 25 locations were utilized (Figure 4 through Figure 6):

- 803 – Hirst Road north of Shamrock Road
- 805 – EW Arterial Road west of Hirst Road
- 806 – Hirst Road north of EW Arterial Road
- 807 – Hirst Road south of EW Arterial Road
- 808 – Shamrock Road west of Hirst Road
- 810 – Shamrock Road east of Hirst Road
- 812 – Walbridge Drive north of Shamrock Road
- 814 – Agricola Drive south of Shamrock Road
- 815 – Shamrock Road east of Agricola Drive
- 816 – Pedro Castle Road south of Shamrock Road
- 902 – Bodden Town Road west of Frank Sound Road
- 906 – Frank Sound Road north of Mastic Road
- 907 – Frank Sound Road south of Stepping Stone Drive
- 909 – Bodden Town Road east of Bodden Town Bypass
- 912 – Shamrock Road east of Will T Road
- 913 – Shamrock Road east of Northward Road
- 916 – Beach Bay Road south of Shamrock Road
- 918 – Shamrock Road west of Beach Bay Road
- 919 – Shamrock Road west of Arrow Drive
- 921 – Condor Road north of Shamrock Road
- 922 – Bodden Town Road west of Bodden Town Bypass
- 925 – Frank Sound Road south of Clifton Hunter High School Northern Access Road
- 926 – Frank Sound Road south of Old Robin Road
- 927 – Old Robin Road east of Frank S
- 928 – North Side Road north of Old Robin Road



Figure 4: Western ATR Locations



Figure 5: Central ATR Locations



Figure 6: Eastern ATR Locations

1.4 Traffic Count Balancing

After receiving all of the traffic counts, both TMCs and ATRs were mapped out, and differences in peak hour volumes were examined. Due to the automated nature of the ATRs, those counts were given preference over the TMCs. Therefore, where there was a difference between a TMC and an adjacent ATR, the TMC was adjusted to match the ATR. Typically, the turning movements were adjusted, with the through volumes along the mainline left as is. However, in a few locations, the mainline volumes were modified as well. In these cases, the adjustments were made using engineering judgment, and with the general approach that traffic increases in the westbound direction the farther west a count was taken in the AM peak hour, and that traffic decreases in the eastbound direction the farther east a count was taken in the PM peak hour.

1.5 Travel Time Runs

Travel time runs and associated data analysis were conducted on four key roadways (Figure 7):

- EW Arterial Road
- Shamrock Road West
- Shamrock Road East
- Frank Sound Road



Figure 7: Travel Time Corridor Limits

Due to the length of Shamrock Road, it was split into West (from EW Arterial Road to Hirst Road/ Pedro Castle Road) and East (from Hirst Road/Pedro Castle Road to Frank Sound Road) sub-corridors. These sub-corridors were split at locations where key land use changes take place, and the roadway transitions from more rural areas to the east into more urbanized areas to the west.

After determining the corridors to be analysed and their limits, NRA drove each section from end-to-end multiple times to gather data on instantaneous speed, as well as overall travel time. These travel time runs were conducted in both peak and off-peak hours, as well as peak and off-peak directions between Thursday June 22, 2023 and Friday June 30, 2023 (Table 1 and Table 2). To ensure the data was representative of typical traffic conditions, the travel time runs selected to calibrate the travel demand and operational analysis models were all conducted prior to schools closing for Summer Break on Thursday, June 29, 2023.

Table 1: Travel Time Run AM Start Times

Corridor	**EW Arterial Road**		**Shamrock Road West**		**Shamrock Road East**		**Frank Sound Road**	
Direction	EB	WB	EB	WB	EB	WB	NB	SB
Earliest Trip Start	7:05	7:16	7:29	7:38	7:59	8:31	8:16	8:24
Latest Trip Start	9:20	10:12	10:03	9:52	10:05	10:23	-	9:35

Table 2: Travel Time Run PM Start Times

Corridor	**EW Arterial Road**		**Shamrock Road West**		**Shamrock Road East**		**Frank Sound Road**	
Direction	EB	WB	EB	WB	EB	WB	NB	SB
Earliest Trip Start	4:25	5:12	4:03	4:51	4:37	5:14	4:55	5:04
Latest Trip Start	7:17	6:56	6:23	7:09	7:39	8:07	6:30	6:37

The study vehicle was equipped with a global positioning system (GPS) receiver, which recorded the exact location and instantaneous speed of the vehicle in 1-second increments for the duration of the end-to-end trip. The study vehicle matched the behaviour of the local commuters including speed, likelihood to pass, space between vehicles, and overall interaction with fellow commuters.

This data was used in two different ways:

- Analysed using Tru-Traffic and Excel to determine segment-by-segment delay heat maps
- Mapped using Google Earth to display congested areas by time of day and direction of travel

1.6 Tru-Traffic Heat Maps

Tru-Traffic is a traffic engineering software tool that utilizes a GPS receiver to capture the test subject's position, speed, and time. The software is customizable to generate trip logs and provide travel time and delay studies including stops. For the Tru-Traffic analysis, the end-to-end trips had to be segmented at logical locations where changes in speed would be expected, called nodes. These nodes were placed at (Figure 8 through Figure 11):

- Intersections which were previously analysed for traffic conditions, and which will be analysed again as part of this EIA
- Turnaround points where the study vehicle completed its trip and had to then proceed in the opposite direction
- Locations where the posted speed limit increases or decreases
- Any notable mapped locations where speeds suddenly changed, such as near S-bends

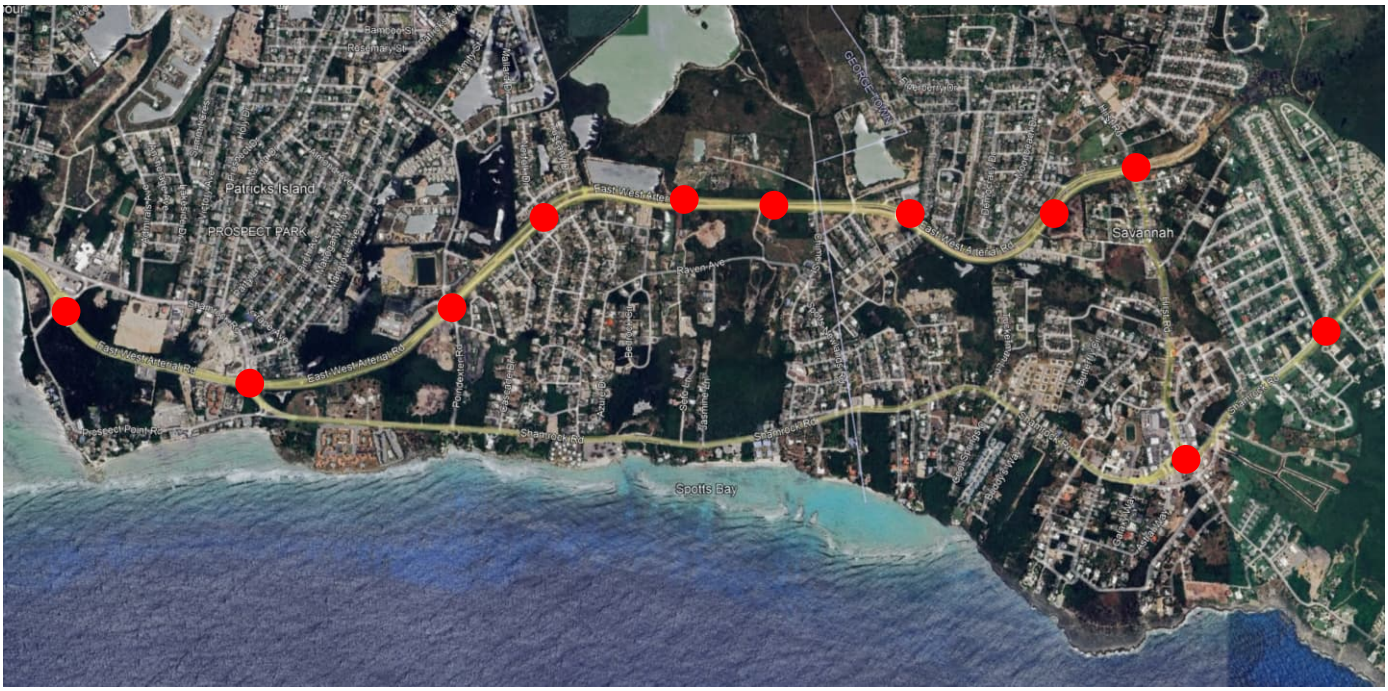


Figure 8: EW Arterial Road Travel Time Nodes

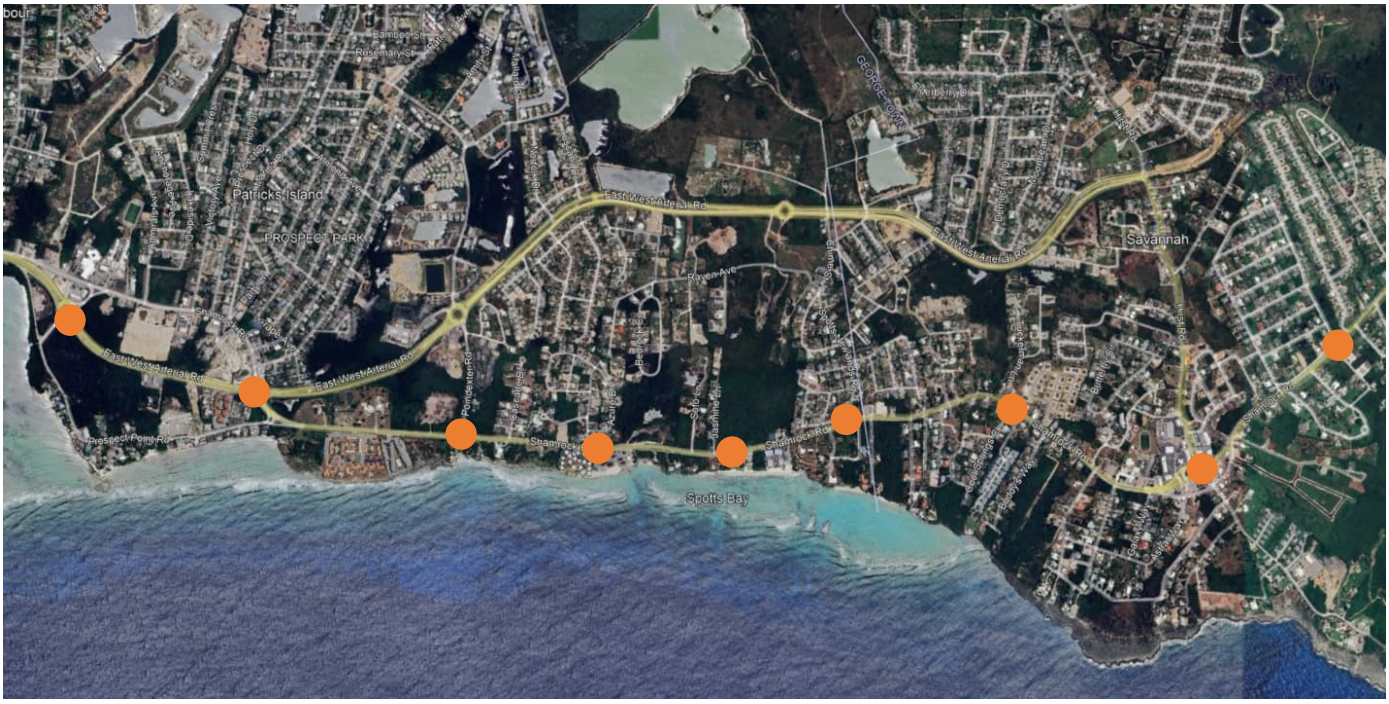


Figure 9: Shamrock Road West Travel Time Nodes



Figure 10: Shamrock Road East Travel Time Nodes

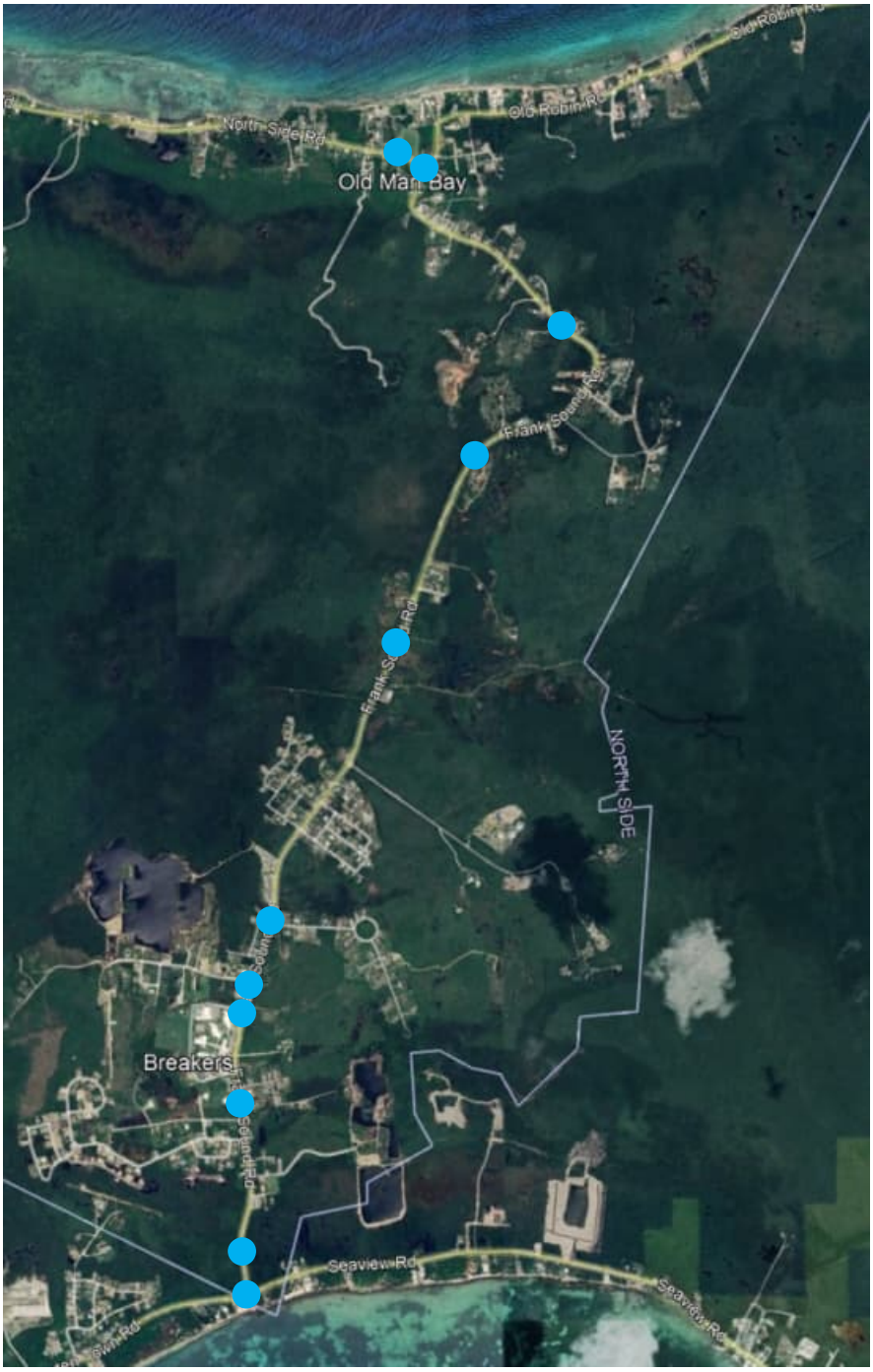


Figure 11: Frank Sound Road Travel Time Nodes

Once these segments were identified in Tru-Traffic, both posted speed limits and design speed limits (posted speed limit plus 5 miles per hour (mph)) were entered for each segment into Tru-Traffic along with the driving distance between nodes (Figure 12).

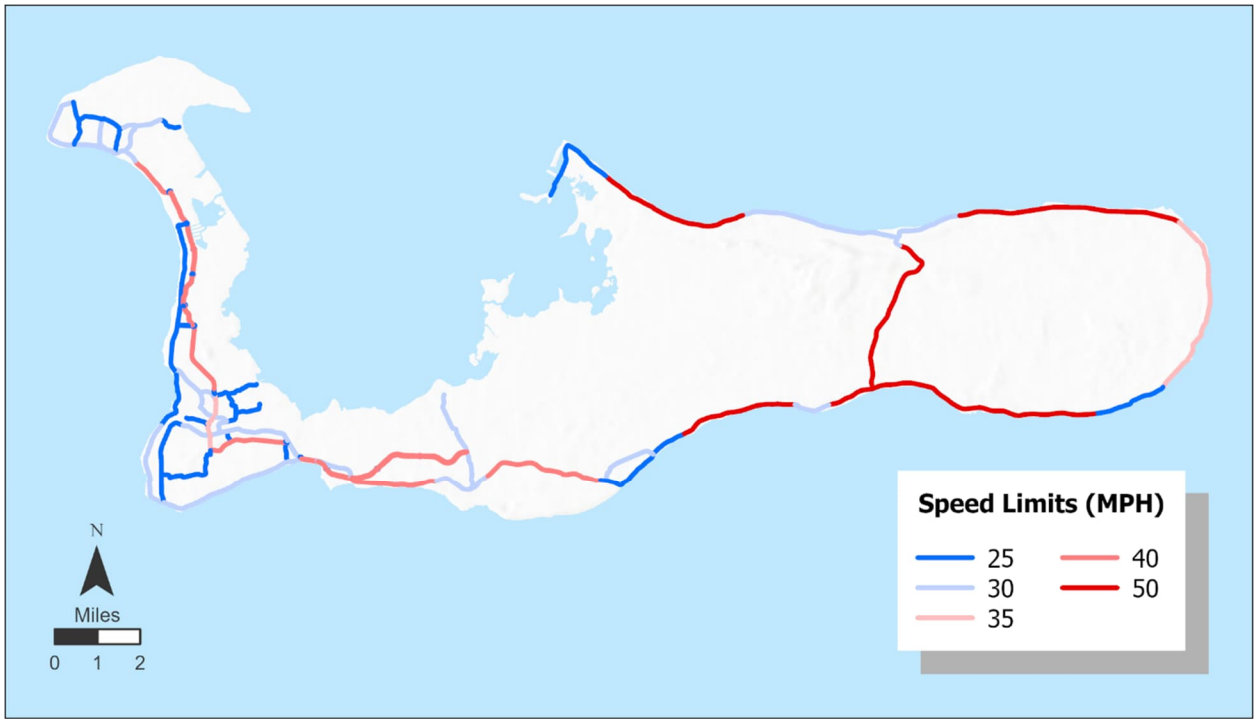


Figure 12: Grand Cayman Speed Limits

The segmented Tru-Traffic data was then exported to Excel for final post-processing. This post-processing took into account the average travel speed across the entire length of each segment and then compared it to level of service (LOS) criteria from the 6th Edition of the Highway Capacity Manual (HCM 6).

Per HCM 6, Chapter 15 (Two Lane Highways), the study area roads are all considered Class III two-lane highways, which are highways passing through moderately developed areas. For Class III two-lane highways, LOS is defined as percent of free-flow speed (PFFS) for the probe vehicle. Per Exhibit 15-3 of HCM 6, the LOS thresholds are as follows (Table 3):

Table 3: LOS Thresholds for Class III Two-Lane Highways per HCM 6

LOS	Class III Highways PFFS (%)
A	> 91.7
B	> 83.3 – 91.7
C	> 75.0 – 83.3
D	> 66.7 – 75.0
E	≤ 66.7
F	Demand exceeds capacity

The post-processing done in Excel assumed the design speed of each segment as the free-flow speed, and then applied the above thresholds to determine LOS on a segment-by-segment basis. This resulted in the creation of heat maps (example below), which show trip-by-trip, direction-by-direction LOS for each study roadway (Figure 13).

Figure 13: Example Tru-Traffic Heat Map

Eastbound Shamrock Road West AM Speed Heat Map								
Segment		Miles	Design Speed (PSL +5)	Free Flow Time (MM:SS)	Average Speed (mph)			
					7:29 AM	8:39 AM	8:57 AM	10:03 AM
Turnaround (#96)	to Shamrock Rd at EW Arterial Rd (#97)	0.46	45	00:37	35.5	34.9	34.9	41.2
Shamrock Rd at EW Arterial Rd (#97)	to Shamrock Rd at Poindexter Rd (#98)	0.56	45	00:45	28.3	31.2	24.9	29.7
Shamrock Rd at Poindexter Rd (#98)	to curve starting near Rock Cave Dr (#981)	0.35	45	00:28	35.5	39.4	30.5	35.5
curve starting near Rock Cave Dr (#981)	to curve ending near Jasmine Ln (#982)	0.33	45	00:26	33.7	39.1	29.4	32.7
curve ending near Jasmine Ln (#982)	to Shamrock Rd at Spotts Newlands Rd (#99)	0.29	45	00:23	33.2	37.7	26.0	33.7
Shamrock Rd at Spotts Newlands Rd (#99)	to curve ending near Tuckerman Ln (#991)	0.43	45	00:35	29.8	34.4	32.9	31.8
curve ending near Tuckerman Ln (#991)	to Shamrock Rd at Hirst Rd (#2)	0.54	40	00:48	26.6	29.5	31.8	29.7
Shamrock Rd at Hirst Rd (#2)	to Shamrock Rd at Lancelot Dr (#100)	0.47	35	00:48	32.3	31.1	30.0	31.6
Total		3.43	35	05:52	06:37	06:07	06:55	06:18

In the above example, it can be seen how eastbound travel tends to slow down on the approach to Poindexter Road, picks up speed east of Rock Cave Drive, then slows down again near Tuckerman Lane. Once traffic clears the intersection with Hirst Road, speeds pick up to the end of the corridor throughout the AM peak period.

1.7 Google Earth Congestion Maps

The other use for the data was the creation of Google Earth-based maps, which plotted the second-by-second data points along each study corridor, for each trip. The data points were filtered by the above LOS thresholds to indicate at which locations speeds were acceptable, and at which locations congestion was observed. Applying these thresholds and using colour-based indications for good or poor operations (green represents travel speeds close to free flow, while orange and red indicate slower speeds), it is very easy to see where congestion occurs and at what time of day (Figure 14).

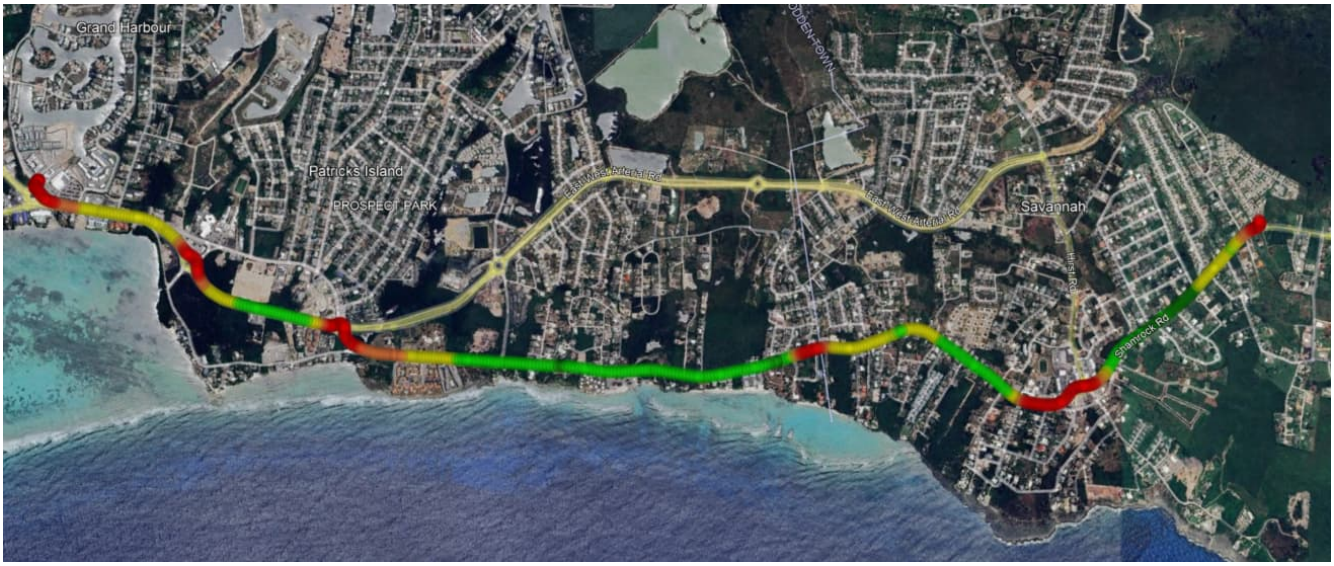


Figure 14: Example Google Earth Congestion Map

On the map above, specific congestion at intersections throughout the corridor can be noted by red hot spots with otherwise green points on either side. This correlates with the above example heat map, which showed slower travel times west of Poindexter Road, and on the approach to Hirst Road, with higher speeds in the middle of the corridor, followed by higher speeds east of Hirst Road.

Attachment B:
Model Inputs Memorandum

In support of the National Road Authority (NRA) East-West Arterial (EWA) Extension Environmental Impact Assessment (EIA), Whitman, Requardt and Associates, LLP (WRA) submits this summary of the development of the land use assumptions developed for input into the Grand Cayman Travel Demand Model (GCM). The Travel Demand Model is the tool that is being used to develop the traffic forecasts for the EWA scenarios as part of the EIA.

NRA's Travel Demand Model was developed in 2019 using the latest Census data available at the time. In supporting the EIA, WRA completed the following work in updating the Model:

- TAZ Boundary Changes: Zonal refinement to support the analysis of the EWA
- Census Consistency: Updated the base year of the model to 2021 using the 2021 census data from the Economics and Statistics Office (ESO)
- Developed 2026, 2036, 2046 and 2074 forecasts of population and land use as required by the model scenarios

Background

The geography of the Traffic Analysis Zones (TAZs) for the travel demand model was established at high resolution in areas that produce pedestrian and cyclist traffic and have significant interactions between neighboring land uses; in the travel demand model, the areas with highest resolution can be found near George Town, West Bay including around Seven Mile Beach, hotels, Camana Bay and developing properties, the Owen Roberts International Airport, the school cluster south of George Town, and areas considered for development or future projects.

TAZs nest within Census Enumeration Areas, which nest within the five districts of the island. Further away from George Town and the western side of the island which is less densely populated, the TAZs become larger and, at a minimum, are whole Enumeration Areas. The travel demand model zones cover the entire island of Grand Cayman.

The population and households in each TAZ were established by disaggregating the 2015 control totals for Population and Households by Election District to the 2010 Enumeration Areas and distributing that data to the model TAZs using proportions based on the intensity of land use from the building square footage. The production side also includes the hotel accommodations, including the number of beds and maximum capacity per unit for long-term visitors.

The zonal attributes required by the attraction side of the trip generation step were established by tabulating the intensity of developed building square footage by type by TAZ, and including the school enrollment by primary, and secondary.

TAZ Boundary Changes

The original Model included 703 TAZs distributed across the five districts on the island. Based on a review of the potential alignments for the EWA to be considered and location of potential developments, it was decided by WRA and NRA to refine the zone structure. By doing so, the model is better able to accurately model the different alternatives of the EWA. In the end, 32 TAZs were added to the model (Table 1).

Table 1: Number of Traffic Analysis Zones by District

District Name	# TAZs Previous	# TAZs Current
George Town	558	560
West Bay	83	84
Bodden Town	46	68
North Side	10	17
East End	6	6
Grand Cayman	703	735

Figure 1 through Figure 8 provide maps showing the location of the revised TAZ boundaries. The location of the zonal refinement was to support the analysis of the EWA and is consistent with standard practice for application of a travel demand model for this type of study.

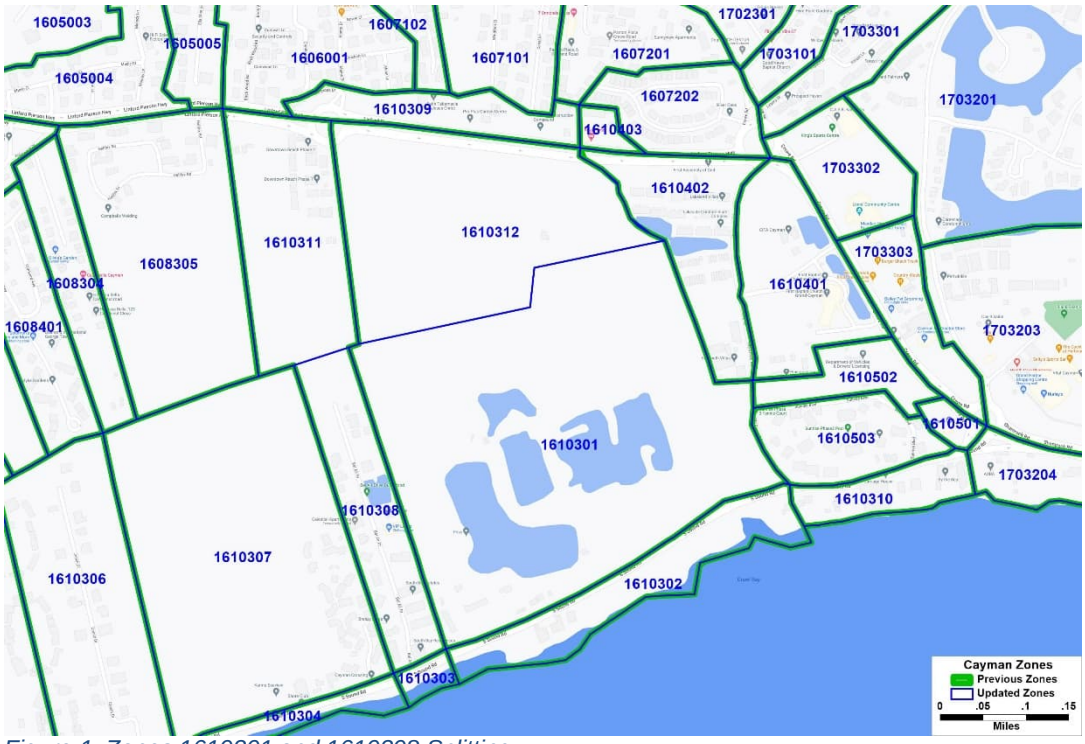


Figure 1: Zones 1610301 and 1610308 Splitting

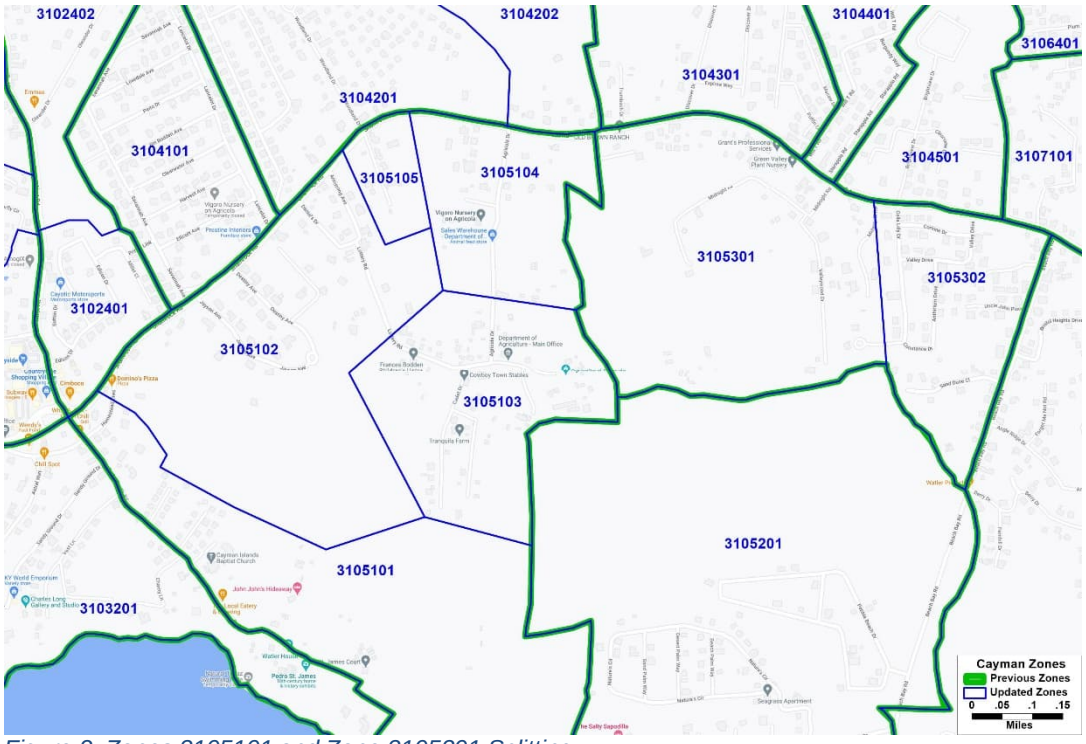


Figure 2: Zones 3105101 and Zone 3105301 Splitting

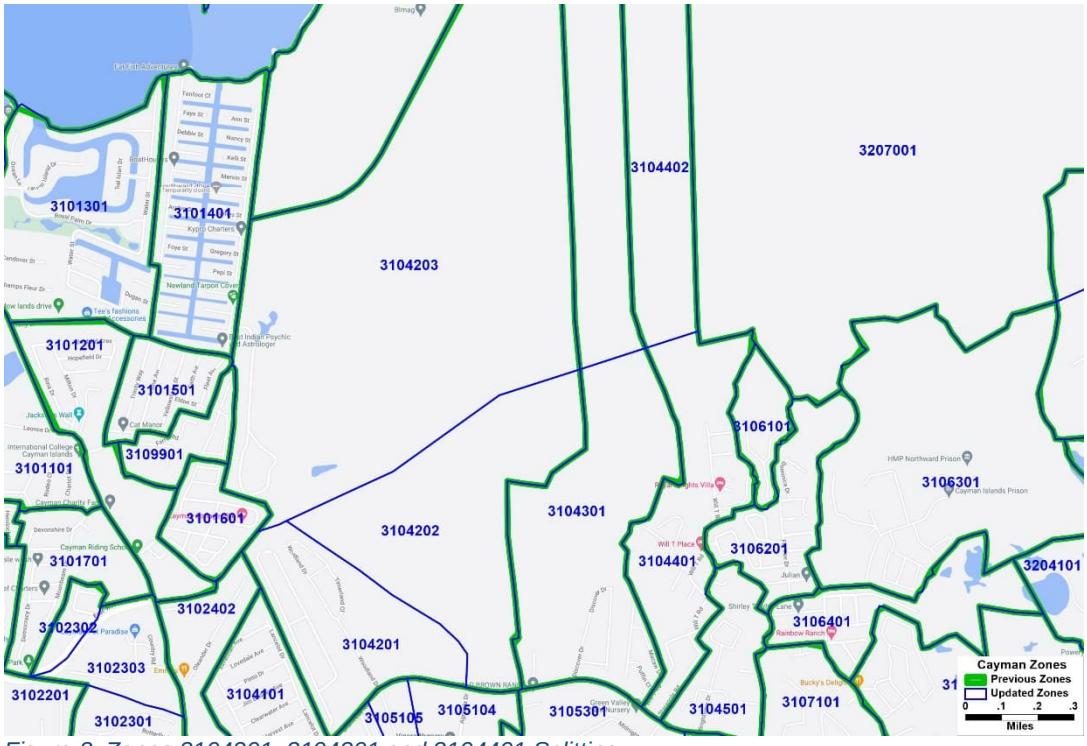


Figure 3: Zones 3104201, 3104301 and 3104401 Splitting

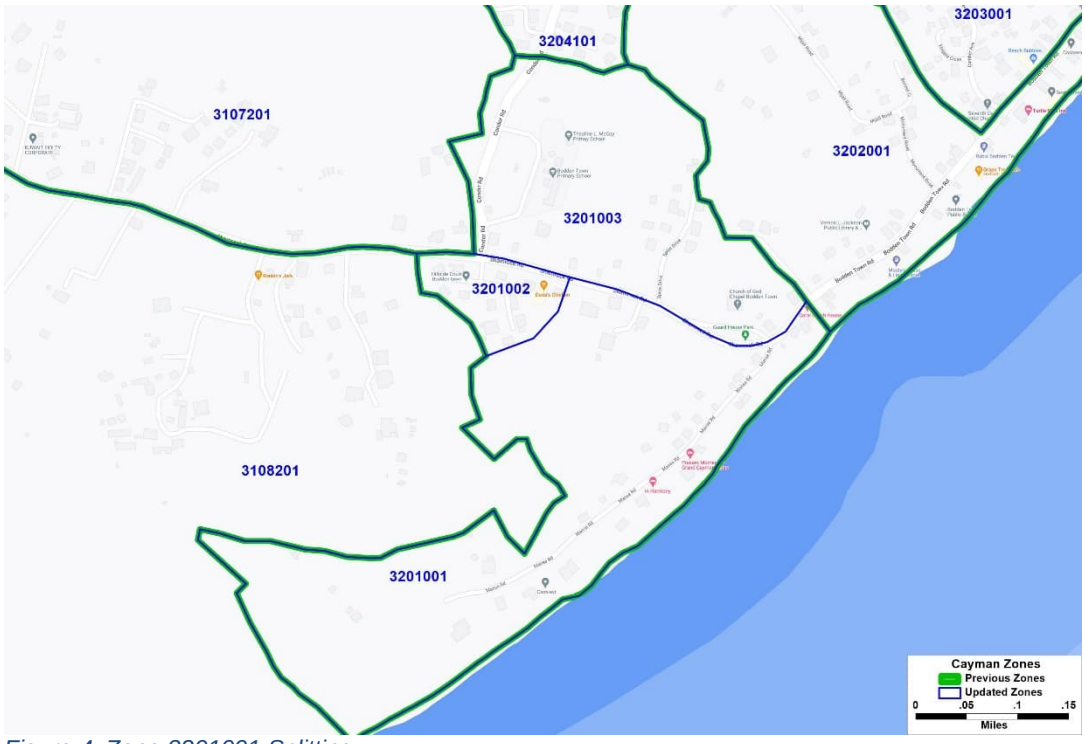


Figure 4: Zone 3201001 Splitting

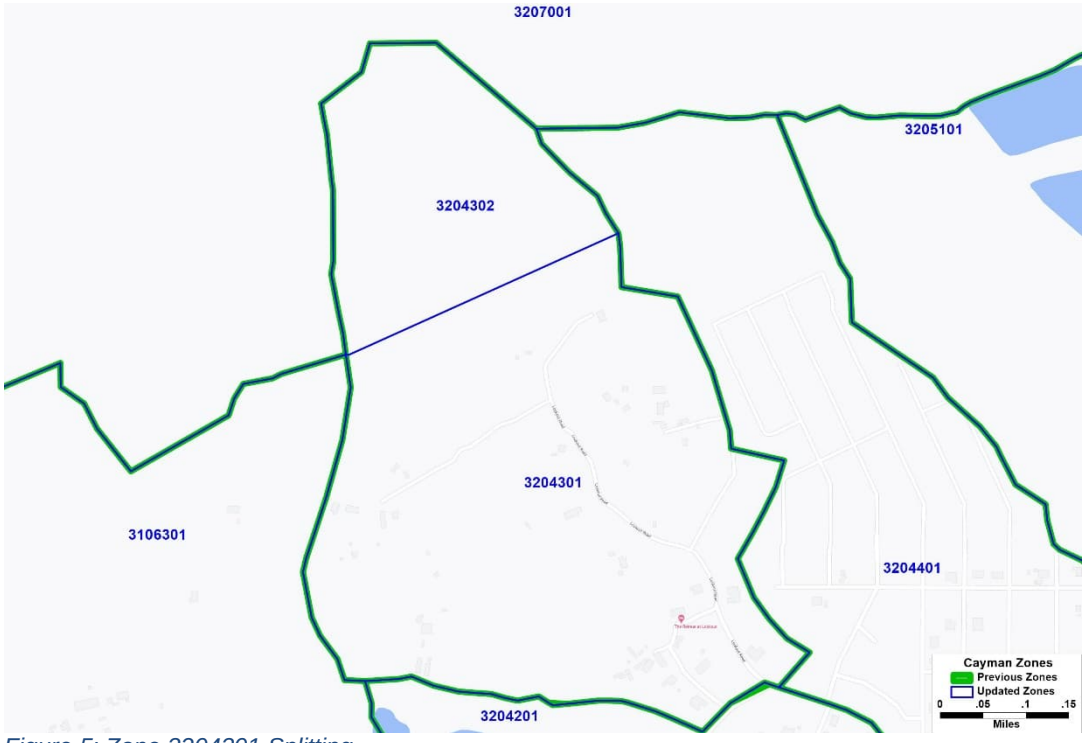


Figure 5: Zone 3204301 Splitting



Figure 6: Zones 3206101 and 3206201 Splitting

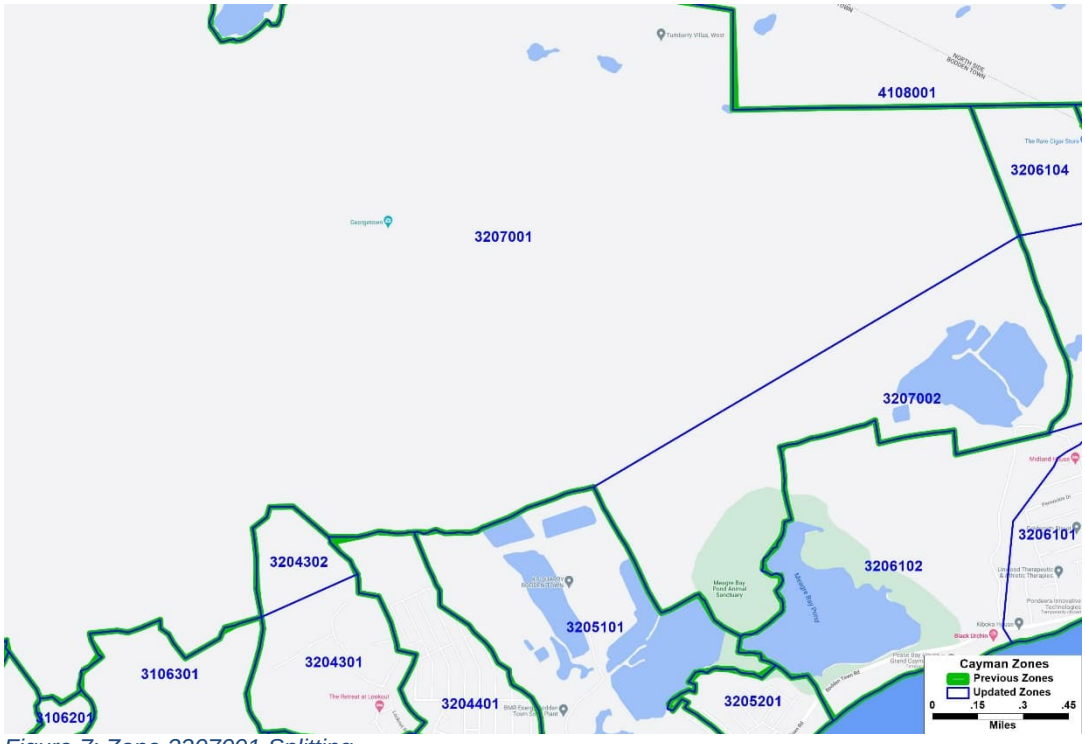


Figure 7: Zone 3207001 Splitting

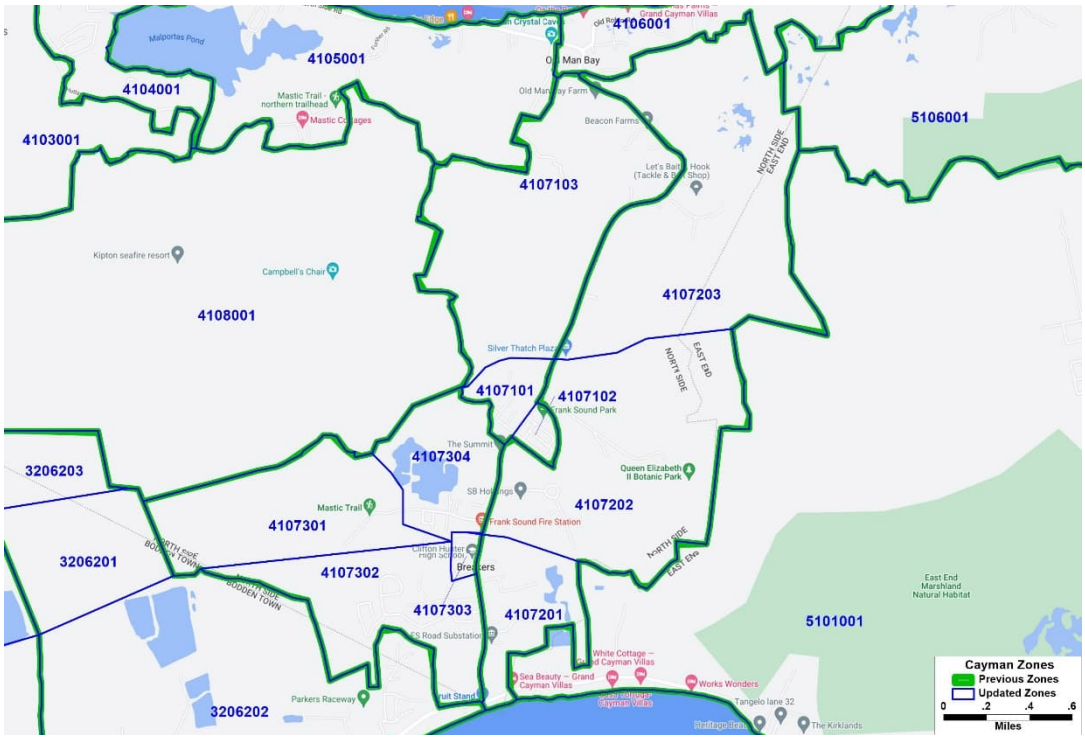


Figure 8: Zones 4107101, 4107201 and 4107301 Splitting

Development of 2021 Population & Households

Following the redefinition of the zone boundaries to support the EWA, the population and other household characteristics in each TAZ were updated for the full model area to be consistent with the 2021 Census data. Because the original TAZ boundaries were developed for nesting within the 2010 Enumeration Areas, a methodology was developed to allocate the EA data to the TAZs that considered cases where the TAZs were smaller than the EA or where the TAZ boundary crosses the EA boundary.

Figure 9 provides an example of where the TAZs aggregate to the EA boundary. For allocation of the EA population and households to the TAZ, the presence of development was used to help allocate the data. The allocation of the 2015 population and households to the TAZs were also used to help guide the allocation of the new EA level data.

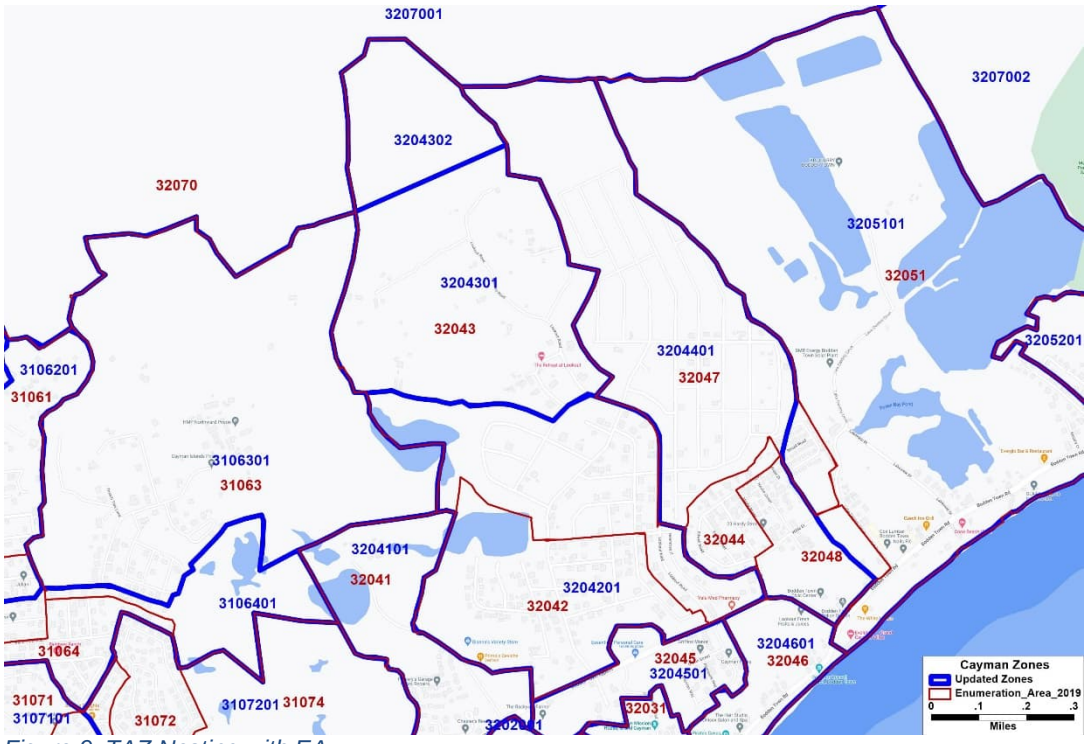


Figure 9: TAZ Nesting with EA

Figure 10 provides an example of where the TAZ boundary extends across EA areas. In these cases, it was necessary to manually allocate the EA population across the TAZ areas based on the aerial photography and existing land use coverage and building information.

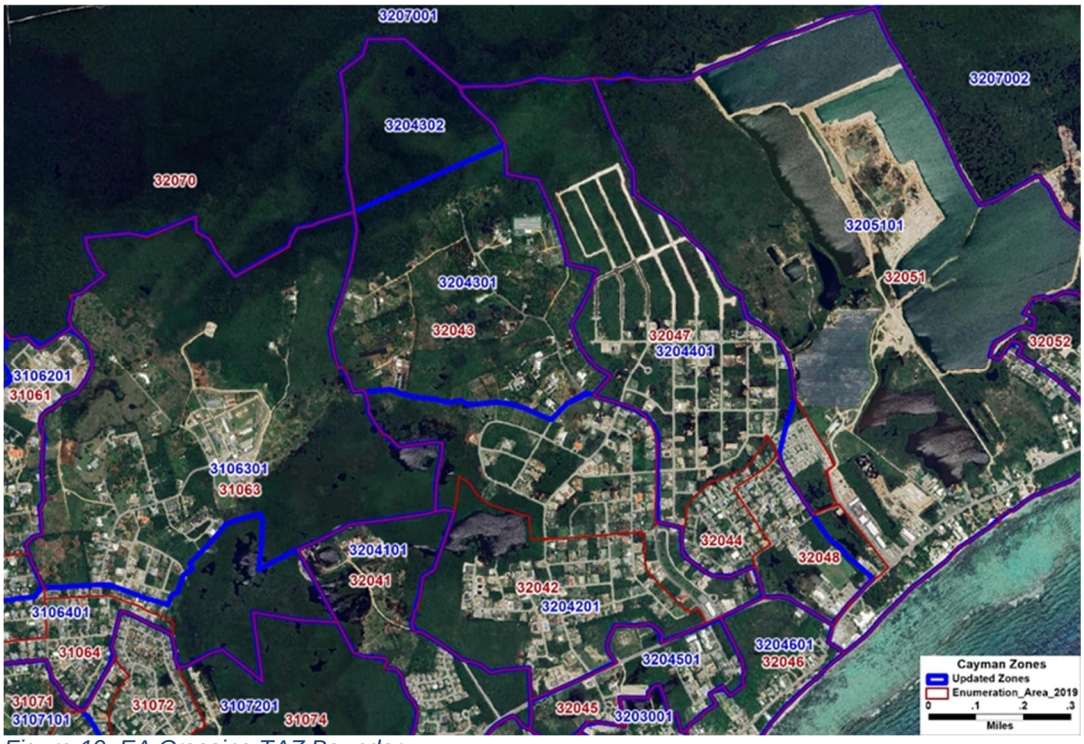


Figure 10: EA Crossing TAZ Boundary

Table 2 provides a comparison of the Census district totals for population and households compared to the developed TAZ population and households. Rounding to integer number of population was required for input into the model which corresponds to the small difference in resulting households in each district.

Table 2: District Population and Household Comparison

2021	EA		TAZ	
District Name	**Population**	**Households**	**Population**	**Households**
George Town	34,921	15,331	34,921	15,322
West Bay	15,335	6,408	15,335	6,400
Bodden Town	14,845	5,478	14,845	5,475
North Side	1,902	726	1,902	727
East End	1,846	696	1,846	696
Grand Cayman	68,848	28,639	68,849	28,620

2021 Land Use

The land use related variables (education, hotel rooms and land use categories) were developed for 2021 based on building upon the 2015 model inputs plus identified completed developments as identified by NRA. New information was provided related to school enrollment which was updated in the model inputs files for 2021. Table 3 and Table 4 provide a summary of the hotel and education land uses and employment-based land uses respectively.

Table 3: Hotel and Education Land Uses - 2021

District Name	Hotel Rooms	HOTEL_SF	EDUCATION_SF	Recreation_Acres
George Town	1,663	2,061,751	1,742,231	319
West Bay	1,165	1,191,503	271,401	21
Bodden Town	54	37,503	171,338	10
North Side	192	95,617	159,341	7
East End	379	692,584	56,240	7
Grand Cayman	3,453	4,078,959	2,400,551	364

Table 4: Employment Based Land Use - 2021

District Name	GOVERNMENT_SF	TOURISM_SF	INDUSTRIAL_SF	MANUFACTURING_SF	RESTAURANT_SF	RETAIL_SF	UTILITIES_SF
George Town	1,638,900	302,689	990,224	152,916	304,498	9,239,111	470,299
West Bay	52,434	133,074	4,534	66,050	119,593	448,563	114,202
Bodden Town	168,222	20,968	41,503	70,275	22,096	171,736	36,800
North Side	41,136	36,944	22,307	5,704	26,556	27,194	11,001
East End	21,975	3,009	6,727	6,387	12,698	265,328	16,060
Grand Cayman	1,922,667	496,684	1,065,295	301,332	485,441	10,151,932	648,362

2026 – 2046 Forecast Model Inputs

The analysis years for the EWA include 2026, 2036, 2046 and 2074. The model inputs for 2026 – 2046 are based on identified projects anticipated over the next 30 years as identified by NRA and provided to WRA to support the model. The 2074 horizon year includes three scenarios consistent with the low, medium and high growth land use scenarios developed as part of the EIA.

2026 through 2046 Population Forecasts

The interim years were developed based on data that has been provided to WRA from NRA that included identified developments that are anticipated across the island. For each development, a defined year was included by NRA for when it should be included in the model. For developments without an identified year, they were assumed to be complete by 2046. Information about the developments was used to define its population if residential or land use associated with employment. The projects were associated to specific TAZs based on the information provided.

Table 5, Table 6, and Table 7 below provide the growth in population at the district level for each forecast year. The tables include the prior period totals, additional population being added and final forecast population.

Table 5: 2026 Population Growth

District Name	2021	Development Population	2026
George Town	34,921	3,911	38,832
West Bay	15,335	2,236	17,571
Bodden Town	14,845	813	15,658
North Side	1,902	458	2,360
East End	1,846	106	1,952
Grand Cayman	68,849	7,524	76,373

Table 6: 2036 Population Growth

District Name	2026	Development Population	2036
George Town	38,832	6,990	45,822
West Bay	17,571	729	18,300
Bodden Town	15,658	1,334	16,992
North Side	2,360	910	3,270
East End	1,952	1,963	3,915
Grand Cayman	76,373	11,926	88,299

Table 7: 2046 Population Growth

District Name	2036	Development Population	2046
George Town	45,822	2,109	47,931
West Bay	18,300	5,014	23,314
Bodden Town	16,992	542	17,534
North Side	3,270	0	3,270
East End	3,915	4,053	7,968
Grand Cayman	88,299	11,718	100,017

Similar to population, the associated number of hotel rooms and land use associated with education, recreation and employment-based land uses were identified from the development information, allocated to the TAZs and included in the appropriate model year input data. Table 8 through Table 13 provide a summary of the additional land use added for each model year (2026, 2036 and 2046). The land use was added to the 2021 information presented previously to create the final model inputs for each model year.

Table 8: 2026 - Land Use - Hotel, Education, Recreational Acres

District Name	Hotel Rooms	HOTEL SF	EDUCATION SF	Recreational Acres
George Town	2,091	2,567,219	1,785,441	321
West Bay	1,576	1,676,894	271,401	21
Bodden Town	54	37,503	171,338	10
North Side	192	95,617	159,341	7
East End	379	692,584	56,240	7
Grand Cayman	4,292	5,069,818	2,443,761	366

Table 9: 2026 - Land Use - Remaining Land Use Types

District Name	GOVERNMENT SF	TOURISM SF	INDUSTRIAL SF	MANUFACTURING SF	RESTAURANT SF	RETAIL SF	UTILITIES SF
George Town	1,638,900	302,689	990,224	314,135	304,498	10,105,064	470,299
West Bay	52,434	133,074	4,534	66,050	155,274	451,813	114,202
Bodden Town	168,222	20,968	41,503	70,275	22,096	201,736	36,800
North Side	41,136	36,944	22,307	5,704	26,556	27,194	11,001
East End	21,975	3,009	6,727	6,387	12,698	265,328	16,060
Grand Cayman	1,922,667	496,684	1,065,295	462,551	521,122	11,051,135	648,362

Table 10: 2036 - Land Use - Hotel, Education, Recreational Acres

District Name	Hotel Rooms	HOTEL SF	EDUCATION SF	Recreational Acres
George Town	2,691	3,275,819	1,795,441	321
West Bay	1,576	1,676,894	271,401	21
Bodden Town	304	332,753	171,338	10
North Side	592	568,017	159,341	7
East End	869	1,271,274	56,240	7
Grand Cayman	6,032	7,124,758	2,453,761	366

Table 11: 2036 - Land Use - Remaining Land Use Types

District Name	GOVERNMENT SF	TOURISM SF	INDUSTRIAL SF	MANUFACTURING SF	RESTAURANT SF	RETAIL SF	UTILITIES SF
George Town	1,638,900	302,689	990,224	1,514,135	304,498	11,504,360	470,299
West Bay	52,434	133,074	4,534	66,050	155,274	751,813	114,202
Bodden Town	168,222	20,968	41,503	70,275	22,096	269,736	36,800
North Side	41,136	36,944	22,307	5,704	26,556	27,194	11,001
East End	21,975	3,009	6,727	6,387	12,698	665,328	16,060
Grand Cayman	1,922,667	496,684	1,065,295	1,662,551	521,122	13,218,431	648,362

Table 12: 2046 - Land Use - Hotel, Education, Recreational Acres

District Name	Hotel Rooms	HOTEL SF	EDUCATION SF	Recreational Acres
George Town	2,766	3,364,394	1,795,441	321
West Bay	1,698	1,820,976	271,401	24
Bodden Town	304	332,753	171,338	10
North Side	592	568,017	159,341	7
East End	1,359	1,849,964	56,240	7
Grand Cayman	6,719	7,936,105	2,453,761	369

Table 13: 2046 - Land Use - Remaining Land Use Types

District Name	GOVERNMENT SF	TOURISM SF	INDUSTRIAL SF	MANUFACTURING SF	RESTAURANT SF	RETAIL SF	UTILITIES SF
George Town	1,638,900	302,689	990,224	1,514,135	304,498	12,154,360	470,299
West Bay	52,434	133,074	4,534	66,050	168,474	1,051,813	114,202
Bodden Town	168,222	20,968	41,503	70,275	22,096	269,736	36,800
North Side	41,136	36,944	22,307	5,704	26,556	27,194	11,001
East End	21,975	3,009	6,727	6,387	12,698	1,857,328	16,060
Grand Cayman	1,922,667	496,684	1,065,295	1,662,551	534,322	15,360,431	648,362

Development of 2074 Land Use Scenarios

The EIA is based on the evaluation of the EWA under three different land use scenarios in 2074. The development of the 2074 land use scenarios was based on input from stakeholders from the various agencies in Grand Cayman is documented in by Memorandum “Land Use Planning Charrette Summary” dated September 8, 2023 coming from the Land Use Planning charette that occured on Wednesday, July 25, 2023. The outcome of the land use maps developed as part of the collaborative process were converted to input data to be used by the model.

Figure 13, Figure 14 and Figure 15 below show land use maps for the Low, Mid and High scenarios. For each scenario map, the existing population density by enumeration area is shown by color (Figure 11). The projected population and employment locations are represented by colored circles that distinguish low “L”, medium “M” or high “H” allocations (Figure 12).

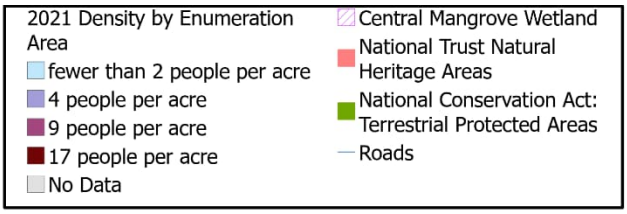


Figure 11: Population Density

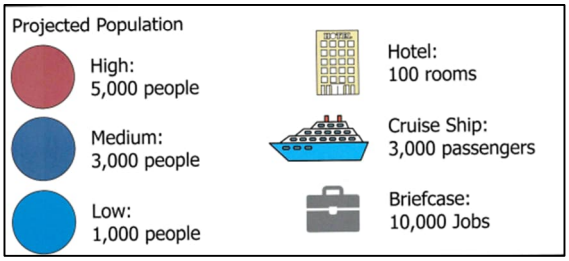


Figure 12: Activity Density Allocation

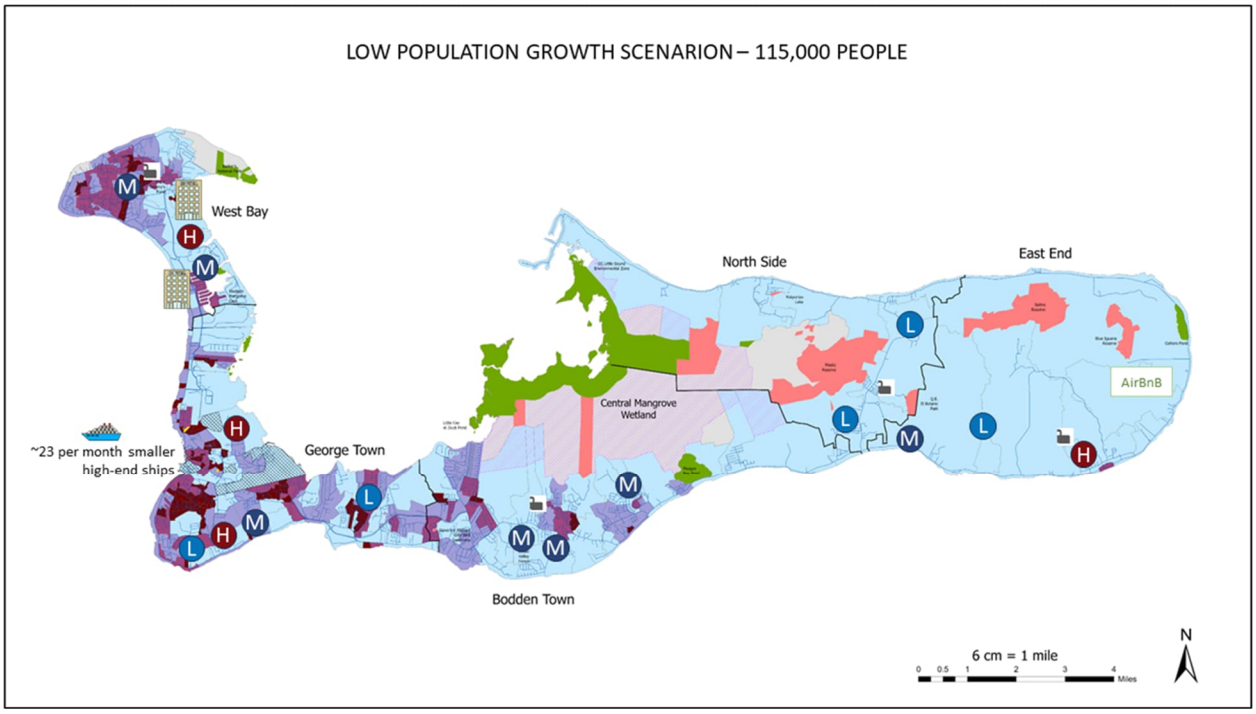


Figure 13: Low Scenario Charette Map for 2074

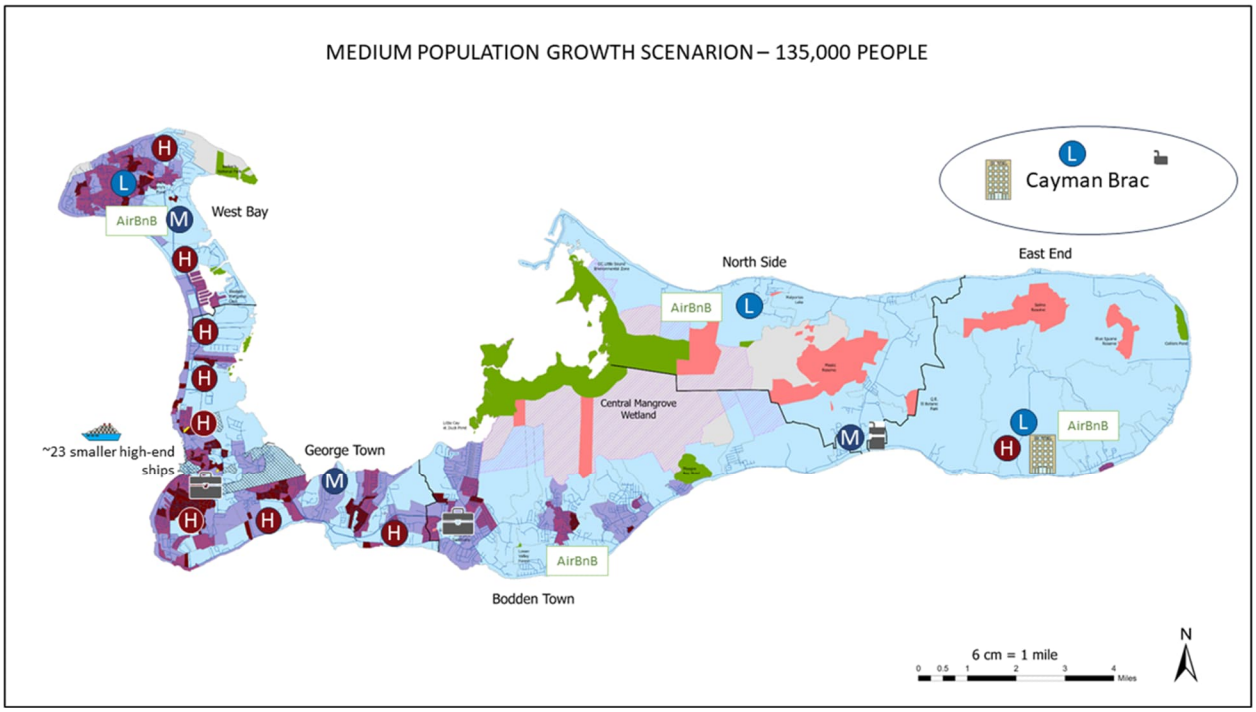


Figure 14: Mid Scenario Charette Map for 2074

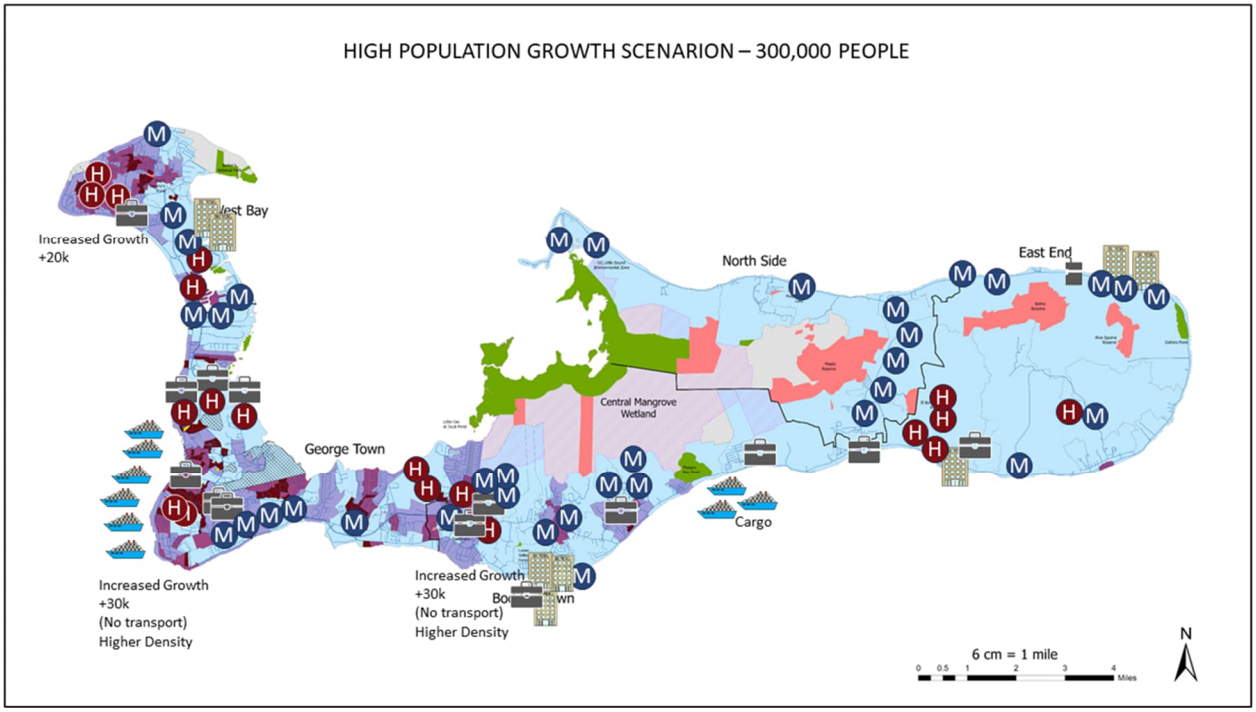


Figure 15: High Scenario Charette Map for 2074

The results of this charette process were summarized at the district level. Using the dots (population), briefcase (employment) and hotel placards from the charette, traffic analysis zones (TAZ) were identified to reflect the charette outcomes. Dots were identified as Low, Medium, and High for different population amounts to be

allocated in the general area of the dot. Briefcases are groups of 10,000 employees to distribute in the underlying zones, and hotel placards represented 100 hotel rooms. Each area represented by one of these placards was reviewed against aerial imagery to look at land density and TAZ size. Those observations determined how many TAZ were utilized to represent each placard.

Table 14 provides a summary of the population forecasts for each scenario by district. The table provides the 2046 population, forecast growth by district and total island population in 2074 for each scenario.

Table 14: 2074 Forecast Population Scenario Targets

District Name	2046	2074 Scenarios		
		Low	Mid	High
George Town	47,931	2,000	20,000	51,000
West Bay	23,314	3,000	6,000	37,000
Bodden Town	17,534	6,000	5,000	45,000
North Side	3,270	1,000	3,000	27,000
East End	7,968	4,000	1,000	43,000
Grand Cayman	100,017	16,000	35,000	203,000
Island Control Total		115,000	135,000	300,000

Table 15 provides a summary of the employment idented to added to each district.

Table 15: 2074 Forecast Employment Totals

District Name	2074 Scenarios		
	Low	Mid	High
George Town	0	10,000	60,000
West Bay	2,500	0	10,000
Bodden Town	2,500	10,000	45,000
North Side	2,500	2,500	10,000
East End	2,500	2,500	15,000
Grand Cayman	10,000	25,000	140,000

Allocation of Employment to Model Land Uses

The forecasts developed for 2074 Low, Medium and High Scenarios were based on establishing employment growth. The model uses associated land use rather than employment as the input variable. Thus it was necessary to establish a methodology for conversion of employment to associated model variables. To accomplish this allocation, it was necessary to assume that the distribution of employment by category was consistent with that in 2021.

2021 land use was converted to employment using island wide estimates of employment from ESO and conversion factors of employee per square footage. The employee per square footage rates were adjusted to align with the 2021 employment estimates. Table 16 provides the resulting distribution of employment by sector that was used for allocation of the 2074 employment.

Table 16: 2074 Estimate of Employment By Land Use Calculations

	GOVERNMENT	TOURISM	INDUSTRIAL	MANUFACTURING	RESTAURANT	RETAIL	UTILITIES	TOTAL
2021 SQ FT	1,922,667	496,684	1,065,295	301,332	485,441	10,151,932	648,362	15,071,713
Emp / KSF	292	475	430	216	272	475	163	
Emp	6,584	1,046	2,477	1,395	1,785	21,372	3,978	38,637
% Emp	17.0%	2.7%	6.4%	3.6%	4.6%	55.3%	10.3%	

Using the above distribution, the forecast employment for each district was then converted to land use by sector for allocation to the TAZ.

Hotel and Short-Term Rental Assignment

Hotels were identified during for each of the three scenarios. These were shown in groups of 100 rooms being added at specific locations. Hotel rooms were assigned per the assignment from the scenarios and converted to land use for attraction of resident trips per ratios used in the 2015 data development. Short-term rental properties are aggregated to the TAZ and treated as hotels. These are defined under the Hotel categories as input into the SE datasets. Table 17 provides the allocation amounts by district for each scenario.

Table 17: 2074 Estimate of Hotel and AirBnB Allocation

District Name	2074 Scenarios					
	Low		Mid		High	
	Hotel	Rental	Hotel	Rental	Hotel	Rental
George Town	100	0	0	0	0	0
West Bay	200	0	0	50	200	0
Bodden Town	0	0	0	50	300	0
North Side	0	0	0	50	0	0
East End	100	50	100	50	300	0
Grand Cayman	400	50	100	200	800	0

Low Scenario – Population and Employment

The Low scenario provides a distribution of population across the Island with the highest districts Bodden Town and East End. To align with the island total, the allocation targets per district were adjusted as required. Table 18 provides a summary of population allocation at the district level to reach the Island control total of 115,000.

Table 18: 2074 Low Population Allocation

District Name	2046	Target	Allocation	2074 Total
George Town	47,931	2,000	1,876	49,807
West Bay	23,314	3,000	2,810	26,124
Bodden Town	17,534	6,000	5,618	23,152
North Side	3,270	1,000	934	4,204
East End	7,968	4,000	3,745	11,713
Grand Cayman	100,017	16,000	14,983	115,000

Figure 16 shows at the TAZ level where the population was added. The resulting total population for the Low scenario is provided in Figure 17 for 2074.

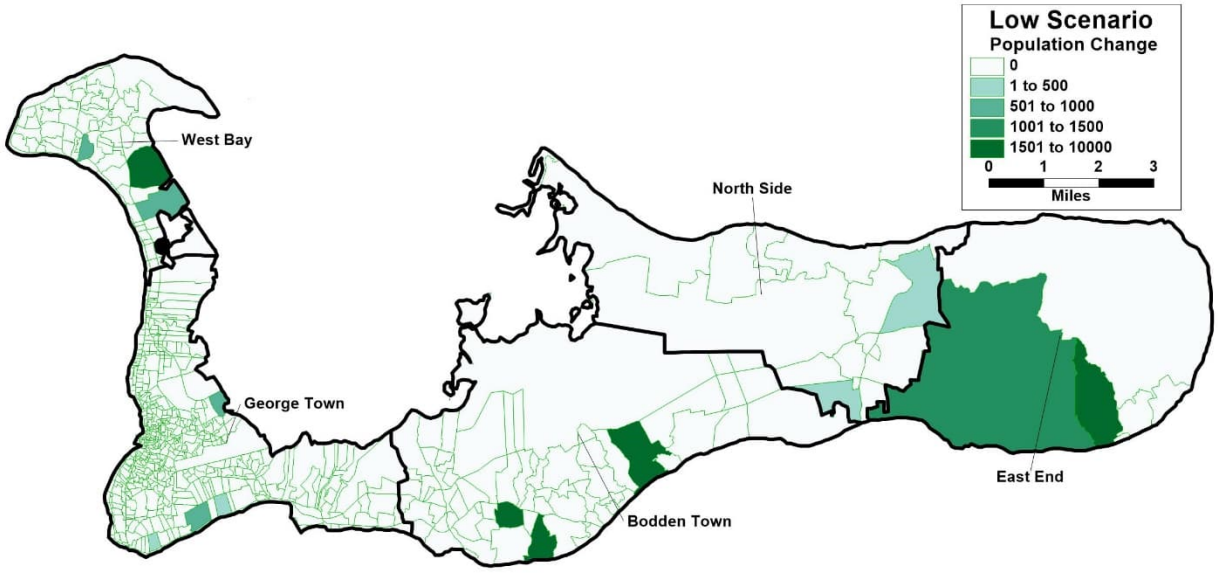


Figure 16: Low Scenario Net Population Change

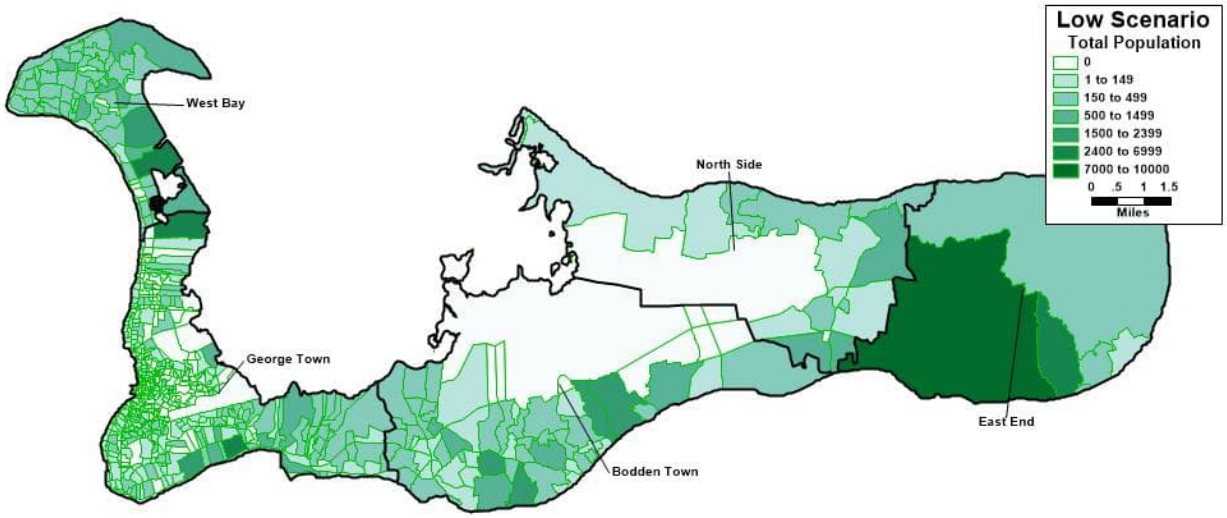


Figure 17: Low Scenario Total Population

Employment is allocated in four regions with George Town not receiving any employment allocation for this scenario. Employment and the represented square footage are provided in Table 19.

Table 19: 2074 Low Employment Allocation

District Name	EMP	GOVERNMENT SF	TOURISM SF	INDUSTRIAL SF	MANUFACTURING SF	RESTAURANT SF	RETAIL SF	UTILITIES SF
George Town	0	0	0	0	0	0	0	0
West Bay	2,500	124,300	32,000	68,800	19,300	31,300	656,800	41,800
Bodden Town	2,500	124,300	32,000	68,800	19,400	31,300	656,700	41,900
North Side	2,500	124,400	32,100	68,900	19,400	31,400	656,800	41,900
East End	2,500	124,300	32,100	68,800	19,400	31,300	656,700	41,900
Grand Cayman	10,000	497,300	128,200	275,300	77,500	125,300	2,627,000	167,500

Allocation to the zones is shown in Figure 18 and the total square footage in 2074 for the Low scenario is shown in Figure 19.

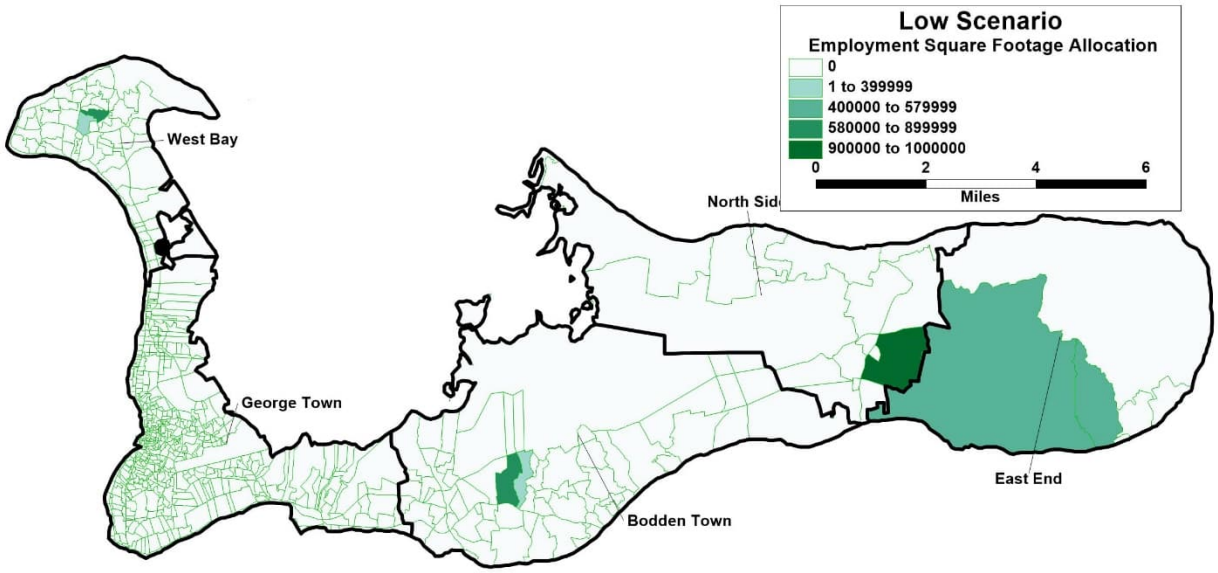


Figure 18: Low Scenario Net Employment Change

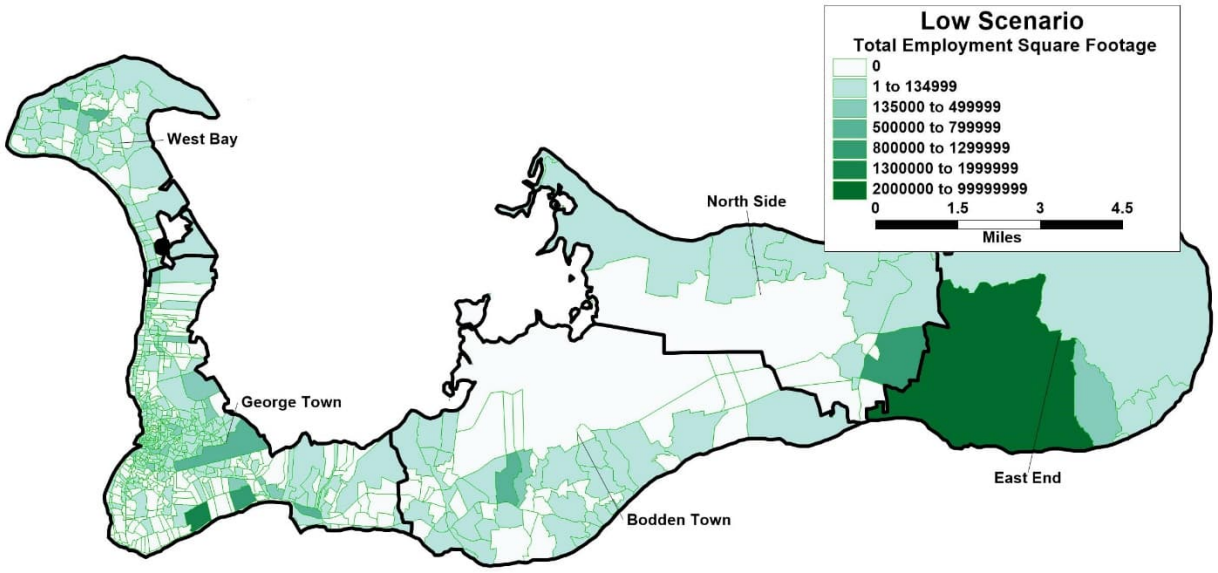


Figure 19: Low Scenario Total Employment

For the low scenario, a combination of Hotels and AirBnBs were identified for allocation across the Island. The Hotels were distributed by districts as provided in Table 17 and the AirBnB locations were only identified in the East End of the Island. Allocation of Hotel Rooms at the zonal level for 2074 Low Scenario are shown Figure 20

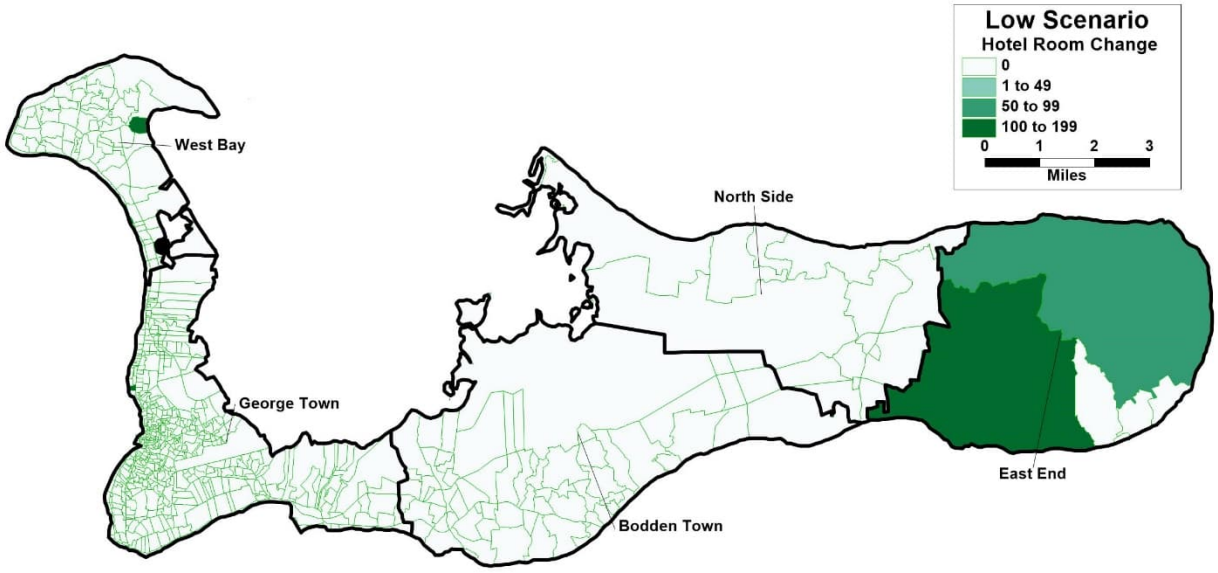


Figure 20: Low Scenario Net Hotel/Short-term Rental Change

The resulting total Hotel rooms for 2074 is shown below in Figure 21.

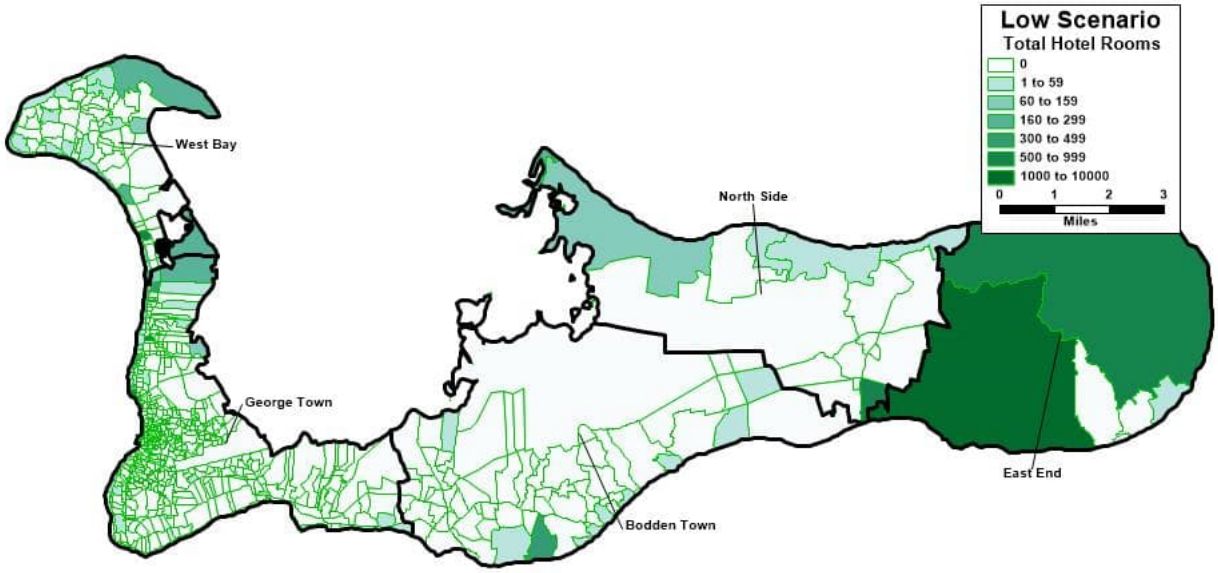


Figure 21: Low Scenario Total Hotel/Short-term Rental

Mid Scenario

The Mid Scenario concentrates growth in the George Town District with 57% of the population growth occurring in this part of the Island. The East End only receives approximately 3% of the growth.

Table 20: 2074 Mid Population Allocation

District Name	2046	Target	Allocation	2074 Total
George Town	47,931	20,000	19,988	67,919
West Bay	23,314	6,000	5,998	29,312
Bodden Town	17,534	5,000	4,998	22,532
North Side	3,270	3,000	2,999	6,269
East End	7,968	1,000	1,000	8,968
Grand Cayman	100,017	35,000	34,983	135,000

Figure 22 shows the location of the population growth at the TAZ resolution. Resulting total population for the Mid scenario is provided in Figure 23.

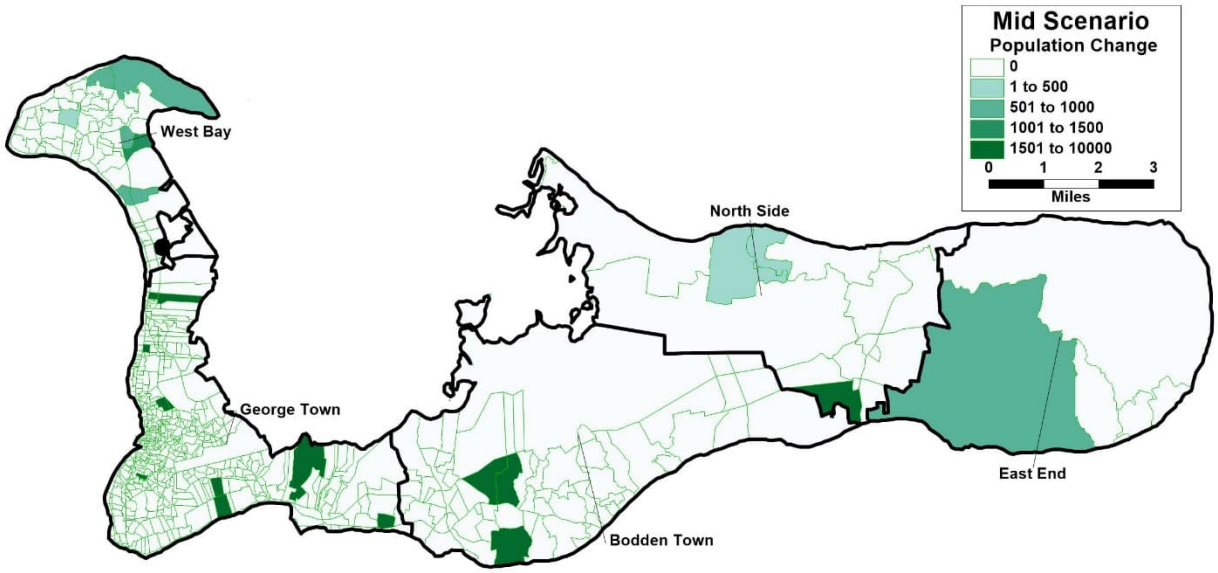


Figure 22: Mid Scenario Net Population Change

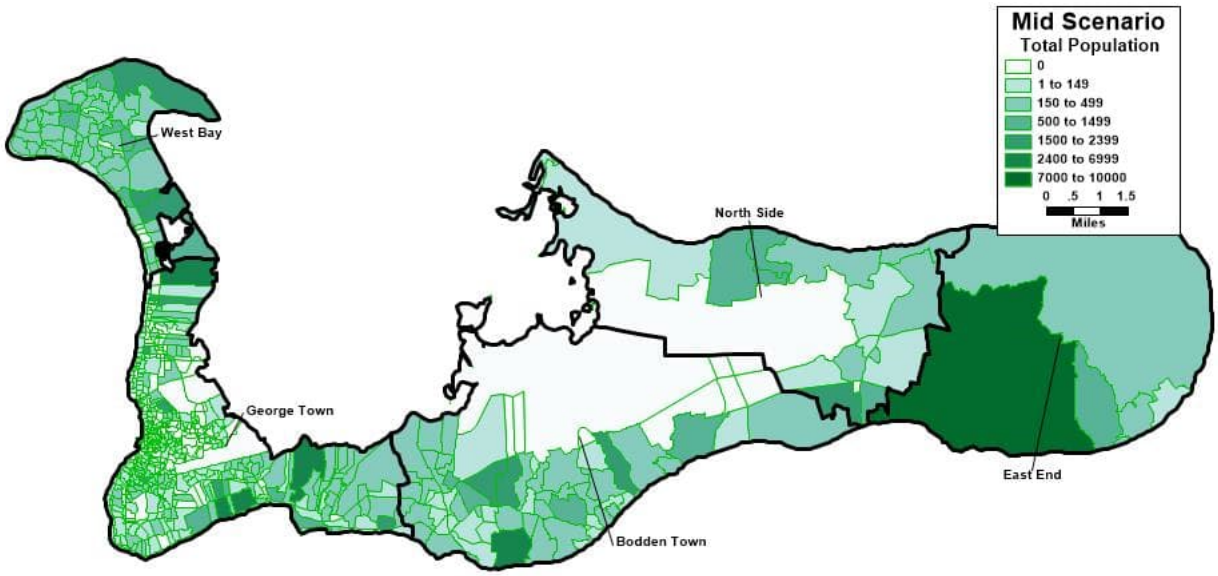


Figure 23: Mid Scenario Total Population

George Town (District 1) and Bodden Town (District 3) receive most of the employment growth while West Side (District 2) is not allocated any employment growth. Table 21 provides a summary of the additional land use added to each district based on the assigned employment.

Table 21: 2074 Mid Scenario Employment Allocation

District Name	EMP	GOVERNMENT_SF	TOURISM_SF	INDUSTRIAL_SF	MANUFACTURING_SF	RESTAURANT_SF	RETAIL_SF	UTILITIES_SF
George Town	10,000	497,600	128,500	275,600	77,800	125,600	2,627,400	167,700
West Bay	0	0	0	0	0	0	0	0
Bodden Town	10,000	497,600	128,500	275,600	77,800	125,600	2,627,400	167,700
North Side	2,500	124,400	32,100	68,900	19,400	31,400	656,800	41,900
East End	2,500	124,400	32,100	68,900	19,400	31,400	656,800	41,900
Grand Cayman	25,000	1,244,000	321,200	689,000	194,400	314,000	6,568,400	419,200

Figure 24 below shows the allocation of the total employment at the zonal level. The total square footage of employment for GOV, TOUR, IND, MU, RST, RET and UTL at the zonal level is found in Figure 25.

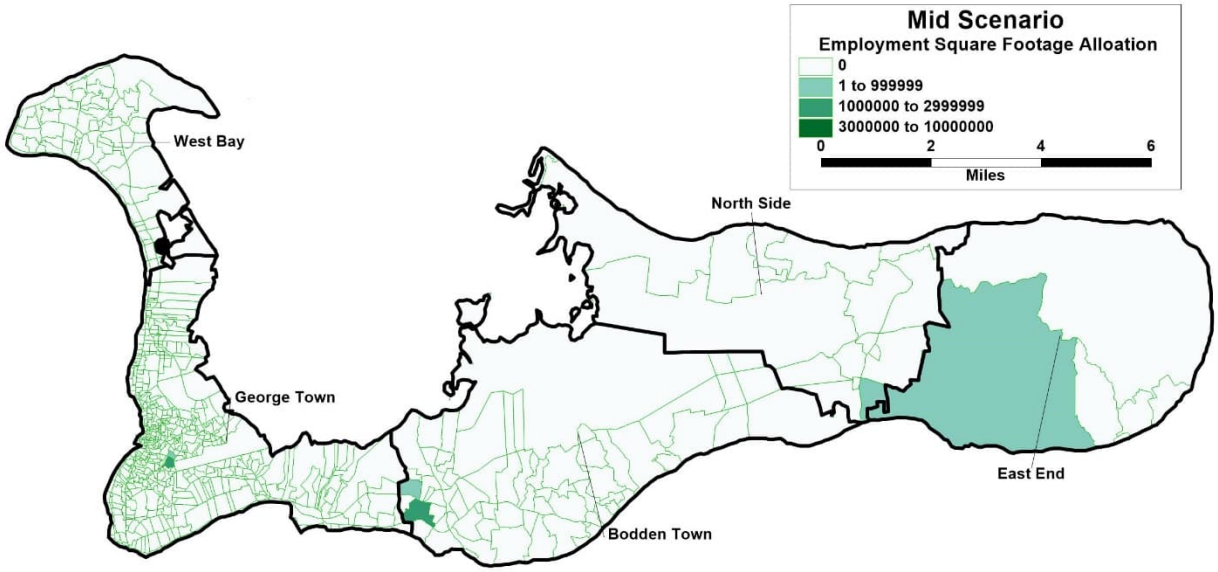


Figure 24: Mid Scenario Net Employment Change

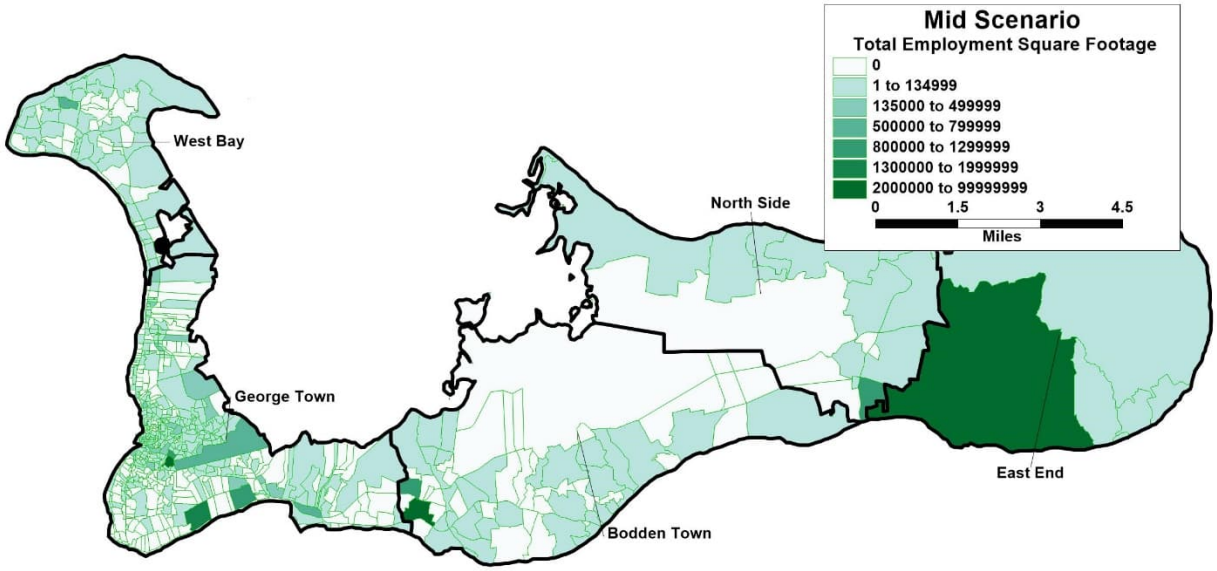


Figure 25: Mid Scenario Total Employment

For the Mid Scenario, short-term rentals were distributed in all but the George Town district, and Hotels were only identified in the East End district (Table 17). Figure 26 below shows the results of Charette and allocation of Hotel and short-term rentals at the zonal level.

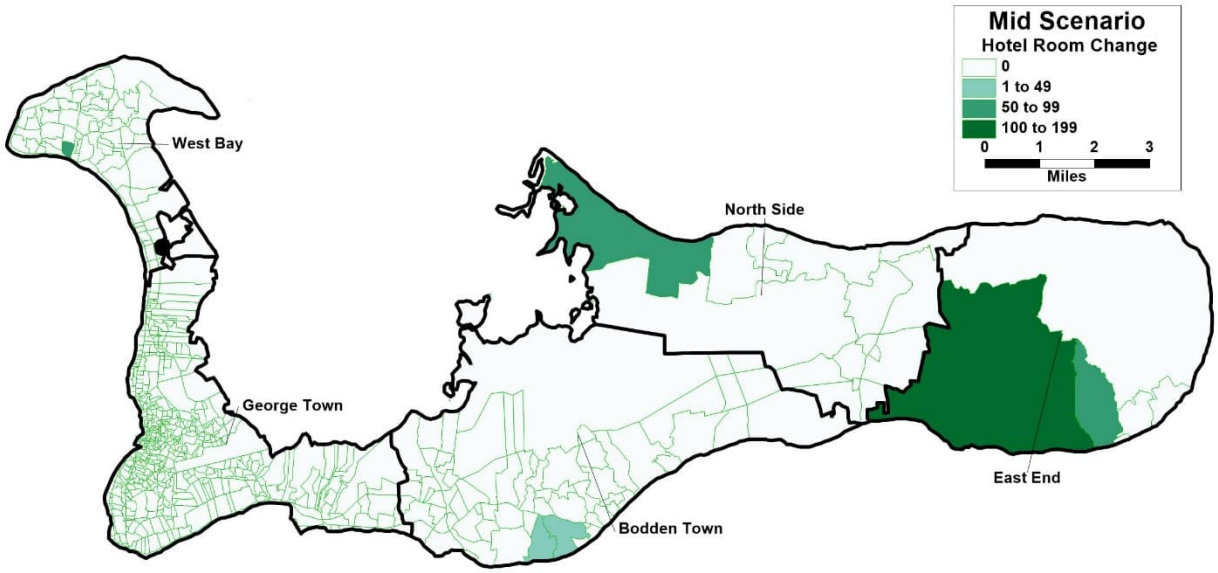


Figure 26: Mid Scenario Net Hotel/Short-term Rental Change

The resulting total Hotel and short-term rentals for the Mid Scenario are shown in Figure 27

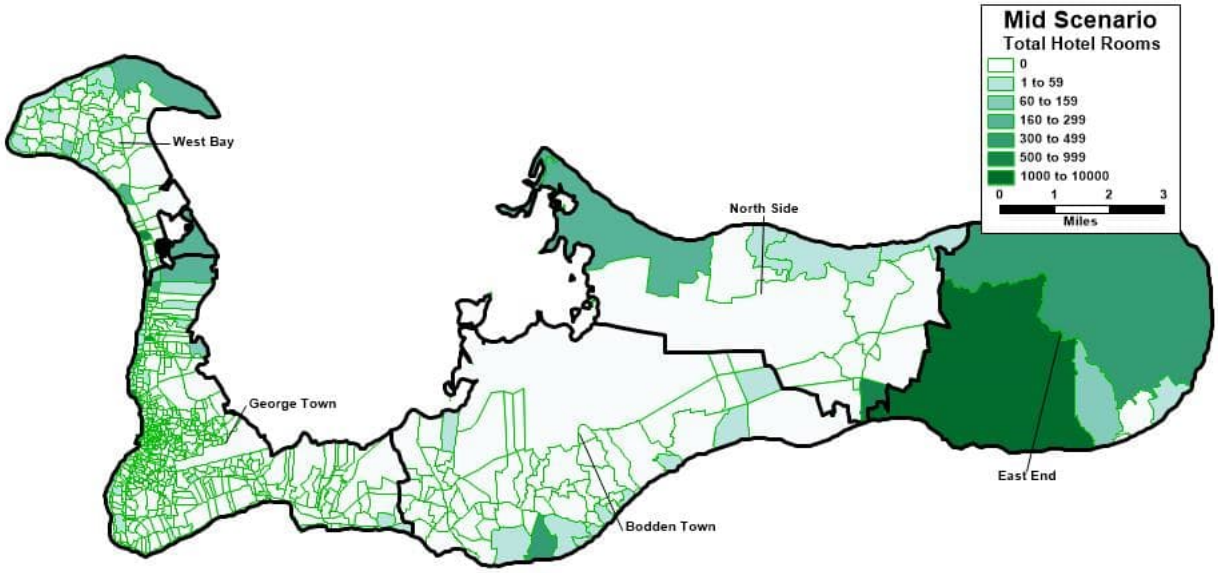


Figure 27: Mid Scenario Total Hotel/Short-term Rentals

High Scenario

The High Scenario provides an allocation of population across the Island. George Town receives a quarter of the population growth, while North Side receives 13% and East End is anticipated to receive 21% of that growth. Table 22 provides a summary of the Target and Resulting Allocation amounts for reaching the Island control total for the scenario.

Table 22: High Population Allocation

District Name	Target	Allocation	2074 Total
George Town	51,000	50,242	98,173
West Bay	37,000	36,450	59,764
Bodden Town	45,000	44,331	61,865
North Side	27,000	26,600	29,870
East End	43,000	42,360	50,328
Grand Cayman	203,000	199,983	300,000

The results of the allocation based on the charette recommendations are shown below in Figure 28. Resulting total population for the High scenario is provided in Figure 29 for 2074.

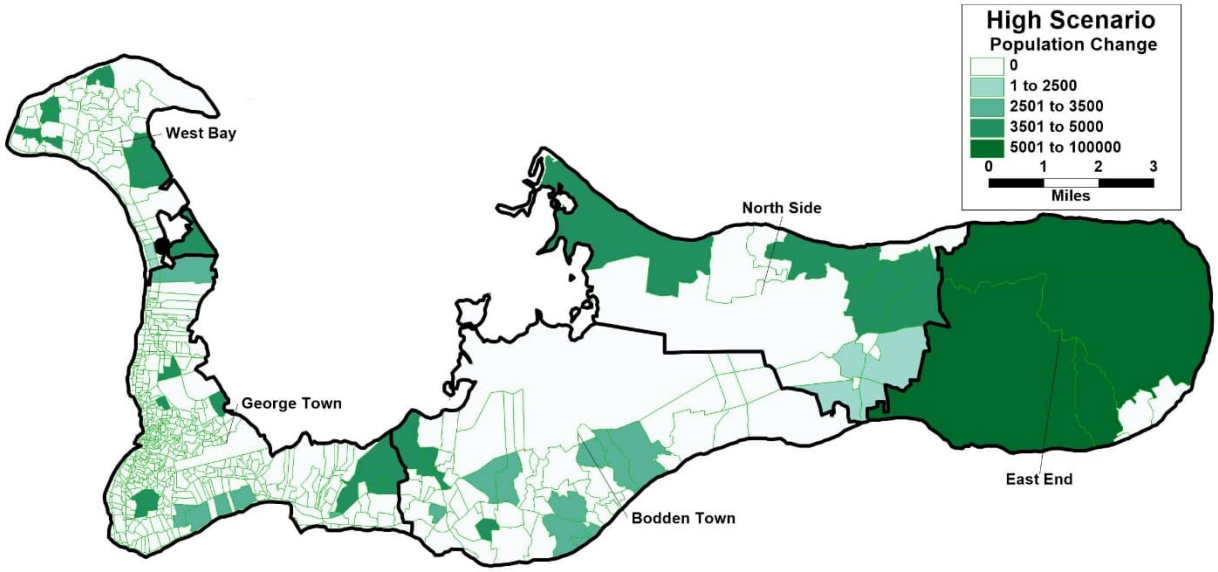


Figure 28: High Scenario Net Population Change

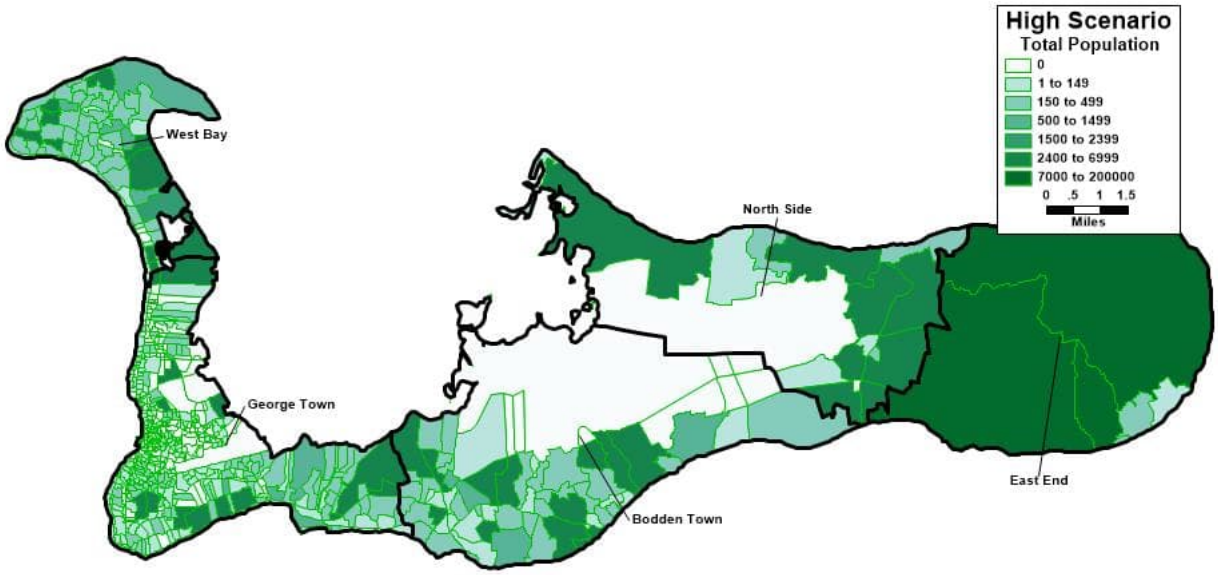


Figure 29: High Scenario Total Population

George Town and Bodden Town receive the highest levels of employment allocation for the Island taking 75% of the total assigned employment. West Bay and North Side receive the least amount splitting 1.5% of total employment distribution.
Table 23 shows the target employment numbers for distribution at the district level along with the associated square footage.

Table 23: High Scenario Employment Allocation

District Name	EMP	GOVERNMENT_SF	TOURISM_SF	INDUSTRIAL_SF	MANUFACTURING_SF	RESTAURANT_SF	RETAIL_SF	UTILITIES_SF
George Town	60,000	2,984,700	770,300	1,653,000	465,300	752,700	15,762,900	1,005,200
West Bay	10,000	497,500	128,400	275,700	77,800	125,500	2,627,400	167,700
Bodden Town	45,000	2,238,700	577,900	1,240,000	350,000	564,400	11,822,900	754,500
North Side	10,000	497,600	128,400	275,600	77,800	125,600	2,627,400	167,800
East End	15,000	746,400	192,700	413,500	116,800	188,400	3,941,100	251,700
Grand Cayman	140,000	6,964,900	1,797,700	3,857,800	1,087,700	1,756,600	36,781,700	2,346,900

The map below (Figure 30), shows the corresponding locations of where the land use square footage is allocated based on the scenario output in (Figure 14). Figure 31 shows the resulting total land use square footage as allocated across the Island.

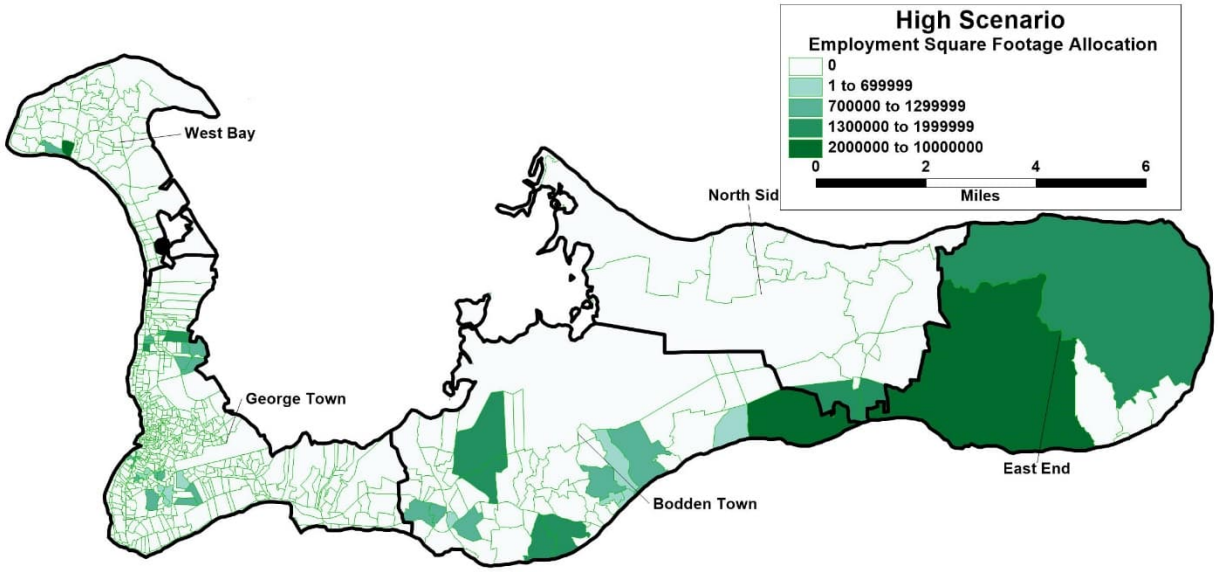


Figure 30: High Scenario Net Employment Change

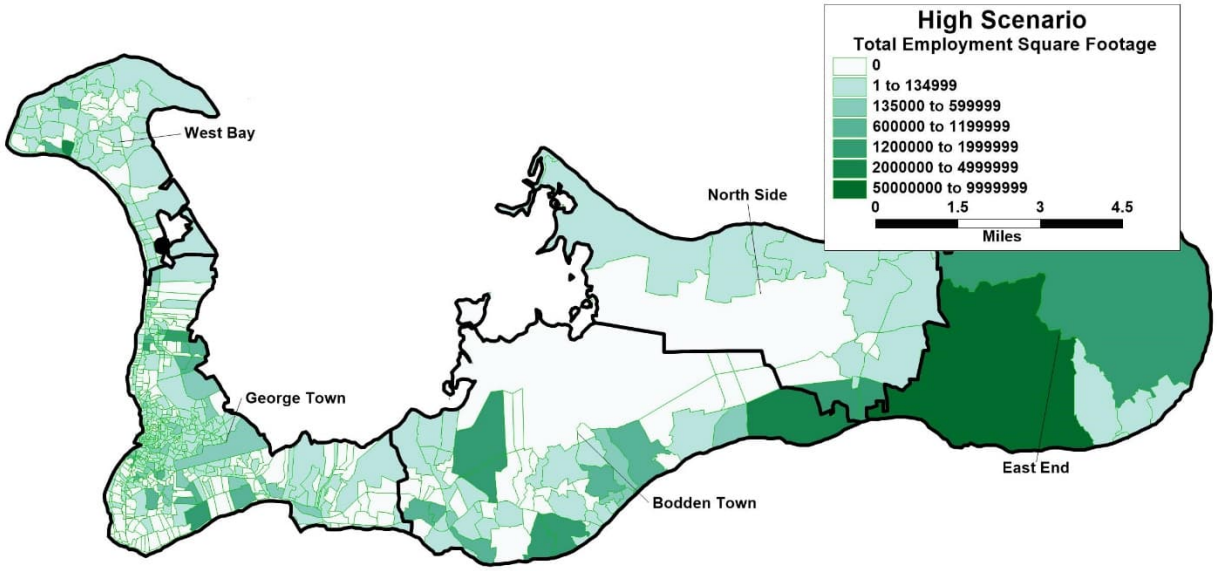


Figure 31: High Scenario Total Employment

For the High Scenario, short-term rentals were not identified. Hotels were shown for West Bay, Bodden Town and East End (Table 17). Figure 33 presents the resulting total Hotel rooms distributed across the Island.

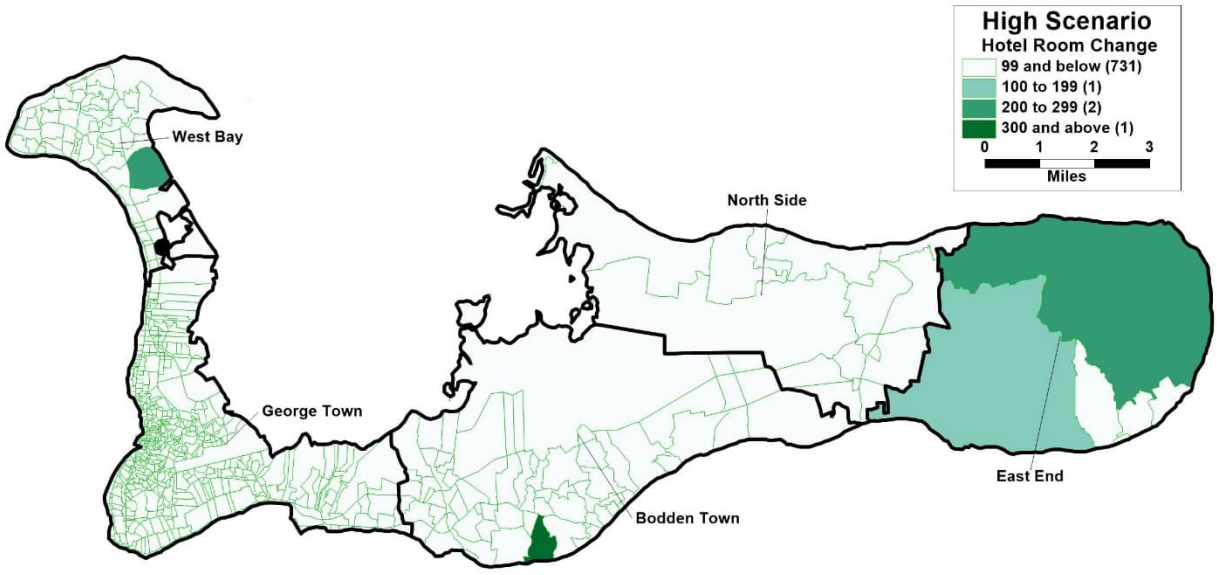


Figure 32: High Scenario Hotel / Short-term Rental Change

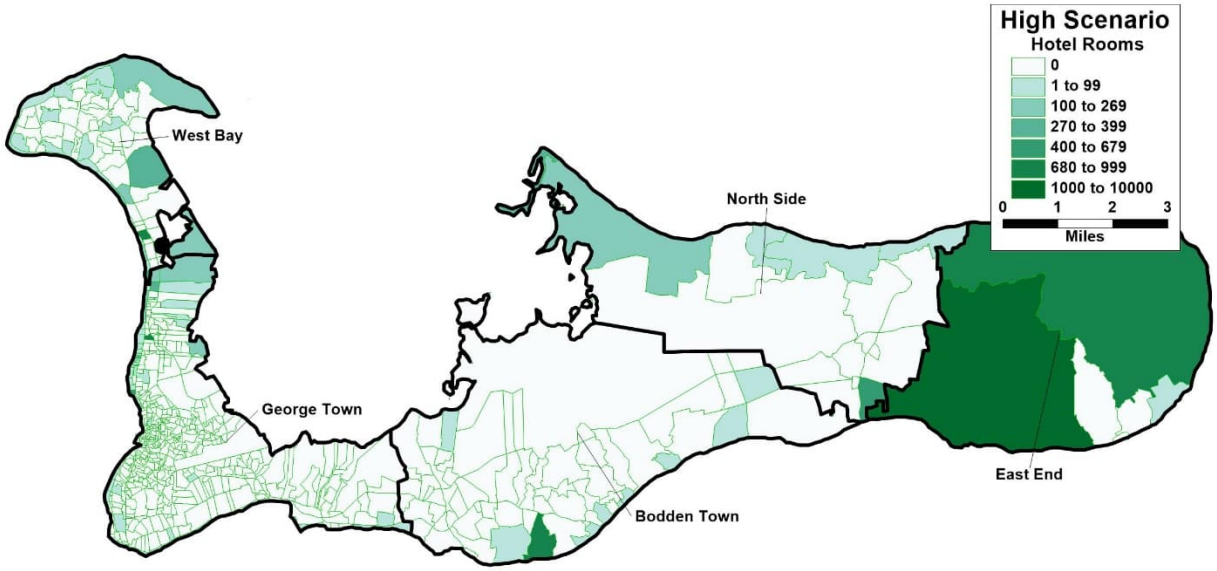


Figure 33: High Scenario Total Hotel / Short-term Rental

Short Term Visitor Updates

Short Term Visitors were updated based for the forecasts based on the identified estimate of cruise ships estimated for 2074. For 2026, 2036 and 2046 were then populated with 2015 (11,220), 2026 (14,800) and 2036 (19,200) values accounting for a slow rebound to pre-COVID numbers of visitors. Low and Mid Scenarios each have 9,000 Short Term Visitors defined at the original port location. The High Scenario allocates 18,000 to the original port location and 9000 to a new port location in the Bodden Town district. Table 24 presents the total anticipated short-term visitors from cruises. 2021 values are set to zero consistent with no cruise activity during the Covid pandemic.

Table 24: Short Term Visitors

Year	Visitors	Comment
2021	0	Covid #
2026	11,220	Historic growth based visitors
2036	14,800	Historic growth based visitors
2046	19,200	Historic growth based visitors
2074 Low	9,000	Charette Result
2074 Mid	9,000	Charette Result
2074 High	27,000	Charette Result

Freight Forecasts

The estimation of truck trips on the island is based on the number of twenty foot equivalent unit (TEU) received at the port on a daily basis. The estimate of TEU numbers were updated based on the latest observed number of TEUs processed at the port based on data from the Cayman Port Authority. The base year data was converted to a rate per population for forecasting purposes. This same approach was used for the 2015 Model. The ratio of base year TEU's to Population was then applied to each interim and 2074 Scenario year to determine the TEU's for each year and scenario. Using the 2015 ratio of TEU per population into the future is based on historical analysis of GDP change per capita, consumption patterns of developed economies and trends from the Cayman Port Authority. By using this ratio into the future it provides a conservative estimate of truck demand on the network that accounts for uncertainties in the future. Table 25 shows the resulting TEU's for each year and scenario.

Table 25: TEU Development

Year	Pop	TEU	TEU/Pop
2015	58,218	50	0.000859
2021	68,849	59	
2026	76,373	66	
2036	88,299	76	
2046	100,017	86	
2074 Low	115,000	99	
2074 Mid	135,000	116	
2074 High	300,000	258	

Attachment C:
Model Validation Memorandum

As part of the East-West Arterial (EWA) Extension Environmental Impact Assessment (EIA), the following memo establishes the modelling approach used to calibrate the Grand Cayman Travel Demand Model (GCM) to ensure the accuracy and reliability of the study's analyses. The calibration process plays a pivotal role in fine-tuning the GCM to reflect the dynamic nature of travel patterns within Grand Cayman.

Model Development Background

The Grand Cayman Travel Demand Model was initially developed by the NRA in 2019 using PTV VISUM travel demand modelling software. The model was originally developed using VISUM 18.02-08 and validated using 2016 traffic count data collected across the island. The original baseline model validation—including model structure, assumptions, and validation results—was documented and peer-reviewed by outside experts as part of an independent modelling task. To bring the model up to the latest PTV software, the calibrated travel demand model was rerun using VISUM 2022 Service Pack 1-2, and the model's vehicle assignment was validated once more against the original 2016 base year volumes as part of a related modelling task.

For the EWA EIA, it was necessary to conduct another model update to incorporate more recent data, with particular focus on the eastern side of the island in the districts of Bodden Town, North Side, and East End. The EWA EIA model study area extends from Hirst Road to Frank Sound Road, extending west of Woodland Drive to capture impacts at key intersections along Hirst Road.

As part of the effort to update the model for the EWA EIA, the following data sources were incorporated into the model to ensure the model accurately reflects current conditions within the study area from Hirst Road to Frank Sound Road:

- ESO census data: The GCM land use inputs and demographic data were updated to base year 2021 based on the latest available census data, with zonal boundary refinements to better reflect model alternatives. Refer to the **Model Inputs Memorandum** for further details about changes to the land use and demographic data.
- Traffic count data: The NRA collected turning movement counts (TMC) and automatic traffic recorder counts (ATR) at key locations in June 2023. Refer to the **Data Collection Memorandum** for further details about the traffic counts, which were used to validate the GCM vehicle assignment within the study area.
- Travel time data: The NRA collected end-to-end corridor travel time runs during AM and PM peak periods along Shamrock Road and Frank Sound Road. Refer to the **Data Collection Memorandum** for further details about the travel time runs, which were used to validate the GCM vehicle assignment within the study area.

The travel demand model was ultimately calibrated to 2021 base year conditions for AM and PM peak hours based on the validation criteria established by the UK Department for Transport's Transport Analysis Guidance (WebTAG) Unit M3-1 Highway Assignment Modelling.

Link Flow and Turning Movement Validation

The NRA collected traffic count data at intersections and road segments along East-West Arterial, Hirst Road, Shamrock Road, Bodden Town Road, and Frank Sound Road. The TMC and ATR data were used to select peak hours of 6:00 to 7:00 AM and 5:00 to 6:00 PM, which were determined to be the hours drivers typically began their journey through the study area. The 2023 traffic counts were compared to available count data from previous years and adjusted as needed to create a balanced set of counts that reflects realistic travel patterns.

To better represent peak hour congestion and support the VISTRO traffic operations model, the VISUM model used the origin-destination matrix estimation (ODME) process, which uses the original AM/PM peak hour vehicle trip tables generated from the GCM as seed matrices. Using the TMC and ATR data as targets, the ODME process adjusts the vehicle trip tables so that the model produces volumes that closely match the traffic count data. The output peak hour trip tables are then assigned to the network for the AM and PM peak hour analyses.

Based on the WebTAG Unit M3-1, the validation criteria and guidelines for link flows and turning movements are defined in **Table 1** to ensure the model reproduces traffic volumes appropriately. These criteria applied for all vehicles for both AM and PM peak hours.

According to WebTAG Unit M3-1, the GEH statistic is a form of the Chi-squared statistic that is used to compare modelled traffic volumes against observed real-world traffic volumes. The GEH statistic is defined as follows, where *GEH* is the GEH statistic, *M* is the modelled hourly traffic volume, and *C* is the observed hourly traffic volume:

$$GEH = \sqrt{\frac{(M-C)^2}{(M+C)/2}}$$

A GEH of less than 5 is considered a close match between the modelled and observed traffic volume.

Table 1: Link Flow and Turning Movement Validation Criteria

Criteria	Description of Criteria	Guideline
1	Individual flows within 100 veh/h of counts for flows less than 700 veh/h	>85% of cases
	Individual flows within 15% of counts for flows from 700-2,700 veh/h	
	Individual flows within 400 veh/h of counts for flows more than 2,700 veh/h	
2	GEH < 5 for individual flows	>85% of cases

The model-assigned volumes were displayed against the observed AM and PM peak hour counts using scatterplots to illustrate the model validation in **Figure 1** through **Figure 4**. For each peak hour, the R-squared coefficient of determination (R^2) statistical measure was used to determine how well the model matches the count volumes for both the turning movement and roadway link volumes. As shown in **Figure 1** through **Figure 4**, the AM and PM peak hours both produce R^2 values of nearly 1.0, indicating the model is well validated to the count data.

Figure 1: AM Peak Hour Assignment Volumes vs ATR Count Data

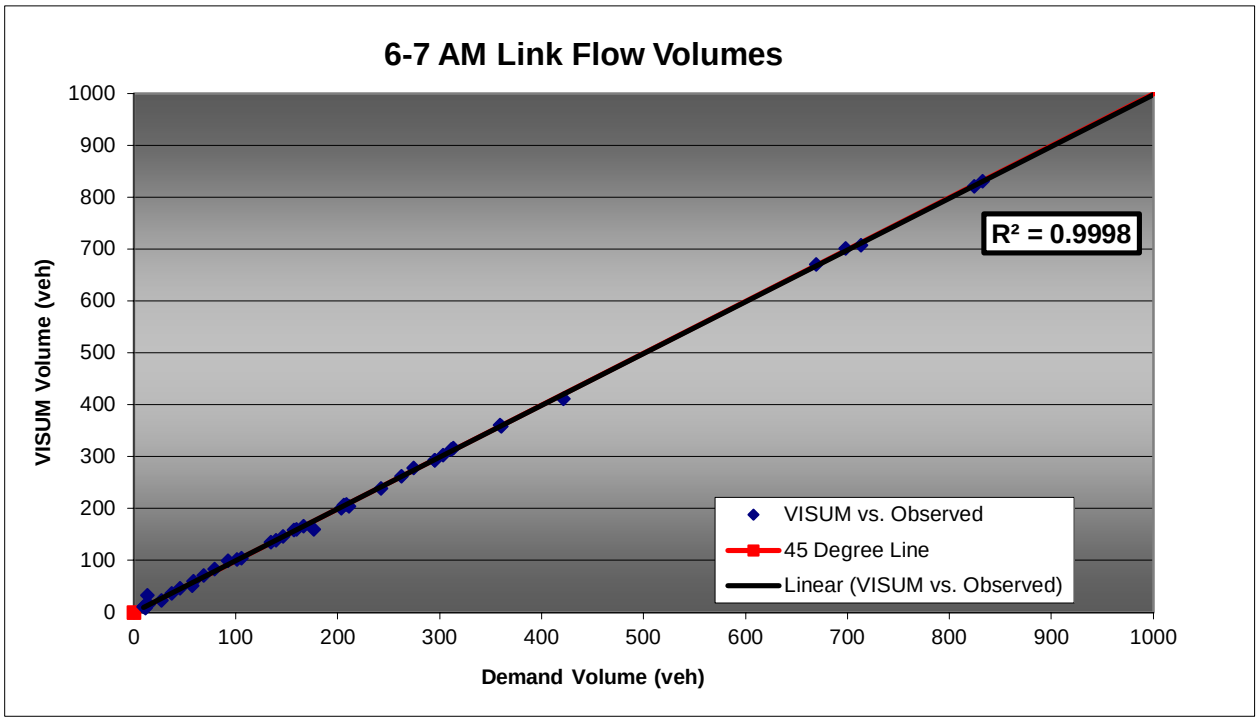


Figure 2: AM Peak Hour Assignment Volumes vs TMC Data

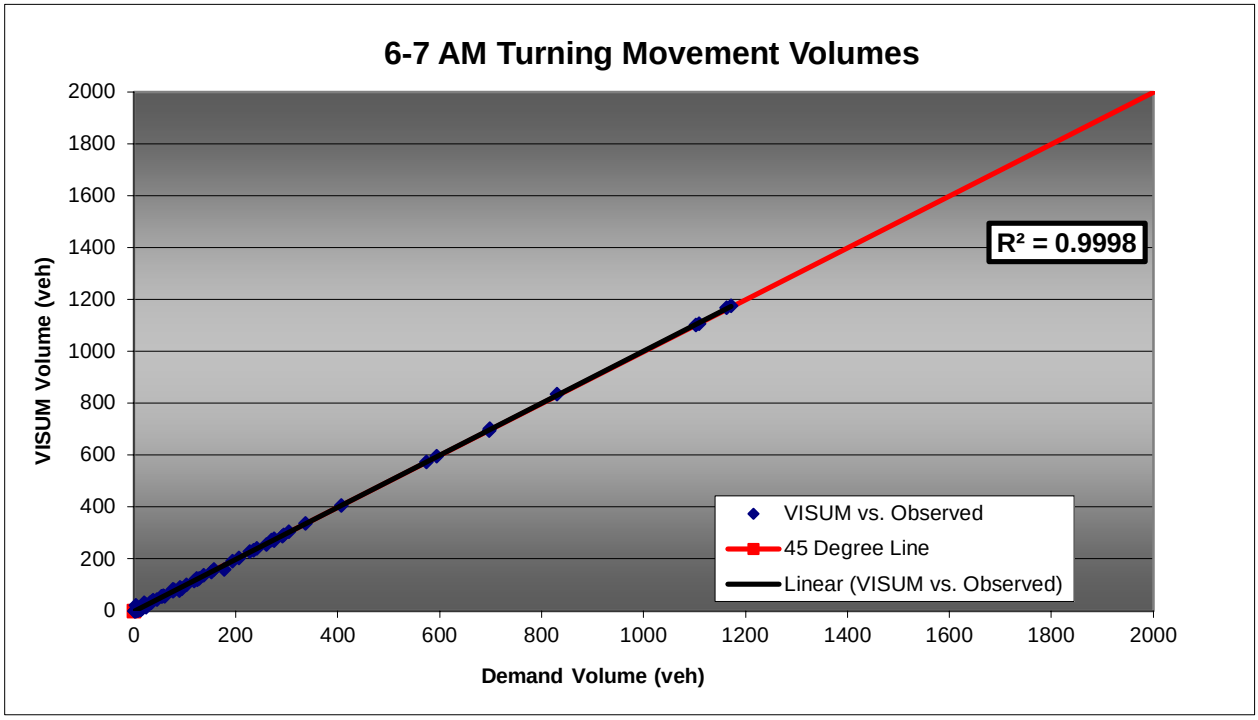


Figure 3: PM Peak Hour Assignment Volumes vs ATR Count Data

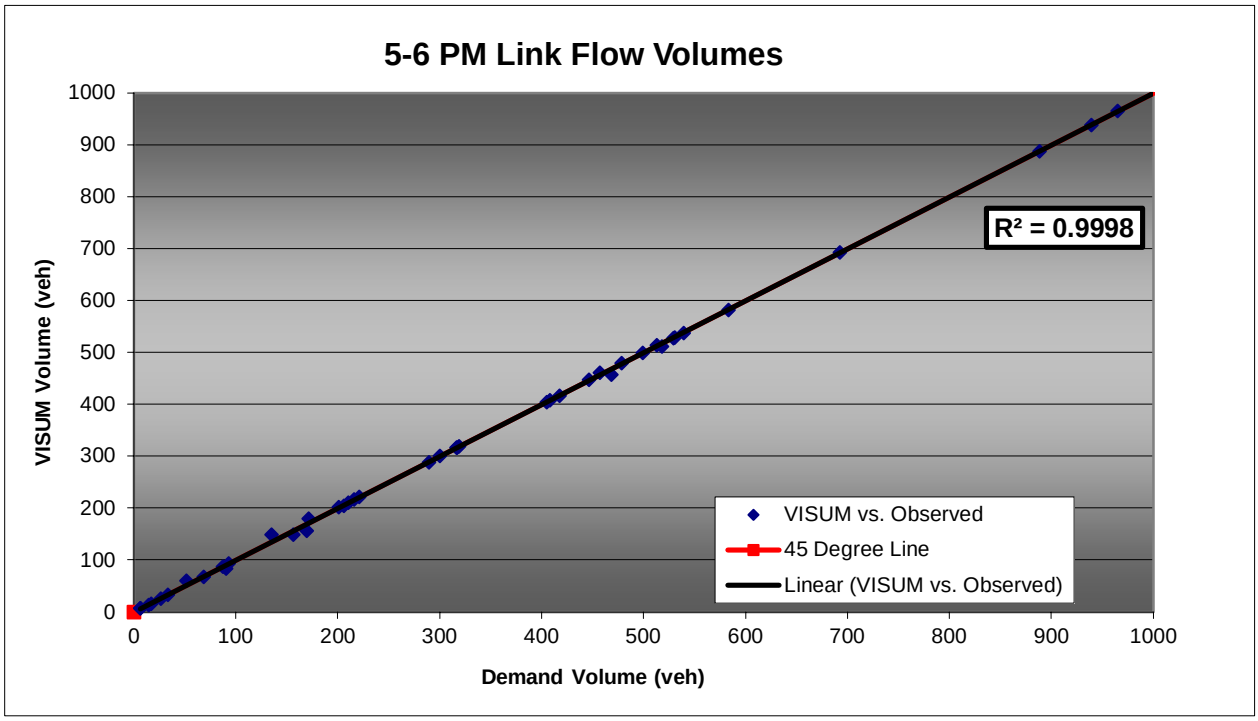
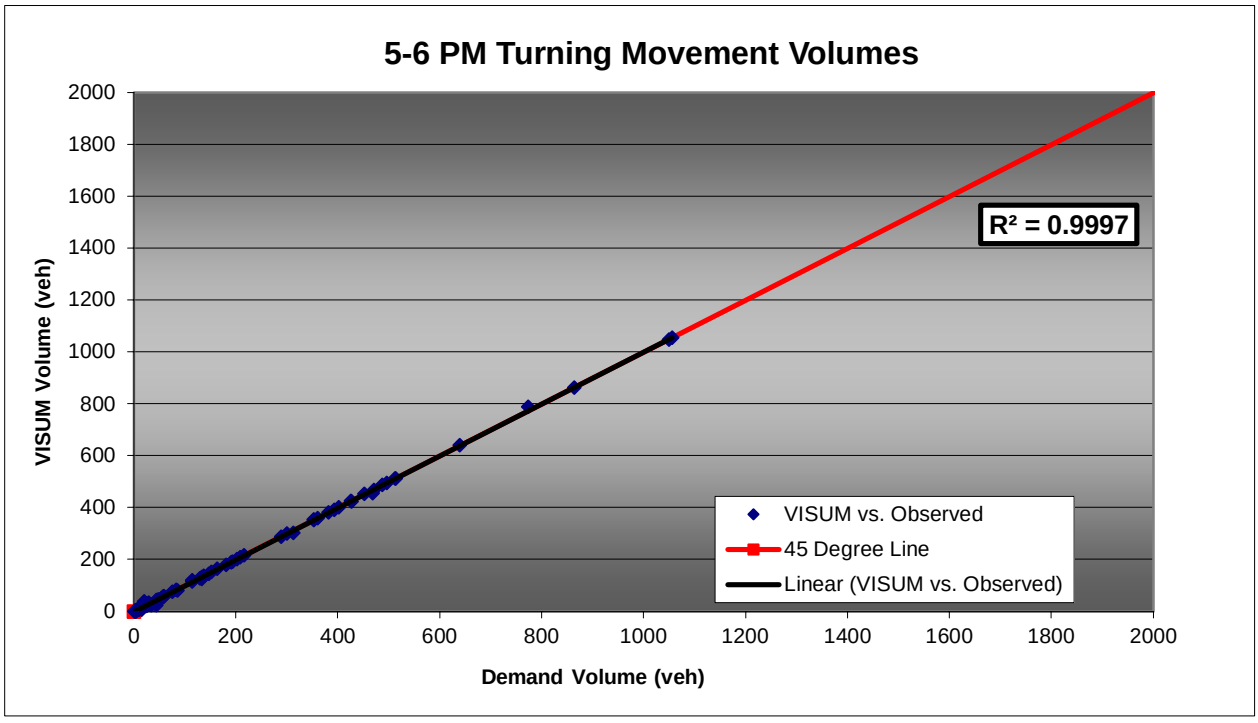


Figure 4: PM Peak Hour Assignment Volumes vs TMC Data



The traffic volume validation results for both AM and PM peak hours are shown in Table 2: Link Flow and Turning Movement Volume Validation**Table 2** for each of the validation thresholds as defined by the WebTAG Unit M3-1 guidelines. The traffic volume links and turns within the model network all exceed the 85% validation criteria for both AM and PM peak hours.

Table 2: Link Flow and Turning Movement Volume Validation

Criteria	Validation Thresholds	% Meeting Calibration Thresholds			
		6:00 – 7:00 AM		5:00 – 6:00 PM	
		Links	Turns	Links	Turns
Simulated Traffic Volume (veh/h) for 85% of the network links and network turning movements	Individual flows within 100 veh/h of counts for flows less than 700 veh/h	100%	100%	100%	100%
	Individual flows within 15% of counts for flows from 700-2,700 veh/h	100%	100%	100%	100%
	GEH < 5 for individual flows	100%	100%	100%	100%
	Total	**100%**	**100%**	**100%**	**100%**

Journey Time Validation

The NRA performed end-to-end travel time runs along East-West Arterial, Shamrock Road, Bodden Town Road, and Frank Sound Road during peak and off-peak periods, including the selected AM and PM peak hours. Along these corridors, free flow speeds were updated in the model to reflect the off-peak free flow travel speeds, particularly to account for roadway geometry such as curves and narrow lanes.

To match the travel time data more closely, the model volume delay functions (VDF) were reevaluated as needed. The original VDF for secondary arterials was determined to produce unrealistical travel time and speed results that were too high compared to the travel time data collected along Shamrock Road and Bodden Town Road. As a result, the VDFs for secondary arterials were updated within the model study area east of Tomlinson Roundabout using the BPR function, with parameters of a = 0.3 and b = 2.1, which are each within the acceptable ranges defined by the FHWA Travel Demand Validation Manual.

Based on the WebTAG Unit M3-1, the journey time validation criterion and guideline are defined in **Table 3** to ensure the model travel times appropriately. This criterion was applied for both AM and PM peak hours.

Table 3: Journey Time Validation Criteria

Criteria	Guideline
Modelled times along routes should be within 15% of surveyed times (or 1 minute, if higher than 15%)	>85% of routes

Within the model study area, the following travel time routes were used to validate the model:

- Eastbound Shamrock Road / Bodden Town Road, from Hirst Road to Frank Sound Road
- Westbound Shamrock Road / Bodden Town Road, from Frank Sound Road to Hirst Road
- Northbound Frank Sound Road, from Bodden Town Road to Old Robin Road
- Southbound Frank Sound Road, from Old Robin Road to Bodden Town Road

The simulated AM travel time results for each of these corridors are provided in **Table 4** through **Table 7**, and the simulated PM travel time results are provided in **Table 8** through **Table 11.** For each corridor, these tables provide the field-observed travel time (**TT**), the field-observed cumulative travel time (**CTT**), the model-simulated travel time (**TT_S**), the cumulative simulated travel time (**CTT_S**), and the percent difference between field and simulated (**%Δ**).

Table 4: AM Peak Hour Travel Times for Eastbound Shamrock Road

	FIELD DATA		VISUM SIMULATED DATA			
Intersection / Link Data	**Travel Time (sec)**		**Travel Time (sec)**		**VISUM Error**	
Node	**TT**	**CTT**	**TT_S**	**CTT_S**	**%Δ**	**Δ (sec)**
from Shamrock Rd at Hirst Rd (#2)	**-**	-	**-**	-	-	-
to Shamrock Rd at Lancelot Dr (#100)	**56**	56	**48**	48	14%	8
to Shamrock Rd at Woodland Dr (#3)	**20**	76	**21**	69	-5%	-1
to Shamrock Rd at Agricola Dr (#4)	**25**	101	**23**	92	8%	2
to Shamrock Rd at Will T Rd (#5)	**53**	154	**47**	140	11%	6
to Shamrock Rd at Beach Bay Rd (#6)	**45**	199	**41**	180	10%	4
to Shamrock Rd at Northward Rd (#7)	**31**	230	**27**	208	11%	4
School zone 15 mph (#80)	**49**	279	**44**	252	10%	5
to Shamrock Rd at Condor Rd (#8)	**11**	290	**17**	268	-50%	-6
Curve starting near Spice Dr (#81)	**17**	307	**22**	290	-28%	-5
Curve ending (#82)	**25**	332	**27**	317	-8%	-2
to Bodden Town Rd at Bodden Town Bypass (#9)	**94**	426	**99**	416	-5%	-5
Speed limit change near Woods Cl (#91)	**79**	505	**77**	493	3%	2
Curve starting near Grand Cayman Villas (#92)	**76**	581	**87**	580	-14%	-11
to Bodden Town Rd at Long Fellow Dr (#10)	**41**	622	**29**	609	28%	12
Speed limit change (#101)	**108**	730	**94**	704	13%	14
Speed limit change near Cliff Hill Ln (#102)	**65**	795	**52**	756	20%	13
Curve ending near Frenchmans Dr (#103)	**64**	859	**58**	813	10%	6
to Frank Sound Rd at Bodden Town Rd (#11)	**44**	903	**36**	850	17%	8
Corridor Average	**903**		**850**		**6%**	**OK**

Table 5: AM Peak Hour Travel Times for Westbound Shamrock Road

	FIELD DATA		VISUM SIMULATED DATA			
Intersection / Link Data	**Travel Time (sec)**		**Travel Time (sec)**		**VISUM Error**	
Node	**TT**	**CTT**	**TT_S**	**CTT_S**	**%Δ**	**Δ (sec)**
from Frank Sound Rd at Bodden Town Rd (#11)	**-**	-	**-**	-	-	-
to Curve ending near Frenchmans Dr (#103)	**44**	44	**37**	37	17%	7
to Speed limit change near Cliff Hill Ln (#102)	**55**	99	**58**	95	-6%	-3
to Speed limit change (#101)	**62**	161	**52**	147	16%	10
to Bodden Town Rd at Long Fellow Dr (#10)	**94**	255	**96**	243	-2%	-2
to Curve starting near Grand Cayman Villas (#92)	**31**	286	**30**	272	3%	1
Speed limit change near Woods Cl (#91)	**68**	354	**89**	361	-30%	-21
to Bodden Town Rd at Bodden Town Bypass (#9)	**78**	432	**79**	440	-2%	-1
to Curve ending (#82)	**103**	535	**102**	543	1%	1
to Curve starting near Spice Dr (#81)	**24**	559	**28**	571	-17%	-4
to Shamrock Rd at Condor Rd (#8)	**19**	578	**23**	593	-20%	-4
to School zone 15 mph (#80)	**17**	595	**19**	612	-9%	-2
to Shamrock Rd at Northward Rd (#7)	**72**	667	**50**	662	31%	22
to Shamrock Rd at Beach Bay Rd (#6)	**41**	708	**32**	694	22%	9
to Shamrock Rd at Will T Rd (#5)	**56**	764	**51**	745	9%	5
to Shamrock Rd at Agricola Dr (#4)	**64**	828	**69**	814	-8%	-5
to Shamrock Rd at Woodland Dr (#3)	**32**	860	**34**	848	-7%	-2
to Shamrock Rd at Lancelot Dr (#100)	**26**	886	**31**	879	-18%	-5
to Shamrock Rd at Hirst Rd (#2)	**53**	939	**70**	949	-33%	-17
Corridor Average	**939**		**949**		**-1%**	**OK**

Table 6: AM Peak Hour Travel Times for Northbound Frank Sound Road

	FIELD DATA		VISUM SIMULATED DATA			
Intersection / Link Data	**Travel Time (sec)**		**Travel Time (sec)**		**VISUM Error**	
Node	**TT**	**CTT**	**TT_S**	**CTT_S**	**%Δ**	**Δ (sec)**
from Frank Sound Rd at Bodden Town Rd (#11)	**-**	-	**-**	-	-	-
to 120 - School Speed (#120)	**54**	54	**64**	64	-19%	-10
to Frank Sound Rd at Clifton Hunter HS (#12)	**28**	82	**27**	91	4%	1
to 121 - School Speed (#121)	**8**	90	**14**	106	-81%	-6
to curve starting at Lariat Rd (#122)	**20**	110	**12**	118	41%	8
to curve ending near Silver Thatch Plaza (#123)	**78**	188	**72**	189	8%	6
to end of bend near Beacon Farms (#125)	**103**	291	**93**	282	10%	10
Corridor Average	**291**		**282**		**3%**	**OK**

Table 7: AM Peak Hour Travel Times for Southbound Frank Sound Road

	FIELD DATA		VISUM SIMULATED DATA			
Intersection / Link Data	**Travel Time (sec)**		**Travel Time (sec)**		**VISUM Error**	
Node	**TT**	**CTT**	**TT_S**	**CTT_S**	**%Δ**	**Δ (sec)**
from Frank Sound Rd at Old Robin Rd (#13)	**-**	-	**-**	-	-	-
to End of bend near Beacon Farms (#125)	**11**	11	**13**	13	-14%	-2
to Curve ending near Silver Thatch Plaza (#123)	**77**	88	**65**	77	16%	12
to Curve starting at Lariat Rd (#122)	**105**	193	**93**	170	12%	12
to 121 - School Speed (#121)	**74**	267	**72**	241	3%	2
to Frank Sound Rd at Clifton Hunter HS (#12)	**17**	284	**12**	253	31%	5
to 120 - School Speed (#120)	**6**	290	**15**	268	-142%	-9
to Frank Sound Rd at Bodden Town Rd (#11)	**40**	330	**27**	295	32%	13
Corridor Average	**387**		**360**		**7%**	**OK**

Table 8: PM Peak Hour Travel Times for Eastbound Shamrock Road

	FIELD DATA		VISUM SIMULATED DATA			
Intersection / Link Data	**Travel Time (sec)**		**Travel Time (sec)**		**VISUM Error**	
Node	**TT**	**CTT**	**TT_S**	**CTT_S**	**%Δ**	**Δ (sec)**
from Shamrock Rd at Hirst Rd (#2)	**-**	-	**-**	-	-	-
to Shamrock Rd at Lancelot Dr (#100)	**83**	83	**66**	66	21%	17
to Shamrock Rd at Woodland Dr (#3)	**30**	113	**29**	95	3%	1
to Shamrock Rd at Agricola Dr (#4)	**31**	143	**32**	126	-4%	-1
to Shamrock Rd at Will T Rd (#5)	**61**	204	**65**	191	-7%	-4
to Shamrock Rd at Beach Bay Rd (#6)	**61**	265	**52**	243	14%	9
to Shamrock Rd at Northward Rd (#7)	**34**	299	**34**	277	1%	0
School zone 15 mph (#80)	**52**	350	**50**	327	3%	1
to Shamrock Rd at Condor Rd (#8)	**13**	363	**19**	346	-50%	-6
Curve starting near Spice Dr (#81)	**18**	380	**23**	369	-32%	-6
Curve ending (#82)	**23**	403	**29**	398	-24%	-6
to Bodden Town Rd at Bodden Town Bypass (#9)	**97**	500	**105**	503	-9%	-8
Speed limit change near Woods Cl (#91)	**77**	576	**82**	584	-7%	-5
Curve starting near Grand Cayman Villas (#92)	**70**	646	**91**	676	-31%	-21
to Bodden Town Rd at Long Fellow Dr (#10)	**31**	677	**31**	707	1%	0
Speed limit change (#101)	**91**	768	**98**	805	-8%	-7
Speed limit change near Cliff Hill Ln (#102)	**57**	825	**53**	858	6%	3
Curve ending near Frenchmans Dr (#103)	**53**	877	**59**	917	-12%	-7
to Frank Sound Rd at Bodden Town Rd (#11)	**39**	916	**37**	955	5%	2
Corridor Average	**916**		**955**		**-4%**	**OK**

Table 9: PM Peak Hour Travel Times for Westbound Shamrock Road

	FIELD DATA		VISUM SIMULATED DATA			
Intersection / Link Data	**Travel Time (sec)**		**Travel Time (sec)**		**VISUM Error**	
Node	**TT**	**CTT**	**TT_S**	**CTT_S**	**%Δ**	**Δ (sec)**
from Frank Sound Rd at Bodden Town Rd (#11)	**-**	-	**-**	-	-	-
to Curve ending near Frenchmans Dr (#103)	**37**	37	**37**	37	-1%	0
to Speed limit change near Cliff Hill Ln (#102)	**49**	86	**59**	97	-22%	-11
to Speed limit change (#101)	**58**	143	**54**	150	7%	4
to Bodden Town Rd at Long Fellow Dr (#10)	**95**	238	**98**	248	-3%	-3
to Curve starting near Grand Cayman Villas (#92)	**32**	270	**31**	279	4%	1
Speed limit change near Woods Cl (#91)	**72**	342	**90**	369	-26%	-19
to Bodden Town Rd at Bodden Town Bypass (#9)	**89**	431	**80**	449	10%	9
to Curve ending (#82)	**114**	544	**103**	552	9%	10
to Curve starting near Spice Dr (#81)	**25**	569	**28**	581	-16%	-4
to Shamrock Rd at Condor Rd (#8)	**21**	590	**23**	604	-9%	-2
to School zone 15 mph (#80)	**14**	603	**18**	621	-31%	-4
to Shamrock Rd at Northward Rd (#7)	**60**	663	**47**	669	20%	12
to Shamrock Rd at Beach Bay Rd (#6)	**35**	697	**30**	698	14%	5
to Shamrock Rd at Will T Rd (#5)	**52**	749	**44**	742	16%	8
to Shamrock Rd at Agricola Dr (#4)	**50**	799	**51**	793	-4%	-2
to Shamrock Rd at Woodland Dr (#3)	**26**	824	**25**	818	2%	1
to Shamrock Rd at Lancelot Dr (#100)	**23**	847	**22**	840	3%	1
to Shamrock Rd at Hirst Rd (#2)	**55**	902	**48**	888	12%	7
Corridor Average	**902**		**888**		**1%**	**OK**

Table 10: PM Peak Hour Travel Times for Northbound Frank Sound Road

	FIELD DATA		VISUM SIMULATED DATA			
Intersection / Link Data	**Travel Time (sec)**		**Travel Time (sec)**		**VISUM Error**	
Node	**TT**	**CTT**	**TT_S**	**CTT_S**	**%Δ**	**Δ (sec)**
from Frank Sound Rd at Bodden Town Rd (#11)	**-**	-	**-**	-	-	-
to 120 - School Speed (#120)	**45**	45	**50**	50	-11%	-5
to Frank Sound Rd at Clifton Hunter HS (#12)	**18**	63	**11**	61	39%	7
to 121 - School Speed (#121)	**5**	68	**6**	67	-17%	-1
to curve starting at Lariat Rd (#122)	**14**	82	**12**	78	15%	2
to curve ending near Silver Thatch Plaza (#123)	**58**	140	**72**	151	-25%	-14
to end of bend near Beacon Farms (#125)	**82**	222	**93**	244	-14%	-11
to Frank Sound Rd at Old Robin Rd (#13)	**60**	282	**65**	309	-8%	-5
Corridor Average	**282**		**309**		**-10%**	**OK**

Table 11: PM Peak Hour Travel Times for Southbound Frank Sound Road

	FIELD DATA		VISUM SIMULATED DATA			
Intersection / Link Data	**Travel Time (sec)**		**Travel Time (sec)**		**VISUM Error**	
Node	**TT**	**CTT**	**TT_S**	**CTT_S**	**%Δ**	**Δ (sec)**
from Frank Sound Rd at Old Robin Rd (#13)	**-**	-	**-**	-	-	-
to End of bend near Beacon Farms (#125)	**57**	57	**65**	65	-14%	-8
to Curve ending near Silver Thatch Plaza (#123)	**85**	142	**94**	159	-10%	-9
to Curve starting at Lariat Rd (#122)	**60**	202	**72**	231	-21%	-12
to 121 - School Speed (#121)	**13**	215	**12**	243	8%	1
to Frank Sound Rd at Clifton Hunter HS (#12)	**5**	220	**6**	249	-17%	-1
to 120 - School Speed (#120)	**17**	237	**11**	260	36%	6
to Frank Sound Rd at Bodden Town Rd (#11)	**44**	281	**50**	310	-13%	-6
Corridor Average	**281**		**210**		**-10%**	**OK**

The journey time validation results for both AM and PM peak hours are shown in **Table 12** for the validation thresholds as defined by the WebTAG Unit M3-1. The travel times along all four corridors within the model study area met the 15% validation threshold for both AM and PM peak hours, indicating the model is well validated.

Table 12: Journey Time Validation

Simulated Measure	Validation Threshold	% Meeting Calibration Threshold	
		6:00 – 7:00 AM	5:00 – 6:00 PM
85% of all routes	Within 15%	100%	100%

Summary of Results

The traffic volumes and travel times were the primary metrics used to determine calibration of the AM and PM peak hour VISUM model assignments. The GCM produced traffic volumes and journey times within the validation criteria established by WebTag Unit M3-1, as shown in **Table 2** and **Table 12**, respectively. For both turning movement and link flow volumes, the GCM met the validation criteria for 100 percent of the count locations in both AM and PM peak hours. For the four travel time corridors along Shamrock Road / Bodden Town Road and Frank Sound Road, the GCM produced journey times satisfying the validation criteria for both AM and PM peak hours.

In summary, based on this comparison against field-collected traffic volume and travel time data, the Grand Cayman Travel Demand Model vehicle assignment is considered well calibrated for both AM and PM peak hours.

References

Department for Transport. (2020). *TAG UNIT M3.1 Highway Assignment Modelling*.https://www.gov.uk/government/publications/webtag-tag-unit-m3-1-highway-assignment-modelling

Federal Highway Administration. (2010). *Travel Model Validation and Reasonability Checking Manual Second Edition*

Attachment D: VISTRO Reports

Attachment D1

2021 Base VISTRO Reports

Intersection Level Of Service Report
Intersection 101: East-West Arterial Road at Hirst Road

Control Type:	Two-way stop	Delay (sec / veh):	28.6
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.240

Intersection Setup

Name	Hirst Rd		Hirst Rd		East-West Arterial	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	150.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Hirst Rd		Hirst Rd		East-West Arterial	
Base Volume Input [veh/h]	0	80	702	0	55	31
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	80	702	0	55	31
Peak Hour Factor	1.0000	0.6400	0.6400	1.0000	0.6400	0.6400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	31	274	0	21	12
Total Analysis Volume [veh/h]	0	125	1097	0	86	48
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.09	0.24
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	9.26	28.56
Movement LOS		A	A		A	D
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.30	0.90
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	7.61	22.58
d_A, Approach Delay [s/veh]	0.00		0.00		16.17	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	1.60					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 102: East-West Arterial Road at Hirst Road

Control Type:	Two-way stop	Delay (sec / veh):	11.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.608

Intersection Setup

Name	Hirst Rd		Hirst Rd		East-West Arterial	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Hirst Rd		Hirst Rd		East-West Arterial	
Base Volume Input [veh/h]	121	80	159	574	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	121	80	159	574	0	0
Peak Hour Factor	0.6400	0.6400	0.6400	0.6400	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	47	31	62	224	0	0
Total Analysis Volume [veh/h]	189	125	248	897	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.61	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	11.16	0.00	0.00
Movement LOS	A	A	A	B		
95th-Percentile Queue Length [veh/ln]	0.00	0.00	4.39	4.39	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	109.87	109.87	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		8.74		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	6.86					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 201: Shamrock Road at Hirst Rd (1)

Control Type:	Two-way stop	Delay (sec / veh):	12.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.169

Intersection Setup

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	0	0	0	116	88	0	0	295	9	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	116	88	0	0	295	9	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9000	0.9000	1.0000	1.0000	0.9000	0.9000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	32	24	0	0	82	3	0	0	0
Total Analysis Volume [veh/h]	0	0	0	129	98	0	0	328	10	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.18	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	11.11	12.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS				B	B			A	A			
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.65	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	16.28	15.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			11.70			0.00			0.00		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	4.70											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 202: Shamrock Road at Hirst Rd (2)

Control Type:	Two-way stop	Delay (sec / veh):	130.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.829

Intersection Setup

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	31	0	0	0	12	85	0	0	0	8	1175	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	31	0	0	0	12	85	0	0	0	8	1175	0
Peak Hour Factor	0.9000	1.0000	1.0000	1.0000	0.9000	0.9000	1.0000	1.0000	1.0000	0.9000	0.9000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	0	0	0	3	24	0	0	0	2	326	0
Total Analysis Volume [veh/h]	34	0	0	0	13	94	0	0	0	9	1306	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.17	0.00	0.00	0.00	0.08	0.83	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	27.16	0.00	0.00	0.00	121.18	130.33	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	D				F	F				A	A	
95th-Percentile Queue Length [veh/ln]	0.61	0.00	0.00	0.00	5.71	5.71	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	15.26	0.00	0.00	0.00	142.72	142.72	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	27.16			129.22			0.00			0.00		
Approach LOS	D			F			A			A		
d_I, Intersection Delay [s/veh]	10.13											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 203: Shamrock Road atHirst Road Jughandle

Control Type:	Two-way stop	Delay (sec / veh):	12.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.220

Intersection Setup

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	0	124	340	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	124	340	0	0	0
Peak Hour Factor	1.0000	0.9000	0.9000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	34	94	0	0	0
Total Analysis Volume [veh/h]	0	138	378	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.22	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	12.34	0.00	0.00	0.00	0.00
Movement LOS		B	A			
95th-Percentile Queue Length [veh/ln]	0.00	0.83	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	20.85	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.34		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	3.30					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 300: Shamrock Road at Woodland Drive

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.064

Intersection Setup

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	3	0	0	4	0	42	12	277	0	0	1108	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	0	0	4	0	42	12	277	0	0	1108	1
Peak Hour Factor	0.5600	0.5600	0.5600	0.5600	0.5600	0.5600	0.5600	0.5600	0.5600	0.5600	0.5600	0.5600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	2	0	19	5	124	0	0	495	0
Total Analysis Volume [veh/h]	5	0	0	7	0	75	21	495	0	0	1979	2
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	10000.	10000.	10000.	10000.	10000.	10000.	0.00	0.00	17.16	0.00	0.00	8.40
Movement LOS	F	F	F	F	F	F	A	A	C	A	A	A
95th-Percentile Queue Length [veh/ln]	1.72	1.72	1.72	12.68	12.68	12.68	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	42.93	42.93	42.93	316.90	316.90	316.90	0.00	0.00	0.00	0.14	0.14	0.14
d_A, Approach Delay [s/veh]	10000.00			10000.00			0.00			0.01		
Approach LOS	F			F			A			A		
d_I, Intersection Delay [s/veh]	336.69											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 400: Shamrock Road at Agricola Drive

Control Type:	Two-way stop	Delay (sec / veh):	32.2
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.043

Intersection Setup

Name	Agricola Dr		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Agricola Dr		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	6	6	273	8	8	1103
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	6	273	8	8	1103
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	2	72	2	2	290
Total Analysis Volume [veh/h]	6	6	287	8	8	1161
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.04	0.00	0.01	0.00	0.01
d_M, Delay for Movement [s/veh]	21.57	32.23	0.00	11.03	0.00	0.00
Movement LOS	C	D	A	B	A	A
95th-Percentile Queue Length [veh/ln]	0.22	0.22	0.04	0.04	0.00	0.00
95th-Percentile Queue Length [ft/ln]	5.42	5.42	1.00	1.00	0.00	0.00
d_A, Approach Delay [s/veh]	26.90		0.30		0.00	
Approach LOS	D		A		A	
d_I, Intersection Delay [s/veh]	0.28					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 500: Shamrock Road at Brightview Drive / Calla Lily Drive

Control Type:	Two-way stop	Delay (sec / veh):	25.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.032

Intersection Setup

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			20.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	7	0	6	3	0	4	0	293	0	0	820	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	0	6	3	0	4	0	293	0	0	820	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	0	2	1	0	1	0	73	0	0	205	0
Total Analysis Volume [veh/h]	7	0	6	3	0	4	0	293	0	0	820	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.03	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	15.27	22.87	25.08	10.15	22.48	25.03	0.00	0.00	9.40	0.00	0.00	7.81
Movement LOS	C	C	D	B	C	D	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.16	0.16	0.16	0.08	0.08	0.08	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	3.99	3.99	3.99	1.99	1.99	1.99	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	19.80			18.65			0.00			0.00		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	0.34											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 600: Shamrock Road at Beach Bay Road

Control Type:	Two-way stop	Delay (sec / veh):	316.7
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.427

Intersection Setup

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	126	20	294	9	13	694
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	126	20	294	9	13	694
Peak Hour Factor	0.5600	0.5600	0.5600	0.5600	0.5600	0.5600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	56	9	131	4	6	310
Total Analysis Volume [veh/h]	225	36	525	16	23	1239
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	1.06	0.43	0.01	0.03	0.00	0.01
d_M, Delay for Movement [s/veh]	290.87	316.66	0.00	11.65	0.00	0.00
Movement LOS	F	F	A	B	A	A
95th-Percentile Queue Length [veh/ln]	16.56	16.56	0.09	0.09	0.00	0.00
95th-Percentile Queue Length [ft/ln]	414.00	414.00	2.21	2.21	0.00	0.00
d_A, Approach Delay [s/veh]	294.43		0.34		0.00	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	37.32					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 700: Shamrock Road at Northward Road

Control Type:	Two-way stop	Delay (sec / veh):	43.8
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.521

Intersection Setup

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	22	83	56	271	596	75
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	22	83	56	271	596	75
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	24	16	78	171	22
Total Analysis Volume [veh/h]	25	95	64	311	685	86
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.52	0.00	0.00	0.01	0.07
d_M, Delay for Movement [s/veh]	29.21	43.83	0.00	0.00	0.00	8.25
Movement LOS	D	E	A	A	A	A
95th-Percentile Queue Length [veh/ln]	3.01	3.01	0.00	0.00	0.23	0.23
95th-Percentile Queue Length [ft/ln]	75.15	75.15	0.00	0.00	5.81	5.81
d_A, Approach Delay [s/veh]	40.78		0.00		0.92	
Approach LOS	E		A		A	
d_I, Intersection Delay [s/veh]	4.43					
Intersection LOS	E					

Intersection Level Of Service Report
Intersection 800: Shamrock Road at Condor Road

Control Type:	Two-way stop	Delay (sec / veh):	27.3
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.567

Intersection Setup

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Base Volume Input [veh/h]	3	0	0	2	0	205	55	242	0	0	407	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	0	0	2	0	205	55	242	0	0	407	4
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	1	0	51	14	61	0	0	102	1
Total Analysis Volume [veh/h]	3	0	0	2	0	205	55	242	0	0	407	4
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.57	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	10.58	15.06	14.96	21.98	27.01	27.29	0.00	0.00	8.10	0.00	0.00	7.83
Movement LOS	B	C	B	C	D	D	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	3.39	3.39	3.39	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.35	0.35	0.35	84.63	84.63	84.63	0.00	0.00	0.00	0.24	0.24	0.24
d_A, Approach Delay [s/veh]	10.58			27.24			0.00			0.08		
Approach LOS	B			D			A			A		
d_I, Intersection Delay [s/veh]	6.21											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 902: Bodden Town Road at Bodden Town Bypass

Control Type:	Two-way stop	Delay (sec / veh):	14.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.055

Intersection Setup

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	35	20	11	228	338	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	35	20	11	228	338	23
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	6	3	64	95	6
Total Analysis Volume [veh/h]	39	22	12	256	380	26
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.05	0.00	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	10.33	14.69	0.00	0.00	0.00	7.81
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.35	0.35	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	8.72	8.72	0.00	0.00	1.52	1.52
d_A, Approach Delay [s/veh]	11.90		0.00		0.50	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	1.26					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1000: Bodden Town Road at Long Fellow Drive

Control Type:	Two-way stop	Delay (sec / veh):	11.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.027

Intersection Setup

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	0	14	1	192	257	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	14	1	192	257	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	4	0	51	68	0
Total Analysis Volume [veh/h]	0	15	1	202	271	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.03	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.45	11.69	0.00	0.00	0.00	7.61
Movement LOS	A	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.08	0.08	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	2.09	2.09	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.69		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.36					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1100: Frank Sound Road at Bodden Town Road

Control Type:	Two-way stop	Delay (sec / veh):	11.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.236

Intersection Setup

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Base Volume Input [veh/h]	10	150	90	77	58	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	150	90	77	58	12
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	44	26	23	17	4
Total Analysis Volume [veh/h]	12	176	106	91	68	14
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.24	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	10.54	11.41	0.00	0.00	0.00	7.40
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.98	0.98	0.00	0.00	0.03	0.03
95th-Percentile Queue Length [ft/ln]	24.57	24.57	0.00	0.00	0.70	0.70
d_A, Approach Delay [s/veh]	11.35		0.00		1.26	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	4.79					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1200: Frank Sound Road at Clifton Hunter High School

Control Type:	Two-way stop	Delay (sec / veh):	11.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.122

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd		High School Access	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	15.00		20.00		20.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Frank Sound Rd		High School Access	
Base Volume Input [veh/h]	59	55	75	69	52	81
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	59	55	75	69	52	81
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	14	19	17	13	20
Total Analysis Volume [veh/h]	59	55	75	69	52	81
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.05	0.05	0.12
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	7.54	9.68	11.42
Movement LOS	A	A	A	A	A	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.15	0.15	0.63	0.63
95th-Percentile Queue Length [ft/ln]	0.00	0.00	3.64	3.64	15.78	15.78
d_A, Approach Delay [s/veh]	0.00		3.61		10.74	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	4.98					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1300: Frank Sound Road at North Side Road/Old Robin Road

Control Type:	Two-way stop	Delay (sec / veh):	10.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.009

Intersection Setup

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Base Volume Input [veh/h]	78	21	11	40	31	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	78	21	11	40	31	5
Peak Hour Factor	0.7300	0.7300	0.7300	0.7300	0.7300	0.7300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	7	4	14	11	2
Total Analysis Volume [veh/h]	107	29	15	55	42	7
Pedestrian Volume [ped/h]	0		0		0	

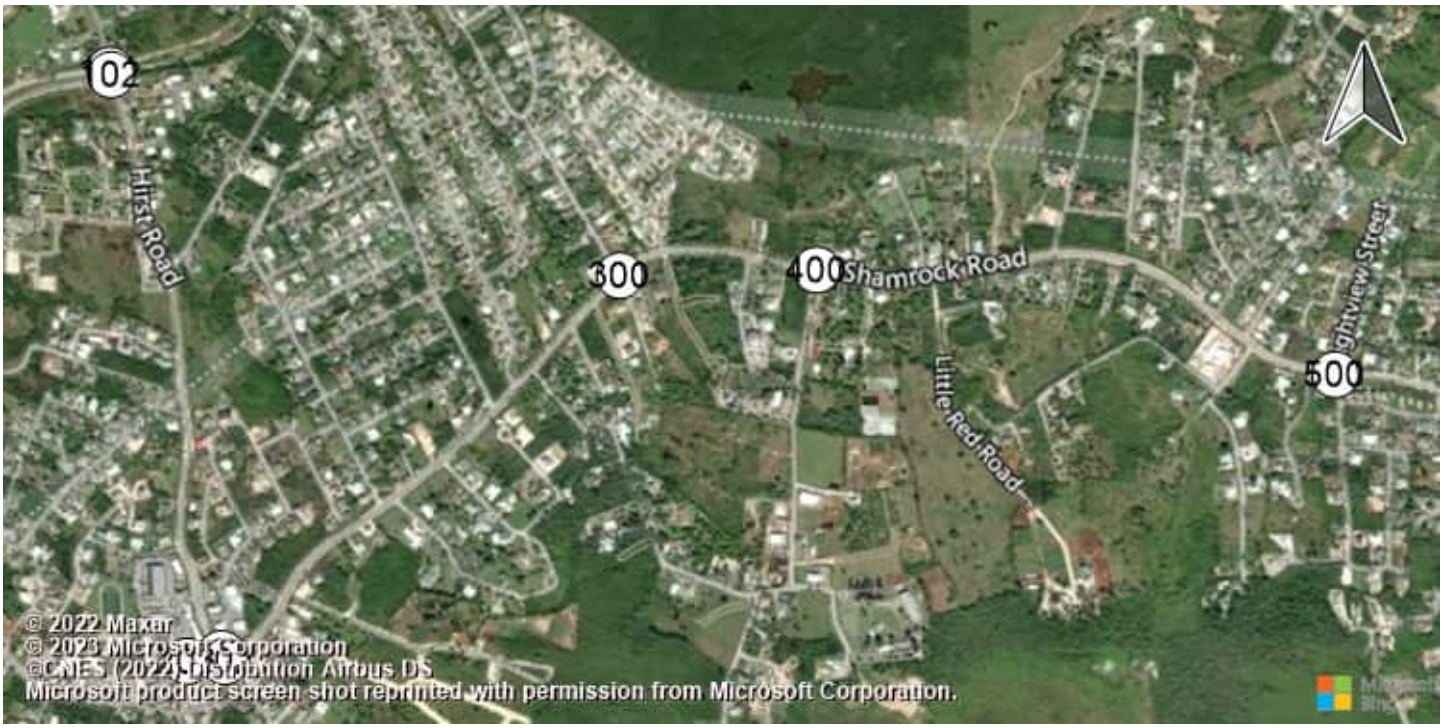
Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

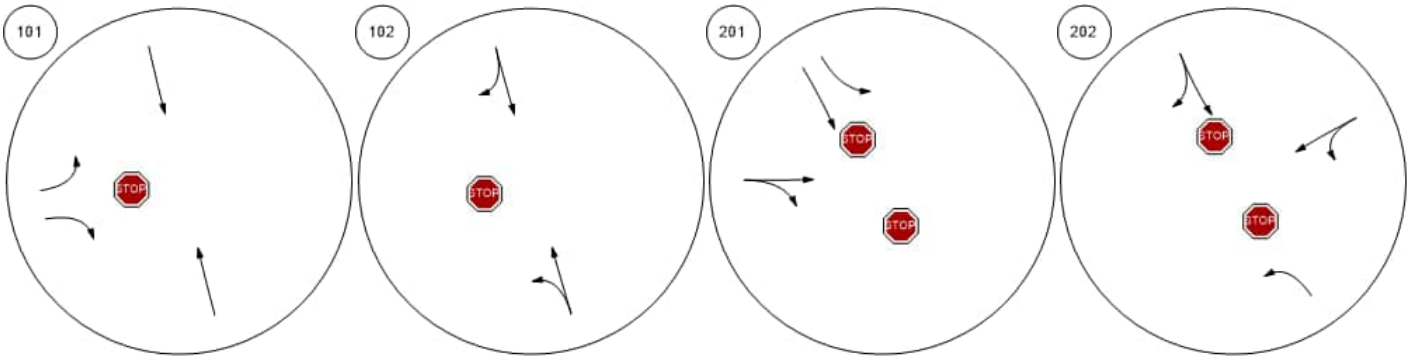
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.02	0.00	0.00	0.04	0.01
d_M, Delay for Movement [s/veh]	0.00	7.38	0.00	0.00	8.77	10.00
Movement LOS	A	A	A	A	A	B
95th-Percentile Queue Length [veh/ln]	0.06	0.06	0.00	0.00	0.16	0.16
95th-Percentile Queue Length [ft/ln]	1.44	1.44	0.00	0.00	4.03	4.03
d_A, Approach Delay [s/veh]	1.57		0.00		8.95	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.56					
Intersection LOS	B					

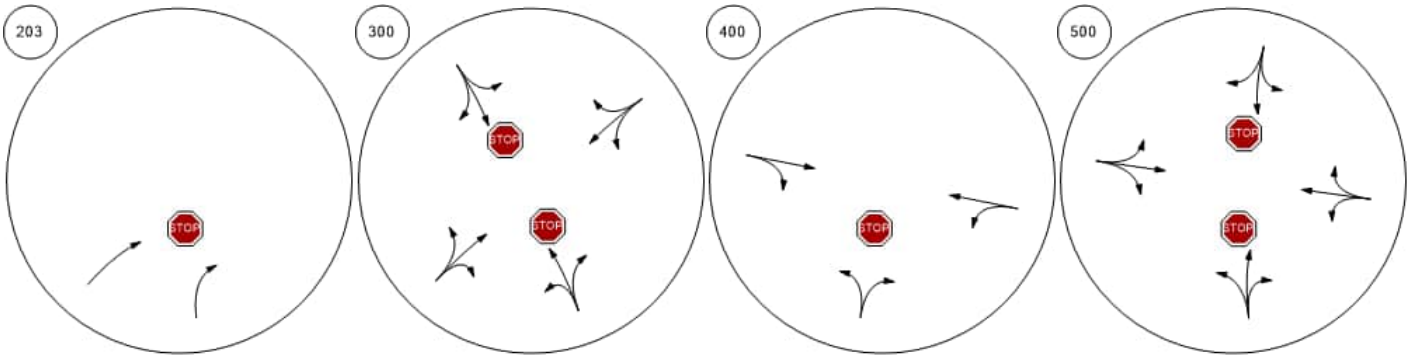
Lane Configuration and Traffic Control



East-West Arterial Road at Hi East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (



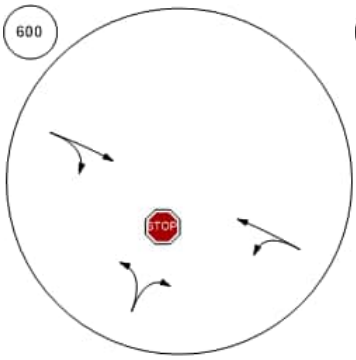
Shamrock Road atHirst Road Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview



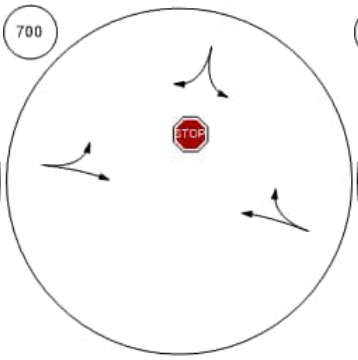
Lane Configuration and Traffic Control



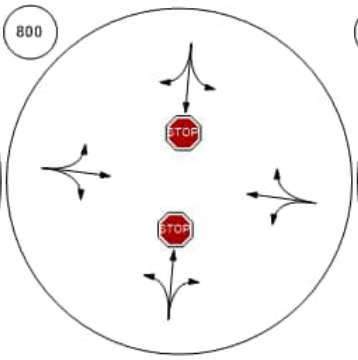
Shamrock Road at Beach Ba



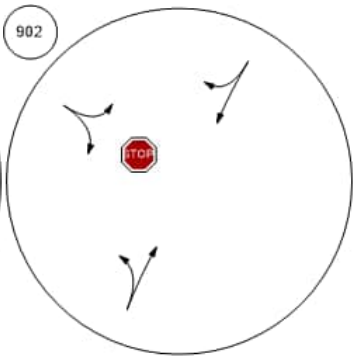
Shamrock Road at Northward



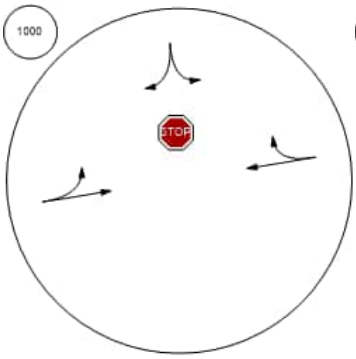
Shamrock Road at Condor R



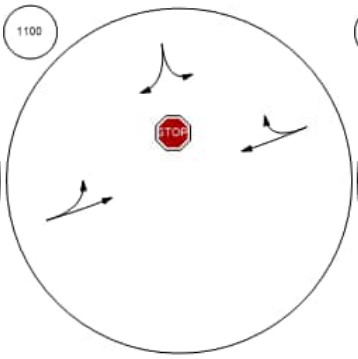
Bodden Town Road at Bodde



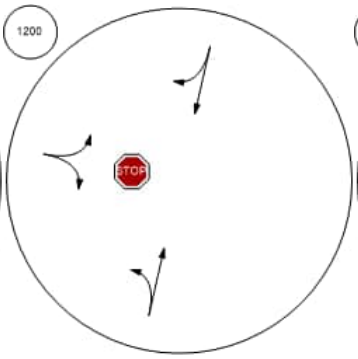
Bodden Town Road at Long



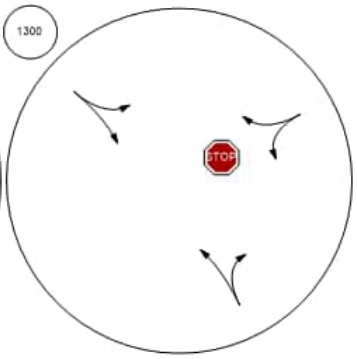
Frank Sound Road at Bodde



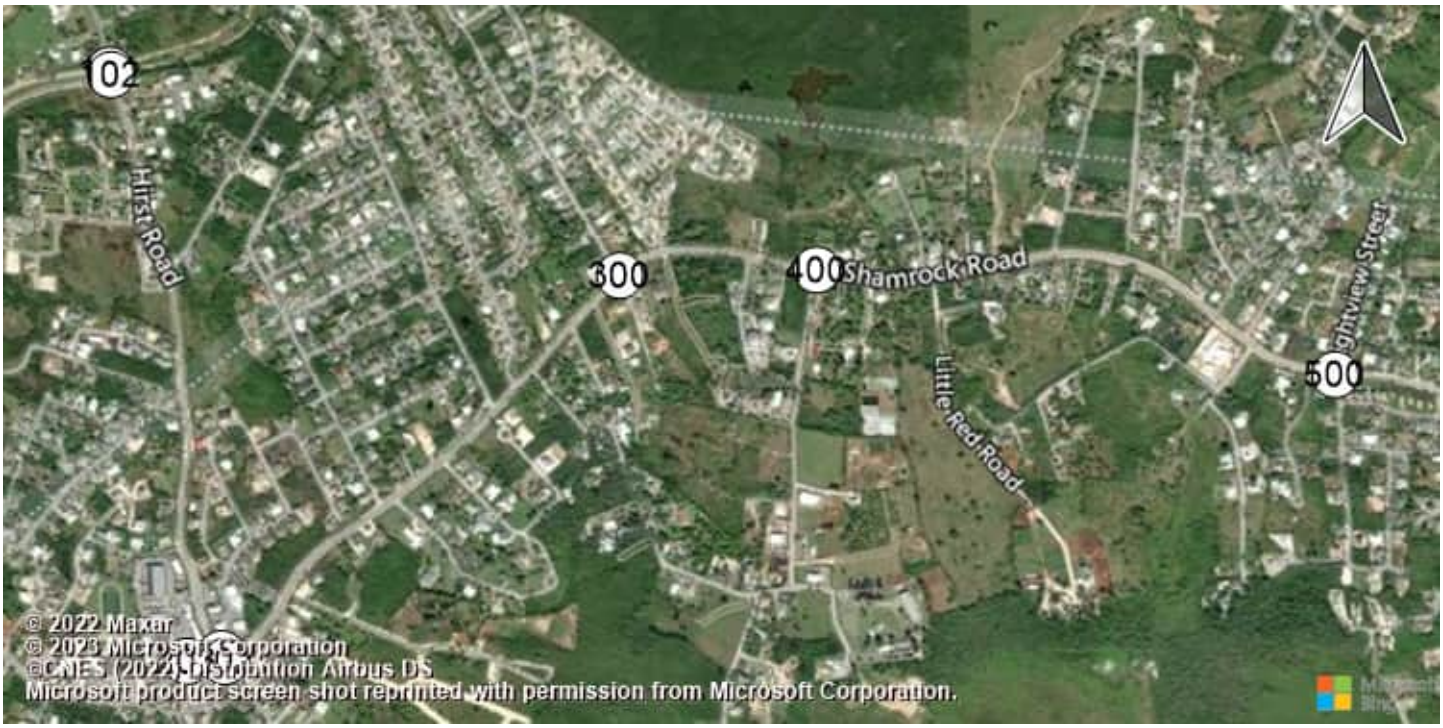
Frank Sound Road at Clifton



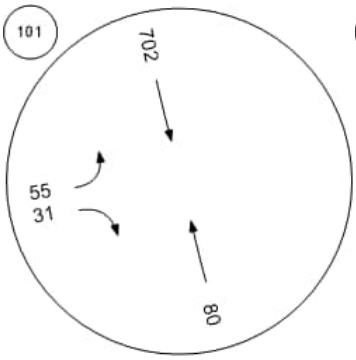
Frank Sound Road at North S



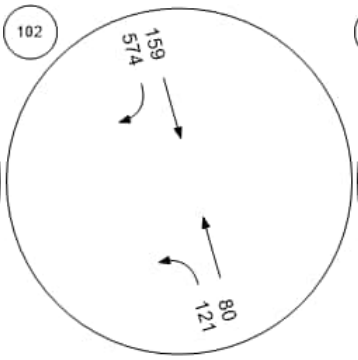
Traffic Volume - Base Volume



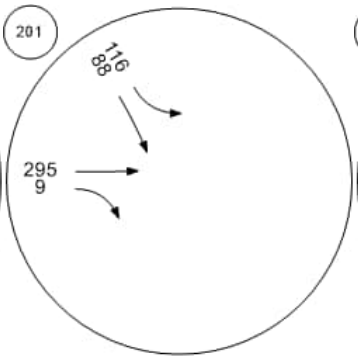
East-West Arterial Road at Hi



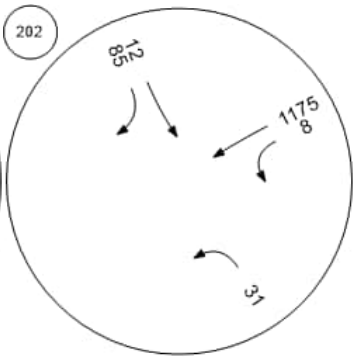
East-West Arterial Road at Hi



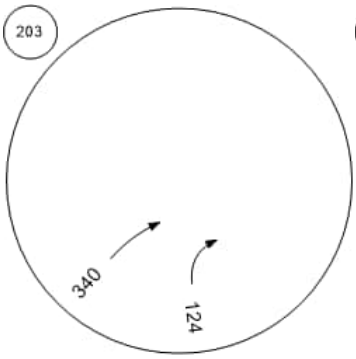
Shamrock Road at Hirst Rd (



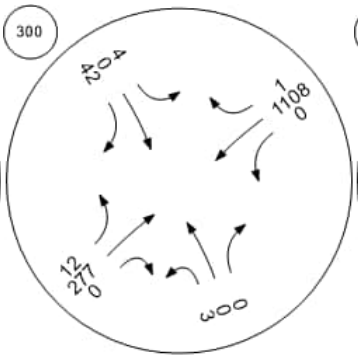
Shamrock Road at Hirst Rd (



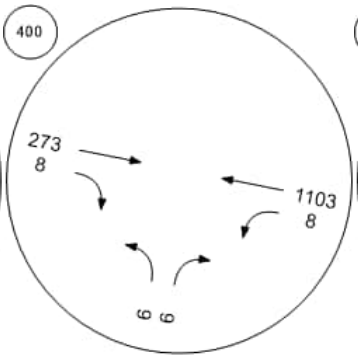
Shamrock Road at Hirst Road



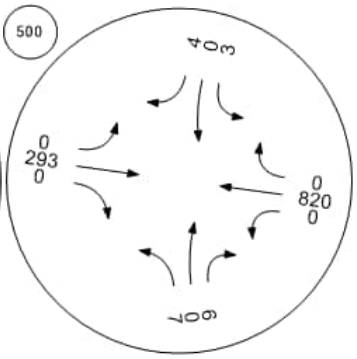
Shamrock Road at Woodland



Shamrock Road at Agricola D



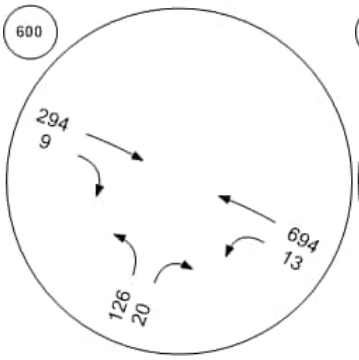
Shamrock Road at Brightview



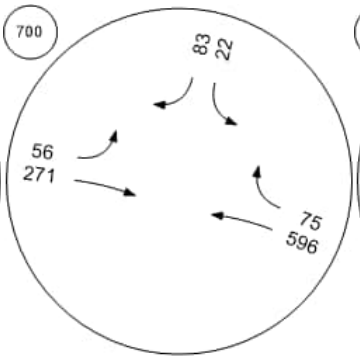
Traffic Volume - Base Volume



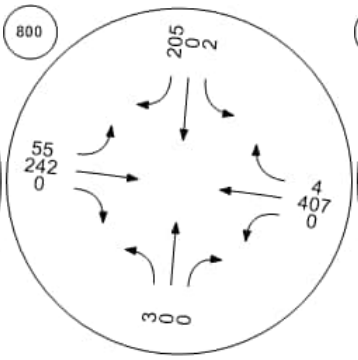
Shamrock Road at Beach Ba



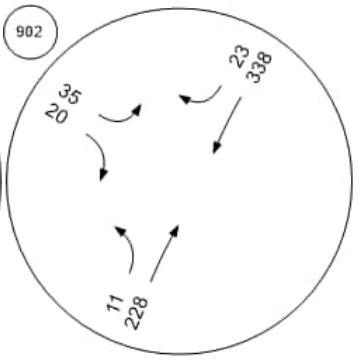
Shamrock Road at Northward



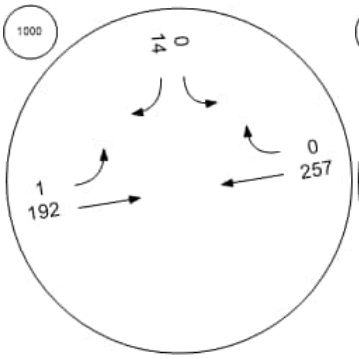
Shamrock Road at Condor R



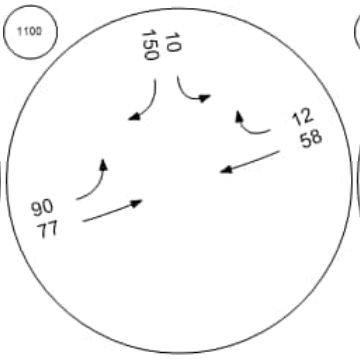
Bodden Town Road at Bodde



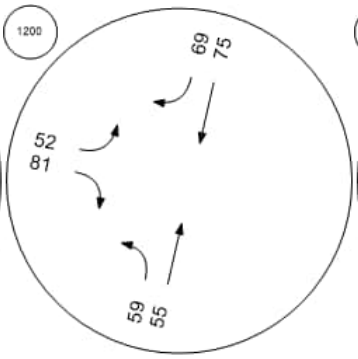
Bodden Town Road at Long



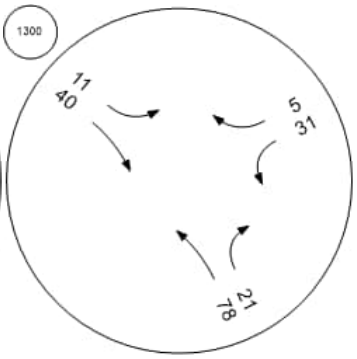
Frank Sound Road at Bodde



Frank Sound Road at Clifton



Frank Sound Road at North S



Intersection Level Of Service Report
Intersection 101: East-West Arterial Road at Hirst Road

Control Type:	Two-way stop	Delay (sec / veh):	22.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.623

Intersection Setup

Name	Hirst Rd		Hirst Rd		East-West Arterial	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	150.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Hirst Rd		Hirst Rd		East-West Arterial	
Base Volume Input [veh/h]	0	202	289	0	381	304
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	202	289	0	381	304
Peak Hour Factor	1.0000	0.9400	0.9400	1.0000	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	54	77	0	101	81
Total Analysis Volume [veh/h]	0	215	307	0	405	323
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.49	0.62
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	13.40	22.73
Movement LOS		A	A		B	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	2.72	4.23
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	67.99	105.64
d_A, Approach Delay [s/veh]	0.00		0.00		17.54	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	10.21					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 102: East-West Arterial Road at Hirst Road

Control Type:	Two-way stop	Delay (sec / veh):	7.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.103

Intersection Setup

Name	Hirst Rd		Hirst Rd		East-West Arterial	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Hirst Rd		Hirst Rd		East-West Arterial	
Base Volume Input [veh/h]	115	202	460	133	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	115	202	460	133	0	0
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	31	54	122	35	0	0
Total Analysis Volume [veh/h]	122	215	489	141	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.10	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	7.94	0.00	0.00
Movement LOS	A	A	A	A		
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.34	0.34	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	8.61	8.61	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		1.78		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.16					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 201: Shamrock Road at Hirst Rd (1)

Control Type:	Two-way stop	Delay (sec / veh):	82.2
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.009

Intersection Setup

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	0	0	0	356	157	0	0	760	28	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	356	157	0	0	760	28	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	96	42	0	0	204	8	0	0	0
Total Analysis Volume [veh/h]	0	0	0	383	169	0	0	817	30	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	1.01	0.58	0.00	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	82.21	33.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS				F	D			A	A			
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	12.20	3.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	305.10	85.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			67.33			0.00			0.00		
Approach LOS	A			F			A			A		
d_I, Intersection Delay [s/veh]	26.57											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 202: Shamrock Road at Hirst Rd (2)

Control Type:	Two-way stop	Delay (sec / veh):	16.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.312

Intersection Setup

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	30	0	0	0	38	147	0	0	0	17	397	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	0	0	0	38	147	0	0	0	17	397	0
Peak Hour Factor	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	0	0	0	10	40	0	0	0	5	107	0
Total Analysis Volume [veh/h]	32	0	0	0	41	158	0	0	0	18	427	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.00	0.00	0.00	0.08	0.31	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.07	0.00	0.00	0.00	16.55	16.61	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	B				C	C				A	A	
95th-Percentile Queue Length [veh/ln]	0.16	0.00	0.00	0.00	1.85	1.85	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	4.04	0.00	0.00	0.00	46.16	46.16	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.07			16.59			0.00			0.00		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	5.41											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 203: Shamrock Road atHirst Road Jughandle

Control Type:	Two-way stop	Delay (sec / veh):	36.7
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.600

Intersection Setup

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	0	150	939	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	150	939	0	0	0
Peak Hour Factor	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	40	252	0	0	0
Total Analysis Volume [veh/h]	0	161	1010	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.60	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	36.74	0.00	0.00	0.00	0.00
Movement LOS		E	A			
95th-Percentile Queue Length [veh/ln]	0.00	3.56	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	89.03	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	36.74		0.00		0.00	
Approach LOS	E		A		A	
d_I, Intersection Delay [s/veh]	5.05					
Intersection LOS	E					

Intersection Level Of Service Report
Intersection 300: Shamrock Road at Woodland Drive

Control Type:	Two-way stop	Delay (sec / veh):	54.8
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.112

Intersection Setup

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	0	0	0	8	0	9	23	1056	2	1	512	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	8	0	9	23	1056	2	1	512	3
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	2	0	2	6	272	1	0	132	1
Total Analysis Volume [veh/h]	0	0	0	8	0	9	24	1089	2	1	528	3
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop			Stop			Free			Free		
Flared Lane	No			No								
Storage Area [veh]	0			0			0			0		
Two-Stage Gap Acceptance	No			No								
Number of Storage Spaces in Median	0			0			0			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.03	0.00	0.11	0.00	0.01	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	11.50	41.56	51.51	23.81	45.94	54.75	0.00	0.00	8.44	0.00	0.00	10.70
Movement LOS	B	E	F	C	E	F	A	A	A	A	A	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.48	0.48	0.48	0.01	0.01	0.01	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	12.03	12.03	12.03	0.14	0.14	0.14	0.36	0.36	0.36
d_A, Approach Delay [s/veh]	34.86			40.19			0.02			0.06		
Approach LOS	D			E			A			A		
d_I, Intersection Delay [s/veh]	0.44											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 400: Shamrock Road at Agricola Drive

Control Type:	Two-way stop	Delay (sec / veh):	44.4
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.022

Intersection Setup

Name	Agricola Dr		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Agricola Dr		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	4	2	1049	15	18	512
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	2	1049	15	18	512
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	285	4	5	139
Total Analysis Volume [veh/h]	4	2	1140	16	20	557
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane	No					
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance	No					
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.02	0.01	0.02	0.00	0.01
d_M, Delay for Movement [s/veh]	12.36	44.37	0.00	8.63	0.00	0.00
Movement LOS	B	E	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.09	0.09	0.05	0.05	0.00	0.00
95th-Percentile Queue Length [ft/ln]	2.25	2.25	1.21	1.21	0.00	0.00
d_A, Approach Delay [s/veh]	23.03		0.12		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.16					
Intersection LOS	E					

Intersection Level Of Service Report
Intersection 500: Shamrock Road at Brightview Drive / Calla Lily Drive

Control Type:	Two-way stop	Delay (sec / veh):	44.6
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			20.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	0	0	1	0	0	0	9	938	18	54	457	28
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	1	0	0	0	9	938	18	54	457	28
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0	2	235	5	14	114	7
Total Analysis Volume [veh/h]	0	0	1	0	0	0	9	938	18	54	457	28
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.02	0.00	0.00	0.04
d_M, Delay for Movement [s/veh]	11.56	38.49	44.61	16.20	39.12	44.18	0.00	0.00	8.44	0.00	0.00	10.11
Movement LOS	B	E	E	C	E	E	A	A	A	A	A	B
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.03	0.00	0.00	0.00	0.05	0.05	0.05	0.12	0.12	0.12
95th-Percentile Queue Length [ft/ln]	0.82	0.82	0.82	0.00	0.00	0.00	1.29	1.29	1.29	2.97	2.97	2.97
d_A, Approach Delay [s/veh]	44.61			33.17			0.16			0.53		
Approach LOS	E			D			A			A		
d_I, Intersection Delay [s/veh]	0.32											
Intersection LOS	E											

Intersection Level Of Service Report
Intersection 600: Shamrock Road at Beach Bay Road

Control Type:	Two-way stop	Delay (sec / veh):	56.5
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.292

Intersection Setup

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	44	24	864	75	18	495
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	44	24	864	75	18	495
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	7	237	21	5	136
Total Analysis Volume [veh/h]	48	26	949	82	20	544
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane	No					
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance	No					
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.29	0.01	0.08	0.00	0.01
d_M, Delay for Movement [s/veh]	22.74	56.47	0.00	8.85	0.00	0.00
Movement LOS	C	F	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.67	1.67	0.26	0.26	0.00	0.00
95th-Percentile Queue Length [ft/ln]	41.66	41.66	6.56	6.56	0.00	0.00
d_A, Approach Delay [s/veh]	34.59		0.70		0.00	
Approach LOS	D		A		A	
d_I, Intersection Delay [s/veh]	1.97					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 700: Shamrock Road at Northward Road

Control Type:	Two-way stop	Delay (sec / veh):	63.4
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.577

Intersection Setup

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	53	84	163	639	471	58
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	53	84	163	639	471	58
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	22	42	165	121	15
Total Analysis Volume [veh/h]	55	87	168	659	486	60
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane	No					
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance	No					
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.58	0.00	0.01	0.00	0.07
d_M, Delay for Movement [s/veh]	48.12	63.38	0.00	0.00	0.00	9.78
Movement LOS	E	F	A	A	A	A
95th-Percentile Queue Length [veh/ln]	4.51	4.51	0.00	0.00	0.24	0.24
95th-Percentile Queue Length [ft/ln]	112.65	112.65	0.00	0.00	5.96	5.96
d_A, Approach Delay [s/veh]	57.47		0.00		1.07	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	5.77					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 800: Shamrock Road at Condor Road

Control Type:	Two-way stop	Delay (sec / veh):	33.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.393

Intersection Setup

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Base Volume Input [veh/h]	1	0	0	5	0	82	192	487	1	0	426	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	0	5	0	82	192	487	1	0	426	12
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	1	0	21	48	122	0	0	107	3
Total Analysis Volume [veh/h]	1	0	0	5	0	82	192	487	1	0	426	12
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.00	0.39	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	10.70	22.89	22.48	22.81	31.53	33.11	0.00	0.00	8.15	0.00	0.00	8.95
Movement LOS	B	C	C	C	D	D	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	1.82	1.82	1.82	0.00	0.00	0.00	0.04	0.04	0.04
95th-Percentile Queue Length [ft/ln]	0.12	0.12	0.12	45.52	45.52	45.52	0.07	0.07	0.07	0.99	0.99	0.99
d_A, Approach Delay [s/veh]	10.70			32.52			0.01			0.25		
Approach LOS	B			D			A			A		
d_I, Intersection Delay [s/veh]	2.45											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 902: Bodden Town Road at Bodden Town Bypass

Control Type:	Two-way stop	Delay (sec / veh):	23.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.191

Intersection Setup

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	47	45	27	452	360	58
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	47	45	27	452	360	58
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	12	7	120	96	15
Total Analysis Volume [veh/h]	50	48	29	481	383	62
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane	No					
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance	No					
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.19	0.00	0.00	0.00	0.06
d_M, Delay for Movement [s/veh]	15.11	23.23	0.00	0.00	0.00	8.59
Movement LOS	C	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.11	1.11	0.00	0.00	0.19	0.19
95th-Percentile Queue Length [ft/ln]	27.87	27.87	0.00	0.00	4.63	4.63
d_A, Approach Delay [s/veh]	19.08		0.00		1.20	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	2.28					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1000: Bodden Town Road at Long Fellow Drive

Control Type:	Two-way stop	Delay (sec / veh):	16.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.038

Intersection Setup

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	0	12	24	393	353	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	12	24	393	353	0
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	3	7	108	97	0
Total Analysis Volume [veh/h]	0	13	26	432	388	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane	No					
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance	No					
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.04	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.25	15.96	0.00	0.00	0.00	8.23
Movement LOS	B	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.12	0.12	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	2.96	2.96	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	15.96		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.24					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1100: Frank Sound Road at Bodden Town Road

Control Type:	Two-way stop	Delay (sec / veh):	15.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.344

Intersection Setup

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Base Volume Input [veh/h]	21	180	190	129	137	26
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	21	180	190	129	137	26
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	48	51	35	37	7
Total Analysis Volume [veh/h]	23	194	204	139	147	28
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane	No					
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance	No					
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.34	0.00	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	13.12	15.03	0.00	0.00	0.00	7.52
Movement LOS	B	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.72	1.72	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	43.02	43.02	0.00	0.00	1.47	1.47
d_A, Approach Delay [s/veh]	14.83		0.00		1.20	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	4.66					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1200: Frank Sound Road at Clifton Hunter High School

Control Type:	Two-way stop	Delay (sec / veh):	15.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.218

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd		High School Access	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		20.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Frank Sound Rd		High School Access	
Base Volume Input [veh/h]	81	130	106	110	89	107
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	81	130	106	110	89	107
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	33	27	28	22	27
Total Analysis Volume [veh/h]	81	130	106	110	89	107
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.08	0.10	0.22
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	7.85	11.83	15.06
Movement LOS	A	A	A	A	B	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.26	0.26	1.37	1.37
95th-Percentile Queue Length [ft/ln]	0.00	0.00	6.53	6.53	34.29	34.29
d_A, Approach Delay [s/veh]	0.00		4.00		13.59	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	5.66					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1300: Frank Sound Road at North Side Road/Old Robin Road

Control Type:	Two-way stop	Delay (sec / veh):	11.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.044

Intersection Setup

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Base Volume Input [veh/h]	125	23	35	121	57	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	125	23	35	121	57	25
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	6	10	34	16	7
Total Analysis Volume [veh/h]	140	26	39	136	64	28
Pedestrian Volume [ped/h]	0		0		0	

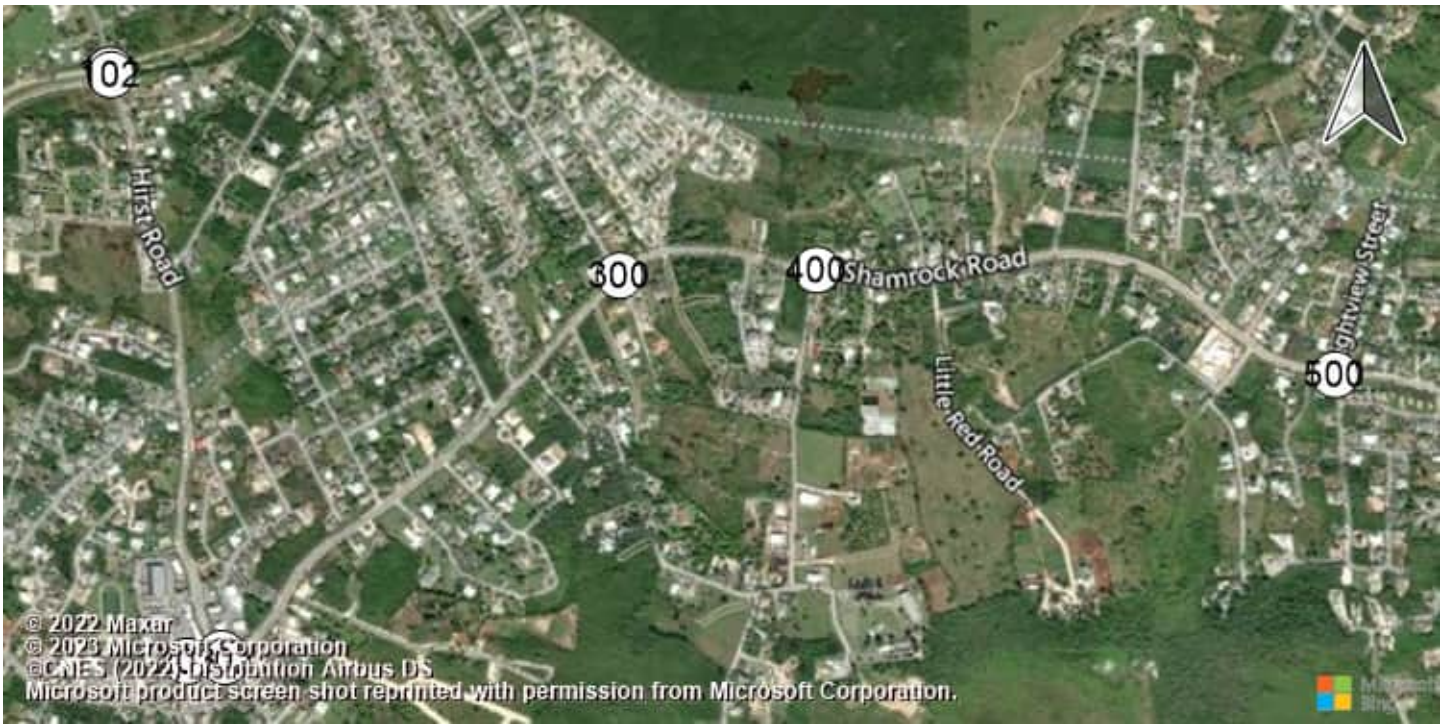
Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

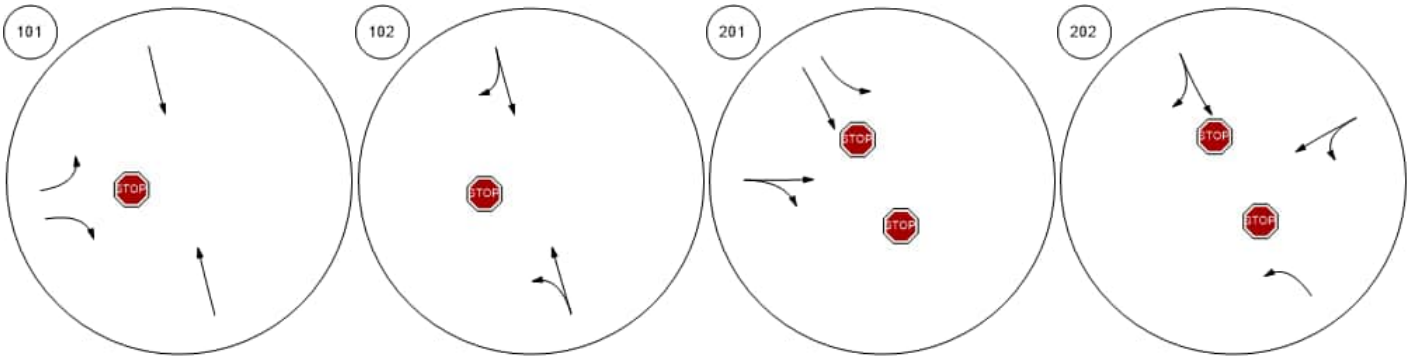
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.02	0.00	0.00	0.07	0.04
d_M, Delay for Movement [s/veh]	0.00	7.59	0.00	0.00	9.61	11.21
Movement LOS	A	A	A	A	A	B
95th-Percentile Queue Length [veh/ln]	0.06	0.06	0.00	0.00	0.39	0.39
95th-Percentile Queue Length [ft/ln]	1.40	1.40	0.00	0.00	9.72	9.72
d_A, Approach Delay [s/veh]	1.19		0.00		10.09	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	2.60					
Intersection LOS	B					

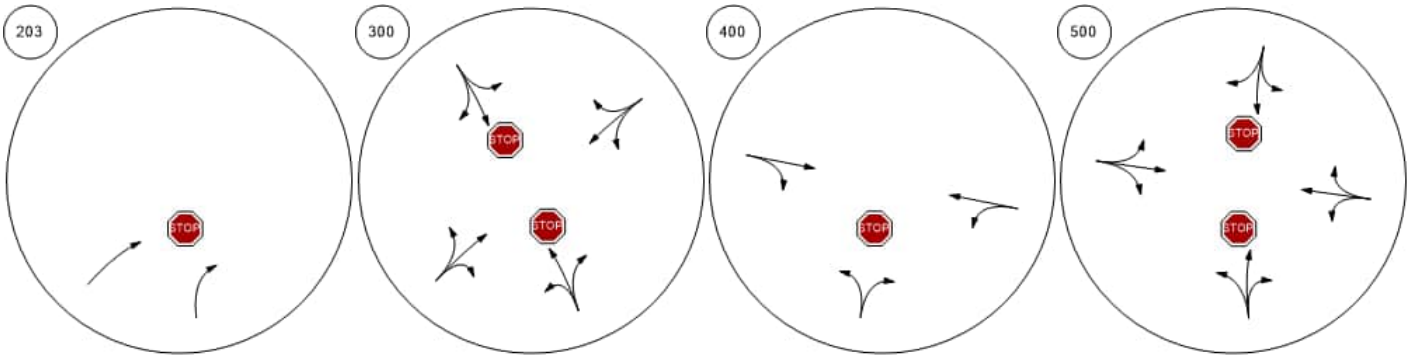
Lane Configuration and Traffic Control



East-West Arterial Road at Hi East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (



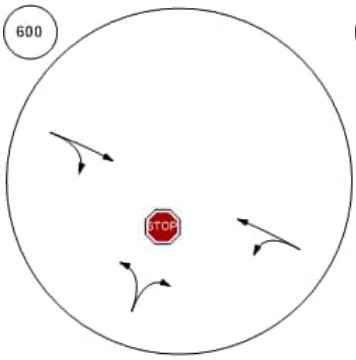
Shamrock Road atHirst Road Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview



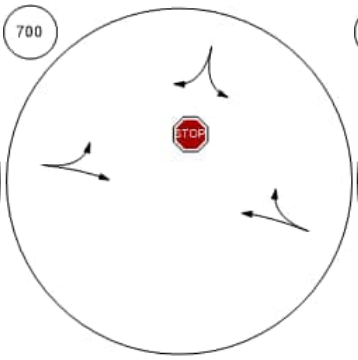
Lane Configuration and Traffic Control



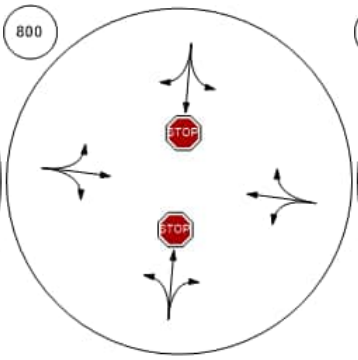
Shamrock Road at Beach Ba



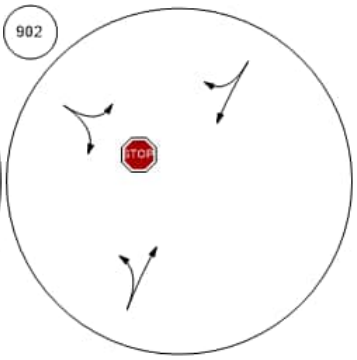
Shamrock Road at Northward



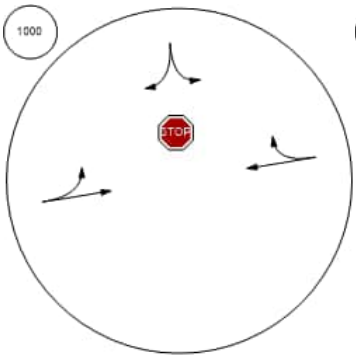
Shamrock Road at Condor R



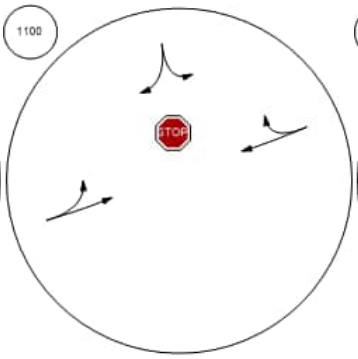
Bodden Town Road at Bodde



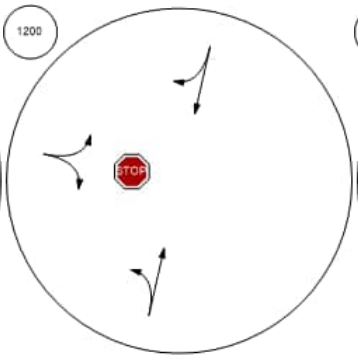
Bodden Town Road at Long



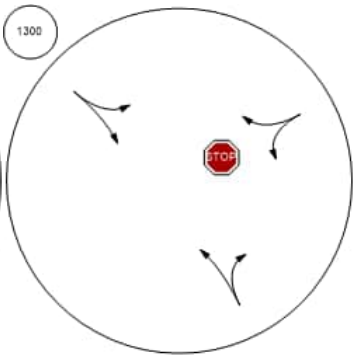
Frank Sound Road at Bodde



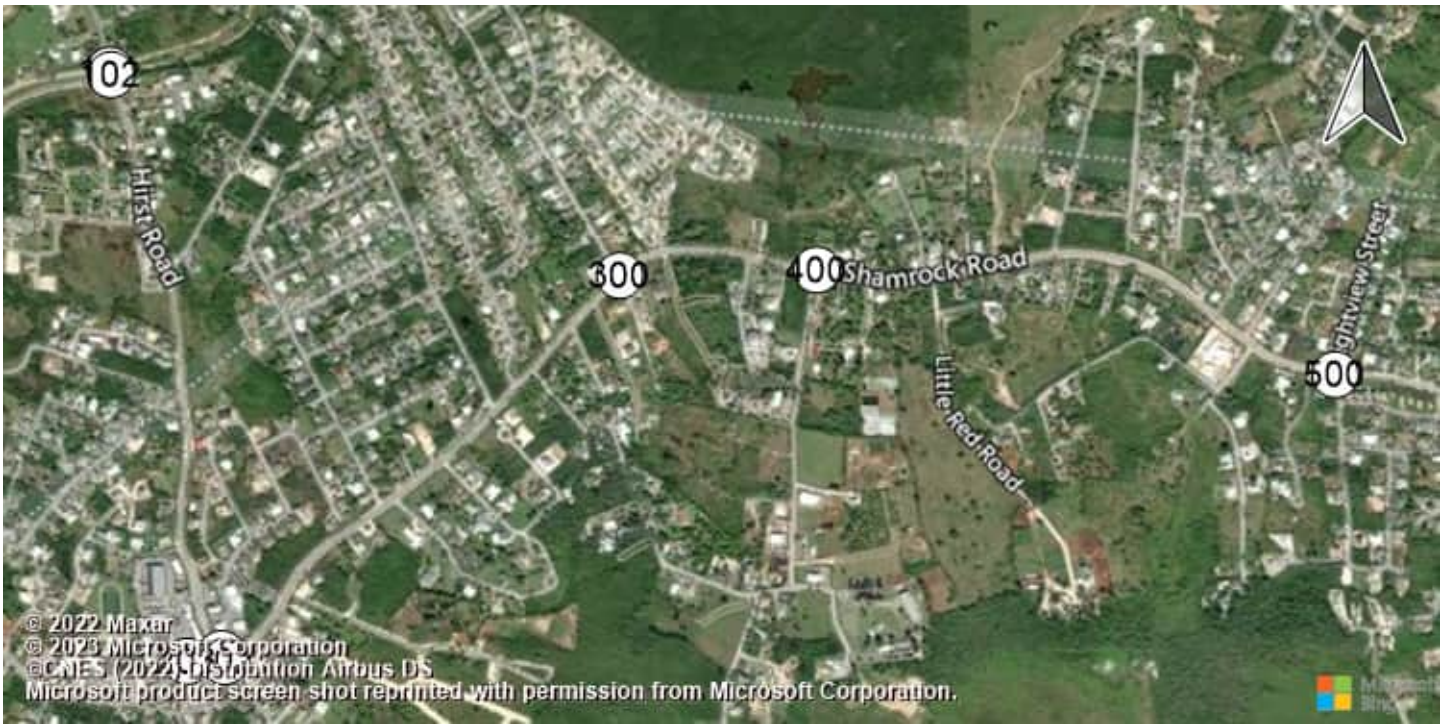
Frank Sound Road at Clifton



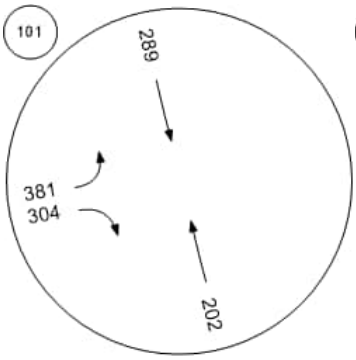
Frank Sound Road at North S



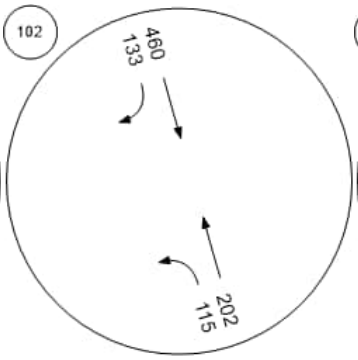
Traffic Volume - Base Volume



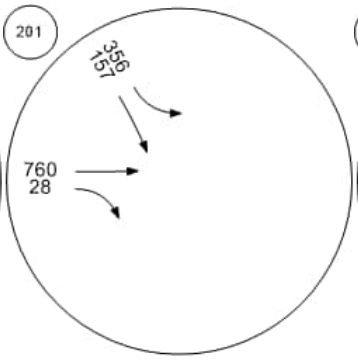
East-West Arterial Road at Hi



East-West Arterial Road at Hi



Shamrock Road at Hirst Rd (



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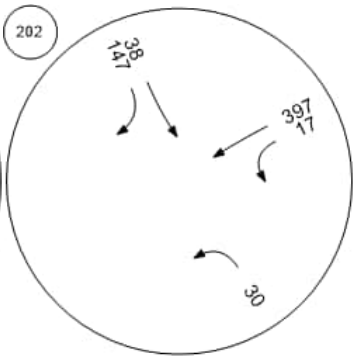
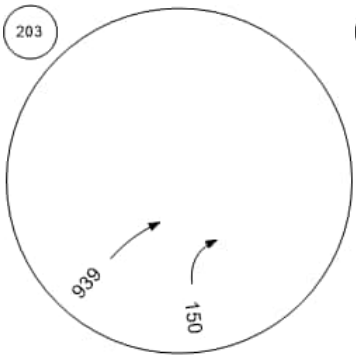
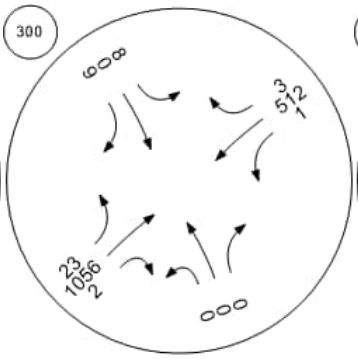


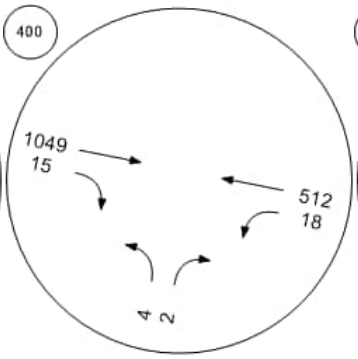
Shamrock Road at Hirst Road



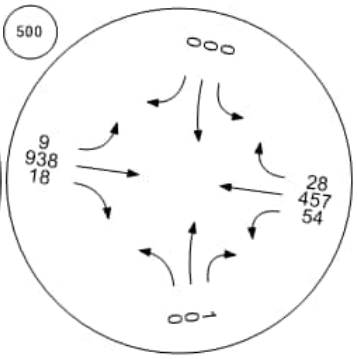
Shamrock Road at Woodland



Shamrock Road at Agricola D



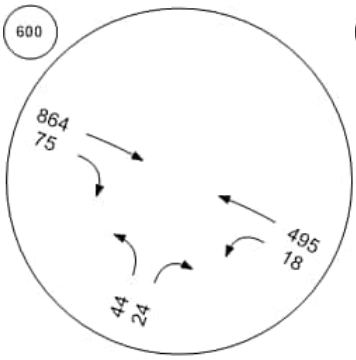
Shamrock Road at Brightview



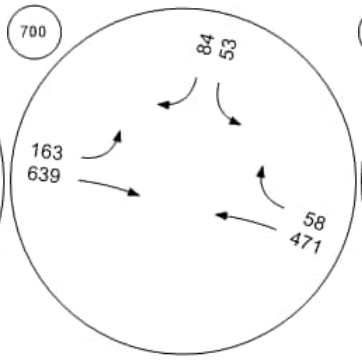
Traffic Volume - Base Volume



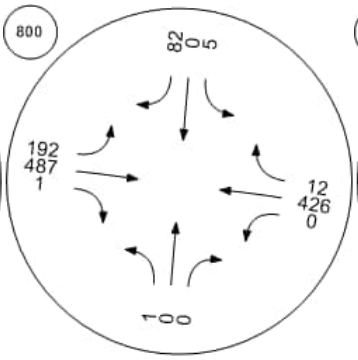
Shamrock Road at Beach Ba



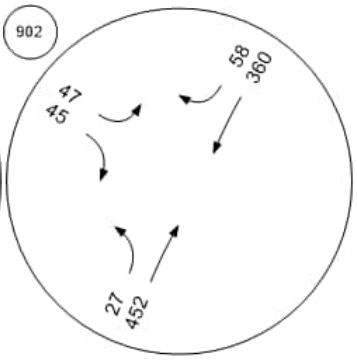
Shamrock Road at Northward



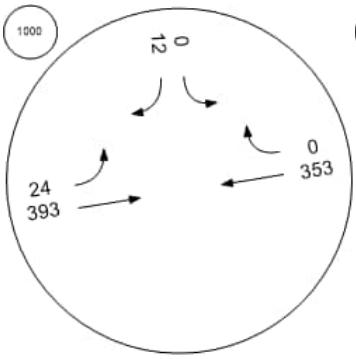
Shamrock Road at Condor R



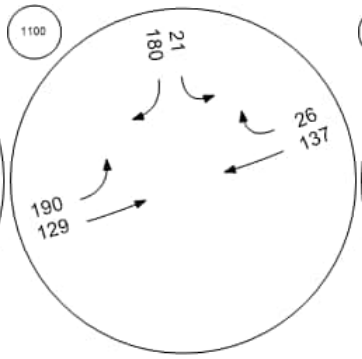
Bodden Town Road at Bodde



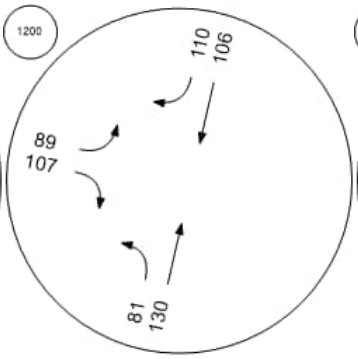
Bodden Town Road at Long



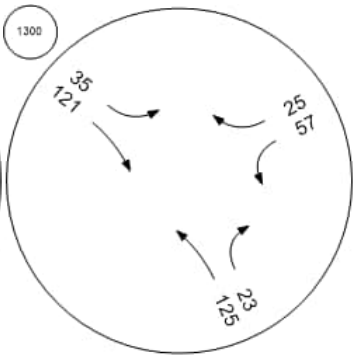
Frank Sound Road at Bodde



Frank Sound Road at Clifton



Frank Sound Road at North S



Attachment D2

2026 Alternative VISTRO Reports

Intersection Level Of Service Report
Intersection 101: East-West Arterial Road at Hirst Road

Control Type:	Roundabout	Delay (sec / veh):	18.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes		

Intersection Setup

Name											East-West Arterial									
Approach	Northbound					Southbound					Eastbound					Westbound				
Lane Configuration																				
Turning Movement	Left	Left	Thr	Rig	Rig	Left	Left	Thr	Rig	Rig	Left	Thr	Thr	Rig	U-t	Left	Thr	Thr	Rig	U-t
Lane Width [ft]	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Speed [mph]	30.00					30.00					40.00					40.00				
Grade [%]	0.00					0.00					0.00					0.00				
Crosswalk	Yes					Yes					Yes					Yes				

Volumes

Name											East-West Arterial									
Base Volume Input [veh/h]	72	0	40	0	4	11	0	64	0	556	55	0	67	7	20	2	721	0	3	0
Base Volume Adjustment Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Heavy Vehicles Percentage [%]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Growth Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	72	0	40	0	4	11	0	64	0	556	55	0	67	7	20	2	721	0	3	0
Peak Hour Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Other Adjustment Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Total 15-Minute Volume [veh/h]	18	0	10	0	1	3	0	16	0	139	14	0	17	2	5	1	180	0	1	0
Total Analysis Volume [veh/h]	72	0	40	0	4	11	0	64	0	556	55	0	67	7	20	2	721	0	3	0
Pedestrian Volume [ped/h]	0					0					0					0				

Intersection Settings

Number of Conflicting Circulating Lanes	2					2					2					2				
Circulating Flow Rate [veh/h]	1300					98					47					647				
Exiting Flow Rate [veh/h]	73					98					1369					82				
Demand Flow Rate [veh/h]	72	0	40	0	4	11	0	64	0	556	55	0	67	7	20	2	721	0	3	0
Adjusted Demand Flow Rate [veh/h]	72	0	40	0	4	11	0	64	0	556	55	0	67	7	20	2	721	0	3	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1350.00	1420.00
B (coefficient)	0.00085	0.00085	0.00085	0.00092	0.00085
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	116	631	122	27	726
Capacity of Entry and Bypass Lanes [veh/h]	471	1307	1365	1293	820
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	471	1307	1365	1293	820
X, volume / capacity	0.25	0.48	0.09	0.02	0.89

Movement, Approach, & Intersection Results

Lane LOS	B	A	A	A	D
95th-Percentile Queue Length [veh]	0.96	2.72	0.29	0.06	11.67
95th-Percentile Queue Length [ft]	24.03	67.88	7.35	1.60	291.71
Approach Delay [s/veh]	11.38	7.72	3.27		32.28
Approach LOS	B	A	A		D
Intersection Delay [s/veh]	18.56				
Intersection LOS	C				

Intersection Level Of Service Report
Intersection 201: Shamrock Road at Hirst Rd (1)

Control Type:	Two-way stop	Delay (sec / veh):	13.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.189

Intersection Setup

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	0	0	0	27	98	0	0	352	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	27	98	0	0	352	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	7	26	0	0	95	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	29	105	0	0	378	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop			Stop			Free			Free			
Flared Lane													
Storage Area [veh]	0			0			0			0			
Two-Stage Gap Acceptance				No									
Number of Storage Spaces in Median	0			0			0			0			

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.04	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	10.59	12.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Movement LOS				B	B			A					
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.13	0.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	3.37	17.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
d_A, Approach Delay [s/veh]	0.00			12.45			0.00			0.00			
Approach LOS	A			B			A			A			
d_I, Intersection Delay [s/veh]	3.26												
Intersection LOS	B												

Intersection Level Of Service Report
Intersection 202: Shamrock Road at Hirst Rd (2)

Control Type:	Two-way stop	Delay (sec / veh):	24.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.347

Intersection Setup

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	31	0	0	0	5	92	0	0	0	8	728	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	31	0	0	0	5	92	0	0	0	8	728	0
Peak Hour Factor	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	0	0	0	1	25	0	0	0	2	196	0
Total Analysis Volume [veh/h]	33	0	0	0	5	99	0	0	0	9	783	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.00	0.00	0.00	0.02	0.35	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	14.95	0.00	0.00	0.00	23.07	24.57	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	B				C	C				A	A	
95th-Percentile Queue Length [veh/ln]	0.27	0.00	0.00	0.00	1.59	1.59	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	6.80	0.00	0.00	0.00	39.83	39.83	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	14.95			24.50			0.00			0.00		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	3.27											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 203: Shamrock Road atHirst Road Jughandle

Control Type:	Two-way stop	Delay (sec / veh):	11.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.043

Intersection Setup

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	0	23	403	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	23	403	0	0	0
Peak Hour Factor	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	6	108	0	0	0
Total Analysis Volume [veh/h]	0	25	433	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.04	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	11.44	0.00	0.00	0.00	0.00
Movement LOS		B	A			
95th-Percentile Queue Length [veh/ln]	0.00	0.13	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	3.35	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.44		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.62					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 300: Shamrock Road at Woodland Drive

Control Type:	Two-way stop	Delay (sec / veh):	23.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.054

Intersection Setup

Name	Woodland Dr			Woodland Dr			Shamrock Rd					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Woodland Dr			Woodland Dr			Shamrock Rd					
Base Volume Input [veh/h]	40	0	5	5	0	11	6	264	7	2	687	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	0	5	5	0	11	6	264	7	2	687	2
Peak Hour Factor	0.9700	0.9700	1.0000	1.0000	0.9700	0.9700	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	0	1	1	0	3	2	66	2	1	172	1
Total Analysis Volume [veh/h]	41	0	5	5	0	11	6	264	7	2	687	2
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.00	0.02	0.01	0.00	0.05	0.00	0.00	0.01	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	14.13	20.51	21.84	10.51	20.22	23.55	0.00	0.00	8.97	0.00	0.00	7.76
Movement LOS	B	C	C	B	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.38	0.38	0.38	0.19	0.19	0.19	0.02	0.02	0.02	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	9.47	9.47	9.47	4.80	4.80	4.80	0.58	0.58	0.58	0.12	0.12	0.12
d_A, Approach Delay [s/veh]	14.97			19.47			0.23			0.02		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	1.05											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 400: Shamrock Road at Agricola Drive

Control Type:	Roundabout	Delay (sec / veh):	40.2
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	1	6	2	102	13	35	1	272	1	3	655	692
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	6	2	102	13	35	1	272	1	3	655	692
Peak Hour Factor	1.0000	1.0000	0.9200	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9200	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	1	26	3	9	0	68	0	1	164	173
Total Analysis Volume [veh/h]	1	6	2	102	13	35	1	272	1	3	655	692
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	1382			275			700			49		
Exiting Flow Rate [veh/h]	17			699			691			376		
Demand Flow Rate [veh/h]	1	6	2	102	13	35	1	272	1	3	655	692
Adjusted Demand Flow Rate [veh/h]	1	6	2	102	13	35	1	272	1	3	655	692

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	9	150	274	1350
Capacity of Entry and Bypass Lanes [veh/h]	338	1043	676	1313
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	338	1043	676	1313
X, volume / capacity	0.03	0.14	0.41	1.03

Movement, Approach, & Intersection Results

Lane LOS	B	A	B	F
95th-Percentile Queue Length [veh]	0.08	0.50	1.97	24.95
95th-Percentile Queue Length [ft]	2.05	12.55	49.22	623.75
Approach Delay [s/veh]	11.11	4.75	10.94	50.32
Approach LOS	B	A	B	F
Intersection Delay [s/veh]	40.24			
Intersection LOS	E			

Intersection Level Of Service Report
Intersection 500: Shamrock Road at Brightview Drive / Calla Lily Drive

Control Type:	Two-way stop	Delay (sec / veh):	38.9
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.053

Intersection Setup

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			20.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	8	0	6	3	0	4	0	388	0	0	1043	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	0	6	3	0	4	0	388	0	0	1043	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	0	2	1	0	1	0	97	0	0	261	0
Total Analysis Volume [veh/h]	8	0	6	3	0	4	0	388	0	0	1043	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.00	0.05	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	19.67	33.39	38.86	11.32	32.43	38.82	0.00	0.00	10.34	0.00	0.00	8.05
Movement LOS	C	D	E	B	D	E	A	A	B	A	A	A
95th-Percentile Queue Length [veh/ln]	0.26	0.26	0.26	0.13	0.13	0.13	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	6.59	6.59	6.59	3.19	3.19	3.19	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	27.90			27.04			0.00			0.00		
Approach LOS	D			D			A			A		
d_I, Intersection Delay [s/veh]	0.40											
Intersection LOS	E											

Intersection Level Of Service Report
Intersection 600: Shamrock Road at Beach Bay Road

Control Type:	Two-way stop	Delay (sec / veh):	56.2
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.175

Intersection Setup

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	138	23	387	10	14	905
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	138	23	387	10	14	905
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	6	106	3	4	249
Total Analysis Volume [veh/h]	152	25	425	11	15	995
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane	No					
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance	No					
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.51	0.18	0.00	0.02	0.00	0.01
d_M, Delay for Movement [s/veh]	43.08	56.17	0.00	10.27	0.00	0.00
Movement LOS	E	F	A	B	A	A
95th-Percentile Queue Length [veh/ln]	4.54	4.54	0.05	0.05	0.00	0.00
95th-Percentile Queue Length [ft/ln]	113.60	113.60	1.21	1.21	0.00	0.00
d_A, Approach Delay [s/veh]	44.93		0.26		0.00	
Approach LOS	E		A		A	
d_I, Intersection Delay [s/veh]	4.97					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 700: Shamrock Road at Northward Road

Control Type:	Two-way stop	Delay (sec / veh):	78.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.724

Intersection Setup

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	27	100	63	360	788	76
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	27	100	63	360	788	76
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	26	16	93	203	20
Total Analysis Volume [veh/h]	28	103	65	371	812	78
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane	No					
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance	No					
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.72	0.00	0.00	0.01	0.07
d_M, Delay for Movement [s/veh]	58.23	78.02	0.00	0.00	0.00	8.41
Movement LOS	F	F	A	A	A	A
95th-Percentile Queue Length [veh/ln]	4.95	4.95	0.00	0.00	0.22	0.22
95th-Percentile Queue Length [ft/ln]	123.77	123.77	0.00	0.00	5.53	5.53
d_A, Approach Delay [s/veh]	73.79		0.00		0.74	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	7.08					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 800: Shamrock Road at Condor Road

Control Type:	Two-way stop	Delay (sec / veh):	20.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.376

Intersection Setup

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Base Volume Input [veh/h]	3	1	1	2	0	136	51	273	0	0	371	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	1	1	2	0	136	51	273	0	0	371	6
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	1	0	34	13	68	0	0	93	2
Total Analysis Volume [veh/h]	3	1	1	2	0	136	51	273	0	0	371	6
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.38	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	10.37	15.06	14.97	15.73	20.56	20.85	0.00	0.00	8.00	0.00	0.00	7.90
Movement LOS	B	C	B	C	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.03	1.72	1.72	1.72	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.75	0.75	0.75	43.10	43.10	43.10	0.00	0.00	0.00	0.36	0.36	0.36
d_A, Approach Delay [s/veh]	12.23			20.78			0.00			0.13		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	3.53											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 902: Bodden Town Road at Bodden Town Bypass

Control Type:	Two-way stop	Delay (sec / veh):	26.0
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.110

Intersection Setup

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	79	20	12	261	302	221
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	79	20	12	261	302	221
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	5	3	69	80	59
Total Analysis Volume [veh/h]	84	21	13	278	321	235
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.11	0.00	0.00	0.00	0.18
d_M, Delay for Movement [s/veh]	11.88	26.04	0.00	0.00	0.00	8.44
Movement LOS	B	D	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.84	0.84	0.00	0.00	0.67	0.67
95th-Percentile Queue Length [ft/ln]	20.89	20.89	0.00	0.00	16.74	16.74
d_A, Approach Delay [s/veh]	14.71		0.00		3.57	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	3.70					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 1000: Bodden Town Road at Long Fellow Drive

Control Type:	Two-way stop	Delay (sec / veh):	14.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.039

Intersection Setup

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	0	14	1	268	417	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	14	1	268	417	0
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	4	0	74	115	0
Total Analysis Volume [veh/h]	0	15	1	295	458	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.04	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	10.20	14.86	0.00	0.00	0.00	7.82
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.12	0.12	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	3.07	3.07	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	14.86		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.29					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1100: Frank Sound Road at Bodden Town Road

Control Type:	Two-way stop	Delay (sec / veh):	14.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.455

Intersection Setup

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Base Volume Input [veh/h]	14	294	164	79	75	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	294	164	79	75	18
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	79	44	21	20	5
Total Analysis Volume [veh/h]	15	316	176	85	81	19
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.46	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	13.63	14.71	0.00	0.00	0.00	7.39
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	2.55	2.55	0.00	0.00	0.04	0.04
95th-Percentile Queue Length [ft/ln]	63.68	63.68	0.00	0.00	0.95	0.95
d_A, Approach Delay [s/veh]	14.66		0.00		1.40	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	7.21					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1200: Frank Sound Road at Clifton Hunter High School

Control Type:	Two-way stop	Delay (sec / veh):	14.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.286

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd		High School Access	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		20.00		20.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Frank Sound Rd		High School Access	
Base Volume Input [veh/h]	133	72	114	78	54	162
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	133	72	114	78	54	162
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	18	29	20	14	41
Total Analysis Volume [veh/h]	133	72	114	78	54	162
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.06	0.06	0.29
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	7.77	11.93	14.35
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.18	0.18	1.53	1.53
95th-Percentile Queue Length [ft/ln]	0.00	0.00	4.49	4.49	38.36	38.36
d_A, Approach Delay [s/veh]	0.00		3.16		13.75	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	5.83					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1300: Frank Sound Road at North Side Road/Old Robin Road

Control Type:	Two-way stop	Delay (sec / veh):	10.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

Intersection Setup

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Base Volume Input [veh/h]	86	28	11	63	35	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	86	28	11	63	35	5
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	8	3	18	10	1
Total Analysis Volume [veh/h]	97	31	12	71	39	6
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.02	0.00	0.00	0.04	0.01
d_M, Delay for Movement [s/veh]	0.00	7.41	0.00	0.00	8.83	10.05
Movement LOS	A	A	A	A	A	B
95th-Percentile Queue Length [veh/ln]	0.06	0.06	0.00	0.00	0.15	0.15
95th-Percentile Queue Length [ft/ln]	1.55	1.55	0.00	0.00	3.74	3.74
d_A, Approach Delay [s/veh]	1.79		0.00		8.99	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.48					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1400: East-West Arterial at Agricola Drive Connector

Control Type:	Roundabout	Delay (sec / veh):	7.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial		
Approach	Northbound			Southbound			Eastbound		
Lane Configuration									
Turning Movement	Left	Left	Thru	Thru	Right	Right	Left	Right	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial		
Base Volume Input [veh/h]	724	0	37	79	0	2	3	79	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	724	0	37	79	0	2	3	79	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	181	0	9	20	0	1	1	20	0
Total Analysis Volume [veh/h]	724	0	37	79	0	2	3	79	0
Pedestrian Volume [ped/h]	0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1		
Circulating Flow Rate [veh/h]	2			79			37		
Exiting Flow Rate [veh/h]	158			40			726		
Demand Flow Rate [veh/h]	724	0	37	79	0	2	3	79	0
Adjusted Demand Flow Rate [veh/h]	724	0	37	79	0	2	3	79	0

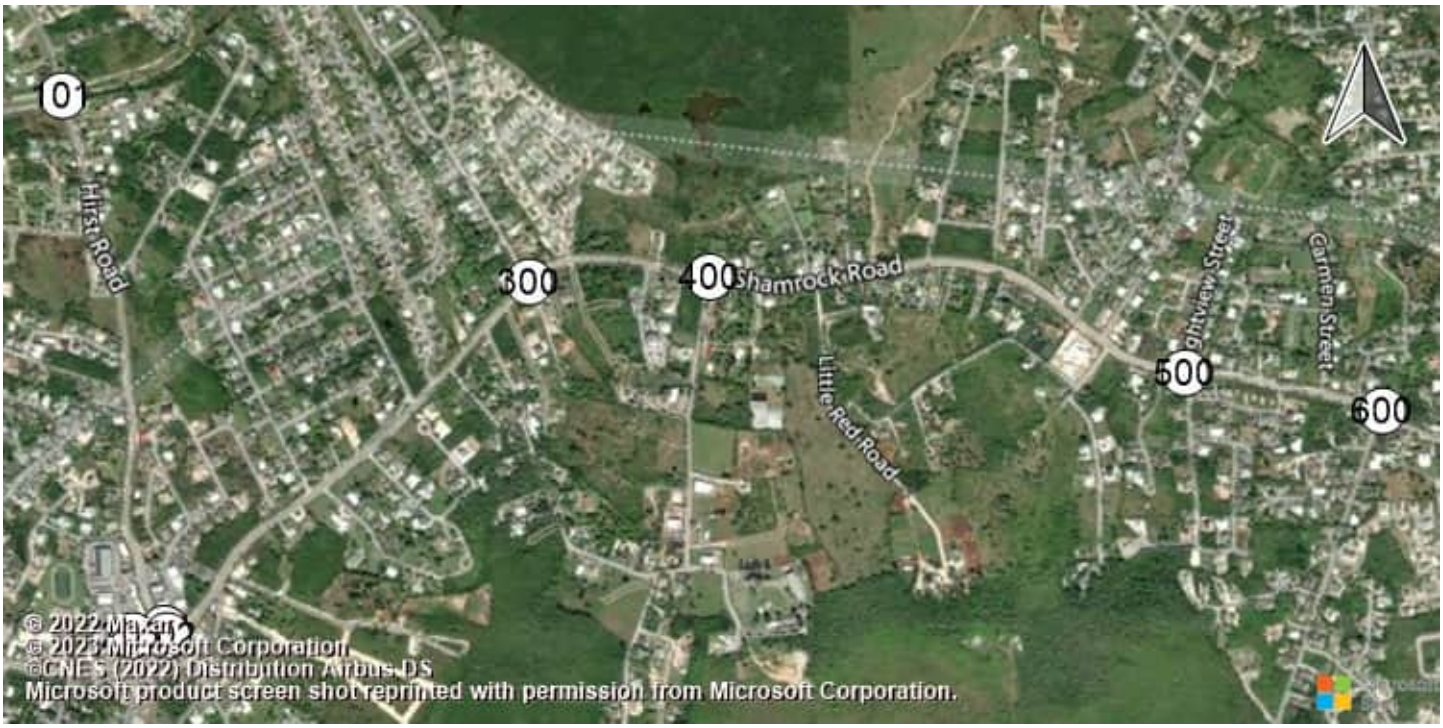
Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	761	81	82
Capacity of Entry and Bypass Lanes [veh/h]	1378	1274	1329
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1378	1274	1329
X, volume / capacity	0.55	0.06	0.06

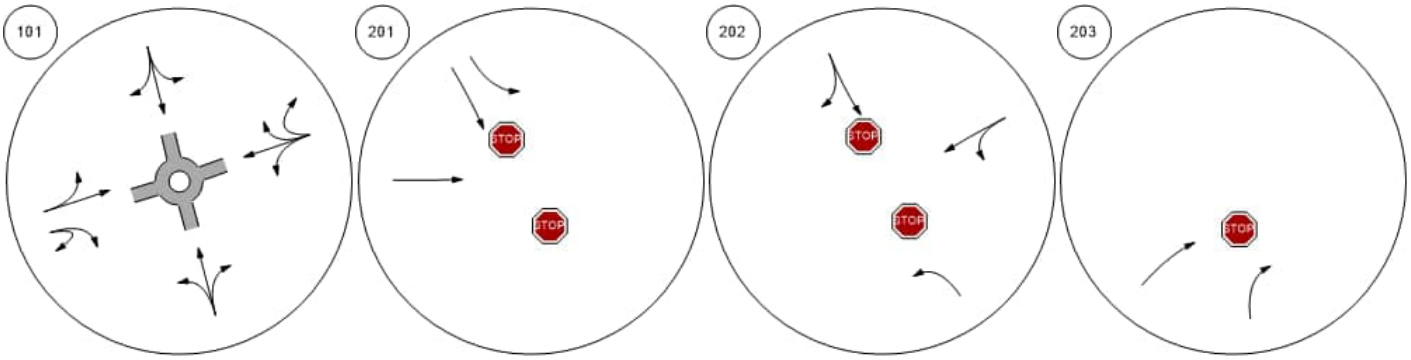
Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	3.54	0.20	0.20
95th-Percentile Queue Length [ft]	88.55	5.09	4.93
Approach Delay [s/veh]	8.56	3.34	3.20
Approach LOS	A	A	A
Intersection Delay [s/veh]	7.62		
Intersection LOS	A		

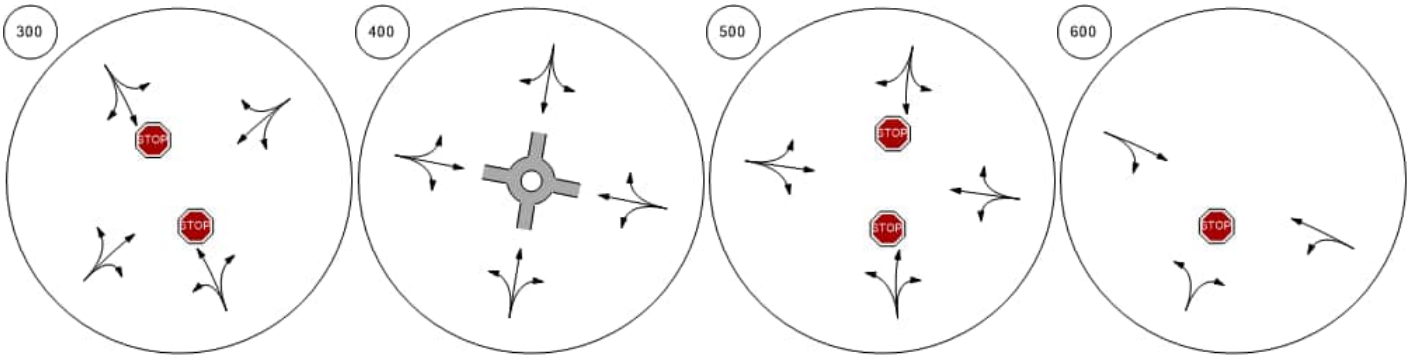
Lane Configuration and Traffic Control



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



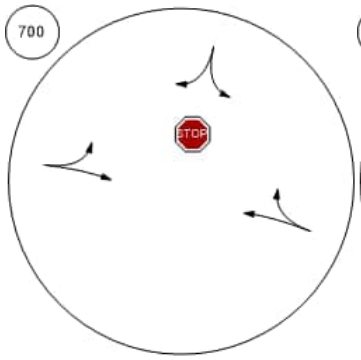
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



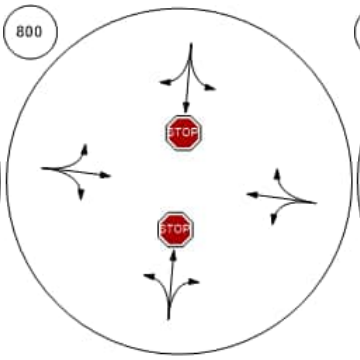
Lane Configuration and Traffic Control



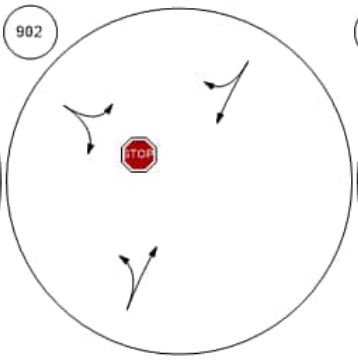
Shamrock Road at Northward



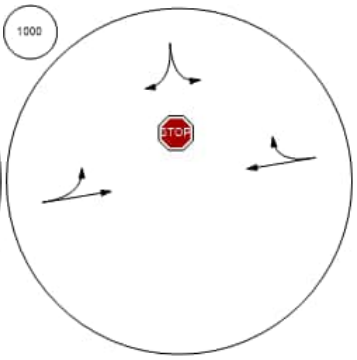
Shamrock Road at Condor R



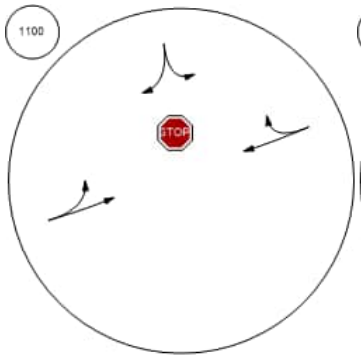
Bodden Town Road at Bodde



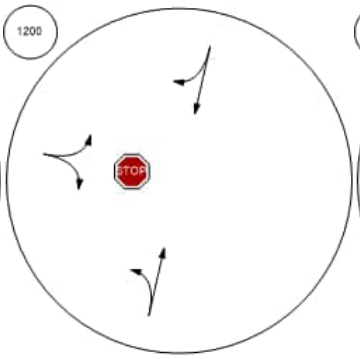
Bodden Town Road at Long



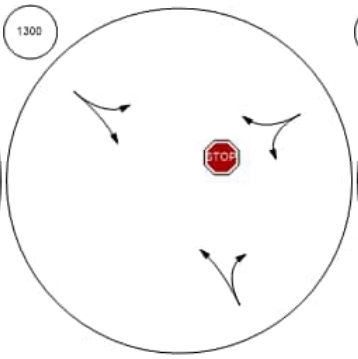
Frank Sound Road at Bodde



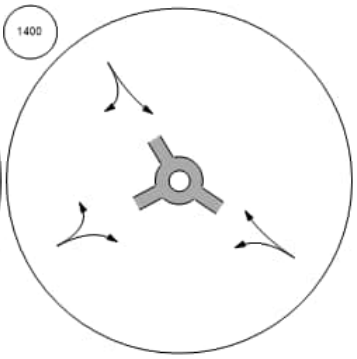
Frank Sound Road at Clifton



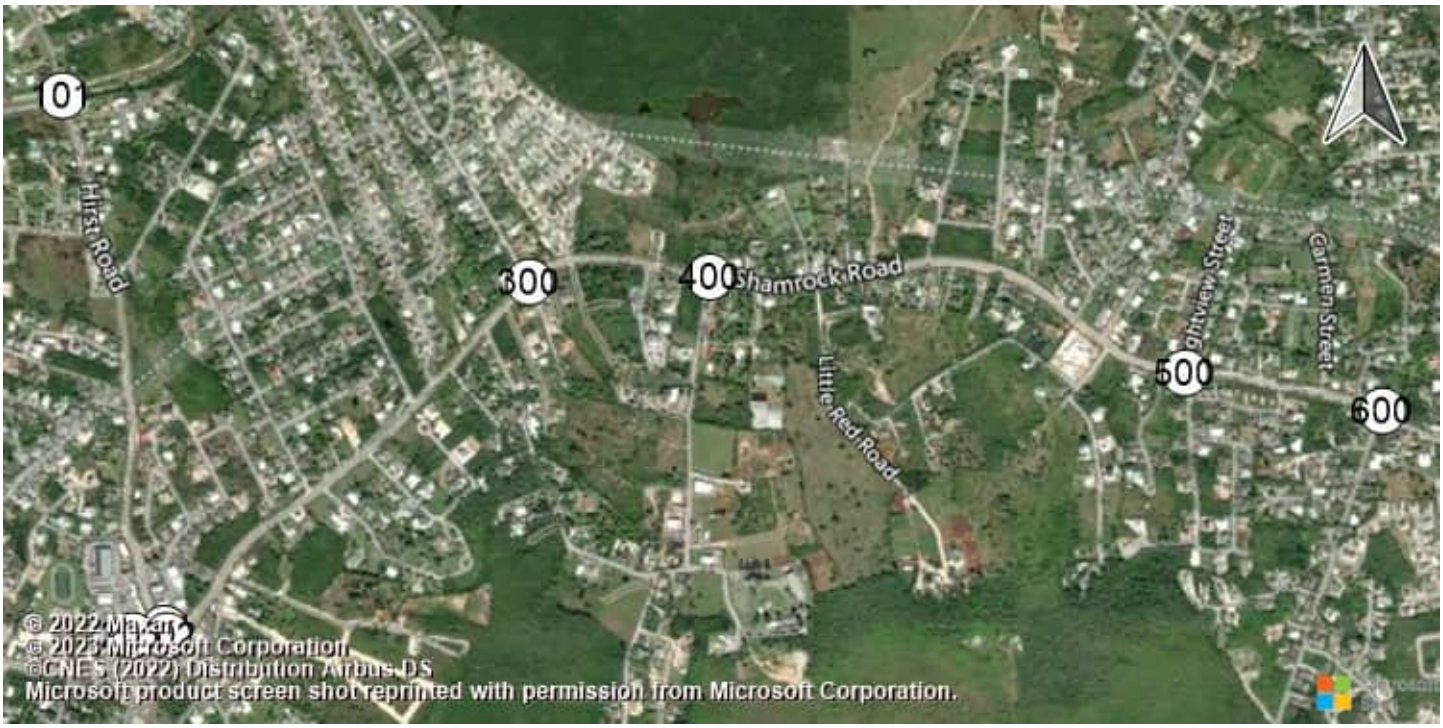
Frank Sound Road at North S



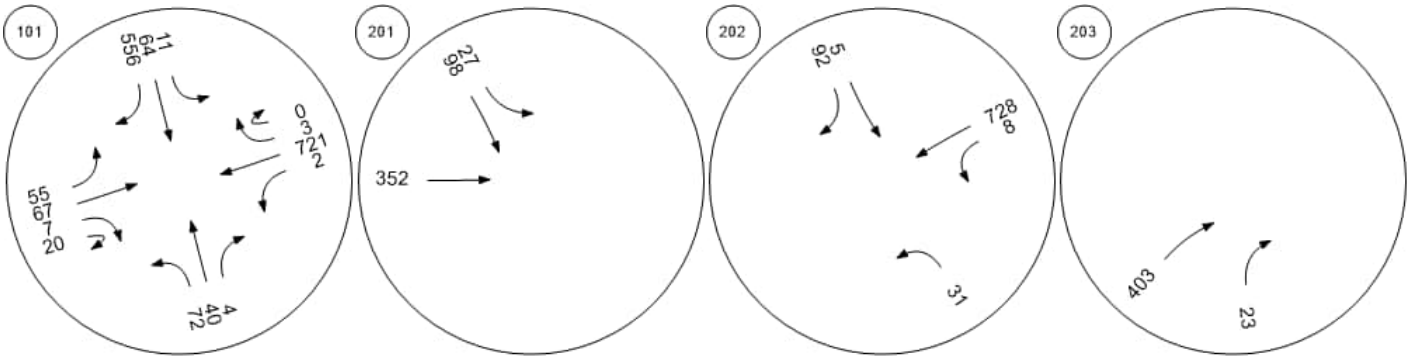
East-West Arterial at Agricola



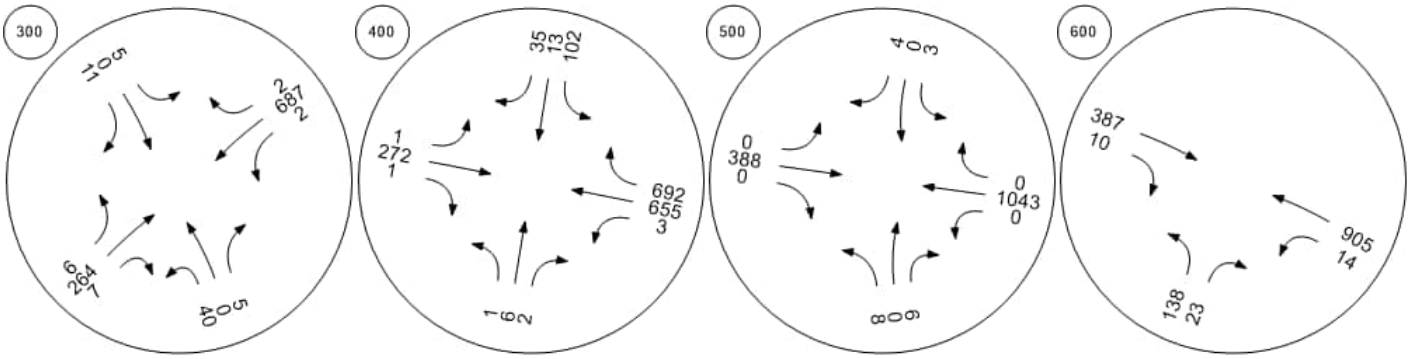
Traffic Volume - Base Volume



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



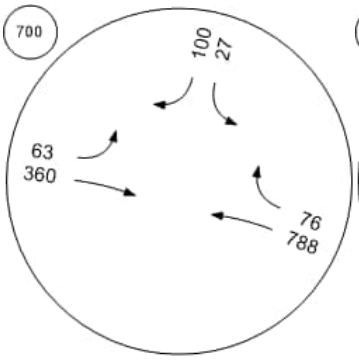
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



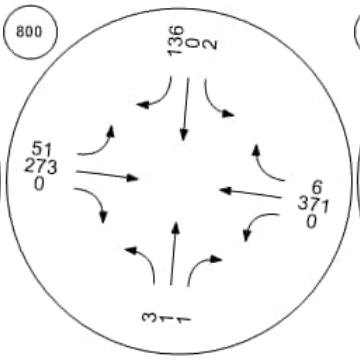
Traffic Volume - Base Volume



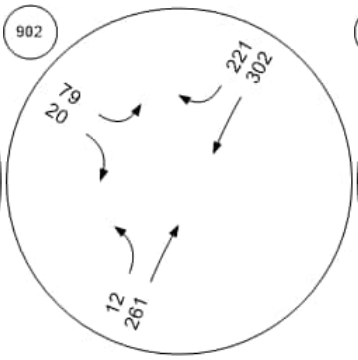
Shamrock Road at Northward



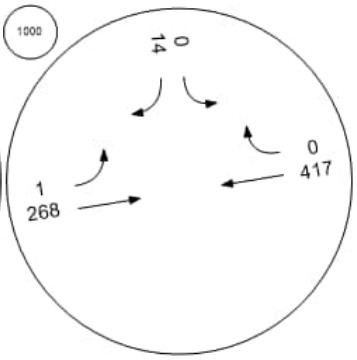
Shamrock Road at Condor R



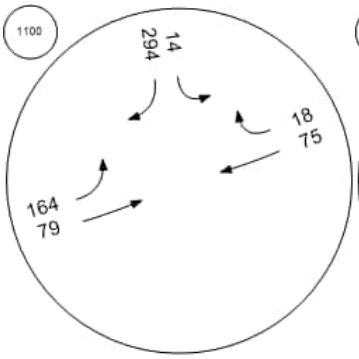
Bodden Town Road at Bodde



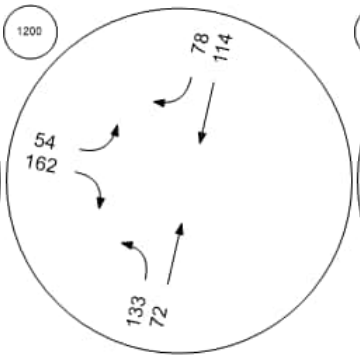
Bodden Town Road at Long



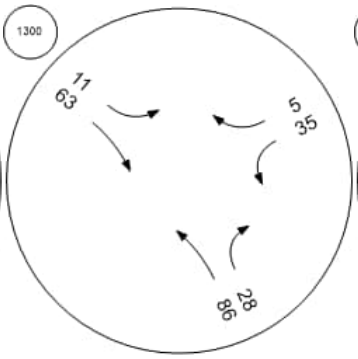
Frank Sound Road at Bodde



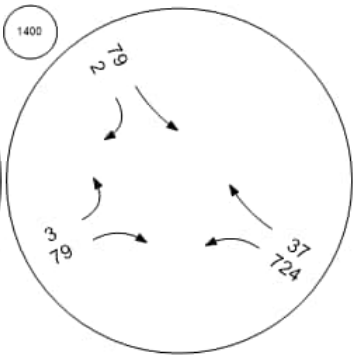
Frank Sound Road at Clifton



Frank Sound Road at North S



East-West Arterial at Agricola



Intersection Level Of Service Report
Intersection 101: East-West Arterial Road at Hirst Road

Control Type:	Roundabout	Delay (sec / veh):	12.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name											East-West Arterial									
Approach	Northbound					Southbound					Eastbound					Westbound				
Lane Configuration																				
Turning Movement	Left	Left	Thr	Rig	Rig	Left	Left	Thr	Rig	Rig	Left	Thr	Thr	Rig	U-t	Left	Thr	Thr	Rig	U-t
Lane Width [ft]	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Speed [mph]	30.00					30.00					40.00					40.00				
Grade [%]	0.00					0.00					0.00					0.00				
Crosswalk	Yes					Yes					Yes					Yes				

Volumes

Name											East-West Arterial									
Base Volume Input [veh/h]	33	0	133	0	0	18	0	73	0	130	380	0	613	398	3	19	55	0	9	0
Base Volume Adjustment Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Heavy Vehicles Percentage [%]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Growth Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	33	0	133	0	0	18	0	73	0	130	380	0	613	398	3	19	55	0	9	0
Peak Hour Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Other Adjustment Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Total 15-Minute Volume [veh/h]	8	0	33	0	0	5	0	18	0	33	95	0	153	100	1	5	14	0	2	0
Total Analysis Volume [veh/h]	33	0	133	0	0	18	0	73	0	130	380	0	613	398	3	19	55	0	9	0
Pedestrian Volume [ped/h]	0					0					0					0				

Intersection Settings

Number of Conflicting Circulating Lanes	2					2					2					2				
Circulating Flow Rate [veh/h]	197					1014					142					604				
Exiting Flow Rate [veh/h]	490					522					221					631				
Demand Flow Rate [veh/h]	33	0	133	0	0	18	0	73	0	130	380	0	613	398	3	19	55	0	9	0
Adjusted Demand Flow Rate [veh/h]	33	0	133	0	0	18	0	73	0	130	380	0	613	398	3	19	55	0	9	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1350.00	1420.00
B (coefficient)	0.00085	0.00085	0.00085	0.00092	0.00085
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	166	221	993	401	83
Capacity of Entry and Bypass Lanes [veh/h]	1202	600	1259	1185	850
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1202	600	1259	1185	850
X, volume / capacity	0.14	0.37	0.79	0.34	0.10

Movement, Approach, & Intersection Results

Lane LOS	A	B	C	A	A
95th-Percentile Queue Length [veh]	0.48	1.69	8.86	1.51	0.32
95th-Percentile Queue Length [ft]	11.98	42.25	221.39	37.79	8.09
Approach Delay [s/veh]	4.17	11.31	13.57		5.18
Approach LOS	A	B	B		A
Intersection Delay [s/veh]	12.09				
Intersection LOS	B				

Intersection Level Of Service Report
Intersection 201: Shamrock Road at Hirst Rd (1)

Control Type:	Two-way stop	Delay (sec / veh):	15.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.531

Intersection Setup

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	0	0	0	341	199	0	0	332	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	341	199	0	0	332	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	92	53	0	0	89	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	367	214	0	0	357	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.53	0.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	15.93	15.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS				C	B			A				
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	3.15	1.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	78.68	43.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			15.59			0.00			0.00		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	9.66											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 202: Shamrock Road at Hirst Rd (2)

Control Type:	Two-way stop	Delay (sec / veh):	18.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.361

Intersection Setup

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	31	0	0	0	38	161	0	0	0	17	429	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	31	0	0	0	38	161	0	0	0	17	429	0
Peak Hour Factor	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	0	0	0	10	43	0	0	0	5	115	0
Total Analysis Volume [veh/h]	33	0	0	0	41	173	0	0	0	18	461	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.00	0.00	0.00	0.08	0.36	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.38	0.00	0.00	0.00	18.23	18.38	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	B				C	C				A	A	
95th-Percentile Queue Length [veh/ln]	0.17	0.00	0.00	0.00	2.25	2.25	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	4.37	0.00	0.00	0.00	56.32	56.32	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.38			18.35			0.00			0.00		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	5.93											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 203: Shamrock Road atHirst Road Jughandle

Control Type:	Two-way stop	Delay (sec / veh):	12.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.073

Intersection Setup

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	0	35	482	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	35	482	0	0	0
Peak Hour Factor	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	9	130	0	0	0
Total Analysis Volume [veh/h]	0	38	518	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.07	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	12.45	0.00	0.00	0.00	0.00
Movement LOS		B	A			
95th-Percentile Queue Length [veh/ln]	0.00	0.23	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	5.87	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.45		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.85					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 300: Shamrock Road at Woodland Drive

Control Type:	Two-way stop	Delay (sec / veh):	28.6
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.044

Intersection Setup

Name	Woodland Dr			Woodland Dr			Shamrock Rd					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Woodland Dr			Woodland Dr			Shamrock Rd					
Base Volume Input [veh/h]	12	0	2	8	0	7	7	593	29	4	509	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	0	2	8	0	7	7	593	29	4	509	4
Peak Hour Factor	0.9700	0.9700	1.0000	1.0000	0.9700	0.9700	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	1	2	0	2	2	148	7	1	127	1
Total Analysis Volume [veh/h]	12	0	2	8	0	7	7	593	30	4	509	4
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.01	0.02	0.00	0.04	0.00	0.01	0.03	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	11.65	24.98	27.79	13.01	25.55	28.60	0.00	0.00	8.49	0.00	0.00	8.66
Movement LOS	B	C	D	B	D	D	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.10	0.10	0.10	0.19	0.19	0.19	0.09	0.09	0.09	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	2.61	2.61	2.61	4.75	4.75	4.75	2.18	2.18	2.18	0.31	0.31	0.31
d_A, Approach Delay [s/veh]	13.96			20.29			0.40			0.07		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	0.67											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 400: Shamrock Road at Agricola Drive

Control Type:	Roundabout	Delay (sec / veh):	17.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	1	0	0	654	10	0	4	596	3	9	516	130
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	0	654	10	0	4	596	3	9	516	130
Peak Hour Factor	1.0000	1.0000	0.9200	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9200	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	164	3	0	1	149	1	2	129	33
Total Analysis Volume [veh/h]	1	0	0	654	10	0	4	596	3	10	516	130
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	646			599			130			13		
Exiting Flow Rate [veh/h]	23			134			517			1250		
Demand Flow Rate [veh/h]	1	0	0	654	10	0	4	596	3	9	516	130
Adjusted Demand Flow Rate [veh/h]	1	0	0	654	10	0	4	596	3	10	516	130

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	1	664	603	656
Capacity of Entry and Bypass Lanes [veh/h]	715	750	1209	1362
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	715	750	1209	1362
X, volume / capacity	0.00	0.89	0.50	0.48

Movement, Approach, & Intersection Results

Lane LOS	A	D	A	A
95th-Percentile Queue Length [veh]	0.00	11.33	2.88	2.71
95th-Percentile Queue Length [ft]	0.11	283.34	71.94	67.63
Approach Delay [s/veh]	5.06	34.38	8.40	7.48
Approach LOS	A	D	A	A
Intersection Delay [s/veh]	17.05			
Intersection LOS	C			

Intersection Level Of Service Report
Intersection 500: Shamrock Road at Brightview Drive / Calla Lily Drive

Control Type:	Two-way stop	Delay (sec / veh):	53.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.013

Intersection Setup

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			20.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	1	0	1	0	0	0	9	953	19	54	559	28
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	1	0	0	0	9	953	19	54	559	28
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0	2	238	5	14	140	7
Total Analysis Volume [veh/h]	1	0	1	0	0	0	9	953	19	54	559	28
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.02	0.00	0.01	0.04
d_M, Delay for Movement [s/veh]	12.43	44.98	53.28	16.43	45.83	52.99	0.00	0.00	8.76	0.00	0.00	10.18
Movement LOS	B	E	F	C	E	F	A	A	A	A	A	B
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.05	0.00	0.00	0.00	0.06	0.06	0.06	0.12	0.12	0.12
95th-Percentile Queue Length [ft/ln]	1.16	1.16	1.16	0.00	0.00	0.00	1.49	1.49	1.49	3.01	3.01	3.01
d_A, Approach Delay [s/veh]	32.86			38.42			0.17			0.44		
Approach LOS	D			E			A			A		
d_I, Intersection Delay [s/veh]	0.32											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 600: Shamrock Road at Beach Bay Road

Control Type:	Two-way stop	Delay (sec / veh):	76.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.374

Intersection Setup

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	47	24	870	84	20	594
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	47	24	870	84	20	594
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	7	239	23	5	163
Total Analysis Volume [veh/h]	52	26	956	92	22	653
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane	No					
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance	No					
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.37	0.01	0.10	0.00	0.01
d_M, Delay for Movement [s/veh]	32.28	76.26	0.00	9.32	0.00	0.00
Movement LOS	D	F	A	A	A	A
95th-Percentile Queue Length [veh/ln]	2.31	2.31	0.33	0.33	0.00	0.00
95th-Percentile Queue Length [ft/ln]	57.86	57.86	8.25	8.25	0.00	0.00
d_A, Approach Delay [s/veh]	46.94		0.82		0.00	
Approach LOS	E		A		A	
d_I, Intersection Delay [s/veh]	2.51					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 700: Shamrock Road at Northward Road

Control Type:	Two-way stop	Delay (sec / veh):	119.7
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.774

Intersection Setup

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	54	84	11	797	572	62
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	54	84	11	797	572	62
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	22	3	205	147	16
Total Analysis Volume [veh/h]	56	87	11	822	590	64
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.15	0.77	0.00	0.01	0.01	0.08
d_M, Delay for Movement [s/veh]	97.24	119.66	0.00	0.00	0.00	9.83
Movement LOS	F	F	A	A	A	A
95th-Percentile Queue Length [veh/ln]	6.62	6.62	0.00	0.00	0.26	0.26
95th-Percentile Queue Length [ft/ln]	165.54	165.54	0.00	0.00	6.43	6.43
d_A, Approach Delay [s/veh]	110.88		0.00		0.96	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	10.11					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 800: Shamrock Road at Condor Road

Control Type:	Two-way stop	Delay (sec / veh):	25.2
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.194

Intersection Setup

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Base Volume Input [veh/h]	1	0	0	9	0	43	69	558	1	0	376	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	0	9	0	43	69	558	1	0	376	13
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	2	0	11	17	140	0	0	94	3
Total Analysis Volume [veh/h]	1	0	0	9	0	43	69	558	1	0	376	13
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.02	0.00	0.19	0.00	0.01	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	10.34	20.61	21.64	15.97	23.80	25.16	0.00	0.00	8.02	0.00	0.00	8.78
Movement LOS	B	C	C	C	C	D	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.78	0.78	0.78	0.00	0.00	0.00	0.04	0.04	0.04
95th-Percentile Queue Length [ft/ln]	0.11	0.11	0.11	19.53	19.53	19.53	0.06	0.06	0.06	1.02	1.02	1.02
d_A, Approach Delay [s/veh]	10.34			23.57			0.01			0.29		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	1.27											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 902: Bodden Town Road at Bodden Town Bypass

Control Type:	Two-way stop	Delay (sec / veh):	45.2
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.326

Intersection Setup

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	103	41	29	524	310	188
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	103	41	29	524	310	188
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	11	8	139	82	50
Total Analysis Volume [veh/h]	110	44	31	557	330	200
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.21	0.33	0.00	0.01	0.00	0.20
d_M, Delay for Movement [s/veh]	25.48	45.25	0.00	0.00	0.00	9.51
Movement LOS	D	E	A	A	A	A
95th-Percentile Queue Length [veh/ln]	2.95	2.95	0.00	0.00	0.75	0.75
95th-Percentile Queue Length [ft/ln]	73.64	73.64	0.00	0.00	18.68	18.68
d_A, Approach Delay [s/veh]	31.13		0.00		3.59	
Approach LOS	D		A		A	
d_I, Intersection Delay [s/veh]	5.26					
Intersection LOS	E					

Intersection Level Of Service Report
Intersection 1000: Bodden Town Road at Long Fellow Drive

Control Type:	Two-way stop	Delay (sec / veh):	20.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.052

Intersection Setup

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	0	12	24	518	431	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	12	24	518	431	0
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	3	7	142	118	0
Total Analysis Volume [veh/h]	0	13	26	569	474	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.05	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	12.75	20.08	0.00	0.00	0.00	8.63
Movement LOS	B	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.16	0.16	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	4.06	4.06	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	20.08		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.24					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1100: Frank Sound Road at Bodden Town Road

Control Type:	Two-way stop	Delay (sec / veh):	21.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.541

Intersection Setup

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Base Volume Input [veh/h]	25	252	302	141	142	29
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	252	302	141	142	29
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	68	81	38	38	8
Total Analysis Volume [veh/h]	27	271	325	152	153	31
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane	No					
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance	No					
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.54	0.00	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	19.03	21.29	0.00	0.00	0.00	7.55
Movement LOS	C	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	3.62	3.62	0.00	0.00	0.07	0.07
95th-Percentile Queue Length [ft/ln]	90.51	90.51	0.00	0.00	1.65	1.65
d_A, Approach Delay [s/veh]	21.08		0.00		1.27	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	6.79					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1200: Frank Sound Road at Clifton Hunter High School

Control Type:	Two-way stop	Delay (sec / veh):	20.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.382

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd		High School Access	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		20.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Frank Sound Rd		High School Access	
Base Volume Input [veh/h]	145	162	125	112	95	165
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	145	162	125	112	95	165
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	36	41	31	28	24	41
Total Analysis Volume [veh/h]	145	162	125	112	95	165
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.09	0.12	0.38
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	8.12	16.13	20.02
Movement LOS	A	A	A	A	C	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.29	0.29	2.76	2.76
95th-Percentile Queue Length [ft/ln]	0.00	0.00	7.27	7.27	68.91	68.91
d_A, Approach Delay [s/veh]	0.00		3.84		18.60	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	7.15					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1300: Frank Sound Road at North Side Road/Old Robin Road

Control Type:	Two-way stop	Delay (sec / veh):	11.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.045

Intersection Setup

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Base Volume Input [veh/h]	142	28	35	130	62	24
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	142	28	35	130	62	24
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	8	10	37	17	7
Total Analysis Volume [veh/h]	160	31	39	146	70	27
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.02	0.00	0.00	0.08	0.04
d_M, Delay for Movement [s/veh]	0.00	7.63	0.00	0.00	9.72	11.60
Movement LOS	A	A	A	A	A	B
95th-Percentile Queue Length [veh/ln]	0.07	0.07	0.00	0.00	0.42	0.42
95th-Percentile Queue Length [ft/ln]	1.70	1.70	0.00	0.00	10.55	10.55
d_A, Approach Delay [s/veh]	1.24		0.00		10.24	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	2.60					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1400: East-West Arterial at Agricola Drive Connector

Control Type:	Roundabout	Delay (sec / veh):	7.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial		
Approach	Northbound			Southbound			Eastbound		
Lane Configuration									
Turning Movement	Left	Left	Thru	Thru	Right	Right	Left	Right	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial		
Base Volume Input [veh/h]	77	0	67	68	0	6	0	631	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	77	0	67	68	0	6	0	631	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	0	17	17	0	2	0	158	0
Total Analysis Volume [veh/h]	77	0	67	68	0	6	0	631	0
Pedestrian Volume [ped/h]	0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1		
Circulating Flow Rate [veh/h]	6			631			67		
Exiting Flow Rate [veh/h]	699			67			83		
Demand Flow Rate [veh/h]	77	0	67	68	0	6	0	631	0
Adjusted Demand Flow Rate [veh/h]	77	0	67	68	0	6	0	631	0

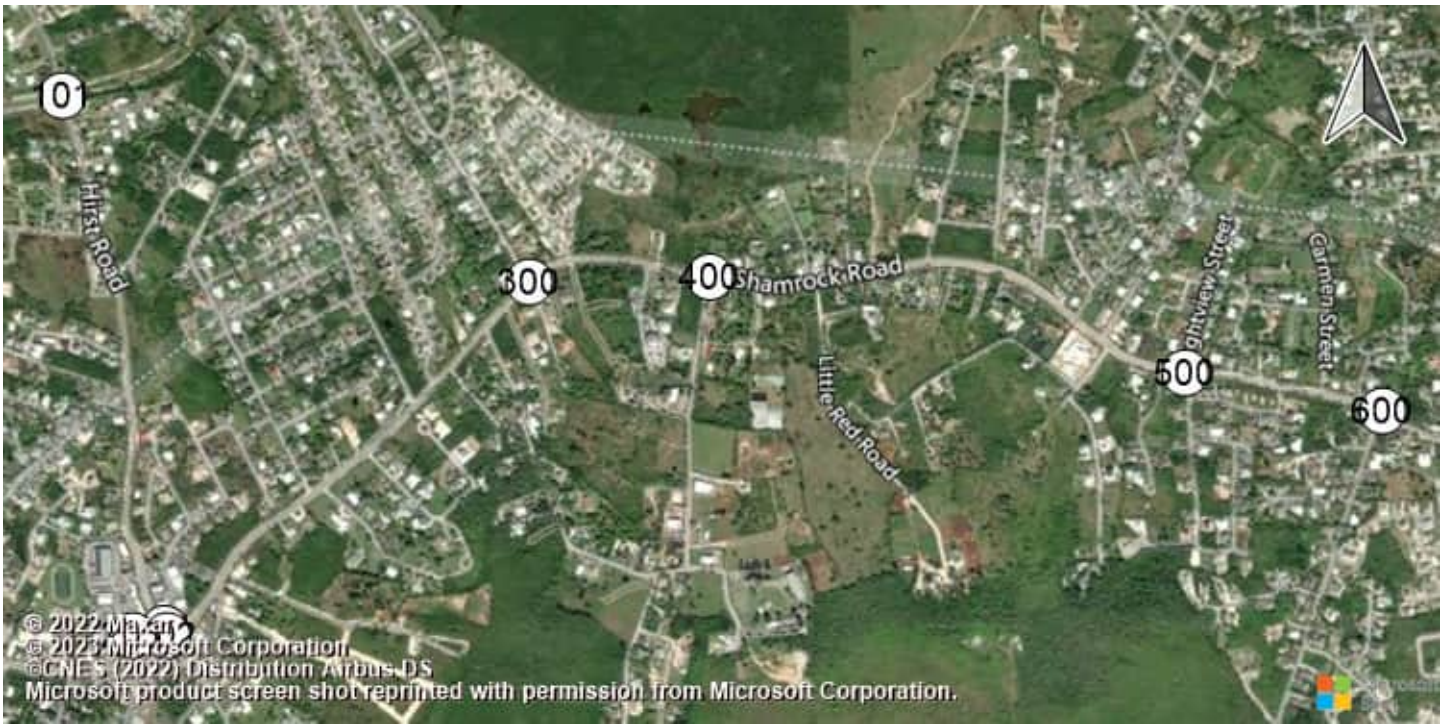
Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	144	74	631
Capacity of Entry and Bypass Lanes [veh/h]	1372	726	1289
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1372	726	1289
X, volume / capacity	0.10	0.10	0.49

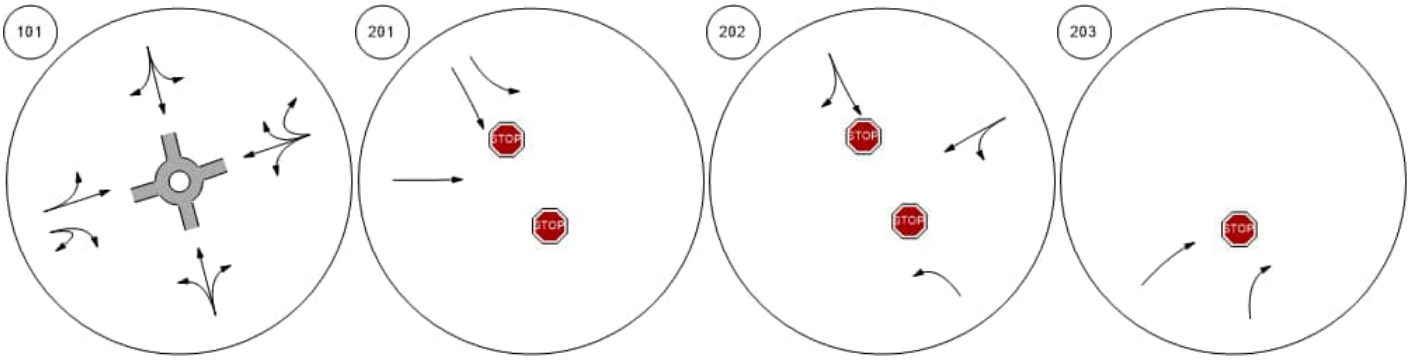
Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	0.35	0.34	2.78
95th-Percentile Queue Length [ft]	8.78	8.49	69.58
Approach Delay [s/veh]	3.46	6.04	7.89
Approach LOS	A	A	A
Intersection Delay [s/veh]	6.98		
Intersection LOS	A		

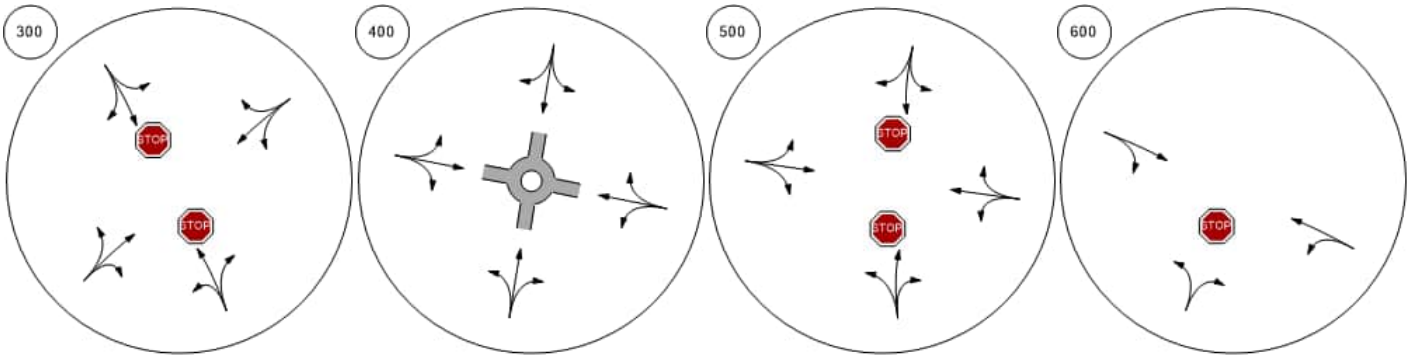
Lane Configuration and Traffic Control



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



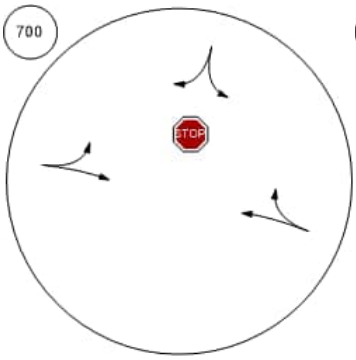
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



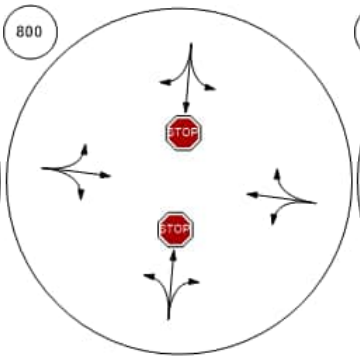
Lane Configuration and Traffic Control



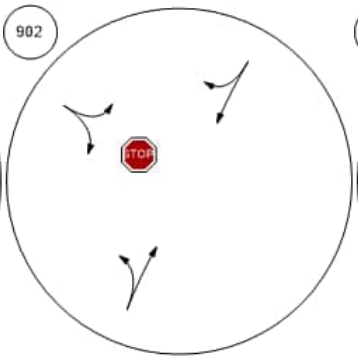
Shamrock Road at Northward



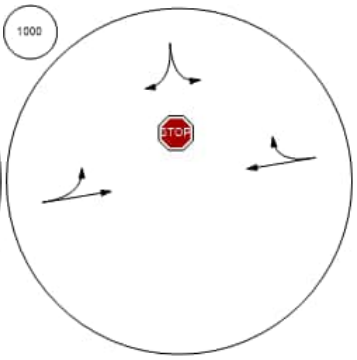
Shamrock Road at Condor R



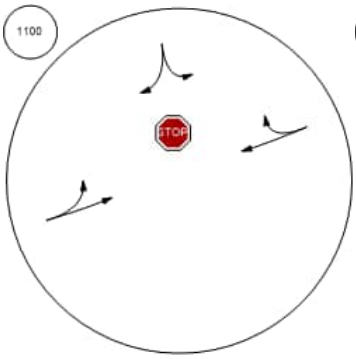
Bodden Town Road at Bodde



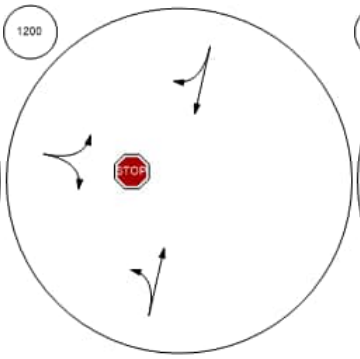
Bodden Town Road at Long



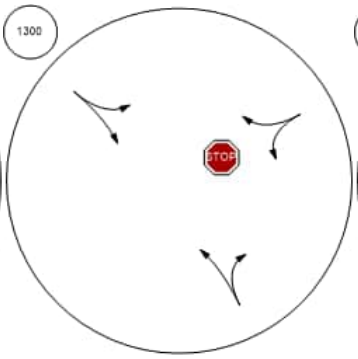
Frank Sound Road at Bodde



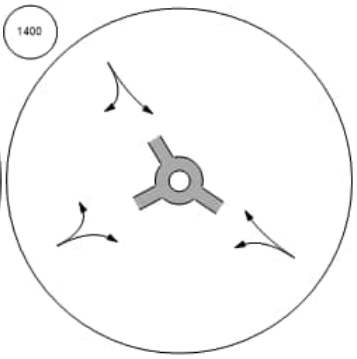
Frank Sound Road at Clifton



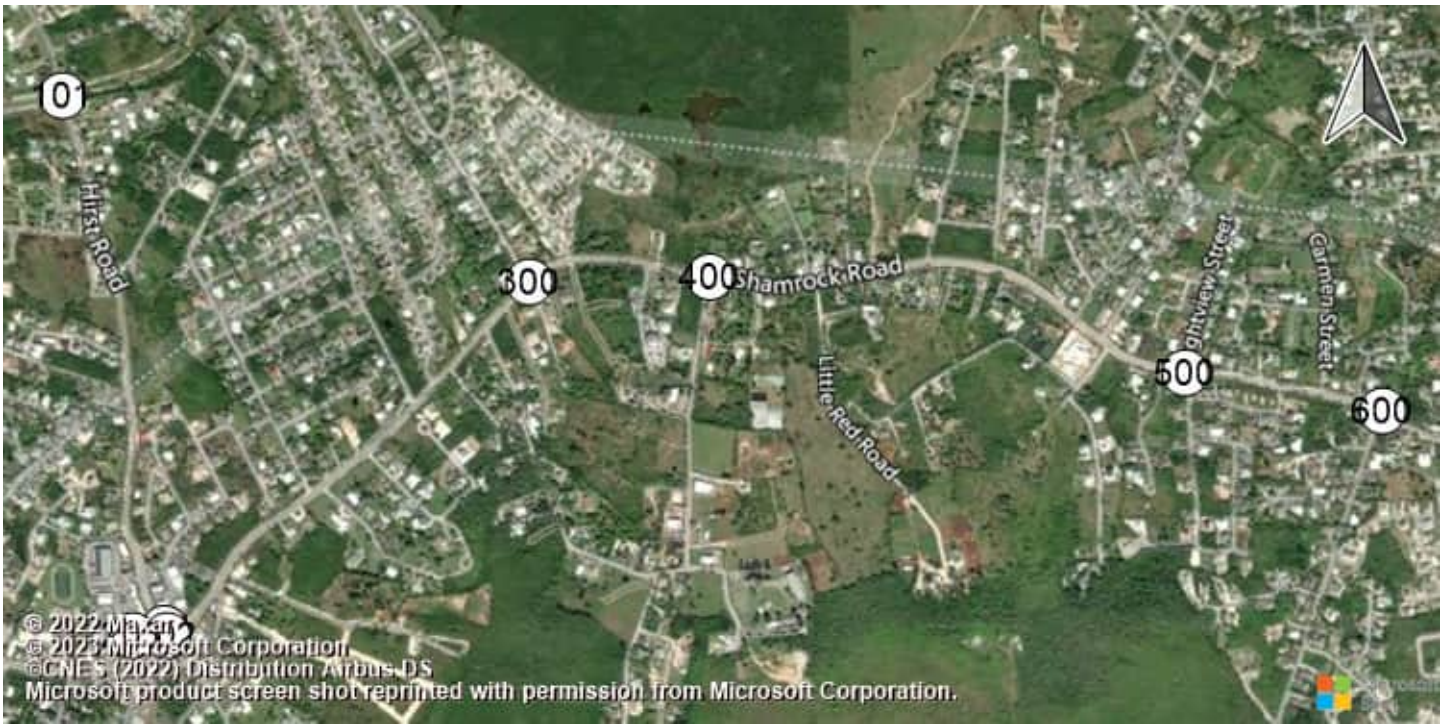
Frank Sound Road at North S



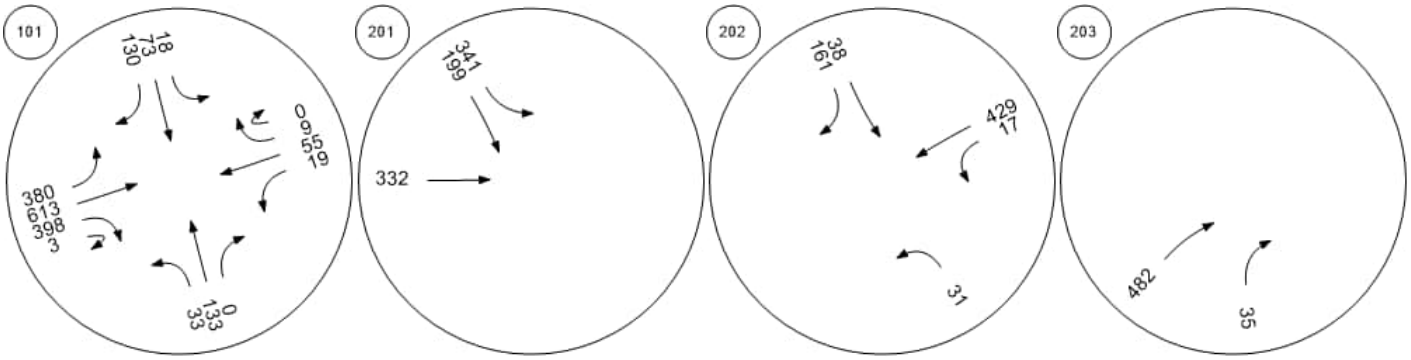
East-West Arterial at Agricola



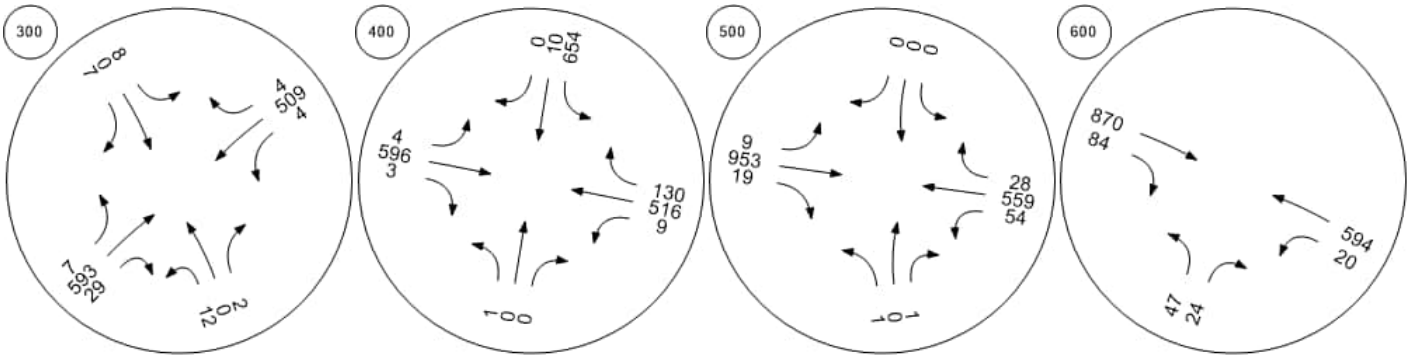
Traffic Volume - Base Volume



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



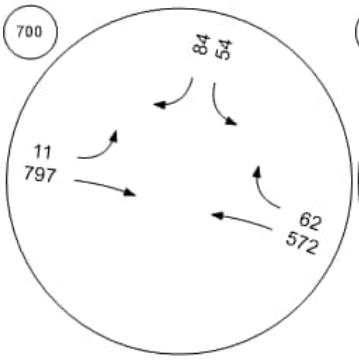
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



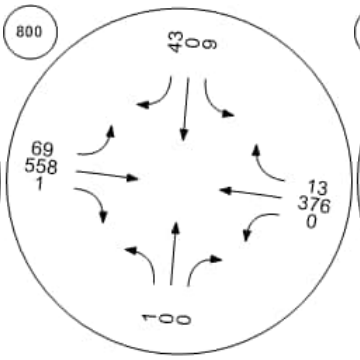
Traffic Volume - Base Volume



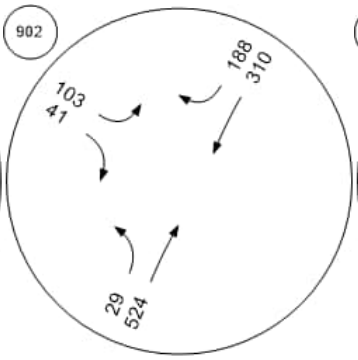
Shamrock Road at Northward



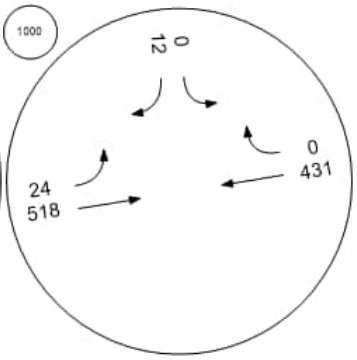
Shamrock Road at Condor R



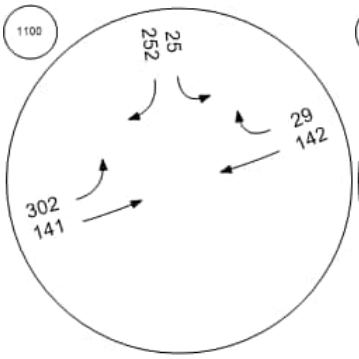
Bodden Town Road at Bodde



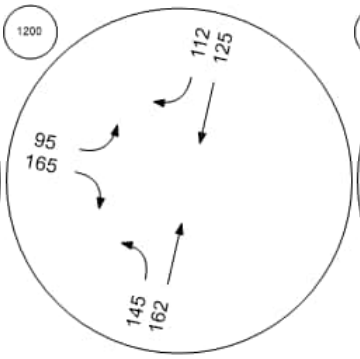
Bodden Town Road at Long



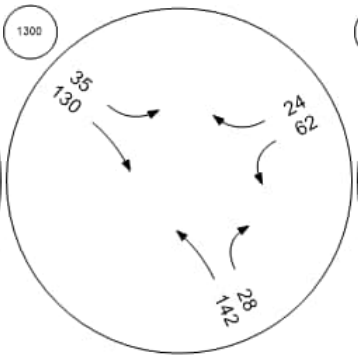
Frank Sound Road at Bodde



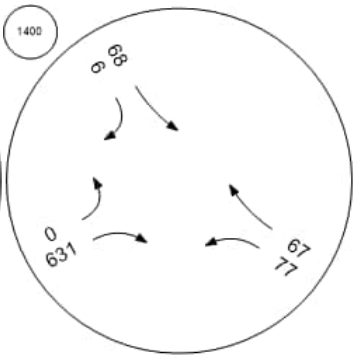
Frank Sound Road at Clifton



Frank Sound Road at North S



East-West Arterial at Agricola



Intersection Level Of Service Report
Intersection 101: East-West Arterial Road at Hirst Road

Control Type:	Roundabout	Delay (sec / veh):	10.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name									East-West Arterial				East-West Arterial				
Approach	Northbound				Southbound				Eastbound				Westbound				
Lane Configuration																	
Turning Movement	Left	Left	Thru	Right	Left	Thru	Right	Right	Left	Thru	Right	U-tu	Left	Thr	Thr	Rig	U-t
Lane Width [ft]	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.	12.	12.	12.	12.
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Entry Pocket Length [ft]	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	200	100	100	100	100
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Speed [mph]	30.00				30.00				40.00				50.00				
Grade [%]	0.00				0.00				0.00				0.00				
Crosswalk	Yes				Yes				Yes				Yes				

Volumes

Name									East-West Arterial				East-West Arterial				
Base Volume Input [veh/h]	7	0	38	24	16	65	0	529	54	273	6	19	19	910	0	4	0
Base Volume Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	0	38	24	16	65	0	529	54	273	6	19	19	910	0	4	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Other Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Total 15-Minute Volume [veh/h]	2	0	10	6	4	16	0	132	14	68	2	5	5	228	0	1	0
Total Analysis Volume [veh/h]	7	0	38	24	16	65	0	529	54	273	6	19	19	910	0	4	0
Pedestrian Volume [ped/h]	0				0				0				0				

Intersection Settings

Number of Conflicting Circulating Lanes	2				2				2				2				
Circulating Flow Rate [veh/h]	1462				322				66				619				
Exiting Flow Rate [veh/h]	90				96				1465				313				
Demand Flow Rate [veh/h]	7	0	38	24	16	65	0	529	54	273	6	19	19	910	0	4	0
Adjusted Demand Flow Rate [veh/h]	7	0	38	24	16	65	0	529	54	273	6	19	19	910	0	4	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1350.00	1420.00	1350.00
B (coefficient)	0.00085	0.00085	0.00085	0.00092	0.00085	0.00092
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	69	610	54	298	495	439
Capacity of Entry and Bypass Lanes [veh/h]	410	1080	1343	1271	840	764
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	410	1080	1343	1271	840	764
X, volume / capacity	0.17	0.56	0.04	0.23	0.59	0.57

Movement, Approach, & Intersection Results

Lane LOS	B	B	A	A	B	B
95th-Percentile Queue Length [veh]	0.60	3.67	0.13	0.91	3.94	3.71
95th-Percentile Queue Length [ft]	14.97	91.63	3.14	22.81	98.61	92.64
Approach Delay [s/veh]	11.40	10.39	4.58		13.45	
Approach LOS	B	B	A		B	
Intersection Delay [s/veh]	10.84					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 201: Shamrock Road at Hirst Rd (1)

Control Type:	Two-way stop	Delay (sec / veh):	11.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.170

Intersection Setup

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	0	0	0	19	106	0	0	216	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	19	106	0	0	216	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	5	28	0	0	58	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	20	114	0	0	232	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.02	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	9.54	11.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS				A	B			A				
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.08	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	1.89	15.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			11.17			0.00			0.00		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	4.09											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 202: Shamrock Road at Hirst Rd (2)

Control Type:	Two-way stop	Delay (sec / veh):	20.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.312

Intersection Setup

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	33	0	0	0	6	99	0	0	0	7	629	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	33	0	0	0	6	99	0	0	0	7	629	0
Peak Hour Factor	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	0	0	0	2	27	0	0	0	2	169	0
Total Analysis Volume [veh/h]	35	0	0	0	6	106	0	0	0	8	676	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.00	0.00	0.00	0.02	0.31	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	13.58	0.00	0.00	0.00	19.71	20.68	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	B				C	C				A	A	
95th-Percentile Queue Length [veh/ln]	0.25	0.00	0.00	0.00	1.40	1.40	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	6.23	0.00	0.00	0.00	34.97	34.97	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.58			20.63			0.00			0.00		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	3.35											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 203: Shamrock Road atHirst Road Jughandle

Control Type:	Two-way stop	Delay (sec / veh):	10.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.026

Intersection Setup

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	0	17	269	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	17	269	0	0	0
Peak Hour Factor	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	5	72	0	0	0
Total Analysis Volume [veh/h]	0	18	289	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.03	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	10.23	0.00	0.00	0.00	0.00
Movement LOS		B	A			
95th-Percentile Queue Length [veh/ln]	0.00	0.08	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	1.96	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	10.23		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.60					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 300: Shamrock Road at Woodland Drive

Control Type:	Two-way stop	Delay (sec / veh):	17.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.061

Intersection Setup

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	40	0	6	0	0	18	3	122	6	2	579	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	0	6	0	0	18	3	122	6	2	579	0
Peak Hour Factor	0.9700	0.9700	1.0000	1.0000	0.9700	0.9700	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	0	2	0	0	5	1	31	2	1	145	0
Total Analysis Volume [veh/h]	41	0	6	0	0	19	3	122	6	2	579	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.00	0.02	0.00	0.00	0.06	0.00	0.00	0.01	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	12.74	15.92	16.18	9.62	15.88	17.41	0.00	0.00	8.61	0.00	0.00	7.44
Movement LOS	B	C	C	A	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.32	0.32	0.32	0.20	0.20	0.20	0.02	0.02	0.02	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	7.96	7.96	7.96	4.89	4.89	4.89	0.45	0.45	0.45	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.18			17.41			0.39			0.00		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	1.29											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 400: Shamrock Road at Agricola Drive

Control Type:	Roundabout	Delay (sec / veh):	6.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	2	6	1	25	13	34	2	124	1	3	545	96
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	6	1	25	13	34	2	124	1	3	545	96
Peak Hour Factor	1.0000	1.0000	0.9200	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9200	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	0	6	3	9	1	31	0	1	136	24
Total Analysis Volume [veh/h]	2	6	1	25	13	34	2	124	1	3	545	96
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	675			126			103			48		
Exiting Flow Rate [veh/h]	17			104			581			150		
Demand Flow Rate [veh/h]	2	6	1	25	13	34	2	124	1	3	545	96
Adjusted Demand Flow Rate [veh/h]	2	6	1	25	13	34	2	124	1	3	545	96

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	9	72	127	644
Capacity of Entry and Bypass Lanes [veh/h]	694	1214	1243	1315
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	694	1214	1243	1315
X, volume / capacity	0.01	0.06	0.10	0.49

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.04	0.19	0.34	2.79
95th-Percentile Queue Length [ft]	0.99	4.72	8.52	69.76
Approach Delay [s/veh]	5.33	3.45	3.74	7.79
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	6.80			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 500: Shamrock Road at Brightview Drive / Calla Lily Drive

Control Type:	Two-way stop	Delay (sec / veh):	15.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.014

Intersection Setup

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			20.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	8	0	5	3	0	5	0	149	0	0	533	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	0	5	3	0	5	0	149	0	0	533	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	0	1	1	0	1	0	37	0	0	133	0
Total Analysis Volume [veh/h]	8	0	5	3	0	5	0	149	0	0	533	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	11.76	14.84	15.10	9.12	14.74	15.16	0.00	0.00	8.45	0.00	0.00	7.49
Movement LOS	B	B	C	A	B	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.09	0.09	0.09	0.05	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	2.18	2.18	2.18	1.32	1.32	1.32	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.05			12.90			0.00			0.00		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	0.39											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 600: Shamrock Road at Beach Bay Road

Control Type:	Two-way stop	Delay (sec / veh):	15.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.051

Intersection Setup

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	140	21	147	10	13	393
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	140	21	147	10	13	393
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	6	40	3	4	108
Total Analysis Volume [veh/h]	154	23	162	11	14	432
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.25	0.05	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	13.36	15.60	0.00	8.23	0.00	0.00
Movement LOS	B	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.25	1.25	0.03	0.03	0.00	0.00
95th-Percentile Queue Length [ft/ln]	31.22	31.22	0.74	0.74	0.00	0.00
d_A, Approach Delay [s/veh]	13.65		0.52		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	3.15					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 700: Shamrock Road at Northward Road

Control Type:	Two-way stop	Delay (sec / veh):	13.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	10	3	9	170	372	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	3	9	170	372	23
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	1	2	44	96	6
Total Analysis Volume [veh/h]	10	3	9	175	384	24
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	9.24	13.09	0.00	0.00	0.00	7.61
Movement LOS	A	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.06	0.06	0.00	0.00	0.05	0.05
95th-Percentile Queue Length [ft/ln]	1.39	1.39	0.00	0.00	1.30	1.30
d_A, Approach Delay [s/veh]	10.13		0.00		0.45	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.52					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 800: Shamrock Road at Condor Road

Control Type:	Two-way stop	Delay (sec / veh):	12.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.276

Intersection Setup

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Base Volume Input [veh/h]	4	1	0	1	0	191	55	121	0	0	93	7
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	1	0	1	0	191	55	121	0	0	93	7
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	0	0	48	14	30	0	0	23	2
Total Analysis Volume [veh/h]	4	1	0	1	0	191	55	121	0	0	93	7
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.28	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.74	10.77	10.18	10.96	12.53	12.17	0.00	0.00	7.38	0.00	0.00	7.56
Movement LOS	A	B	B	B	B	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.02	1.13	1.13	1.13	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.43	0.43	0.43	28.21	28.21	28.21	0.00	0.00	0.00	0.37	0.37	0.37
d_A, Approach Delay [s/veh]	9.14			12.17			0.00			0.53		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	5.15											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 902: Bodden Town Road at Bodden Town Bypass

Control Type:	Two-way stop	Delay (sec / veh):	10.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.027

Intersection Setup

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	27	19	13	102	21	44
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	27	19	13	102	21	44
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	5	3	27	6	12
Total Analysis Volume [veh/h]	29	20	14	109	22	47
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.03	0.00	0.00	0.00	0.03
d_M, Delay for Movement [s/veh]	9.08	10.15	0.00	0.00	0.00	7.52
Movement LOS	A	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.18	0.18	0.00	0.00	0.10	0.10
95th-Percentile Queue Length [ft/ln]	4.61	4.61	0.00	0.00	2.46	2.46
d_A, Approach Delay [s/veh]	9.52		0.00		5.12	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.40					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1000: Bodden Town Road at Long Fellow Drive

Control Type:	Two-way stop	Delay (sec / veh):	9.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	0	2	0	56	30	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	2	0	56	30	0
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	0	15	8	0
Total Analysis Volume [veh/h]	0	2	0	62	33	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.58	8.97	0.00	0.00	0.00	7.32
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.17	0.17	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.97		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.18					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1100: Frank Sound Road at Bodden Town Road

Control Type:	Two-way stop	Delay (sec / veh):	10.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.017

Intersection Setup

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Base Volume Input [veh/h]	65	11	17	31	14	79
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	65	11	17	31	14	79
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	3	5	8	4	21
Total Analysis Volume [veh/h]	70	12	18	33	15	85
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.02	0.00	0.00	0.00	0.05
d_M, Delay for Movement [s/veh]	8.82	10.31	0.00	0.00	0.00	7.39
Movement LOS	A	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.28	0.28	0.00	0.00	0.17	0.17
95th-Percentile Queue Length [ft/ln]	6.88	6.88	0.00	0.00	4.23	4.23
d_A, Approach Delay [s/veh]	9.04		0.00		6.28	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	5.88					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1200: Frank Sound Road at Clifton Hunter High School

Control Type:	Two-way stop	Delay (sec / veh):	15.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.017

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd			
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		20.00		20.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Frank Sound Rd			
Base Volume Input [veh/h]	33	110	66	194	223	7
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	33	110	66	194	223	7
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	28	17	49	56	2
Total Analysis Volume [veh/h]	33	110	66	194	223	7
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.13	0.24	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	7.86	10.26	15.10
Movement LOS	A	A	A	A	B	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.46	0.46	1.02	1.02
95th-Percentile Queue Length [ft/ln]	0.00	0.00	11.53	11.53	25.62	25.62
d_A, Approach Delay [s/veh]	0.00		5.87		10.41	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	6.19					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1300: Frank Sound Road at North Side Road/Old Robin Road

Control Type:	Two-way stop	Delay (sec / veh):	10.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Base Volume Input [veh/h]	92	29	9	70	37	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	92	29	9	70	37	3
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	8	3	20	10	1
Total Analysis Volume [veh/h]	103	33	10	79	42	3
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.02	0.00	0.00	0.04	0.00
d_M, Delay for Movement [s/veh]	0.00	7.42	0.00	0.00	8.86	10.16
Movement LOS	A	A	A	A	A	B
95th-Percentile Queue Length [veh/ln]	0.07	0.07	0.00	0.00	0.15	0.15
95th-Percentile Queue Length [ft/ln]	1.66	1.66	0.00	0.00	3.69	3.69
d_A, Approach Delay [s/veh]	1.80		0.00		8.94	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.40					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1400: East-West Arterial at Agricola Drive Connector

Control Type:	Roundabout	Delay (sec / veh):	9.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			50.00			50.00			
Grade [%]	0.00			0.00			0.00			0.00			
Crosswalk	Yes			Yes			Yes			Yes			

Volumes

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Base Volume Input [veh/h]	132	18	5	38	51	16	3	281	29	1	784	22	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	132	18	5	38	51	16	3	281	29	1	784	22	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	33	5	1	10	13	4	1	70	7	0	196	6	0
Total Analysis Volume [veh/h]	132	18	5	38	51	16	3	281	29	1	784	22	0
Pedestrian Volume [ped/h]	0			0			0			0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1			
Circulating Flow Rate [veh/h]	822			315			45			96			
Exiting Flow Rate [veh/h]	81			43			932			324			
Demand Flow Rate [veh/h]	132	18	5	38	51	16	3	281	29	1	784	22	0
Adjusted Demand Flow Rate [veh/h]	132	18	5	38	51	16	3	281	29	1	784	22	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	155	105	313	807
Capacity of Entry and Bypass Lanes [veh/h]	597	1001	1319	1252
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	597	1001	1319	1252
X, volume / capacity	0.26	0.10	0.24	0.64

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	B
95th-Percentile Queue Length [veh]	1.03	0.35	0.93	5.00
95th-Percentile Queue Length [ft]	25.84	8.76	23.18	124.98
Approach Delay [s/veh]	9.44	4.54	4.77	11.17
Approach LOS	A	A	A	B
Intersection Delay [s/veh]	9.02			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1501: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	7.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name							East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name							East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	17	0	9	0	0	0	0	319	4	0	5	788	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	17	0	9	0	0	0	0	319	4	0	5	788	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	4	0	2	0	0	0	0	80	1	0	1	197	0	0
Total Analysis Volume [veh/h]	17	0	9	0	0	0	0	319	4	0	5	788	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1			
Circulating Flow Rate [veh/h]	788			332			9				4			
Exiting Flow Rate [veh/h]	9			0			805				328			
Demand Flow Rate [veh/h]	17	0	9	0	0	0	0	319	4	0	5	788	0	0
Adjusted Demand Flow Rate [veh/h]	17	0	9	0	0	0	0	319	4	0	5	788	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	26	0	323	793
Capacity of Entry and Bypass Lanes [veh/h]	618	984	1368	1375
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	618	984	1368	1375
X, volume / capacity	0.04	0.00	0.24	0.58

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.13	0.00	0.92	3.88
95th-Percentile Queue Length [ft]	3.29	0.00	23.03	97.11
Approach Delay [s/veh]	6.29	3.66	4.63	9.01
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	7.71			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1502: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	6.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name			East-West Arterial			East-West Arterial		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	Thru	Right	U-turn	Left	Thru	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00			50.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	Yes		Yes			Yes		

Volumes

Name			East-West Arterial			East-West Arterial		
Base Volume Input [veh/h]	200	5	327	1	0	1	592	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	200	5	327	1	0	1	592	14
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	50	1	82	0	0	0	148	4
Total Analysis Volume [veh/h]	200	5	327	1	0	1	592	14
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1		1			1		
Circulating Flow Rate [veh/h]	606		19			1		
Exiting Flow Rate [veh/h]	2		792			346		
Demand Flow Rate [veh/h]	200	5	327	1	0	1	592	14
Adjusted Demand Flow Rate [veh/h]	200	5	327	1	0	1	592	14

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	205	328	607
Capacity of Entry and Bypass Lanes [veh/h]	744	1354	1379
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	744	1354	1379
X, volume / capacity	0.28	0.24	0.44

Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	1.12	0.95	2.30
95th-Percentile Queue Length [ft]	28.07	23.81	57.62
Approach Delay [s/veh]	8.05	4.72	6.85
Approach LOS	A	A	A
Intersection Delay [s/veh]	6.45		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 1600: East-West Arterial at Northward Rd

Control Type:	Two-way stop	Delay (sec / veh):	12.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.133

Intersection Setup

Name	Northward Rd		East-West Arterial		East-West Arterial	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		East-West Arterial		East-West Arterial	
Base Volume Input [veh/h]	73	0	346	0	4	533
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	73	0	346	0	4	533
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	0	87	0	1	133
Total Analysis Volume [veh/h]	73	0	346	0	4	533
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	12.56	0.00	0.00	0.00	0.00	0.00
Movement LOS	B		A		A	A
95th-Percentile Queue Length [veh/ln]	0.46	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	11.41	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.56		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.96					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1700: East-West Arterial at Lookout Rd

Control Type:	Roundabout	Delay (sec / veh):	5.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Lookout Rd			Lookout Rd			East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Lookout Rd			Lookout Rd			East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	29	0	4	0	0	0	0	281	23	42	4	526	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	29	0	4	0	0	0	0	281	23	42	4	526	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	7	0	1	0	0	0	0	70	6	11	1	132	0	0
Total Analysis Volume [veh/h]	29	0	4	0	0	0	0	281	23	42	4	526	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1				
Circulating Flow Rate [veh/h]	568			350			4				65				
Exiting Flow Rate [veh/h]	27			0			597				285				
Demand Flow Rate [veh/h]	29	0	4	0	0	0	0	281	23	42	4	526	0	0	
Adjusted Demand Flow Rate [veh/h]	29	0	4	0	0	0	0	281	23	42	4	526	0	0	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	33	0	346	530
Capacity of Entry and Bypass Lanes [veh/h]	774	966	1375	1292
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	774	966	1375	1292
X, volume / capacity	0.04	0.00	0.25	0.41

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.13	0.00	1.00	2.04
95th-Percentile Queue Length [ft]	3.34	0.00	25.04	51.10
Approach Delay [s/veh]	5.08	3.73	4.76	6.77
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	5.94			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1800: East-West Arterial at Longfellow Rd

Control Type:	Roundabout	Delay (sec / veh):	5.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Longfellow Rd			Longfellow Rd			East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Longfellow Rd			Longfellow Rd			East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	12	0	0	0	0	0	0	280	0	4	0	451	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	0	0	0	0	0	0	280	0	4	0	451	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	3	0	0	0	0	0	0	70	0	1	0	113	0	0
Total Analysis Volume [veh/h]	12	0	0	0	0	0	0	280	0	4	0	451	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1				
Circulating Flow Rate [veh/h]	455			284			0				4				
Exiting Flow Rate [veh/h]	0			0			467				280				
Demand Flow Rate [veh/h]	12	0	0	0	0	0	0	280	0	4	0	451	0	0	
Adjusted Demand Flow Rate [veh/h]	12	0	0	0	0	0	0	280	0	4	0	451	0	0	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	12	0	284	451
Capacity of Entry and Bypass Lanes [veh/h]	868	1033	1380	1375
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	868	1033	1380	1375
X, volume / capacity	0.01	0.00	0.21	0.33

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.04	0.00	0.77	1.45
95th-Percentile Queue Length [ft]	1.05	0.00	19.33	36.18
Approach Delay [s/veh]	4.28	3.49	4.31	5.53
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	5.05			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1900: East West Arterial North/South Spurs

Control Type:	Roundabout	Delay (sec / veh):	4.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	East-West Arterial			East-West Arterial			East-West Arterial		
Approach	Northbound			Eastbound			Westbound		
Lane Configuration									
Turning Movement	Left	Right	U-turn	Thru	Right	U-turn	Left	Thru	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			50.00			40.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	East-West Arterial			East-West Arterial			East-West Arterial		
Base Volume Input [veh/h]	351	1	4	74	206	0	0	100	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	351	1	4	74	206	0	0	100	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	88	0	1	19	52	0	0	25	0
Total Analysis Volume [veh/h]	351	1	4	74	206	0	0	100	0
Pedestrian Volume [ped/h]	0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1		
Circulating Flow Rate [veh/h]	100			5			210		
Exiting Flow Rate [veh/h]	210			451			75		
Demand Flow Rate [veh/h]	351	1	4	74	206	0	0	100	0
Adjusted Demand Flow Rate [veh/h]	351	1	4	74	206	0	0	100	0

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	356	280	100
Capacity of Entry and Bypass Lanes [veh/h]	1247	1373	1114
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1247	1373	1114
X, volume / capacity	0.29	0.20	0.09

Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	1.19	0.76	0.30
95th-Percentile Queue Length [ft]	29.68	19.11	7.38
Approach Delay [s/veh]	5.47	4.31	4.00
Approach LOS	A	A	A
Intersection Delay [s/veh]	4.83		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 2000: Frank Sound Road at East-West Arterial

Control Type:	Roundabout	Delay (sec / veh):	3.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		East-West Arterial			Frank Sound Rd	
Approach	Northbound		Eastbound			Westbound	
Lane Configuration							
Turning Movement	Left	Thru	Left	Right	U-turn	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		40.00			50.00	
Grade [%]	0.00		0.00			0.00	
Crosswalk	Yes		Yes			Yes	

Volumes

Name	Frank Sound Rd		East-West Arterial			Frank Sound Rd	
Base Volume Input [veh/h]	7	57	70	5	0	40	93
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	57	70	5	0	40	93
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	14	18	1	0	10	23
Total Analysis Volume [veh/h]	7	57	70	5	0	40	93
Pedestrian Volume [ped/h]	0		0			0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1			1	
Circulating Flow Rate [veh/h]	93		57			5	
Exiting Flow Rate [veh/h]	45		100			127	
Demand Flow Rate [veh/h]	7	57	70	5	0	40	93
Adjusted Demand Flow Rate [veh/h]	7	57	70	5	0	40	93

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	64	75	133
Capacity of Entry and Bypass Lanes [veh/h]	1256	1303	1373
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1256	1303	1373
X, volume / capacity	0.05	0.06	0.10

Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	0.16	0.18	0.32
95th-Percentile Queue Length [ft]	4.03	4.58	8.03
Approach Delay [s/veh]	3.28	3.22	3.39
Approach LOS	A	A	A
Intersection Delay [s/veh]	3.32		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 2100: Frank Sound Road at East-West Arterial

Control Type:	Roundabout	Delay (sec / veh):	4.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd		East-West Arterial		
Approach	Northbound		Southbound		Eastbound		
Lane Configuration							
Turning Movement	Left	Thru	Thru	Right	Left	Right	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		20.00		40.00		
Grade [%]	0.00		0.00		0.00		
Crosswalk	Yes		Yes		Yes		

Volumes

Name	Frank Sound Rd		Frank Sound Rd		East-West Arterial		
Base Volume Input [veh/h]	273	60	69	20	4	191	31
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	273	60	69	20	4	191	31
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	68	15	17	5	1	48	8
Total Analysis Volume [veh/h]	273	60	69	20	4	191	31
Pedestrian Volume [ped/h]	0		0		0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1	
Circulating Flow Rate [veh/h]	51			222			60	
Exiting Flow Rate [veh/h]	260			64			324	
Demand Flow Rate [veh/h]	273	60		69	20	4	191	31
Adjusted Demand Flow Rate [veh/h]	273	60		69	20	4	191	31

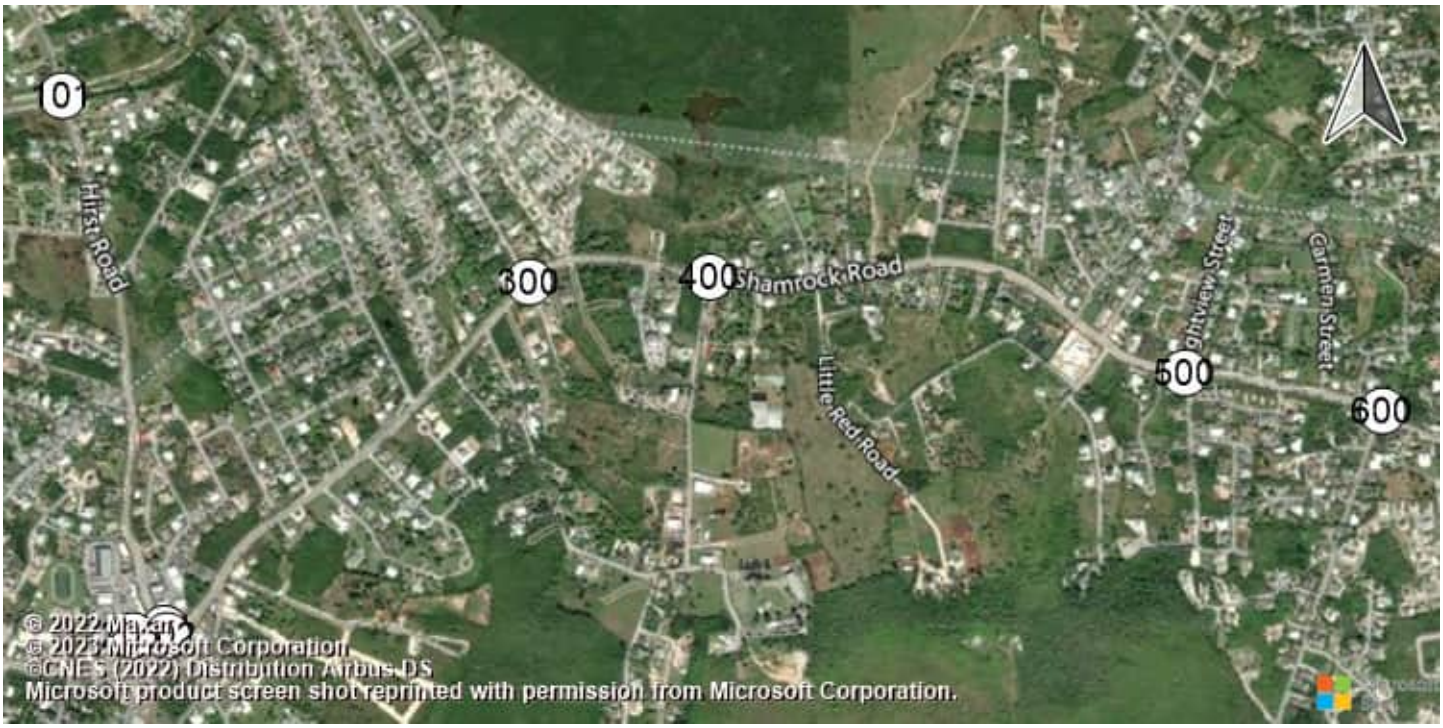
Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	333	89	226
Capacity of Entry and Bypass Lanes [veh/h]	1311	1101	1299
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1311	1101	1299
X, volume / capacity	0.25	0.08	0.17

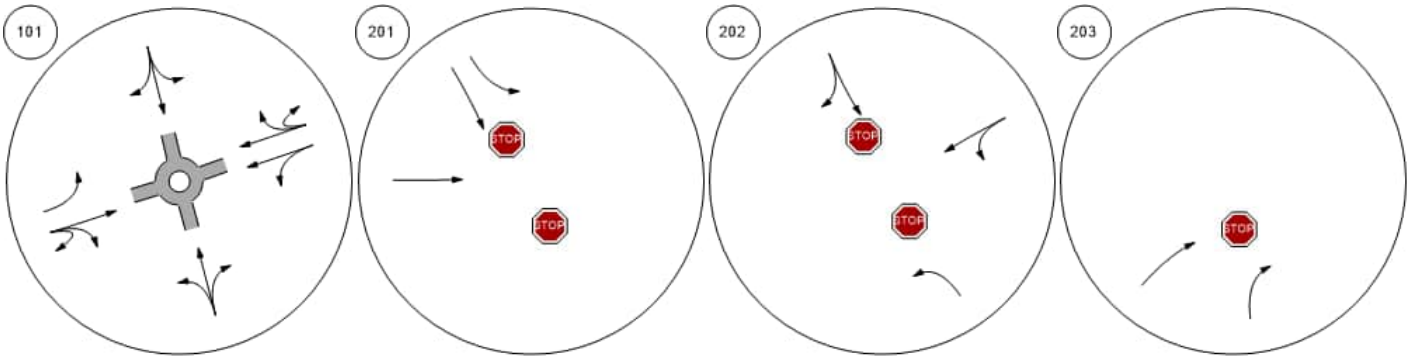
Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	1.01	0.26	0.63
95th-Percentile Queue Length [ft]	25.35	6.59	15.74
Approach Delay [s/veh]	4.95	3.96	4.23
Approach LOS	A	A	A
Intersection Delay [s/veh]	4.56		
Intersection LOS	A		

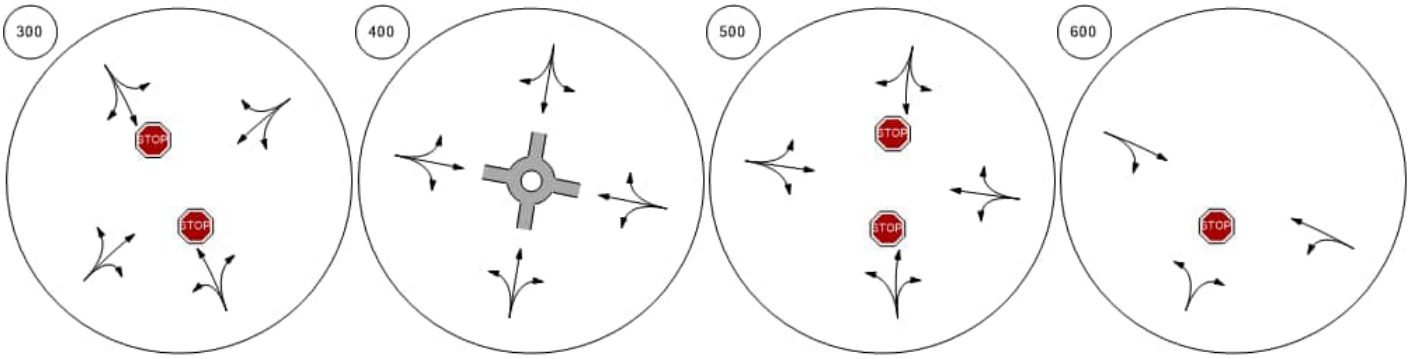
Lane Configuration and Traffic Control



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



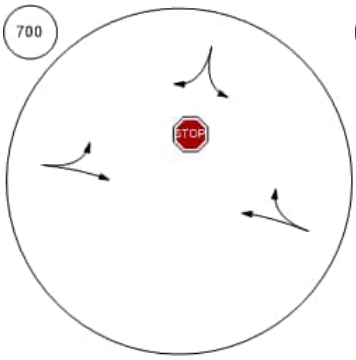
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



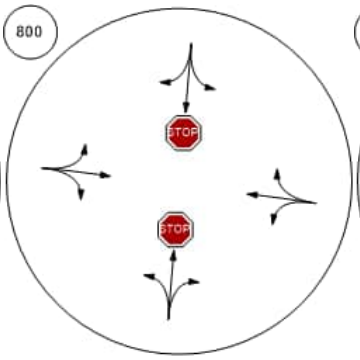
Lane Configuration and Traffic Control



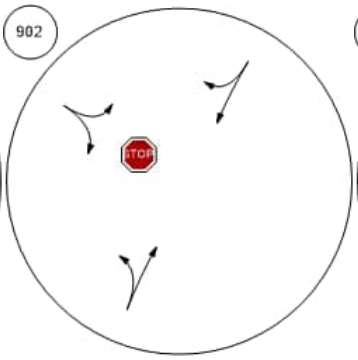
Shamrock Road at Northward



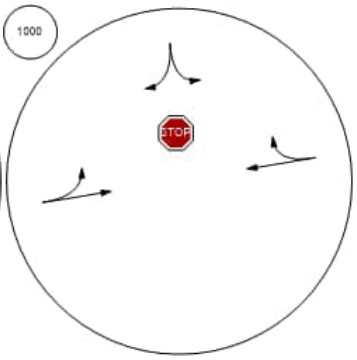
Shamrock Road at Condor R



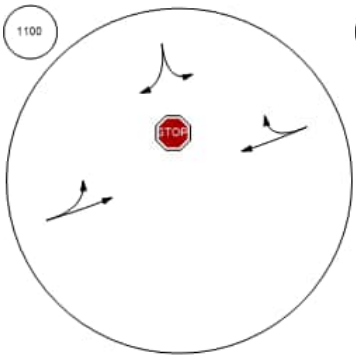
Bodden Town Road at Bodde



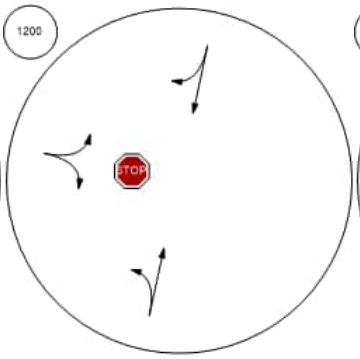
Bodden Town Road at Long



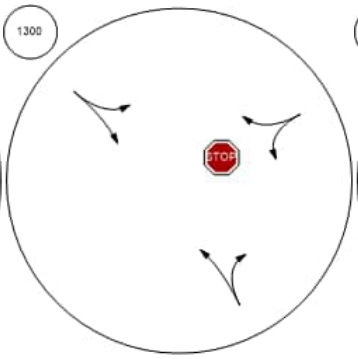
Frank Sound Road at Bodde



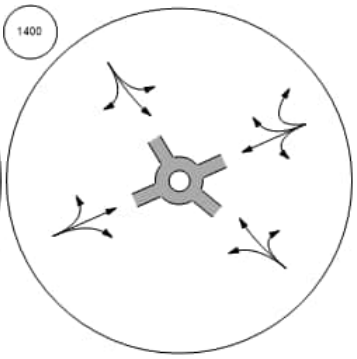
Frank Sound Road at Clifton



Frank Sound Road at North S



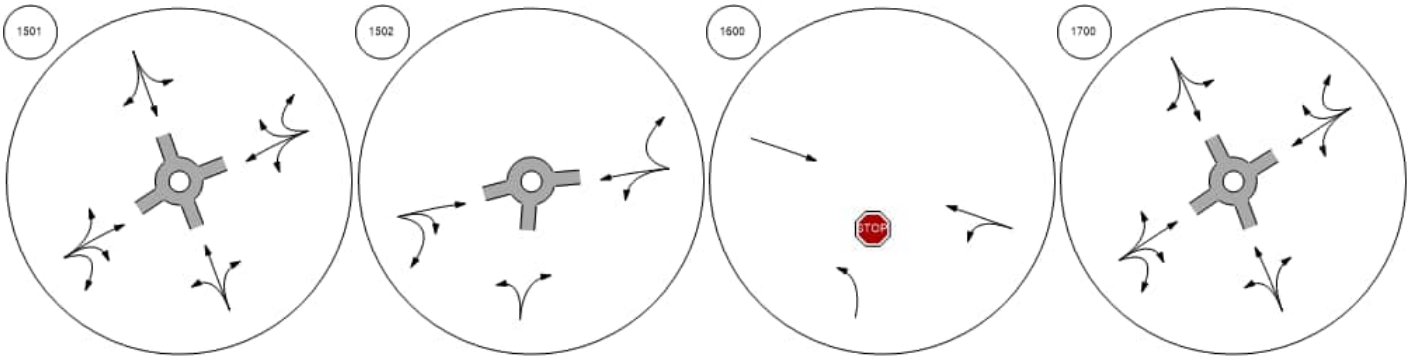
East-West Arterial at Agricola



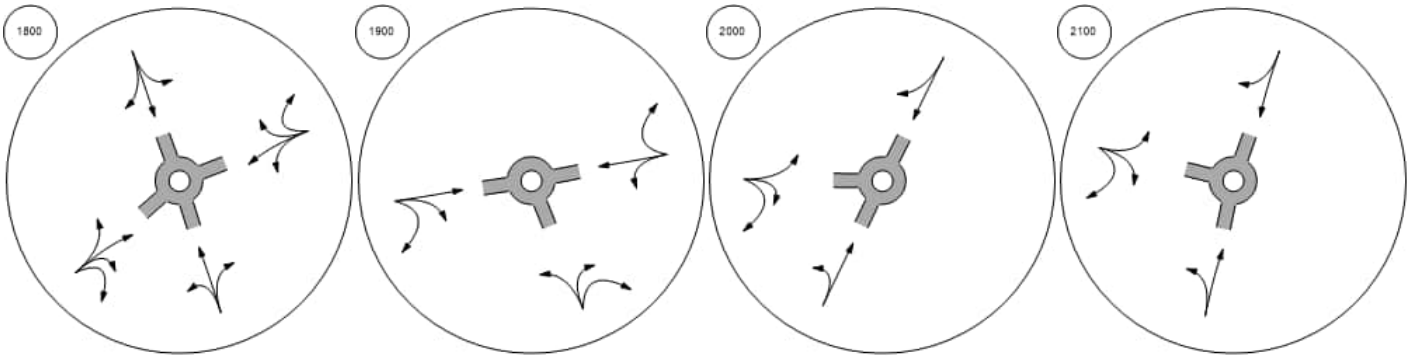
Lane Configuration and Traffic Control



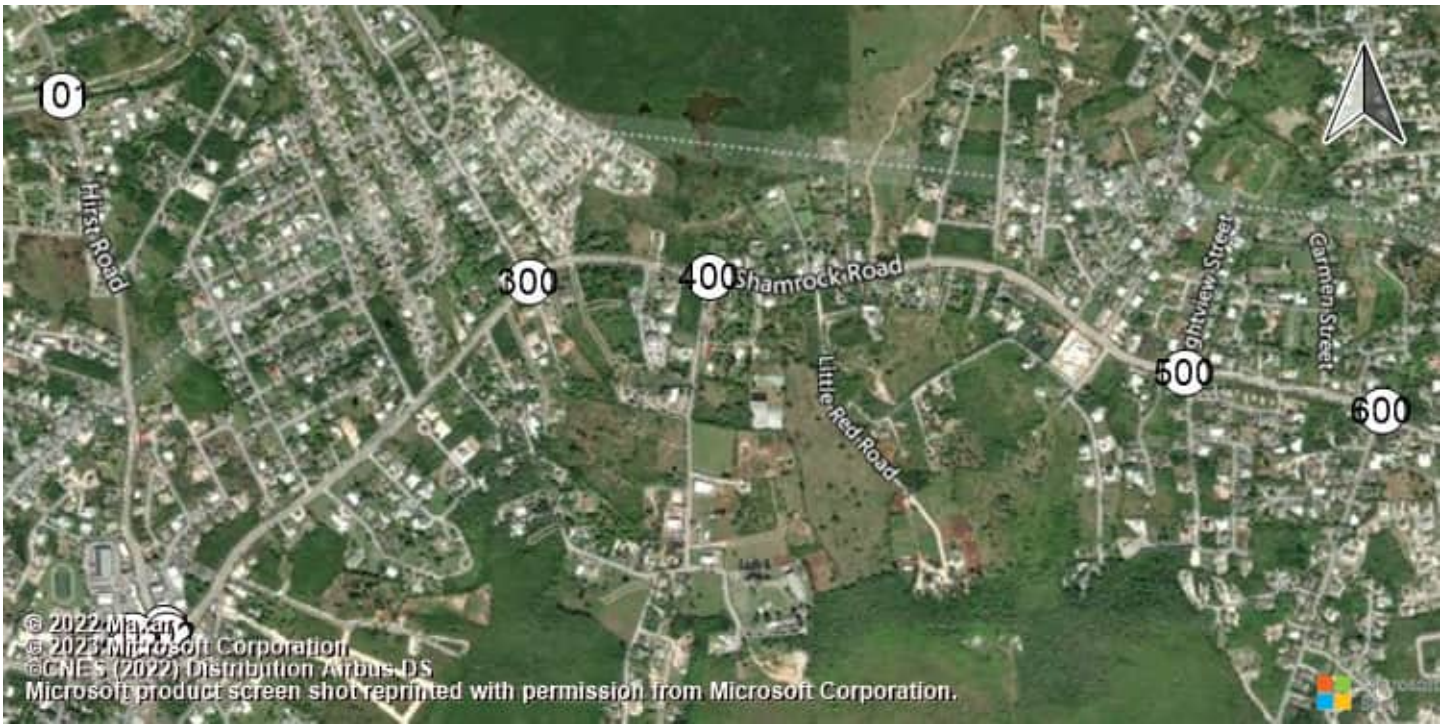
East-West Arterial at Will T C East-West Arterial at Will T C East-West Arterial at Northwa East-West Arterial at Lookout



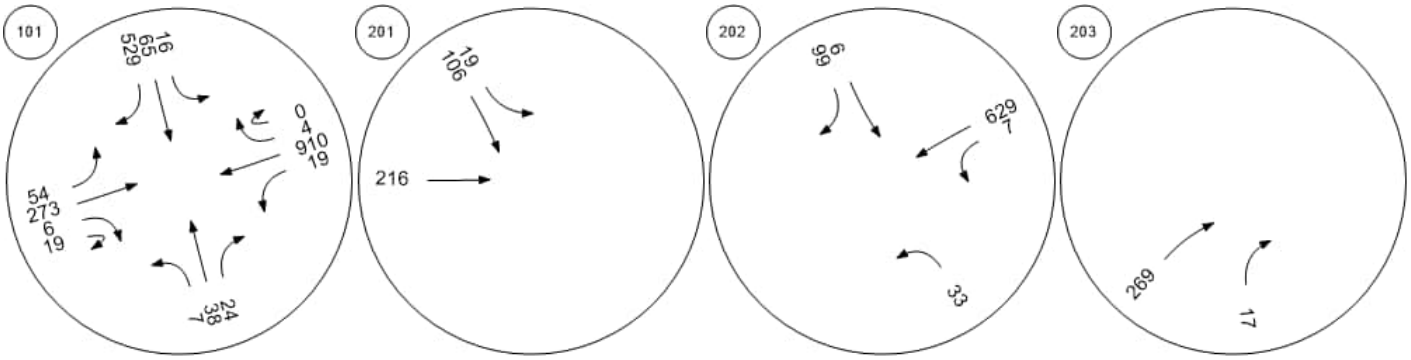
East-West Arterial at Longfell East West Arterial North/Sout Frank Sound Road at East-W Frank Sound Road at East-W



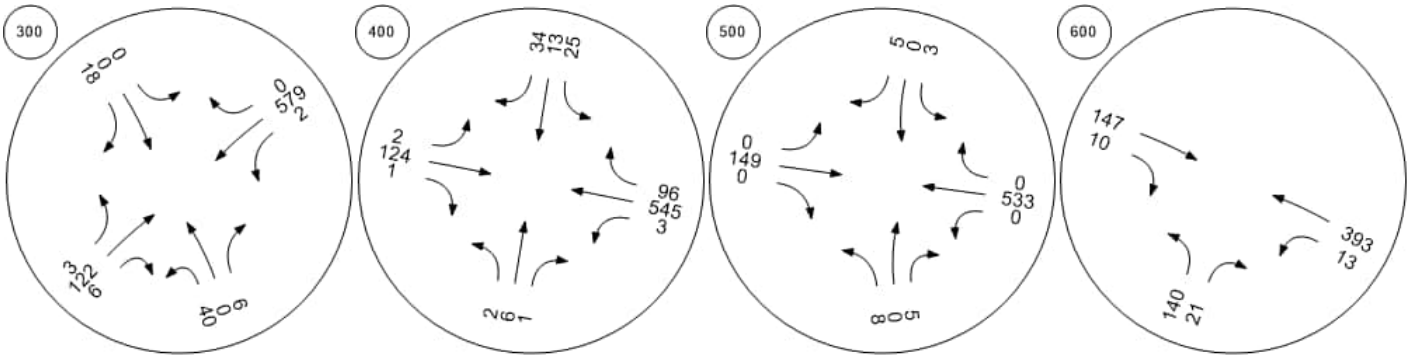
Traffic Volume - Base Volume



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



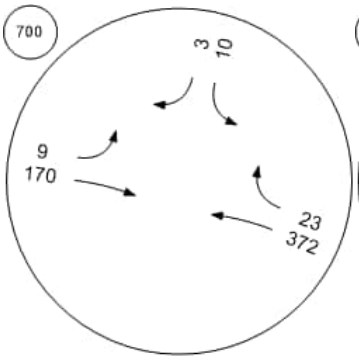
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



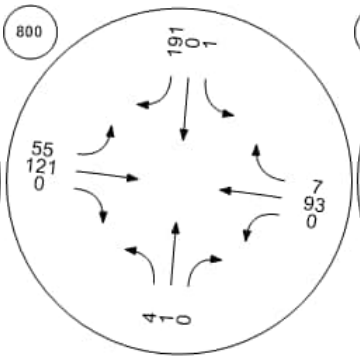
Traffic Volume - Base Volume



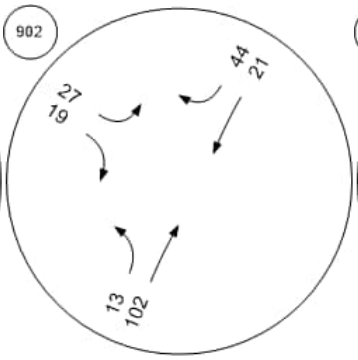
Shamrock Road at Northward



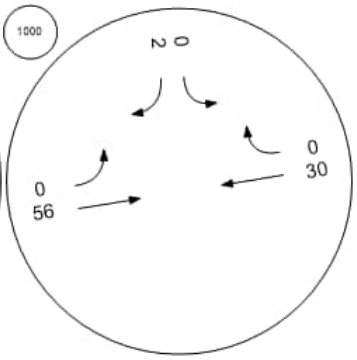
Shamrock Road at Condor R



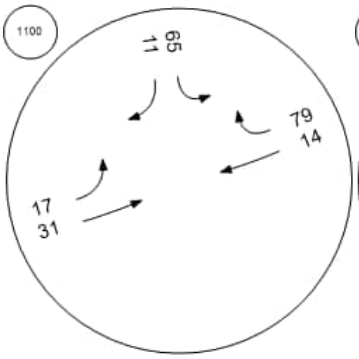
Bodden Town Road at Bodde



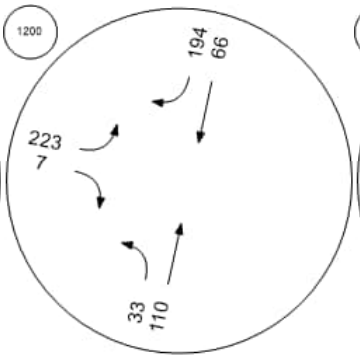
Bodden Town Road at Long



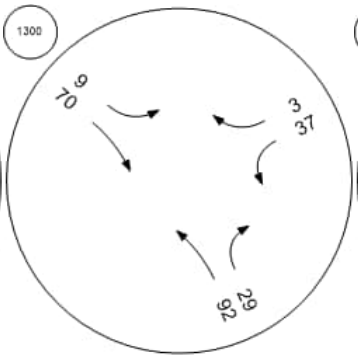
Frank Sound Road at Bodde



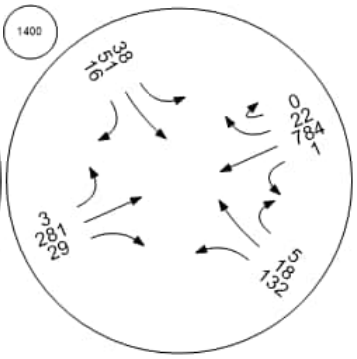
Frank Sound Road at Clifton



Frank Sound Road at North S



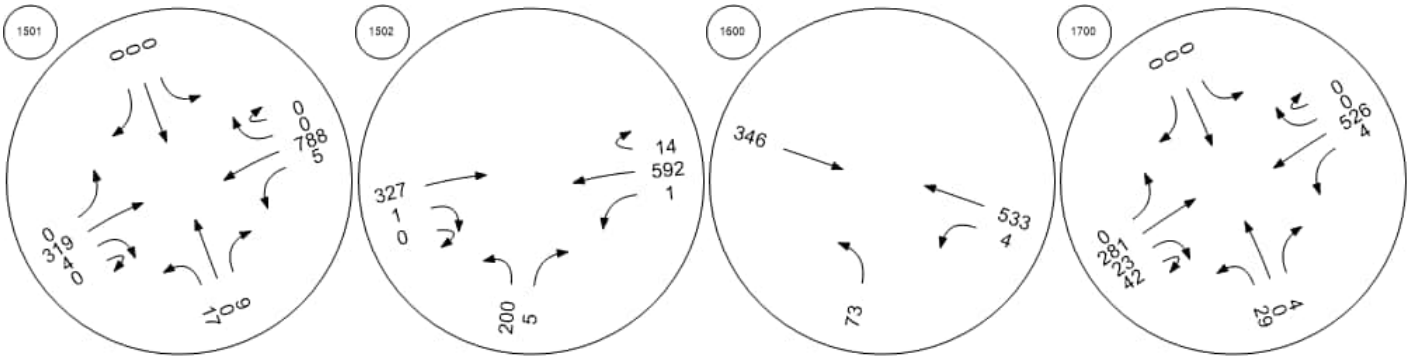
East-West Arterial at Agricola



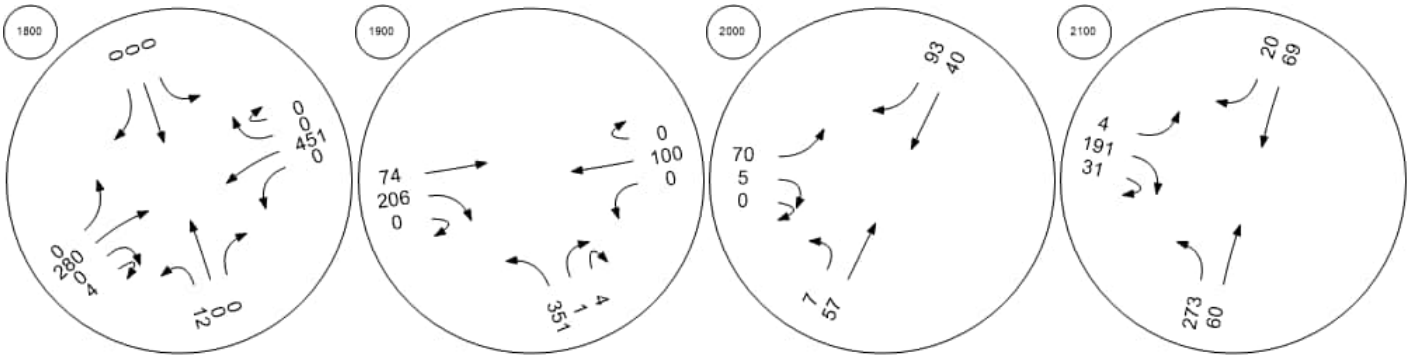
Traffic Volume - Base Volume



East-West Arterial at Will T C East-West Arterial at Will T C East-West Arterial at Northwa East-West Arterial at Lookout



East-West Arterial at Longfell East West Arterial North/Sout Frank Sound Road at East-W Frank Sound Road at East-W



Intersection Level Of Service Report
Intersection 101: East-West Arterial Road at Hirst Road

Control Type:	Roundabout	Delay (sec / veh):	13.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name									East-West Arterial				East-West Arterial				
Approach	Northbound				Southbound				Eastbound				Westbound				
Lane Configuration																	
Turning Movement	Left	Left	Thru	Right	Left	Thru	Right	Right	Left	Thru	Right	U-tu	Left	Thr	Thr	Rig	U-t
Lane Width [ft]	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.	12.	12.	12.	12.
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Entry Pocket Length [ft]	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	200	100	100	100	100
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Speed [mph]	30.00				30.00				40.00				50.00				
Grade [%]	0.00				0.00				0.00				0.00				
Crosswalk	Yes				Yes				Yes				Yes				

Volumes

Name									East-West Arterial				East-West Arterial				
Base Volume Input [veh/h]	26	0	133	19	0	65	0	128	370	937	48	3	47	348	0	12	0
Base Volume Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	26	0	133	19	0	65	0	128	370	937	48	3	47	348	0	12	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Other Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Total 15-Minute Volume [veh/h]	7	0	33	5	0	16	0	32	93	234	12	1	12	87	0	3	0
Total Analysis Volume [veh/h]	26	0	133	19	0	65	0	128	370	937	48	3	47	348	0	12	0
Pedestrian Volume [ped/h]	0				0				0				0				

Intersection Settings

Number of Conflicting Circulating Lanes	2				2				2				2				
Circulating Flow Rate [veh/h]	491				1007				164				244				
Exiting Flow Rate [veh/h]	160				515				505				956				
Demand Flow Rate [veh/h]	26	0	133	19	0	65	0	128	370	937	48	3	47	348	0	12	0
Adjusted Demand Flow Rate [veh/h]	26	0	133	19	0	65	0	128	370	937	48	3	47	348	0	12	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1350.00	1420.00	1350.00
B (coefficient)	0.00085	0.00085	0.00085	0.00092	0.00085	0.00092
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	178	193	370	988	216	192
Capacity of Entry and Bypass Lanes [veh/h]	936	604	1236	1161	1155	1079
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	936	604	1236	1161	1155	1079
X, volume / capacity	0.19	0.32	0.30	0.85	0.19	0.18

Movement, Approach, & Intersection Results

Lane LOS	A	B	A	C	A	A
95th-Percentile Queue Length [veh]	0.70	1.37	1.27	11.27	0.69	0.64
95th-Percentile Queue Length [ft]	17.49	34.36	31.70	281.67	17.14	16.08
Approach Delay [s/veh]	5.70	10.35	17.48		4.85	
Approach LOS	A	B	C		A	
Intersection Delay [s/veh]	13.45					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 201: Shamrock Road at Hirst Rd (1)

Control Type:	Two-way stop	Delay (sec / veh):	16.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.388

Intersection Setup

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	0	0	0	17	189	0	0	396	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	17	189	0	0	396	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	5	51	0	0	106	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	18	203	0	0	426	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop			Stop			Free			Free			
Flared Lane													
Storage Area [veh]	0			0			0			0			
Two-Stage Gap Acceptance				No									
Number of Storage Spaces in Median	0			0			0			0			

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.03	0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	10.86	16.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Movement LOS				B	C			A					
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.09	1.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	2.19	45.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
d_A, Approach Delay [s/veh]	0.00			15.73			0.00			0.00			
Approach LOS	A			C			A			A			
d_I, Intersection Delay [s/veh]	5.37												
Intersection LOS	C												

Intersection Level Of Service Report
Intersection 202: Shamrock Road at Hirst Rd (2)

Control Type:	Two-way stop	Delay (sec / veh):	12.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.026

Intersection Setup

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	31	0	0	0	17	172	0	0	0	12	192	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	31	0	0	0	17	172	0	0	0	12	192	0
Peak Hour Factor	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	0	0	0	5	46	0	0	0	3	52	0
Total Analysis Volume [veh/h]	33	0	0	0	18	185	0	0	0	13	206	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.00	0.00	0.00	0.03	0.26	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.50	0.00	0.00	0.00	12.25	11.99	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	A				B	B				A	A	
95th-Percentile Queue Length [veh/ln]	0.12	0.00	0.00	0.00	1.17	1.17	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	3.09	0.00	0.00	0.00	29.17	29.17	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.50			12.01			0.00			0.00		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	6.05											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 203: Shamrock Road atHirst Road Jughandle

Control Type:	Two-way stop	Delay (sec / veh):	13.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.065

Intersection Setup

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	0	28	564	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	28	564	0	0	0
Peak Hour Factor	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	8	152	0	0	0
Total Analysis Volume [veh/h]	0	30	606	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.06	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	13.30	0.00	0.00	0.00	0.00
Movement LOS		B	A			
95th-Percentile Queue Length [veh/ln]	0.00	0.21	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	5.17	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.30		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.63					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 300: Shamrock Road at Woodland Drive

Control Type:	Two-way stop	Delay (sec / veh):	15.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.034

Intersection Setup

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	12	0	2	5	0	12	5	340	29	5	262	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	0	2	5	0	12	5	340	29	5	262	0
Peak Hour Factor	0.9700	0.9700	1.0000	1.0000	0.9700	0.9700	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	1	1	0	3	1	85	7	1	66	0
Total Analysis Volume [veh/h]	12	0	2	5	0	12	5	340	30	5	262	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.01	0.01	0.00	0.03	0.00	0.00	0.02	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.74	14.84	15.03	10.47	15.09	15.42	0.00	0.00	7.82	0.00	0.00	7.94
Movement LOS	A	B	C	B	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.06	0.06	0.06	0.13	0.13	0.13	0.07	0.07	0.07	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.60	1.60	1.60	3.17	3.17	3.17	1.76	1.76	1.76	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	10.49			13.96			0.63			0.00		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	0.92											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 400: Shamrock Road at Agricola Drive

Control Type:	Roundabout	Delay (sec / veh):	5.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	1	0	0	183	16	35	4	340	3	8	231	39
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	0	183	16	35	4	340	3	8	231	39
Peak Hour Factor	1.0000	1.0000	0.9200	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9200	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	46	4	9	1	85	1	2	58	10
Total Analysis Volume [veh/h]	1	0	0	183	16	35	4	340	3	9	231	39
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1			
Circulating Flow Rate [veh/h]	305			343			39			54			
Exiting Flow Rate [veh/h]	28			43			267			523			
Demand Flow Rate [veh/h]	1	0	0	183	16	35	4	340	3	8	231	39	
Adjusted Demand Flow Rate [veh/h]	1	0	0	183	16	35	4	340	3	9	231	39	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	1	234	347	279
Capacity of Entry and Bypass Lanes [veh/h]	1012	973	1327	1307
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1012	973	1327	1307
X, volume / capacity	0.00	0.24	0.26	0.21

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.94	1.05	0.81
95th-Percentile Queue Length [ft]	0.07	23.52	26.35	20.25
Approach Delay [s/veh]	3.57	6.07	4.98	4.57
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	5.14			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 500: Shamrock Road at Brightview Drive / Calla Lily Drive

Control Type:	Two-way stop	Delay (sec / veh):	17.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			20.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	1	0	1	0	0	0	11	437	23	50	220	26
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	1	0	0	0	11	437	23	50	220	26
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0	3	109	6	13	55	7
Total Analysis Volume [veh/h]	1	0	1	0	0	0	11	437	23	50	220	26
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	9.55	16.73	17.02	10.81	17.00	17.01	0.00	0.00	7.81	0.00	0.00	8.28
Movement LOS	A	C	C	B	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.00	0.00	0.00	0.05	0.05	0.05	0.07	0.07	0.07
95th-Percentile Queue Length [ft/ln]	0.35	0.35	0.35	0.00	0.00	0.00	1.34	1.34	1.34	1.78	1.78	1.78
d_A, Approach Delay [s/veh]	13.28			14.94			0.38			0.73		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	0.55											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 600: Shamrock Road at Beach Bay Road

Control Type:	Two-way stop	Delay (sec / veh):	18.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.087

Intersection Setup

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	47	24	353	85	19	248
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	47	24	353	85	19	248
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	7	97	23	5	68
Total Analysis Volume [veh/h]	52	26	388	93	21	273
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.09	0.00	0.07	0.00	0.00
d_M, Delay for Movement [s/veh]	11.05	18.33	0.00	8.04	0.00	0.00
Movement LOS	B	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.55	0.55	0.23	0.23	0.00	0.00
95th-Percentile Queue Length [ft/ln]	13.64	13.64	5.87	5.87	0.00	0.00
d_A, Approach Delay [s/veh]	13.47		1.55		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	2.11					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 700: Shamrock Road at Northward Road

Control Type:	Two-way stop	Delay (sec / veh):	13.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.082

Intersection Setup

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	17	36	12	279	271	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	17	36	12	279	271	18
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	9	3	72	70	5
Total Analysis Volume [veh/h]	18	37	12	288	279	19
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.08	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	10.62	13.78	0.00	0.00	0.00	7.87
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.35	0.35	0.00	0.00	0.05	0.05
95th-Percentile Queue Length [ft/ln]	8.82	8.82	0.00	0.00	1.14	1.14
d_A, Approach Delay [s/veh]	12.74		0.00		0.50	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	1.30					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 800: Shamrock Road at Condor Road

Control Type:	Two-way stop	Delay (sec / veh):	12.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.124

Intersection Setup

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Base Volume Input [veh/h]	1	0	0	5	0	73	71	148	1	0	156	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	0	5	0	73	71	148	1	0	156	13
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	1	0	18	18	37	0	0	39	3
Total Analysis Volume [veh/h]	1	0	0	5	0	73	71	148	1	0	156	13
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	9.03	11.76	11.19	10.06	12.35	12.04	0.00	0.00	7.51	0.00	0.00	7.67
Movement LOS	A	B	B	B	B	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.45	0.45	0.45	0.00	0.00	0.00	0.03	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.08	0.08	0.08	11.16	11.16	11.16	0.05	0.05	0.05	0.72	0.72	0.72
d_A, Approach Delay [s/veh]	9.03			11.91			0.03			0.59		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	2.23											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 902: Bodden Town Road at Bodden Town Bypass

Control Type:	Two-way stop	Delay (sec / veh):	11.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.075

Intersection Setup

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	34	44	29	108	85	57
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	34	44	29	108	85	57
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	12	8	29	23	15
Total Analysis Volume [veh/h]	36	47	31	115	90	61
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.07	0.00	0.00	0.00	0.04
d_M, Delay for Movement [s/veh]	9.53	11.36	0.00	0.00	0.00	7.59
Movement LOS	A	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.38	0.38	0.00	0.00	0.13	0.13
95th-Percentile Queue Length [ft/ln]	9.58	9.58	0.00	0.00	3.29	3.29
d_A, Approach Delay [s/veh]	10.56		0.00		3.07	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	3.53					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1000: Bodden Town Road at Long Fellow Drive

Control Type:	Two-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	0	3	4	63	113	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	3	4	63	113	0
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	1	17	31	0
Total Analysis Volume [veh/h]	0	3	4	69	124	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.63	9.53	0.00	0.00	0.00	7.34
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.28	0.28	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.53		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.14					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1100: Frank Sound Road at Bodden Town Road

Control Type:	Two-way stop	Delay (sec / veh):	12.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.074

Intersection Setup

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Base Volume Input [veh/h]	146	42	23	21	61	112
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	146	42	23	21	61	112
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	11	6	6	16	30
Total Analysis Volume [veh/h]	157	45	25	23	66	120
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.15	0.07	0.00	0.00	0.00	0.07
d_M, Delay for Movement [s/veh]	9.61	12.08	0.00	0.00	0.00	7.42
Movement LOS	A	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.86	0.86	0.00	0.00	0.24	0.24
95th-Percentile Queue Length [ft/ln]	21.51	21.51	0.00	0.00	6.05	6.05
d_A, Approach Delay [s/veh]	10.16		0.00		4.79	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	6.75					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1200: Frank Sound Road at Clifton Hunter High School

Control Type:	Two-way stop	Delay (sec / veh):	22.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.192

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd			
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		20.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Frank Sound Rd			
Base Volume Input [veh/h]	19	121	176	255	222	54
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	19	121	176	255	222	54
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	30	44	64	56	14
Total Analysis Volume [veh/h]	19	121	176	255	222	54
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.18	0.24	0.19
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	8.00	13.11	22.02
Movement LOS	A	A	A	A	B	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.63	0.63	2.18	2.18
95th-Percentile Queue Length [ft/ln]	0.00	0.00	15.86	15.86	54.45	54.45
d_A, Approach Delay [s/veh]	0.00		4.73		14.86	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	7.25					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1300: Frank Sound Road at North Side Road/Old Robin Road

Control Type:	Two-way stop	Delay (sec / veh):	11.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.044

Intersection Setup

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Base Volume Input [veh/h]	150	30	34	137	64	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	150	30	34	137	64	23
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	8	10	38	18	6
Total Analysis Volume [veh/h]	169	34	38	154	72	26
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.02	0.00	0.00	0.08	0.04
d_M, Delay for Movement [s/veh]	0.00	7.65	0.00	0.00	9.78	11.82
Movement LOS	A	A	A	A	A	B
95th-Percentile Queue Length [veh/ln]	0.07	0.07	0.00	0.00	0.43	0.43
95th-Percentile Queue Length [ft/ln]	1.87	1.87	0.00	0.00	10.82	10.82
d_A, Approach Delay [s/veh]	1.28		0.00		10.32	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	2.58					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1400: East-West Arterial at Agricola Drive Connector

Control Type:	Roundabout	Delay (sec / veh):	11.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			50.00			50.00			
Grade [%]	0.00			0.00			0.00			0.00			
Crosswalk	Yes			Yes			Yes			Yes			

Volumes

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Base Volume Input [veh/h]	21	21	1	66	33	6	0	756	200	35	380	53	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	21	21	1	66	33	6	0	756	200	35	380	53	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	5	5	0	17	8	2	0	189	50	9	95	13	0
Total Analysis Volume [veh/h]	21	21	1	66	33	6	0	756	200	35	380	53	0
Pedestrian Volume [ped/h]	0			0			0			0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1			
Circulating Flow Rate [veh/h]	439			957			75			239			
Exiting Flow Rate [veh/h]	268			74			407			823			
Demand Flow Rate [veh/h]	21	21	1	66	33	6	0	756	200	35	380	53	0
Adjusted Demand Flow Rate [veh/h]	21	21	1	66	33	6	0	756	200	35	380	53	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	43	105	956	468
Capacity of Entry and Bypass Lanes [veh/h]	882	520	1279	1082
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	882	520	1279	1082
X, volume / capacity	0.05	0.20	0.75	0.43

Movement, Approach, & Intersection Results

Lane LOS	A	A	B	A
95th-Percentile Queue Length [veh]	0.15	0.75	7.50	2.22
95th-Percentile Queue Length [ft]	3.84	18.71	187.51	55.60
Approach Delay [s/veh]	4.54	9.68	14.37	8.01
Approach LOS	A	A	B	A
Intersection Delay [s/veh]	11.89			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1501: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	8.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name							East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name							East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	1	0	7	0	0	0	0	742	82	0	6	466	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	7	0	0	0	0	742	82	0	6	466	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	0	0	2	0	0	0	0	186	21	0	2	117	0	0
Total Analysis Volume [veh/h]	1	0	7	0	0	0	0	742	82	0	6	466	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1					
Circulating Flow Rate [veh/h]	466			831			7				82					
Exiting Flow Rate [veh/h]	88			0			467				749					
Demand Flow Rate [veh/h]	1	0	7	0	0	0	0	742	82	0	6	466	0	0		
Adjusted Demand Flow Rate [veh/h]	1	0	7	0	0	0	0	742	82	0	6	466	0	0		

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	8	0	824	472
Capacity of Entry and Bypass Lanes [veh/h]	858	592	1371	1270
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	858	592	1371	1270
X, volume / capacity	0.01	0.00	0.60	0.37

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.03	0.00	4.26	1.75
95th-Percentile Queue Length [ft]	0.71	0.00	106.50	43.64
Approach Delay [s/veh]	4.28	6.09	9.51	6.36
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	8.34			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1502: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	7.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name			East-West Arterial			East-West Arterial		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	Thru	Right	U-turn	Left	Thru	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00			50.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	Yes		Yes			Yes		

Volumes

Name			East-West Arterial			East-West Arterial		
Base Volume Input [veh/h]	12	1	722	27	0	2	459	28
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	1	722	27	0	2	459	28
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	181	7	0	1	115	7
Total Analysis Volume [veh/h]	12	1	722	27	0	2	459	28
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1	
Circulating Flow Rate [veh/h]	487			29			27	
Exiting Flow Rate [veh/h]	29			471			751	
Demand Flow Rate [veh/h]	12	1	722	27	0	2	459	28
Adjusted Demand Flow Rate [veh/h]	12	1	722	27	0	2	459	28

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	13	749	489
Capacity of Entry and Bypass Lanes [veh/h]	840	1340	1343
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	840	1340	1343
X, volume / capacity	0.02	0.56	0.36

Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	0.05	3.63	1.69
95th-Percentile Queue Length [ft]	1.18	90.64	42.30
Approach Delay [s/veh]	4.43	8.83	6.03
Approach LOS	A	A	A
Intersection Delay [s/veh]	7.69		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 1600: East-West Arterial at Northward Rd

Control Type:	Two-way stop	Delay (sec / veh):	11.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.042

Intersection Setup

Name	Northward Rd		East-West Arterial		East-West Arterial	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		East-West Arterial		East-West Arterial	
Base Volume Input [veh/h]	25	0	752	0	14	465
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	0	752	0	14	465
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	0	188	0	4	116
Total Analysis Volume [veh/h]	25	0	752	0	14	465
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.00	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.30	0.00	0.00	0.00	0.00	0.00
Movement LOS	B		A		A	A
95th-Percentile Queue Length [veh/ln]	0.13	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	3.28	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.30		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.22					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1700: East-West Arterial at Lookout Rd

Control Type:	Roundabout	Delay (sec / veh):	7.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Lookout Rd			Lookout Rd			East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Lookout Rd			Lookout Rd			East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	27	0	10	0	0	0	0	546	99	106	16	408	0	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	27	0	10	0	0	0	0	546	99	106	16	408	0	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	7	0	3	0	0	0	0	137	25	27	4	102	0	0
Total Analysis Volume [veh/h]	27	0	10	0	0	0	0	546	99	106	16	408	0	1
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1			
Circulating Flow Rate [veh/h]	515			762			11				205			
Exiting Flow Rate [veh/h]	115			0			541				557			
Demand Flow Rate [veh/h]	27	0	10	0	0	0	0	546	99	106	16	408	0	1
Adjusted Demand Flow Rate [veh/h]	27	0	10	0	0	0	0	546	99	106	16	408	0	1

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	37	0	751	425
Capacity of Entry and Bypass Lanes [veh/h]	817	635	1365	1120
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	817	635	1365	1120
X, volume / capacity	0.05	0.00	0.55	0.38

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.14	0.00	3.51	1.80
95th-Percentile Queue Length [ft]	3.56	0.00	87.78	44.96
Approach Delay [s/veh]	4.85	5.68	8.57	7.07
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	7.93			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1800: East-West Arterial at Longfellow Rd

Control Type:	Roundabout	Delay (sec / veh):	5.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Longfellow Rd			Longfellow Rd			East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Longfellow Rd			Longfellow Rd			East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	8	0	0	0	0	0	0	519	21	17	0	381	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	0	0	0	0	0	0	519	21	17	0	381	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	2	0	0	0	0	0	0	130	5	4	0	95	0	0
Total Analysis Volume [veh/h]	8	0	0	0	0	0	0	519	21	17	0	381	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1				
Circulating Flow Rate [veh/h]	398			557			0				38				
Exiting Flow Rate [veh/h]	21			0			406				519				
Demand Flow Rate [veh/h]	8	0	0	0	0	0	0	519	21	17	0	381	0	0	
Adjusted Demand Flow Rate [veh/h]	8	0	0	0	0	0	0	519	21	17	0	381	0	0	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	8	0	557	381
Capacity of Entry and Bypass Lanes [veh/h]	920	782	1380	1328
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	920	782	1380	1328
X, volume / capacity	0.01	0.00	0.40	0.29

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.03	0.00	1.99	1.20
95th-Percentile Queue Length [ft]	0.66	0.00	49.80	29.89
Approach Delay [s/veh]	3.99	4.60	6.38	5.23
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	5.90			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1900: East West Arterial North/South Spurs

Control Type:	Roundabout	Delay (sec / veh):	5.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	East-West Arterial			East-West Arterial			East-West Arterial		
Approach	Northbound			Eastbound			Westbound		
Lane Configuration									
Turning Movement	Left	Right	U-turn	Thru	Right	U-turn	Left	Thru	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			50.00			40.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	East-West Arterial			East-West Arterial			East-West Arterial		
Base Volume Input [veh/h]	274	2	9	124	396	0	1	107	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	274	2	9	124	396	0	1	107	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	69	1	2	31	99	0	0	27	0
Total Analysis Volume [veh/h]	274	2	9	124	396	0	1	107	0
Pedestrian Volume [ped/h]	0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1		
Circulating Flow Rate [veh/h]	107			11			405		
Exiting Flow Rate [veh/h]	406			381			126		
Demand Flow Rate [veh/h]	274	2	9	124	396	0	1	107	0
Adjusted Demand Flow Rate [veh/h]	274	2	9	124	396	0	1	107	0

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	285	520	108
Capacity of Entry and Bypass Lanes [veh/h]	1238	1365	914
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1238	1365	914
X, volume / capacity	0.23	0.38	0.12

Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	0.89	1.82	0.40
95th-Percentile Queue Length [ft]	22.28	45.39	10.02
Approach Delay [s/veh]	4.93	6.16	5.06
Approach LOS	A	A	A
Intersection Delay [s/veh]	5.65		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 2000: Frank Sound Road at East-West Arterial

Control Type:	Roundabout	Delay (sec / veh):	3.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd		East-West Arterial		
Approach	Northbound		Southbound		Eastbound		
Lane Configuration							
Turning Movement	Left	Thru	Thru	Right	Left	Right	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		40.00		
Grade [%]	0.00		0.00		0.00		
Crosswalk	Yes		Yes		Yes		

Volumes

Name	Frank Sound Rd		Frank Sound Rd		East-West Arterial		
Base Volume Input [veh/h]	0	87	114	108	126	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	87	114	108	126	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	22	29	27	32	0	0
Total Analysis Volume [veh/h]	0	87	114	108	126	0	0
Pedestrian Volume [ped/h]	0		0		0		

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1		
Circulating Flow Rate [veh/h]	108		0		87		
Exiting Flow Rate [veh/h]	114		213		108		
Demand Flow Rate [veh/h]	0	87	114	108	126	0	0
Adjusted Demand Flow Rate [veh/h]	0	87	114	108	126	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	87	222	126
Capacity of Entry and Bypass Lanes [veh/h]	1237	1380	1263
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1237	1380	1263
X, volume / capacity	0.07	0.16	0.10

Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	0.23	0.57	0.33
95th-Percentile Queue Length [ft]	5.67	14.32	8.29
Approach Delay [s/veh]	3.48	3.91	3.67
Approach LOS	A	A	A
Intersection Delay [s/veh]	3.76		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 2100: Frank Sound Road at East-West Arterial

Control Type:	Roundabout	Delay (sec / veh):	5.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd		East-West Arterial		
Approach	Northbound		Southbound		Eastbound		
Lane Configuration							
Turning Movement	Left	Thru	Thru	Right	Left	Right	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		40.00		
Grade [%]	0.00		0.00		0.00		
Crosswalk	Yes		Yes		Yes		

Volumes

Name	Frank Sound Rd		Frank Sound Rd		East-West Arterial		
Base Volume Input [veh/h]	235	109	126	15	28	305	64
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	235	109	126	15	28	305	64
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	59	27	32	4	7	76	16
Total Analysis Volume [veh/h]	235	109	126	15	28	305	64
Pedestrian Volume [ped/h]	0		0		0		

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1		
Circulating Flow Rate [veh/h]	79		369		109		
Exiting Flow Rate [veh/h]	431		137		314		
Demand Flow Rate [veh/h]	235	109	126	15	28	305	64
Adjusted Demand Flow Rate [veh/h]	235	109	126	15	28	305	64

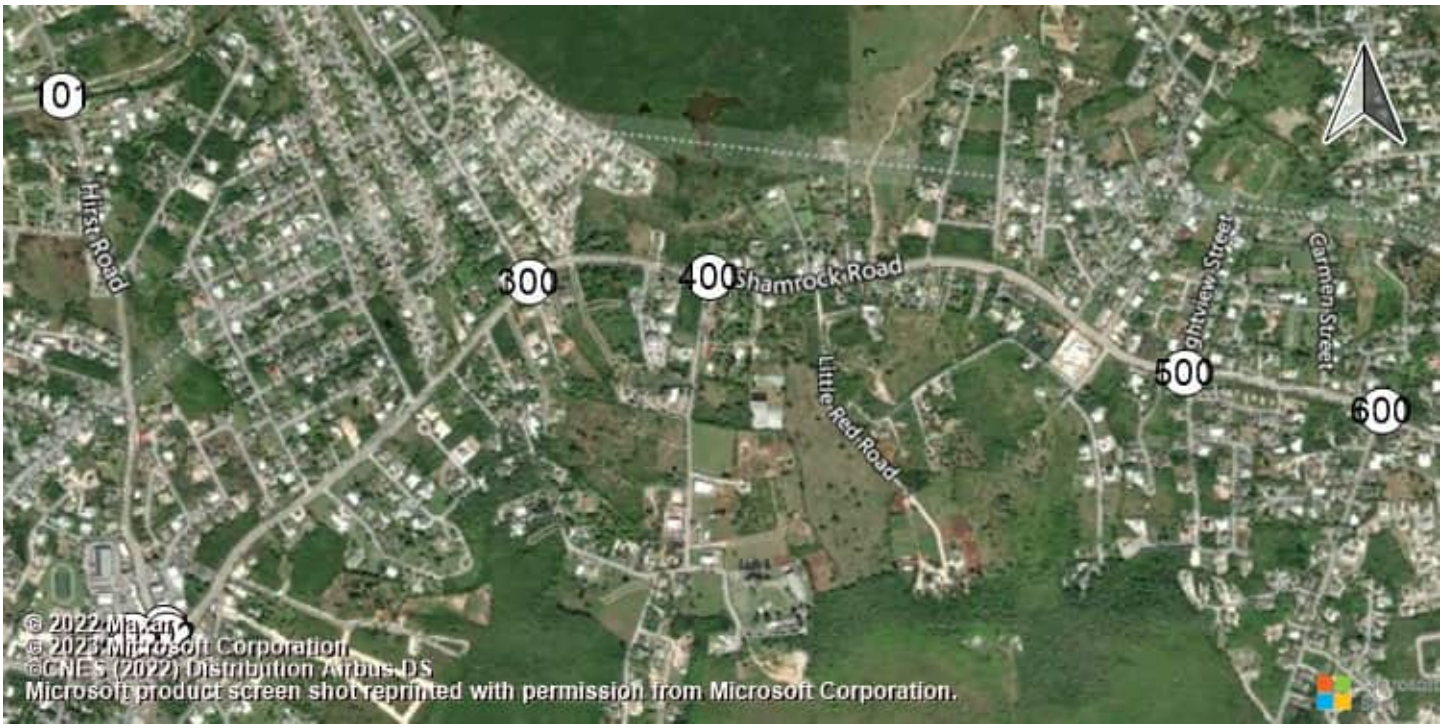
Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	344	141	397
Capacity of Entry and Bypass Lanes [veh/h]	1274	948	1235
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1274	948	1235
X, volume / capacity	0.27	0.15	0.32

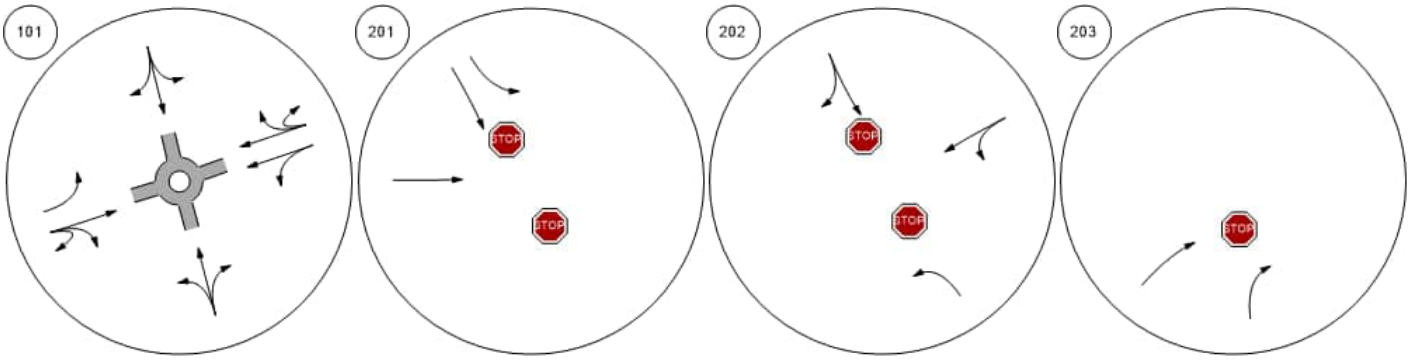
Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	1.10	0.52	1.40
95th-Percentile Queue Length [ft]	27.51	13.05	35.07
Approach Delay [s/veh]	5.22	5.21	5.90
Approach LOS	A	A	A
Intersection Delay [s/veh]	5.52		
Intersection LOS	A		

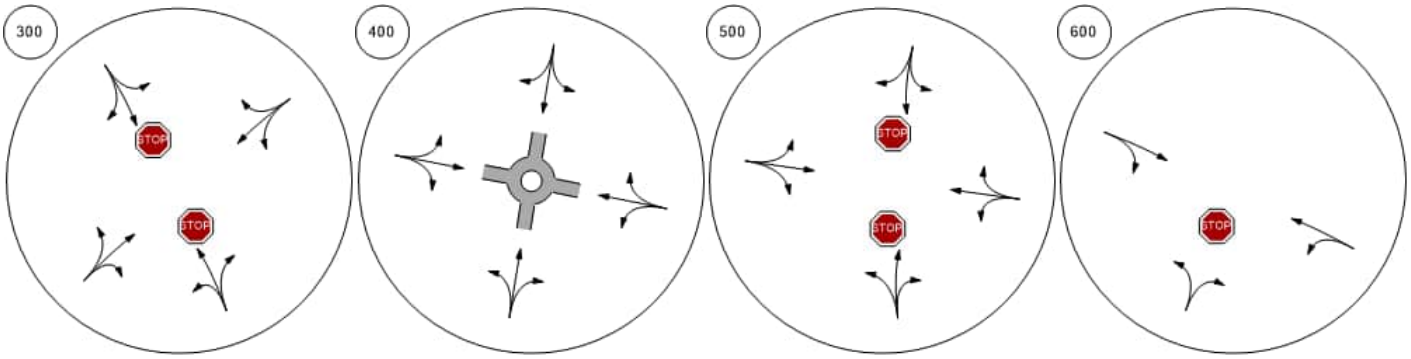
Lane Configuration and Traffic Control



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



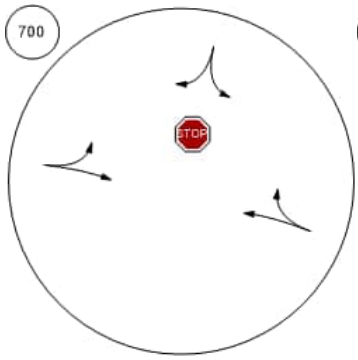
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



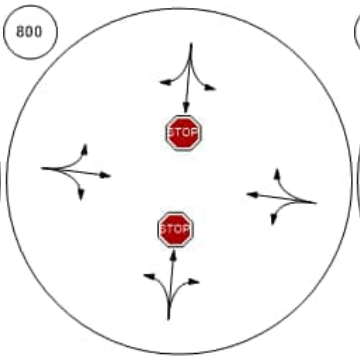
Lane Configuration and Traffic Control



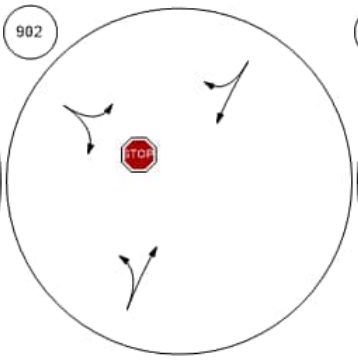
Shamrock Road at Northward



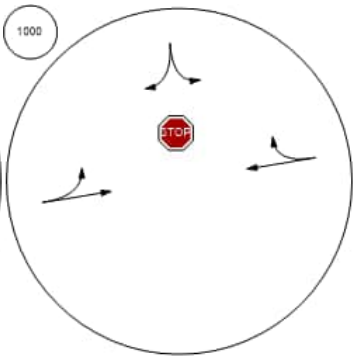
Shamrock Road at Condor R



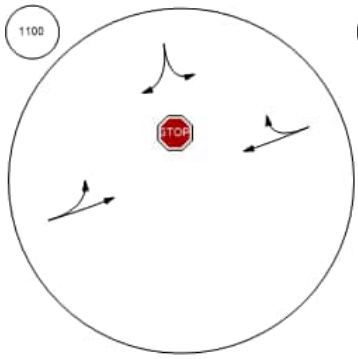
Bodden Town Road at Bodde



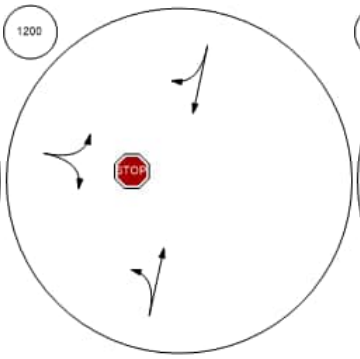
Bodden Town Road at Long



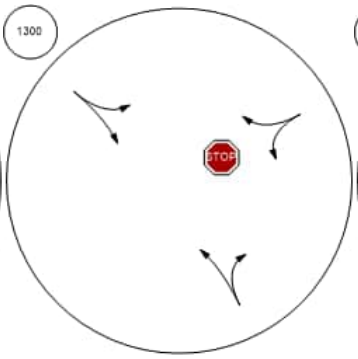
Frank Sound Road at Bodde



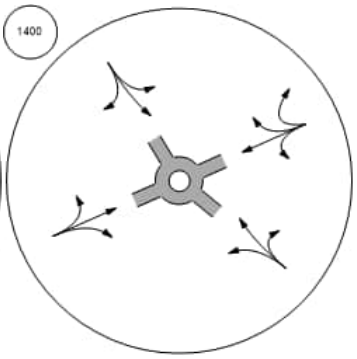
Frank Sound Road at Clifton



Frank Sound Road at North S



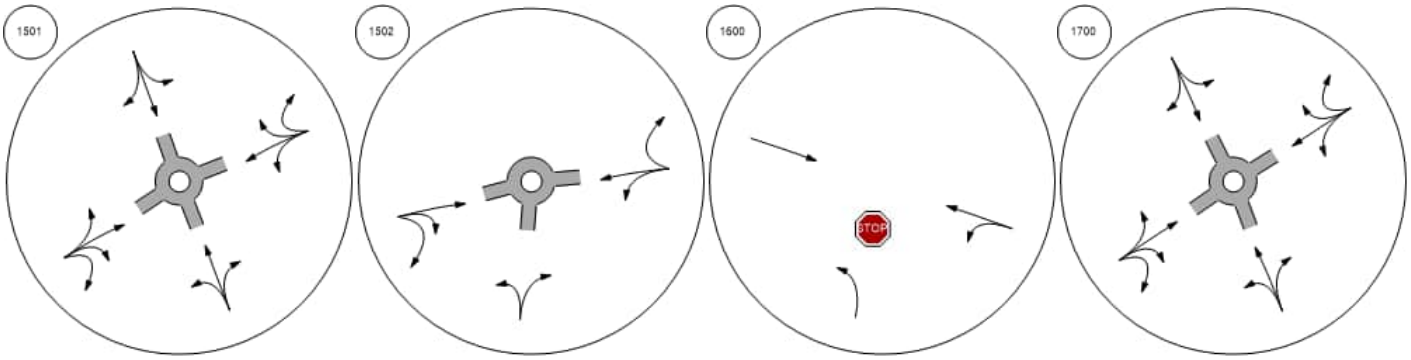
East-West Arterial at Agricola



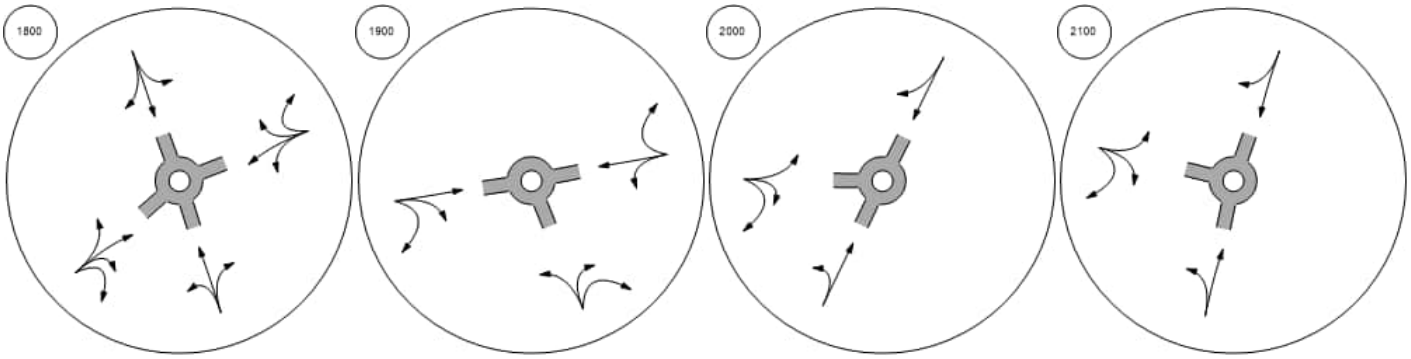
Lane Configuration and Traffic Control



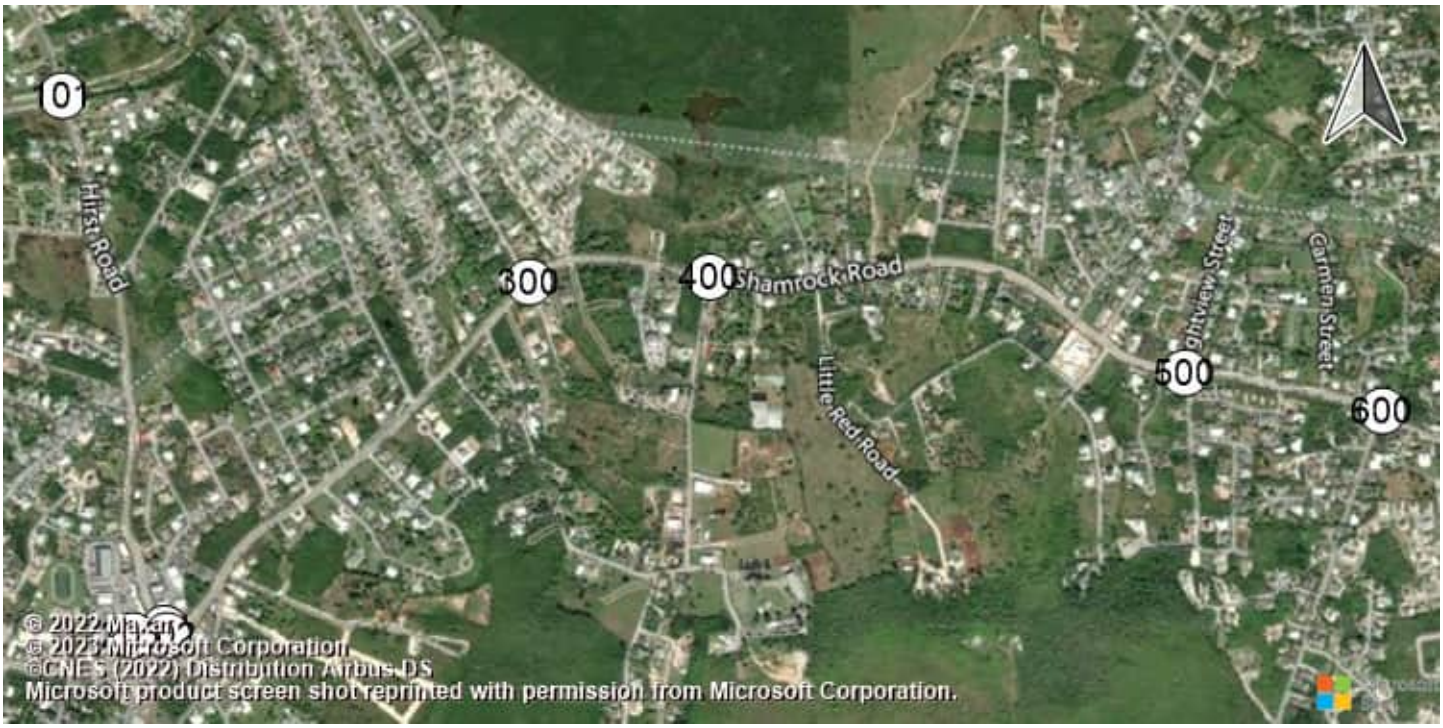
East-West Arterial at Will T C East-West Arterial at Will T C East-West Arterial at Northwa East-West Arterial at Lookout



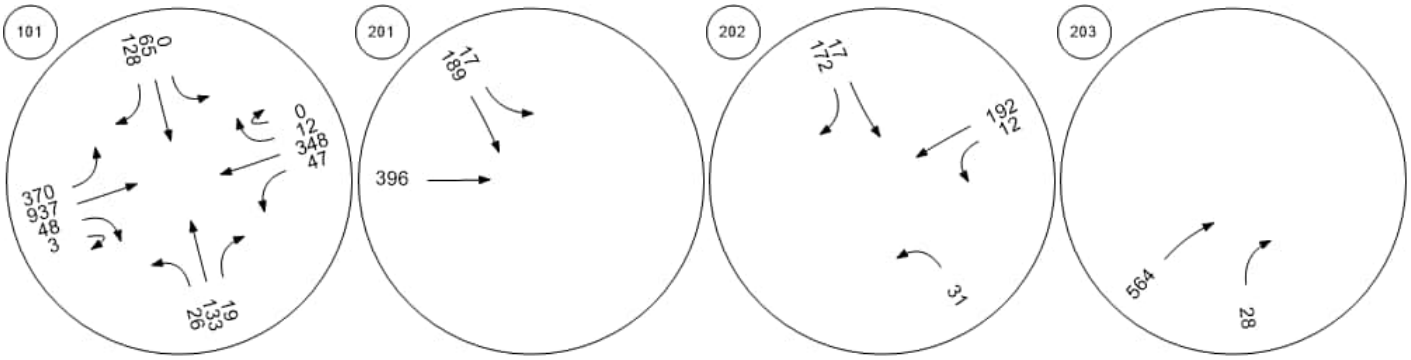
East-West Arterial at Longfell East West Arterial North/Sout Frank Sound Road at East-W Frank Sound Road at East-W



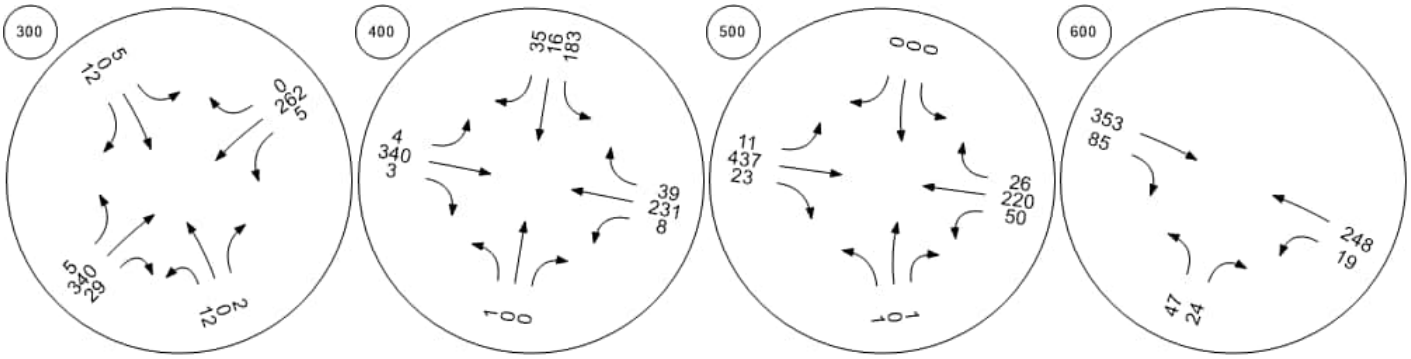
Traffic Volume - Base Volume



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



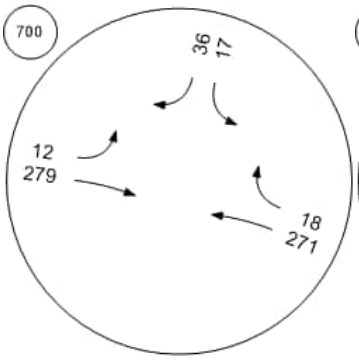
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



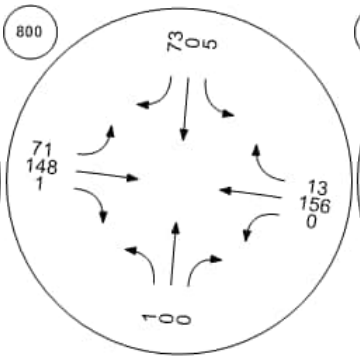
Traffic Volume - Base Volume



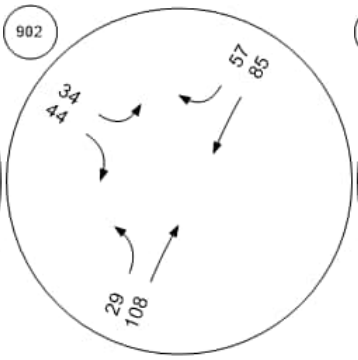
Shamrock Road at Northward



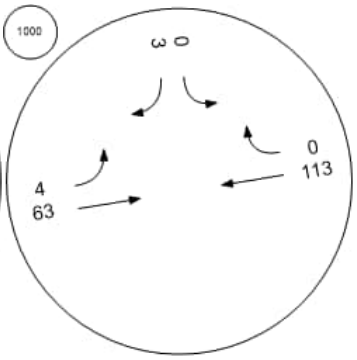
Shamrock Road at Condor R



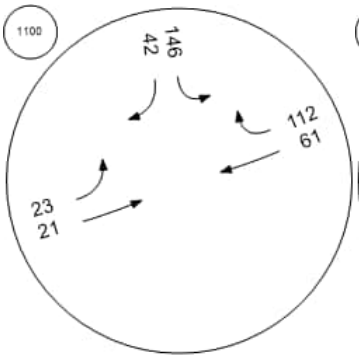
Bodden Town Road at Bodde



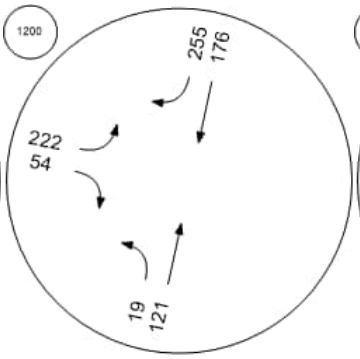
Bodden Town Road at Long



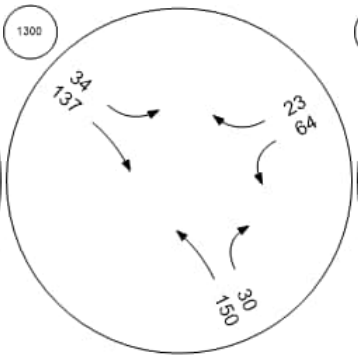
Frank Sound Road at Bodde



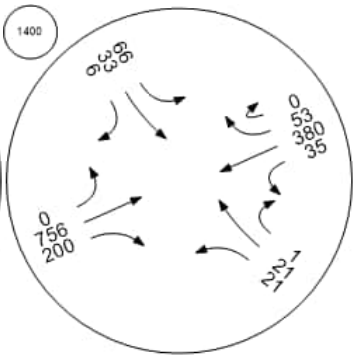
Frank Sound Road at Clifton



Frank Sound Road at North S



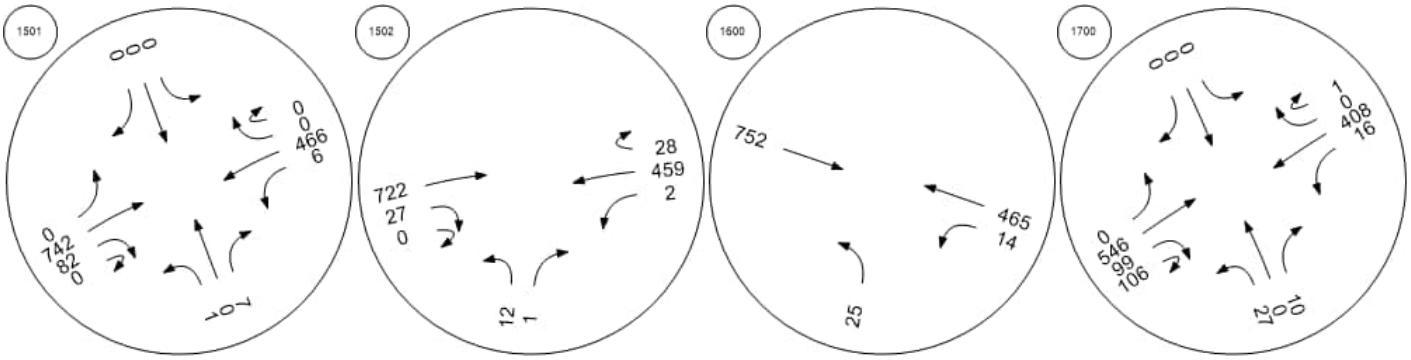
East-West Arterial at Agricola



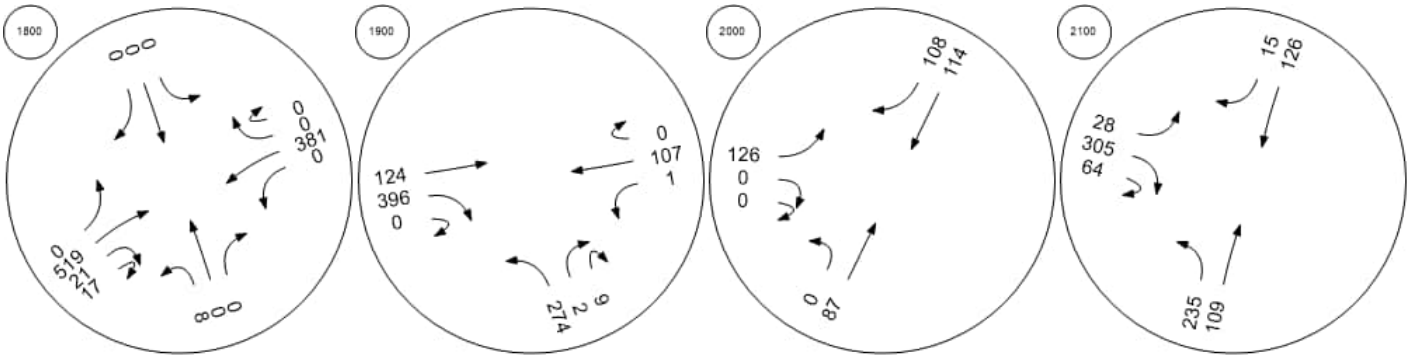
Traffic Volume - Base Volume



East-West Arterial at Will T C East-West Arterial at Will T C East-West Arterial at Northwa East-West Arterial at Lookout



East-West Arterial at Longfell East West Arterial North/Sout Frank Sound Road at East-W Frank Sound Road at East-W



Intersection Level Of Service Report
Intersection 101: East-West Arterial Road at Hirst Road

Control Type:	Roundabout	Delay (sec / veh):	11.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name									East-West Arterial				East-West Arterial				
Approach	Northbound				Southbound				Eastbound				Westbound				
Lane Configuration																	
Turning Movement	Left	Left	Thru	Right	Left	Thru	Right	Right	Left	Thru	Right	U-tu	Left	Thr	Thr	Rig	U-t
Lane Width [ft]	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.	12.	12.	12.	12.
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Entry Pocket Length [ft]	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	200	100	100	100	100
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Speed [mph]	30.00				30.00				40.00				50.00				
Grade [%]	0.00				0.00				0.00				0.00				
Crosswalk	Yes				Yes				Yes				Yes				

Volumes

Name									East-West Arterial				East-West Arterial				
Base Volume Input [veh/h]	8	0	38	30	17	67	0	530	54	281	6	19	20	913	0	4	0
Base Volume Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	0	38	30	17	67	0	530	54	281	6	19	20	913	0	4	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Other Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Total 15-Minute Volume [veh/h]	2	0	10	8	4	17	0	133	14	70	2	5	5	228	0	1	0
Total Analysis Volume [veh/h]	8	0	38	30	17	67	0	530	54	281	6	19	20	913	0	4	0
Pedestrian Volume [ped/h]	0				0				0				0				

Intersection Settings

Number of Conflicting Circulating Lanes	2				2				2				2				
Circulating Flow Rate [veh/h]	1466				336				72				622				
Exiting Flow Rate [veh/h]	93				96				1470				328				
Demand Flow Rate [veh/h]	8	0	38	30	17	67	0	530	54	281	6	19	20	913	0	4	0
Adjusted Demand Flow Rate [veh/h]	8	0	38	30	17	67	0	530	54	281	6	19	20	913	0	4	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1350.00	1420.00	1350.00
B (coefficient)	0.00085	0.00085	0.00085	0.00092	0.00085	0.00092
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	76	614	54	306	497	441
Capacity of Entry and Bypass Lanes [veh/h]	409	1068	1336	1264	837	762
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	409	1068	1336	1264	837	762
X, volume / capacity	0.19	0.58	0.04	0.24	0.59	0.58

Movement, Approach, & Intersection Results

Lane LOS	B	B	A	A	B	B
95th-Percentile Queue Length [veh]	0.67	3.81	0.13	0.95	4.00	3.76
95th-Percentile Queue Length [ft]	16.87	95.21	3.16	23.78	100.04	93.98
Approach Delay [s/veh]	11.75	10.72	4.67		13.60	
Approach LOS	B	B	A		B	
Intersection Delay [s/veh]	11.02					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 201: Shamrock Road at Hirst Rd (1)

Control Type:	Two-way stop	Delay (sec / veh):	11.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.167

Intersection Setup

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	0	0	0	19	105	0	0	211	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	19	105	0	0	211	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	5	28	0	0	57	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	20	113	0	0	227	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.02	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	9.51	11.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS				A	B			A				
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.08	0.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	1.88	14.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			11.11			0.00			0.00		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	4.10											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 202: Shamrock Road at Hirst Rd (2)

Control Type:	Two-way stop	Delay (sec / veh):	20.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.315

Intersection Setup

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	33	0	0	0	6	99	0	0	0	7	633	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	33	0	0	0	6	99	0	0	0	7	633	0
Peak Hour Factor	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	0	0	0	2	27	0	0	0	2	170	0
Total Analysis Volume [veh/h]	35	0	0	0	6	106	0	0	0	8	681	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.00	0.00	0.00	0.02	0.31	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	13.64	0.00	0.00	0.00	19.88	20.87	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	B				C	C				A	A	
95th-Percentile Queue Length [veh/ln]	0.25	0.00	0.00	0.00	1.41	1.41	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	6.27	0.00	0.00	0.00	35.36	35.36	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.64			20.82			0.00			0.00		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	3.36											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 203: Shamrock Road atHirst Road Jughandle

Control Type:	Two-way stop	Delay (sec / veh):	10.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.025

Intersection Setup

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	0	17	264	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	17	264	0	0	0
Peak Hour Factor	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	5	71	0	0	0
Total Analysis Volume [veh/h]	0	18	284	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.03	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	10.20	0.00	0.00	0.00	0.00
Movement LOS		B	A			
95th-Percentile Queue Length [veh/ln]	0.00	0.08	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	1.95	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	10.20		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.61					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 300: Shamrock Road at Woodland Drive

Control Type:	Two-way stop	Delay (sec / veh):	17.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.062

Intersection Setup

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	40	0	6	0	0	18	3	117	6	2	584	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	0	6	0	0	18	3	117	6	2	584	0
Peak Hour Factor	0.9700	0.9700	1.0000	1.0000	0.9700	0.9700	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	0	2	0	0	5	1	29	2	1	146	0
Total Analysis Volume [veh/h]	41	0	6	0	0	19	3	117	6	2	584	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.00	0.02	0.00	0.00	0.06	0.00	0.00	0.01	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	12.79	15.92	16.19	9.60	15.88	17.42	0.00	0.00	8.63	0.00	0.00	7.43
Movement LOS	B	C	C	A	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.32	0.32	0.32	0.20	0.20	0.20	0.02	0.02	0.02	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	8.01	8.01	8.01	4.89	4.89	4.89	0.45	0.45	0.45	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.23			17.42			0.41			0.00		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	1.29											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 400: Shamrock Road at Agricola Drive

Control Type:	Roundabout	Delay (sec / veh):	6.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	1	7	1	25	13	34	3	119	1	3	550	100
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	7	1	25	13	34	3	119	1	3	550	100
Peak Hour Factor	1.0000	1.0000	0.9200	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9200	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	0	6	3	9	1	30	0	1	138	25
Total Analysis Volume [veh/h]	1	7	1	25	13	34	3	119	1	3	550	100
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	684			121			108			48		
Exiting Flow Rate [veh/h]	17			110			585			145		
Demand Flow Rate [veh/h]	1	7	1	25	13	34	3	119	1	3	550	100
Adjusted Demand Flow Rate [veh/h]	1	7	1	25	13	34	3	119	1	3	550	100

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	9	72	123	653
Capacity of Entry and Bypass Lanes [veh/h]	687	1220	1237	1315
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	687	1220	1237	1315
X, volume / capacity	0.01	0.06	0.10	0.50

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.04	0.19	0.33	2.86
95th-Percentile Queue Length [ft]	1.00	4.70	8.27	71.60
Approach Delay [s/veh]	5.38	3.43	3.73	7.90
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	6.90			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 500: Shamrock Road at Brightview Drive / Calla Lily Drive

Control Type:	Two-way stop	Delay (sec / veh):	15.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.014

Intersection Setup

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			20.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	9	0	4	2	0	5	0	139	0	0	534	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	0	4	2	0	5	0	139	0	0	534	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	0	1	1	0	1	0	35	0	0	134	0
Total Analysis Volume [veh/h]	9	0	4	2	0	5	0	139	0	0	534	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	11.76	14.70	14.93	9.07	14.63	15.05	0.00	0.00	8.45	0.00	0.00	7.47
Movement LOS	B	B	B	A	B	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.08	0.08	0.08	0.05	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	2.09	2.09	2.09	1.22	1.22	1.22	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.73			13.34			0.00			0.00		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	0.37											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 600: Shamrock Road at Beach Bay Road

Control Type:	Two-way stop	Delay (sec / veh):	15.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.050

Intersection Setup

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	140	21	136	10	13	394
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	140	21	136	10	13	394
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	6	37	3	4	108
Total Analysis Volume [veh/h]	154	23	149	11	14	433
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.25	0.05	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	13.35	15.46	0.00	8.23	0.00	0.00
Movement LOS	B	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.25	1.25	0.03	0.03	0.00	0.00
95th-Percentile Queue Length [ft/ln]	31.14	31.14	0.74	0.74	0.00	0.00
d_A, Approach Delay [s/veh]	13.63		0.57		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	3.19					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 700: Shamrock Road at Northward Road

Control Type:	Two-way stop	Delay (sec / veh):	13.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.015

Intersection Setup

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	9	7	9	159	369	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	7	9	159	369	23
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	2	2	41	95	6
Total Analysis Volume [veh/h]	9	7	9	164	380	24
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.02	0.00	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	9.24	12.99	0.00	0.00	0.00	7.59
Movement LOS	A	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.08	0.08	0.00	0.00	0.05	0.05
95th-Percentile Queue Length [ft/ln]	1.96	1.96	0.00	0.00	1.29	1.29
d_A, Approach Delay [s/veh]	10.88		0.00		0.45	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.60					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 800: Shamrock Road at Condor Road

Control Type:	Two-way stop	Delay (sec / veh):	11.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.268

Intersection Setup

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Base Volume Input [veh/h]	4	1	0	2	0	191	55	107	0	0	88	7
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	1	0	2	0	191	55	107	0	0	88	7
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	1	0	48	14	27	0	0	22	2
Total Analysis Volume [veh/h]	4	1	0	2	0	191	55	107	0	0	88	7
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.27	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.71	10.64	10.05	10.77	12.27	11.90	0.00	0.00	7.37	0.00	0.00	7.53
Movement LOS	A	B	B	B	B	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.02	1.09	1.09	1.09	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.43	0.43	0.43	27.30	27.30	27.30	0.00	0.00	0.00	0.37	0.37	0.37
d_A, Approach Delay [s/veh]	9.10			11.89			0.00			0.55		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	5.26											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 902: Bodden Town Road at Bodden Town Bypass

Control Type:	Two-way stop	Delay (sec / veh):	10.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.026

Intersection Setup

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	24	19	13	88	16	43
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	24	19	13	88	16	43
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	5	3	23	4	11
Total Analysis Volume [veh/h]	26	20	14	94	17	46
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.03	0.00	0.00	0.00	0.03
d_M, Delay for Movement [s/veh]	8.99	9.98	0.00	0.00	0.00	7.48
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.17	0.17	0.00	0.00	0.10	0.10
95th-Percentile Queue Length [ft/ln]	4.23	4.23	0.00	0.00	2.38	2.38
d_A, Approach Delay [s/veh]	9.42		0.00		5.46	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.58					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1000: Bodden Town Road at Long Fellow Drive

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	0	6	5	34	18	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	6	5	34	18	0
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	1	9	5	0
Total Analysis Volume [veh/h]	0	7	5	37	20	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.50	8.81	0.00	0.00	0.00	7.28
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.56	0.56	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.81		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.89					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1100: Frank Sound Road at Bodden Town Road

Control Type:	Two-way stop	Delay (sec / veh):	10.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Base Volume Input [veh/h]	75	4	7	22	14	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	75	4	7	22	14	80
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	1	2	6	4	22
Total Analysis Volume [veh/h]	81	4	8	24	15	86
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.01	0.00	0.00	0.00	0.05
d_M, Delay for Movement [s/veh]	8.73	10.21	0.00	0.00	0.00	7.37
Movement LOS	A	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.27	0.27	0.00	0.00	0.17	0.17
95th-Percentile Queue Length [ft/ln]	6.72	6.72	0.00	0.00	4.25	4.25
d_A, Approach Delay [s/veh]	8.80		0.00		6.28	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	6.34					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1200: Frank Sound Road at Clifton Hunter High School

Control Type:	Two-way stop	Delay (sec / veh):	15.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.010

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd			
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		20.00		20.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Frank Sound Rd			
Base Volume Input [veh/h]	26	110	74	206	232	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	26	110	74	206	232	4
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	28	19	52	58	1
Total Analysis Volume [veh/h]	26	110	74	206	232	4
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.14	0.25	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	7.87	10.23	15.52
Movement LOS	A	A	A	A	B	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.49	0.49	1.03	1.03
95th-Percentile Queue Length [ft/ln]	0.00	0.00	12.28	12.28	25.86	25.86
d_A, Approach Delay [s/veh]	0.00		5.79		10.32	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	6.22					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1300: Frank Sound Road at North Side Road/Old Robin Road

Control Type:	Two-way stop	Delay (sec / veh):	10.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Base Volume Input [veh/h]	92	29	9	70	36	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	92	29	9	70	36	3
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	8	3	20	10	1
Total Analysis Volume [veh/h]	103	33	10	79	40	3
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.02	0.00	0.00	0.04	0.00
d_M, Delay for Movement [s/veh]	0.00	7.42	0.00	0.00	8.85	10.16
Movement LOS	A	A	A	A	A	B
95th-Percentile Queue Length [veh/ln]	0.07	0.07	0.00	0.00	0.14	0.14
95th-Percentile Queue Length [ft/ln]	1.66	1.66	0.00	0.00	3.52	3.52
d_A, Approach Delay [s/veh]	1.80		0.00		8.94	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.35					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1400: East-West Arterial at Agricola Drive Connector

Control Type:	Roundabout	Delay (sec / veh):	9.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			50.00			50.00			
Grade [%]	0.00			0.00			0.00			0.00			
Crosswalk	Yes			Yes			Yes			Yes			

Volumes

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Base Volume Input [veh/h]	136	18	5	39	51	12	3	296	28	1	788	22	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	136	18	5	39	51	12	3	296	28	1	788	22	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	34	5	1	10	13	3	1	74	7	0	197	6	0
Total Analysis Volume [veh/h]	136	18	5	39	51	12	3	296	28	1	788	22	0
Pedestrian Volume [ped/h]	0			0			0			0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1			
Circulating Flow Rate [veh/h]	822			329			45			91			
Exiting Flow Rate [veh/h]	80			43			936			340			
Demand Flow Rate [veh/h]	136	18	5	39	51	12	3	296	28	1	788	22	0
Adjusted Demand Flow Rate [veh/h]	136	18	5	39	51	12	3	296	28	1	788	22	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	159	102	327	811
Capacity of Entry and Bypass Lanes [veh/h]	597	987	1319	1258
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	597	987	1319	1258
X, volume / capacity	0.27	0.10	0.25	0.64

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	B
95th-Percentile Queue Length [veh]	1.07	0.34	0.98	5.00
95th-Percentile Queue Length [ft]	26.72	8.62	24.55	124.98
Approach Delay [s/veh]	9.54	4.59	4.87	11.12
Approach LOS	A	A	A	B
Intersection Delay [s/veh]	9.01			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1501: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	7.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name							East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name							East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	20	0	15	0	0	0	0	336	4	0	5	788	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	0	15	0	0	0	0	336	4	0	5	788	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	5	0	4	0	0	0	0	84	1	0	1	197	0	0
Total Analysis Volume [veh/h]	20	0	15	0	0	0	0	336	4	0	5	788	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1				
Circulating Flow Rate [veh/h]	788			355			15				4				
Exiting Flow Rate [veh/h]	9			0			808				351				
Demand Flow Rate [veh/h]	20	0	15	0	0	0	0	336	4	0	5	788	0	0	
Adjusted Demand Flow Rate [veh/h]	20	0	15	0	0	0	0	336	4	0	5	788	0	0	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	35	0	340	793
Capacity of Entry and Bypass Lanes [veh/h]	618	961	1360	1375
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	618	961	1360	1375
X, volume / capacity	0.06	0.00	0.25	0.58

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.18	0.00	0.99	3.88
95th-Percentile Queue Length [ft]	4.49	0.00	24.83	97.11
Approach Delay [s/veh]	6.46	3.75	4.78	9.01
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	7.70			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1502: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	6.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name			East-West Arterial			East-West Arterial		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	Thru	Right	U-turn	Left	Thru	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00			50.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	Yes		Yes			Yes		

Volumes

Name			East-West Arterial			East-West Arterial		
Base Volume Input [veh/h]	189	5	350	1	0	1	604	9
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	189	5	350	1	0	1	604	9
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	47	1	88	0	0	0	151	2
Total Analysis Volume [veh/h]	189	5	350	1	0	1	604	9
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1		1			1		
Circulating Flow Rate [veh/h]	613		14			1		
Exiting Flow Rate [veh/h]	2		793			364		
Demand Flow Rate [veh/h]	189	5	350	1	0	1	604	9
Adjusted Demand Flow Rate [veh/h]	189	5	350	1	0	1	604	9

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	194	351	614
Capacity of Entry and Bypass Lanes [veh/h]	739	1361	1379
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	739	1361	1379
X, volume / capacity	0.26	0.26	0.45

Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	1.05	1.03	2.35
95th-Percentile Queue Length [ft]	26.32	25.87	58.78
Approach Delay [s/veh]	7.92	4.85	6.92
Approach LOS	A	A	A
Intersection Delay [s/veh]	6.46		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 1600: East-West Arterial at Northward Rd

Control Type:	Two-way stop	Delay (sec / veh):	12.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.138

Intersection Setup

Name	Northward Rd		East-West Arterial		East-West Arterial	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		East-West Arterial		East-West Arterial	
Base Volume Input [veh/h]	75	0	365	0	8	540
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	75	0	365	0	8	540
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	0	91	0	2	135
Total Analysis Volume [veh/h]	75	0	365	0	8	540
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	12.69	0.00	0.00	0.00	0.00	0.00
Movement LOS	B		A		A	A
95th-Percentile Queue Length [veh/ln]	0.48	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	11.93	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.69		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.96					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1700: East-West Arterial at Lookout Rd

Control Type:	Roundabout	Delay (sec / veh):	5.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Lookout Rd			Lookout Rd			East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Lookout Rd			Lookout Rd			East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	29	0	7	0	0	0	0	307	23	0	5	544	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	29	0	7	0	0	0	0	307	23	0	5	544	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	7	0	2	0	0	0	0	77	6	0	1	136	0	0
Total Analysis Volume [veh/h]	29	0	7	0	0	0	0	307	23	0	5	544	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1				
Circulating Flow Rate [veh/h]	544			337			7				23				
Exiting Flow Rate [veh/h]	28			0			573				314				
Demand Flow Rate [veh/h]	29	0	7	0	0	0	0	307	23	0	5	544	0	0	
Adjusted Demand Flow Rate [veh/h]	29	0	7	0	0	0	0	307	23	0	5	544	0	0	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	36	0	330	549
Capacity of Entry and Bypass Lanes [veh/h]	793	979	1371	1349
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	793	979	1371	1349
X, volume / capacity	0.05	0.00	0.24	0.41

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.14	0.00	0.94	2.02
95th-Percentile Queue Length [ft]	3.56	0.00	23.62	50.51
Approach Delay [s/veh]	4.99	3.68	4.66	6.53
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	5.80			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1800: East-West Arterial at Longfellow Rd

Control Type:	Roundabout	Delay (sec / veh):	5.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Longfellow Rd			Longfellow Rd			East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Longfellow Rd			Longfellow Rd			East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	13	0	7	0	0	0	0	309	5	0	5	474	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	0	7	0	0	0	0	309	5	0	5	474	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	3	0	2	0	0	0	0	77	1	0	1	119	0	0
Total Analysis Volume [veh/h]	13	0	7	0	0	0	0	309	5	0	5	474	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1				
Circulating Flow Rate [veh/h]	474			321			7				5				
Exiting Flow Rate [veh/h]	10			0			487				316				
Demand Flow Rate [veh/h]	13	0	7	0	0	0	0	309	5	0	5	474	0	0	
Adjusted Demand Flow Rate [veh/h]	13	0	7	0	0	0	0	309	5	0	5	474	0	0	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	20	0	314	479
Capacity of Entry and Bypass Lanes [veh/h]	851	995	1371	1373
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	851	995	1371	1373
X, volume / capacity	0.02	0.00	0.23	0.35

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.07	0.00	0.89	1.58
95th-Percentile Queue Length [ft]	1.80	0.00	22.15	39.62
Approach Delay [s/veh]	4.45	3.62	4.55	5.76
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	5.26			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1900: East West Arterial

Control Type:	Roundabout	Delay (sec / veh):	5.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name							East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name							East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	0	0	5	0	0	12	1	290	25	0	0	414	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	5	0	0	12	1	290	25	0	0	414	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	0	0	1	0	0	3	0	73	6	0	0	104	0	0
Total Analysis Volume [veh/h]	0	0	5	0	0	12	1	290	25	0	0	414	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1				
Circulating Flow Rate [veh/h]	426			320			5				37				
Exiting Flow Rate [veh/h]	25			1			426				295				
Demand Flow Rate [veh/h]	0	0	5	0	0	12	1	290	25	0	0	414	0	0	
Adjusted Demand Flow Rate [veh/h]	0	0	5	0	0	12	1	290	25	0	0	414	0	0	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	5	12	316	414
Capacity of Entry and Bypass Lanes [veh/h]	894	996	1373	1329
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	894	996	1373	1329
X, volume / capacity	0.01	0.01	0.23	0.31

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.02	0.04	0.89	1.34
95th-Percentile Queue Length [ft]	0.42	0.91	22.27	33.54
Approach Delay [s/veh]	4.08	3.72	4.55	5.49
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	5.06			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 2000: Frank Sound Road at East-West Arterial

Control Type:	Unknown	Delay (sec / veh):	?
Analysis Method:	?	Level Of Service:	?
Analysis Period:	15 minutes	Volume to Capacity (v/c):	?

Intersection Setup

Name	Frank Sound Rd	Frank Sound Rd
Approach	Northeastbound	Southwestbound
Lane Configuration		
Turning Movement	Thru	Thru
Crosswalk	Yes	Yes

Volumes

Name	Frank Sound Rd	Frank Sound Rd
Base Volume Input [veh/h]	127	133
Base Volume Adjustment Factor	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00
Growth Factor	1.0000	1.0000
In-Process Volume [veh/h]	0	0
Site-Generated Trips [veh/h]	0	0
Diverted Trips [veh/h]	0	0
Pass-by Trips [veh/h]	0	0
Existing Site Adjustment Volume [veh/h]	0	0
Other Volume [veh/h]	0	0
Left-Turn on Red Volume [veh/h]	0	0
Total Hourly Volume [veh/h]	127	133
Peak Hour Factor	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	33
Total Analysis Volume [veh/h]	127	133
Presence of On-Street Parking	No	No
On-Street Parking Maneuver Rate [/h]	0	0
Local Bus Stopping Rate [/h]	0	0
Pedestrian Volume [ped/h]	0	0

Intersection Level Of Service Report
Intersection 2100: Frank Sound Road at East-West Arterial

Control Type:	Roundabout	Delay (sec / veh):	5.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd		East-West Arterial		
Approach	Northbound		Southbound		Eastbound		
Lane Configuration							
Turning Movement	Left	Thru	Thru	Right	Left	Right	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		20.00		50.00		
Grade [%]	0.00		0.00		0.00		
Crosswalk	Yes		Yes		Yes		

Volumes

Name	Frank Sound Rd		Frank Sound Rd		East-West Arterial		
Base Volume Input [veh/h]	289	53	65	125	85	215	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	289	53	65	125	85	215	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	72	13	16	31	21	54	0
Total Analysis Volume [veh/h]	289	53	65	125	85	215	0
Pedestrian Volume [ped/h]	0		0		0		

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1		
Circulating Flow Rate [veh/h]	125		215		53		
Exiting Flow Rate [veh/h]	280		138		414		
Demand Flow Rate [veh/h]	289	53	65	125	85	215	0
Adjusted Demand Flow Rate [veh/h]	289	53	65	125	85	215	0

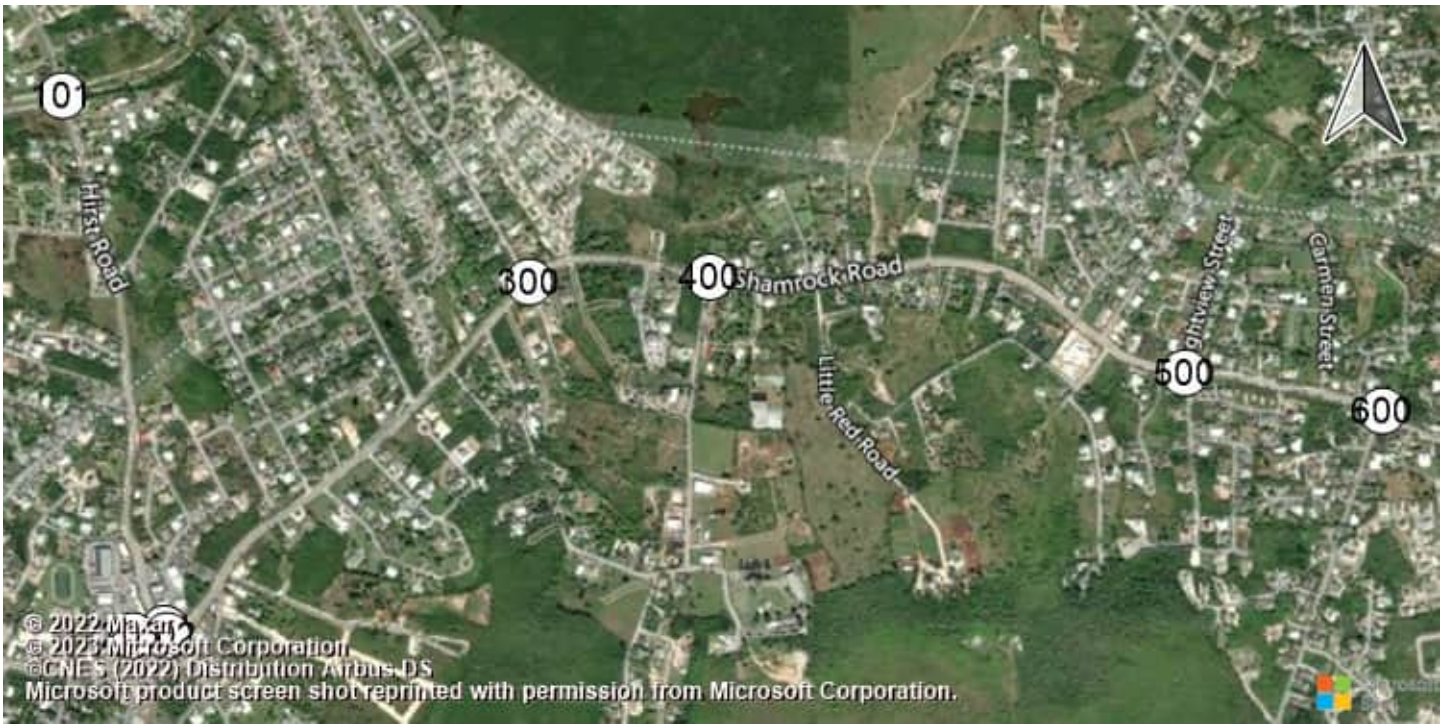
Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	342	190	300
Capacity of Entry and Bypass Lanes [veh/h]	1215	1109	1308
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1215	1109	1308
X, volume / capacity	0.28	0.17	0.23

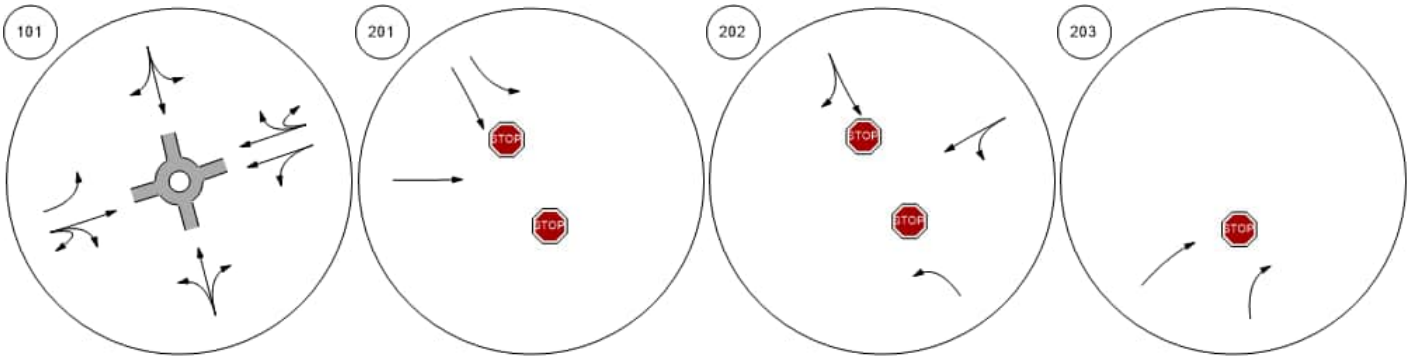
Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	1.16	0.62	0.89
95th-Percentile Queue Length [ft]	29.08	15.44	22.18
Approach Delay [s/veh]	5.53	4.78	4.72
Approach LOS	A	A	A
Intersection Delay [s/veh]	5.06		
Intersection LOS	A		

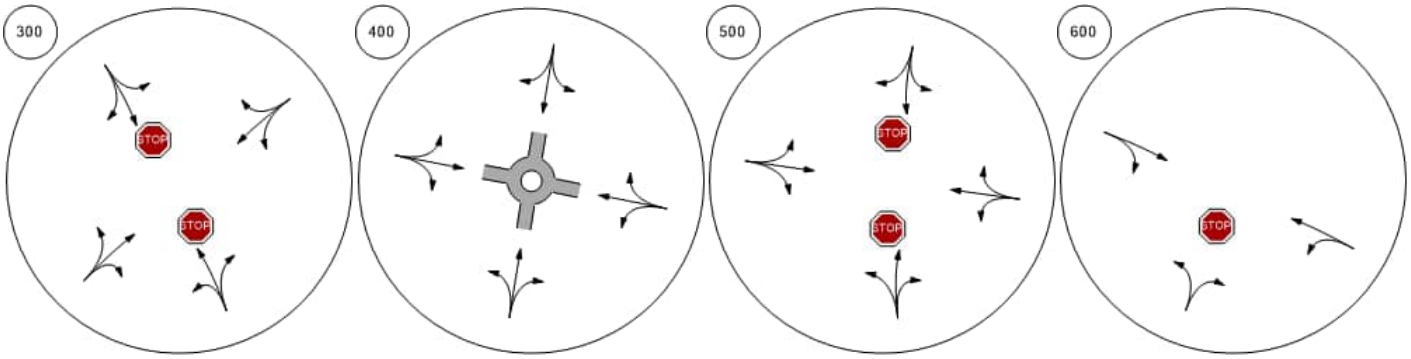
Lane Configuration and Traffic Control



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



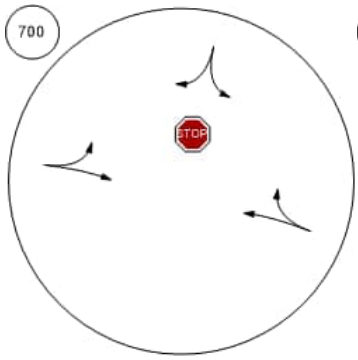
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



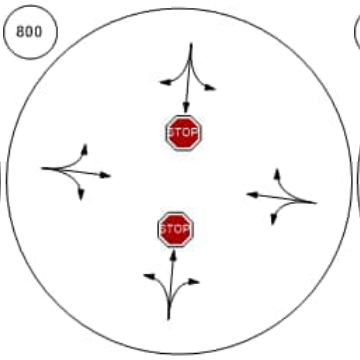
Lane Configuration and Traffic Control



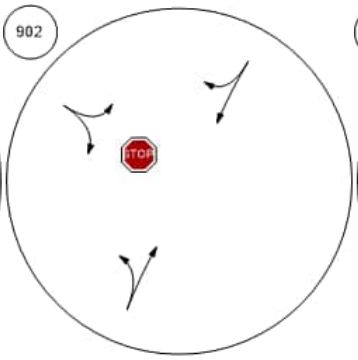
Shamrock Road at Northward



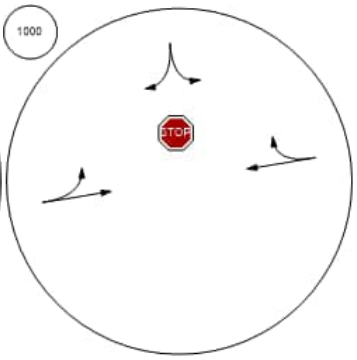
Shamrock Road at Condor R



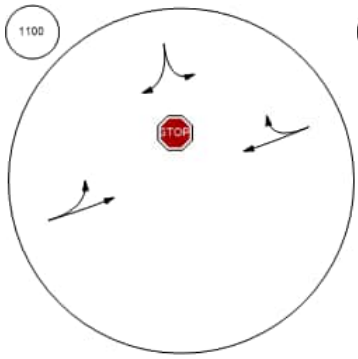
Bodden Town Road at Bodde



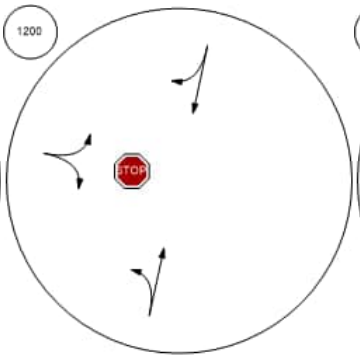
Bodden Town Road at Long



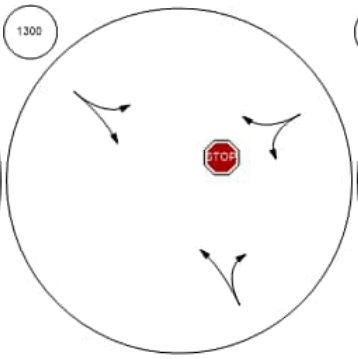
Frank Sound Road at Bodde



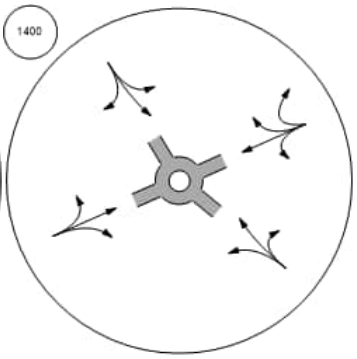
Frank Sound Road at Clifton



Frank Sound Road at North S



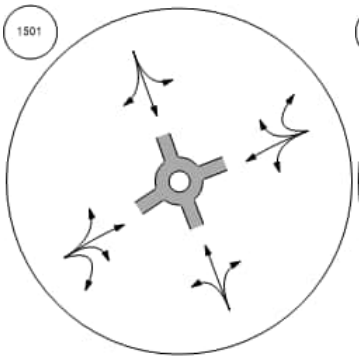
East-West Arterial at Agricola



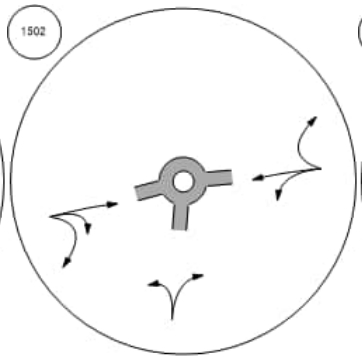
Lane Configuration and Traffic Control



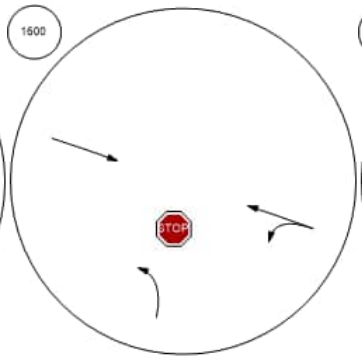
East-West Arterial at Will T C



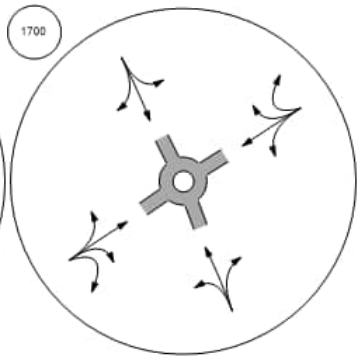
East-West Arterial at Will T C



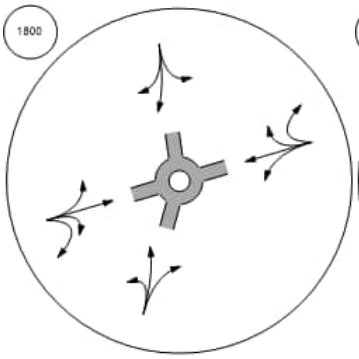
East-West Arterial at Northwa



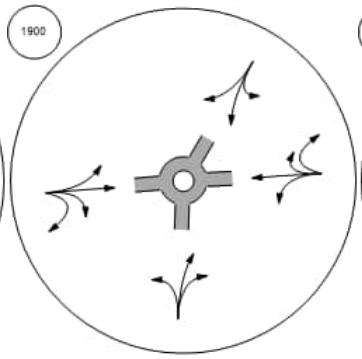
East-West Arterial at Lookout



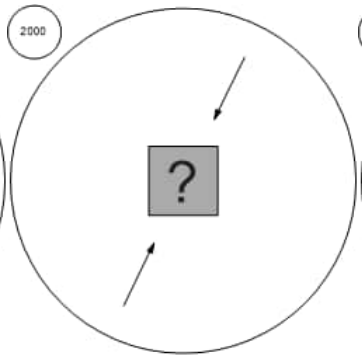
East-West Arterial at Longfell



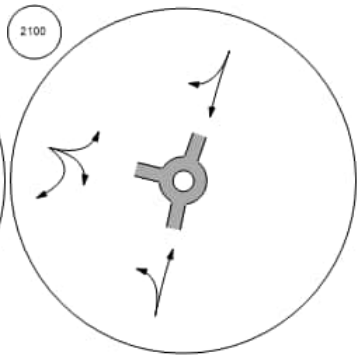
East West Arterial



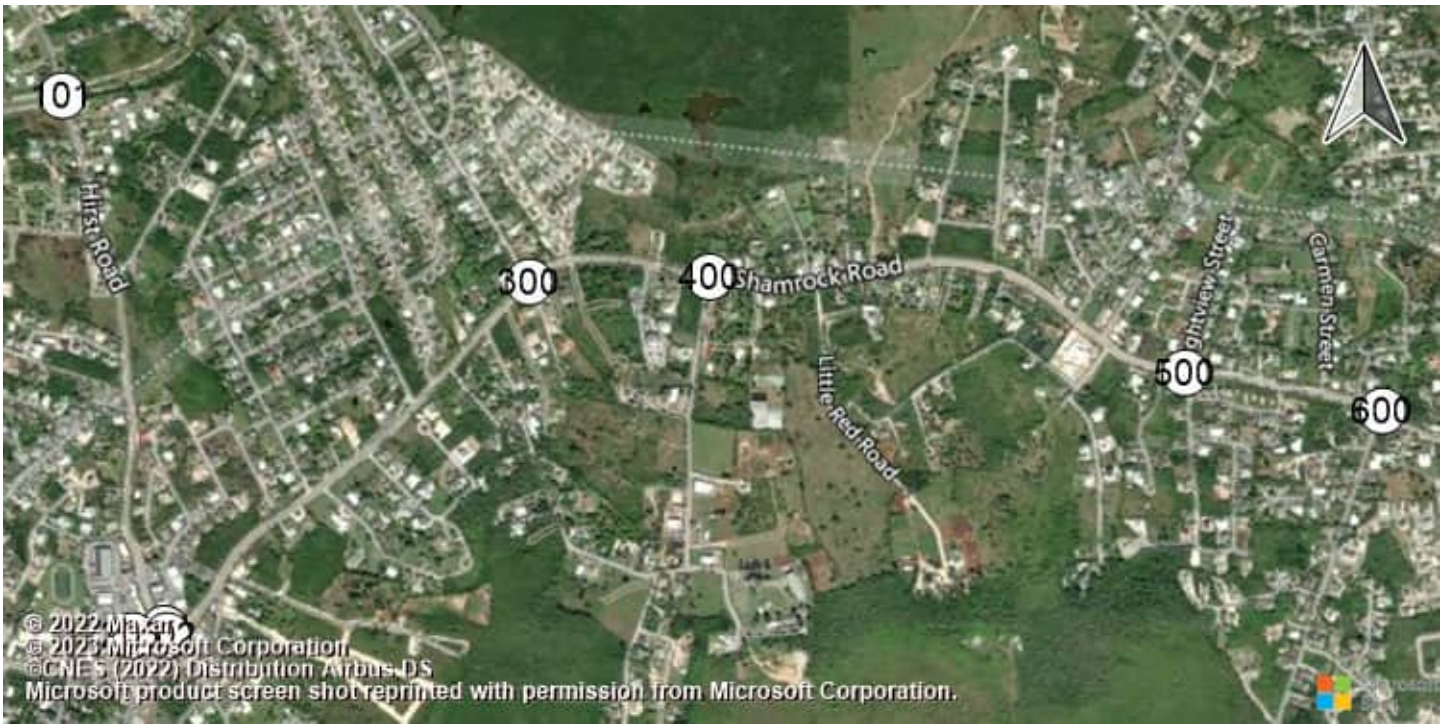
Frank Sound Road at East-W



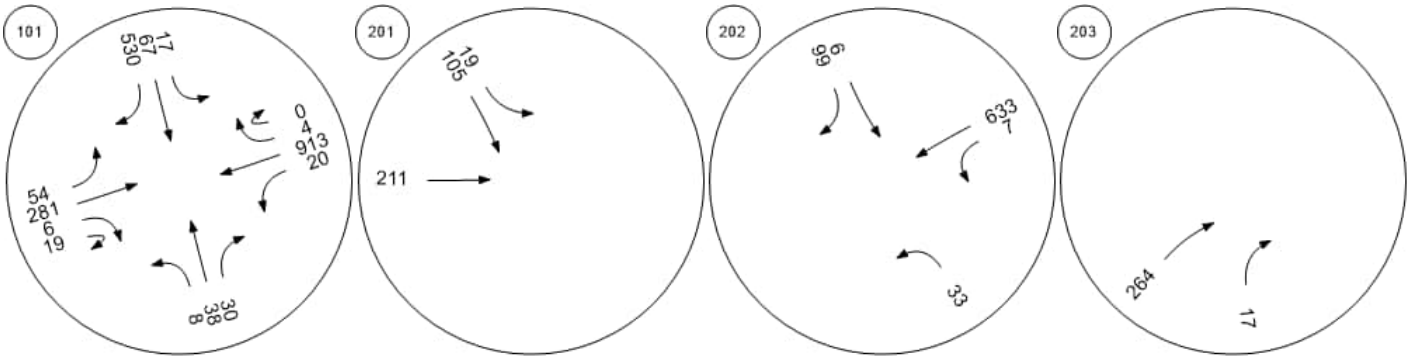
Frank Sound Road at East-W



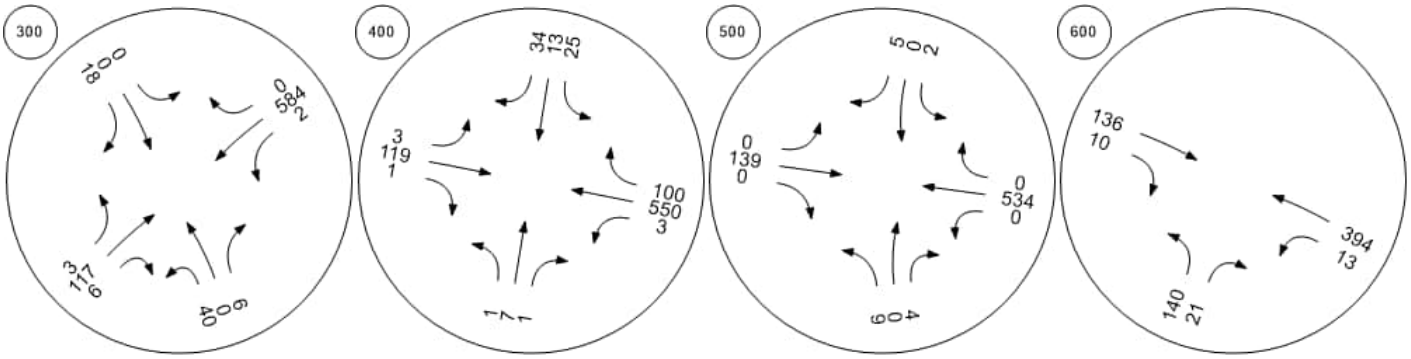
Traffic Volume - Base Volume



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



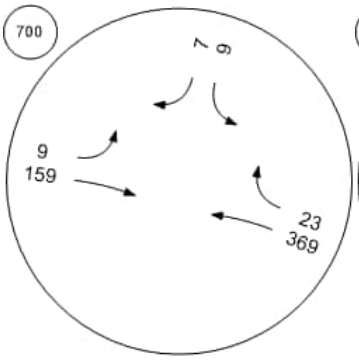
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



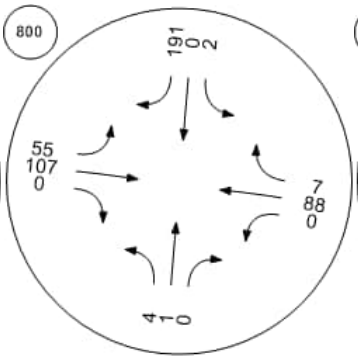
Traffic Volume - Base Volume



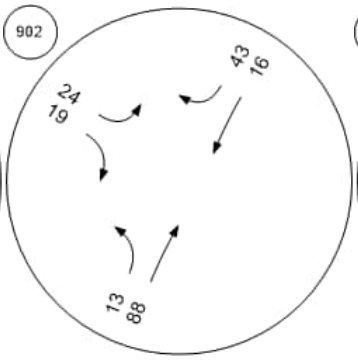
Shamrock Road at Northward



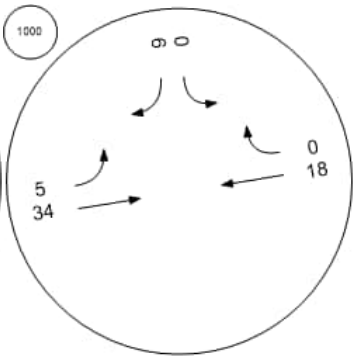
Shamrock Road at Condor R



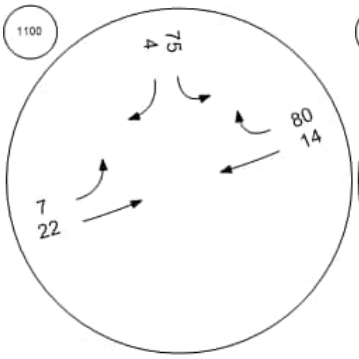
Bodden Town Road at Bodde



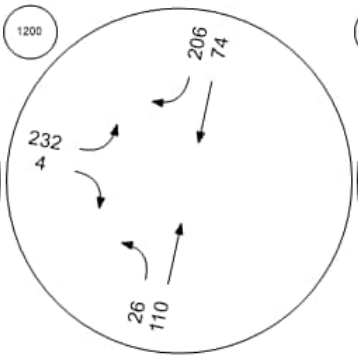
Bodden Town Road at Long



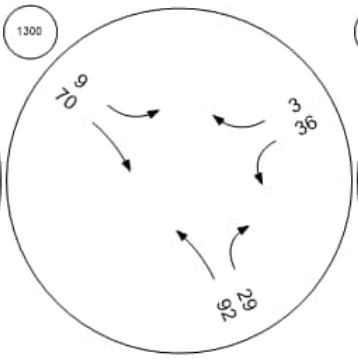
Frank Sound Road at Bodde



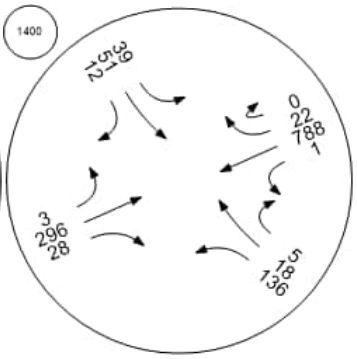
Frank Sound Road at Clifton



Frank Sound Road at North S



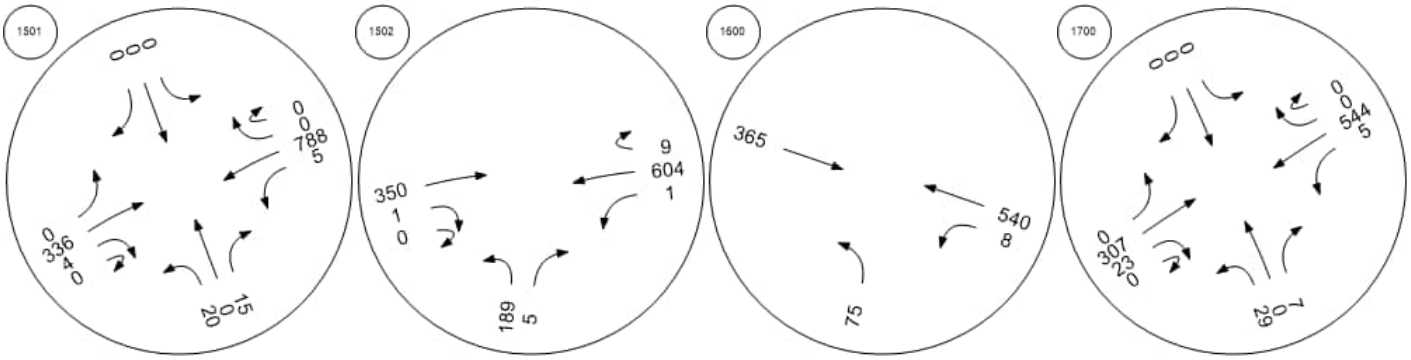
East-West Arterial at Agricola



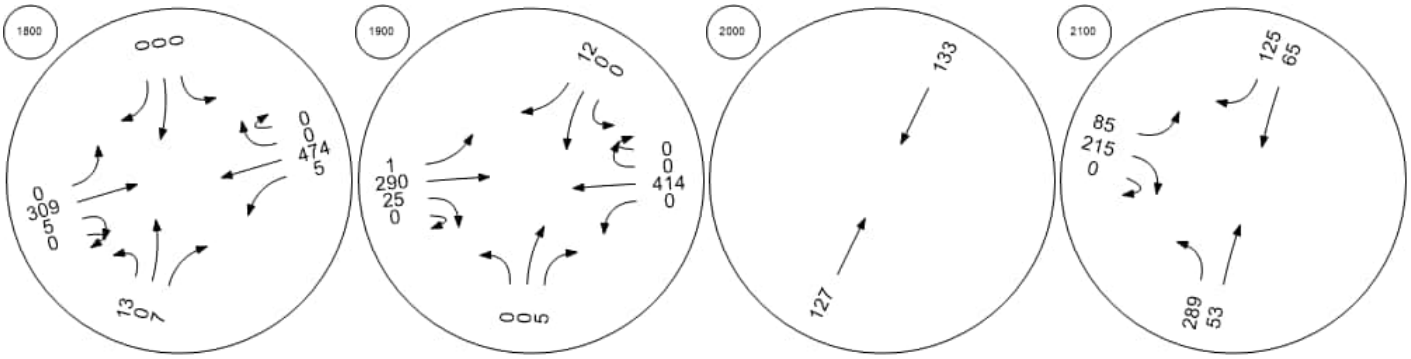
Traffic Volume - Base Volume



East-West Arterial at Will T C East-West Arterial at Will T C East-West Arterial at Northwa East-West Arterial at Lookout



East-West Arterial at Longfell East West Arterial Frank Sound Road at East-W Frank Sound Road at East-W



Intersection Level Of Service Report
Intersection 101: East-West Arterial Road at Hirst Road

Control Type:	Roundabout	Delay (sec / veh):	14.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name									East-West Arterial				East-West Arterial				
Approach	Northbound				Southbound				Eastbound				Westbound				
Lane Configuration																	
Turning Movement	Left	Left	Thru	Right	Left	Thru	Right	Right	Left	Thru	Right	U-tu	Left	Thr	Thr	Rig	U-t
Lane Width [ft]	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.	12.	12.	12.	12.
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Entry Pocket Length [ft]	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	200	100	100	100	100
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Speed [mph]	30.00				30.00				40.00				50.00				
Grade [%]	0.00				0.00				0.00				0.00				
Crosswalk	Yes				Yes				Yes				Yes				

Volumes

Name									East-West Arterial				East-West Arterial				
Base Volume Input [veh/h]	26	0	133	21	0	65	0	128	370	962	44	3	51	357	0	13	0
Base Volume Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	26	0	133	21	0	65	0	128	370	962	44	3	51	357	0	13	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Other Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Total 15-Minute Volume [veh/h]	7	0	33	5	0	16	0	32	93	241	11	1	13	89	0	3	0
Total Analysis Volume [veh/h]	26	0	133	21	0	65	0	128	370	962	44	3	51	357	0	13	0
Pedestrian Volume [ped/h]	0				0				0				0				

Intersection Settings

Number of Conflicting Circulating Lanes	2				2				2				2				
Circulating Flow Rate [veh/h]	501				1030				167				240				
Exiting Flow Rate [veh/h]	160				516				514				983				
Demand Flow Rate [veh/h]	26	0	133	21	0	65	0	128	370	962	44	3	51	357	0	13	0
Adjusted Demand Flow Rate [veh/h]	26	0	133	21	0	65	0	128	370	962	44	3	51	357	0	13	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1350.00	1420.00	1350.00
B (coefficient)	0.00085	0.00085	0.00085	0.00092	0.00085	0.00092
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	180	193	370	1009	224	198
Capacity of Entry and Bypass Lanes [veh/h]	928	592	1233	1158	1158	1083
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	928	592	1233	1158	1158	1083
X, volume / capacity	0.19	0.33	0.30	0.87	0.19	0.18

Movement, Approach, & Intersection Results

Lane LOS	A	B	A	C	A	A
95th-Percentile Queue Length [veh]	0.72	1.41	1.27	12.26	0.71	0.67
95th-Percentile Queue Length [ft]	17.92	35.31	31.81	306.58	17.79	16.67
Approach Delay [s/veh]	5.78	10.63	19.01		4.89	
Approach LOS	A	B	C		A	
Intersection Delay [s/veh]	14.43					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 201: Shamrock Road at Hirst Rd (1)

Control Type:	Two-way stop	Delay (sec / veh):	15.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.381

Intersection Setup

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	0	0	0	15	189	0	0	383	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	15	189	0	0	383	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	4	51	0	0	103	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	16	203	0	0	412	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop			Stop			Free			Free			
Flared Lane													
Storage Area [veh]	0			0			0			0			
Two-Stage Gap Acceptance				No									
Number of Storage Spaces in Median	0			0			0			0			

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.02	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	10.73	15.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Movement LOS				B	C			A					
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.08	1.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	1.91	44.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
d_A, Approach Delay [s/veh]	0.00			15.47			0.00			0.00			
Approach LOS	A			C			A			A			
d_I, Intersection Delay [s/veh]	5.37												
Intersection LOS	C												

Intersection Level Of Service Report
Intersection 202: Shamrock Road at Hirst Rd (2)

Control Type:	Two-way stop	Delay (sec / veh):	12.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.028

Intersection Setup

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	31	0	0	0	18	171	0	0	0	12	190	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	31	0	0	0	18	171	0	0	0	12	190	0
Peak Hour Factor	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	0	0	0	5	46	0	0	0	3	51	0
Total Analysis Volume [veh/h]	33	0	0	0	19	184	0	0	0	13	204	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.00	0.00	0.00	0.03	0.26	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.49	0.00	0.00	0.00	12.23	11.96	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	A				B	B				A	A	
95th-Percentile Queue Length [veh/ln]	0.12	0.00	0.00	0.00	1.16	1.16	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	3.08	0.00	0.00	0.00	29.06	29.06	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.49			11.98			0.00			0.00		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	6.06											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 203: Shamrock Road atHirst Road Jughandle

Control Type:	Two-way stop	Delay (sec / veh):	13.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.064

Intersection Setup

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	0	28	552	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	28	552	0	0	0
Peak Hour Factor	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	8	148	0	0	0
Total Analysis Volume [veh/h]	0	30	594	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.06	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	13.16	0.00	0.00	0.00	0.00
Movement LOS		B	A			
95th-Percentile Queue Length [veh/ln]	0.00	0.20	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	5.08	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.16		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.63					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 300: Shamrock Road at Woodland Drive

Control Type:	Two-way stop	Delay (sec / veh):	15.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.033

Intersection Setup

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	12	0	2	4	0	12	6	325	29	5	260	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	0	2	4	0	12	6	325	29	5	260	0
Peak Hour Factor	0.9700	0.9700	1.0000	1.0000	0.9700	0.9700	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	1	1	0	3	2	81	7	1	65	0
Total Analysis Volume [veh/h]	12	0	2	4	0	12	6	325	30	5	260	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.01	0.01	0.00	0.03	0.00	0.00	0.02	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.72	14.63	14.76	10.36	14.86	15.14	0.00	0.00	7.81	0.00	0.00	7.90
Movement LOS	A	B	B	B	B	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.06	0.06	0.06	0.12	0.12	0.12	0.07	0.07	0.07	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.59	1.59	1.59	2.98	2.98	2.98	1.76	1.76	1.76	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	10.44			13.95			0.65			0.00		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	0.92											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 400: Shamrock Road at Agricola Drive

Control Type:	Roundabout	Delay (sec / veh):	5.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	1	0	0	183	16	35	4	324	3	8	229	39
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	0	183	16	35	4	324	3	8	229	39
Peak Hour Factor	1.0000	1.0000	0.9200	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9200	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	46	4	9	1	81	1	2	57	10
Total Analysis Volume [veh/h]	1	0	0	183	16	35	4	324	3	9	229	39
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1			
Circulating Flow Rate [veh/h]	303			327			39			54			
Exiting Flow Rate [veh/h]	28			43			265			507			
Demand Flow Rate [veh/h]	1	0	0	183	16	35	4	324	3	8	229	39	
Adjusted Demand Flow Rate [veh/h]	1	0	0	183	16	35	4	324	3	9	229	39	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	1	234	331	277
Capacity of Entry and Bypass Lanes [veh/h]	1014	989	1327	1307
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1014	989	1327	1307
X, volume / capacity	0.00	0.24	0.25	0.21

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.92	0.99	0.80
95th-Percentile Queue Length [ft]	0.07	23.03	24.75	20.06
Approach Delay [s/veh]	3.56	5.95	4.86	4.56
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	5.06			
Intersection LOS	A			

Intersection Level Of Service Report

Intersection 500: Shamrock Road at Brightview Drive / Calla Lily Drive

Control Type:	Two-way stop	Delay (sec / veh):	16.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			20.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	1	0	1	0	0	0	18	417	35	38	217	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	1	0	0	0	18	417	35	38	217	20
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0	5	104	9	10	54	5
Total Analysis Volume [veh/h]	1	0	1	0	0	0	18	417	35	38	217	20
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	9.49	16.63	16.82	10.69	16.75	16.80	0.00	0.00	7.80	0.00	0.00	8.23
Movement LOS	A	C	C	B	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.00	0.00	0.00	0.08	0.08	0.08	0.05	0.05	0.05
95th-Percentile Queue Length [ft/ln]	0.34	0.34	0.34	0.00	0.00	0.00	2.04	2.04	2.04	1.34	1.34	1.34
d_A, Approach Delay [s/veh]	13.15			14.75			0.58			0.60		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	0.62											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 600: Shamrock Road at Beach Bay Road

Control Type:	Two-way stop	Delay (sec / veh):	17.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.081

Intersection Setup

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	47	24	333	85	19	227
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	47	24	333	85	19	227
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	7	91	23	5	62
Total Analysis Volume [veh/h]	52	26	366	93	21	249
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane	No					
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance	No					
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.08	0.00	0.07	0.00	0.00
d_M, Delay for Movement [s/veh]	10.77	17.43	0.00	7.97	0.00	0.00
Movement LOS	B	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.51	0.51	0.23	0.23	0.00	0.00
95th-Percentile Queue Length [ft/ln]	12.87	12.87	5.75	5.75	0.00	0.00
d_A, Approach Delay [s/veh]	12.99		1.61		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	2.17					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 700: Shamrock Road at Northward Road

Control Type:	Two-way stop	Delay (sec / veh):	13.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.099

Intersection Setup

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	16	47	12	258	239	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	16	47	12	258	239	18
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	12	3	66	62	5
Total Analysis Volume [veh/h]	16	48	12	266	246	19
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.10	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	10.57	13.30	0.00	0.00	0.00	7.82
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.40	0.40	0.00	0.00	0.04	0.04
95th-Percentile Queue Length [ft/ln]	10.09	10.09	0.00	0.00	1.12	1.12
d_A, Approach Delay [s/veh]	12.62		0.00		0.56	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	1.57					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 800: Shamrock Road at Condor Road

Control Type:	Two-way stop	Delay (sec / veh):	11.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.117

Intersection Setup

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Base Volume Input [veh/h]	1	0	0	5	0	74	71	124	1	0	132	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	0	5	0	74	71	124	1	0	132	13
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	1	0	19	18	31	0	0	33	3
Total Analysis Volume [veh/h]	1	0	0	5	0	74	71	124	1	0	132	13
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop			Stop			Free			Free		
Flared Lane	No			No								
Storage Area [veh]	0			0			0			0		
Two-Stage Gap Acceptance	No			No								
Number of Storage Spaces in Median	0			0			0			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	8.91	11.35	10.75	9.82	11.84	11.49	0.00	0.00	7.46	0.00	0.00	7.61
Movement LOS	A	B	B	A	B	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.42	0.42	0.42	0.00	0.00	0.00	0.03	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.08	0.08	0.08	10.45	10.45	10.45	0.05	0.05	0.05	0.71	0.71	0.71
d_A, Approach Delay [s/veh]	8.91			11.39			0.04			0.68		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	2.41											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 902: Bodden Town Road at Bodden Town Bypass

Control Type:	Two-way stop	Delay (sec / veh):	10.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.066

Intersection Setup

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	34	44	29	83	60	43
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	34	44	29	83	60	43
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	12	8	22	16	11
Total Analysis Volume [veh/h]	36	47	31	88	64	46
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.07	0.00	0.00	0.00	0.03
d_M, Delay for Movement [s/veh]	9.28	10.59	0.00	0.00	0.00	7.51
Movement LOS	A	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.35	0.35	0.00	0.00	0.10	0.10
95th-Percentile Queue Length [ft/ln]	8.65	8.65	0.00	0.00	2.40	2.40
d_A, Approach Delay [s/veh]	10.02		0.00		3.14	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	3.77					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1000: Bodden Town Road at Long Fellow Drive

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	0	5	3	57	69	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	5	3	57	69	0
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	1	16	19	0
Total Analysis Volume [veh/h]	0	5	3	63	76	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.61	9.22	0.00	0.00	0.00	7.32
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.44	0.44	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.22		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.31					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1100: Frank Sound Road at Bodden Town Road

Control Type:	Two-way stop	Delay (sec / veh):	11.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.022

Intersection Setup

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Base Volume Input [veh/h]	149	12	23	20	57	118
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	149	12	23	20	57	118
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	3	6	5	15	32
Total Analysis Volume [veh/h]	160	13	25	22	61	127
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.15	0.02	0.00	0.00	0.00	0.08
d_M, Delay for Movement [s/veh]	9.22	11.79	0.00	0.00	0.00	7.43
Movement LOS	A	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.63	0.63	0.00	0.00	0.26	0.26
95th-Percentile Queue Length [ft/ln]	15.80	15.80	0.00	0.00	6.43	6.43
d_A, Approach Delay [s/veh]	9.41		0.00		5.02	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	6.30					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1200: Frank Sound Road at Clifton Hunter High School

Control Type:	Two-way stop	Delay (sec / veh):	21.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.089

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd			
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		20.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Frank Sound Rd			
Base Volume Input [veh/h]	18	129	180	261	258	24
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	18	129	180	261	258	24
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	32	45	65	65	6
Total Analysis Volume [veh/h]	18	129	180	261	258	24
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.18	0.28	0.09
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	8.03	11.69	21.07
Movement LOS	A	A	A	A	B	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.66	0.66	1.72	1.72
95th-Percentile Queue Length [ft/ln]	0.00	0.00	16.43	16.43	42.92	42.92
d_A, Approach Delay [s/veh]	0.00		4.75		12.49	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	6.46					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1300: Frank Sound Road at North Side Road/Old Robin Road

Control Type:	Two-way stop	Delay (sec / veh):	11.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.044

Intersection Setup

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Base Volume Input [veh/h]	150	30	34	137	65	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	150	30	34	137	65	23
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	8	10	38	18	6
Total Analysis Volume [veh/h]	169	34	38	154	73	26
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.02	0.00	0.00	0.08	0.04
d_M, Delay for Movement [s/veh]	0.00	7.65	0.00	0.00	9.79	11.83
Movement LOS	A	A	A	A	A	B
95th-Percentile Queue Length [veh/ln]	0.07	0.07	0.00	0.00	0.44	0.44
95th-Percentile Queue Length [ft/ln]	1.87	1.87	0.00	0.00	10.93	10.93
d_A, Approach Delay [s/veh]	1.28		0.00		10.33	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	2.60					
Intersection LOS	B					

Intersection Level Of Service Report

Intersection 1400: East-West Arterial at Agricola Drive Connector

Control Type:	Roundabout	Delay (sec / veh):	12.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			50.00			50.00			
Grade [%]	0.00			0.00			0.00			0.00			
Crosswalk	Yes			Yes			Yes			Yes			

Volumes

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Base Volume Input [veh/h]	21	21	2	66	33	6	0	784	199	36	392	53	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	21	21	2	66	33	6	0	784	199	36	392	53	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	5	5	1	17	8	2	0	196	50	9	98	13	0
Total Analysis Volume [veh/h]	21	21	2	66	33	6	0	784	199	36	392	53	1
Pedestrian Volume [ped/h]	0			0			0			0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1			
Circulating Flow Rate [veh/h]	452			986			77			238			
Exiting Flow Rate [veh/h]	268			74			419			853			
Demand Flow Rate [veh/h]	21	21	2	66	33	6	0	784	199	36	392	53	1
Adjusted Demand Flow Rate [veh/h]	21	21	2	66	33	6	0	784	199	36	392	53	1

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	44	105	983	482
Capacity of Entry and Bypass Lanes [veh/h]	871	505	1276	1083
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	871	505	1276	1083
X, volume / capacity	0.05	0.21	0.77	0.45

Movement, Approach, & Intersection Results

Lane LOS	A	B	C	A
95th-Percentile Queue Length [veh]	0.16	0.78	8.22	2.34
95th-Percentile Queue Length [ft]	3.99	19.40	205.61	58.38
Approach Delay [s/veh]	4.61	10.04	15.41	8.19
Approach LOS	A	B	C	A
Intersection Delay [s/veh]	12.61			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1501: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	8.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name							East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name							East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	1	0	9	0	0	0	0	773	80	0	25	480	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	9	0	0	0	0	773	80	0	25	480	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	0	0	2	0	0	0	0	193	20	0	6	120	0	0
Total Analysis Volume [veh/h]	1	0	9	0	0	0	0	773	80	0	25	480	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1					
Circulating Flow Rate [veh/h]	480			862			9				80					
Exiting Flow Rate [veh/h]	105			0			481				782					
Demand Flow Rate [veh/h]	1	0	9	0	0	0	0	773	80	0	25	480	0	0		
Adjusted Demand Flow Rate [veh/h]	1	0	9	0	0	0	0	773	80	0	25	480	0	0		

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	10	0	853	505
Capacity of Entry and Bypass Lanes [veh/h]	846	573	1368	1272
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	846	573	1368	1272
X, volume / capacity	0.01	0.00	0.62	0.40

Movement, Approach, & Intersection Results

Lane LOS	A	A	B	A
95th-Percentile Queue Length [veh]	0.04	0.00	4.64	1.94
95th-Percentile Queue Length [ft]	0.90	0.00	116.00	48.41
Approach Delay [s/veh]	4.37	6.28	10.01	6.67
Approach LOS	A	A	B	A
Intersection Delay [s/veh]	8.74			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1502: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	7.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name			East-West Arterial			East-West Arterial		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	Thru	Right	U-turn	Left	Thru	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00			50.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	Yes		Yes			Yes		

Volumes

Name			East-West Arterial			East-West Arterial		
Base Volume Input [veh/h]	12	2	756	27	0	3	493	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	2	756	27	0	3	493	3
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	1	189	7	0	1	123	1
Total Analysis Volume [veh/h]	12	2	756	27	0	3	493	3
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1		1			1		
Circulating Flow Rate [veh/h]	496		5			27		
Exiting Flow Rate [veh/h]	30		505			761		
Demand Flow Rate [veh/h]	12	2	756	27	0	3	493	3
Adjusted Demand Flow Rate [veh/h]	12	2	756	27	0	3	493	3

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	14	783	499
Capacity of Entry and Bypass Lanes [veh/h]	833	1373	1343
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	833	1373	1343
X, volume / capacity	0.02	0.57	0.37

Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	0.05	3.79	1.75
95th-Percentile Queue Length [ft]	1.28	94.68	43.65
Approach Delay [s/veh]	4.48	8.89	6.12
Approach LOS	A	A	A
Intersection Delay [s/veh]	7.78		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 1600: East-West Arterial at Northward Rd

Control Type:	Two-way stop	Delay (sec / veh):	11.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.044

Intersection Setup

Name	Northward Rd		East-West Arterial		East-West Arterial	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		East-West Arterial		East-West Arterial	
Base Volume Input [veh/h]	26	0	761	0	26	473
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	26	0	761	0	26	473
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	0	190	0	7	118
Total Analysis Volume [veh/h]	26	0	761	0	26	473
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.00	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.44	0.00	0.00	0.00	0.00	0.00
Movement LOS	B		A		A	A
95th-Percentile Queue Length [veh/ln]	0.14	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	3.48	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.44		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.23					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1700: East-West Arterial at Lookout Rd

Control Type:	Roundabout	Delay (sec / veh):	7.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Lookout Rd			Lookout Rd			East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Lookout Rd			Lookout Rd			East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	27	0	10	0	0	0	0	585	98	0	22	455	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	27	0	10	0	0	0	0	585	98	0	22	455	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	7	0	3	0	0	0	0	146	25	0	6	114	0	0
Total Analysis Volume [veh/h]	27	0	10	0	0	0	0	585	98	0	22	455	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1				
Circulating Flow Rate [veh/h]	455			693			10				98				
Exiting Flow Rate [veh/h]	120			0			482				595				
Demand Flow Rate [veh/h]	27	0	10	0	0	0	0	585	98	0	22	455	0	0	
Adjusted Demand Flow Rate [veh/h]	27	0	10	0	0	0	0	585	98	0	22	455	0	0	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	37	0	683	477
Capacity of Entry and Bypass Lanes [veh/h]	868	681	1366	1249
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	868	681	1366	1249
X, volume / capacity	0.04	0.00	0.50	0.38

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.13	0.00	2.90	1.82
95th-Percentile Queue Length [ft]	3.34	0.00	72.54	45.50
Approach Delay [s/veh]	4.55	5.29	7.74	6.56
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	7.17			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1800: East-West Arterial at Longfellow Rd

Control Type:	Roundabout	Delay (sec / veh):	6.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Longfellow Rd			Longfellow Rd			East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Longfellow Rd			Longfellow Rd			East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	11	0	3	0	0	0	0	539	55	0	10	432	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	0	3	0	0	0	0	539	55	0	10	432	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	3	0	1	0	0	0	0	135	14	0	3	108	0	0
Total Analysis Volume [veh/h]	11	0	3	0	0	0	0	539	55	0	10	432	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1				
Circulating Flow Rate [veh/h]	432			597			3				55				
Exiting Flow Rate [veh/h]	65			0			443				542				
Demand Flow Rate [veh/h]	11	0	3	0	0	0	0	539	55	0	10	432	0	0	
Adjusted Demand Flow Rate [veh/h]	11	0	3	0	0	0	0	539	55	0	10	432	0	0	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	14	0	594	442
Capacity of Entry and Bypass Lanes [veh/h]	889	751	1376	1305
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	889	751	1376	1305
X, volume / capacity	0.02	0.00	0.43	0.34

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.05	0.00	2.23	1.52
95th-Percentile Queue Length [ft]	1.20	0.00	55.71	37.89
Approach Delay [s/veh]	4.20	4.80	6.75	5.86
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	6.34			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1900: East West Arterial

Control Type:	Roundabout	Delay (sec / veh):	6.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name							East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name							East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	0	0	8	0	0	3	9	464	70	0	0	392	3	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	8	0	0	3	9	464	70	0	0	392	3	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	0	0	2	0	0	1	2	116	18	0	0	98	1	0
Total Analysis Volume [veh/h]	0	0	8	0	0	3	9	464	70	0	0	392	3	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1			
Circulating Flow Rate [veh/h]	398			542			11				73			
Exiting Flow Rate [veh/h]	70			12			395				472			
Demand Flow Rate [veh/h]	0	0	8	0	0	3	9	464	70	0	0	392	3	0
Adjusted Demand Flow Rate [veh/h]	0	0	8	0	0	3	9	464	70	0	0	392	3	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	8	3	543	395
Capacity of Entry and Bypass Lanes [veh/h]	920	794	1365	1281
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	920	794	1365	1281
X, volume / capacity	0.01	0.00	0.40	0.31

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.03	0.01	1.95	1.32
95th-Percentile Queue Length [ft]	0.66	0.28	48.65	33.04
Approach Delay [s/veh]	3.99	4.57	6.36	5.60
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	6.02			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 2000: Frank Sound Road at East-West Arterial

Control Type:	Unknown	Delay (sec / veh):	?
Analysis Method:	?	Level Of Service:	?
Analysis Period:	15 minutes	Volume to Capacity (v/c):	?

Intersection Setup

Name	Frank Sound Rd	Frank Sound Rd
Approach	Northeastbound	Southwestbound
Lane Configuration		
Turning Movement	Thru	Thru
Crosswalk	Yes	Yes

Volumes

Name	Frank Sound Rd	Frank Sound Rd
Base Volume Input [veh/h]	213	222
Base Volume Adjustment Factor	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00
Growth Factor	1.0000	1.0000
In-Process Volume [veh/h]	0	0
Site-Generated Trips [veh/h]	0	0
Diverted Trips [veh/h]	0	0
Pass-by Trips [veh/h]	0	0
Existing Site Adjustment Volume [veh/h]	0	0
Other Volume [veh/h]	0	0
Left-Turn on Red Volume [veh/h]	0	0
Total Hourly Volume [veh/h]	213	222
Peak Hour Factor	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000
Total 15-Minute Volume [veh/h]	53	56
Total Analysis Volume [veh/h]	213	222
Presence of On-Street Parking	No	No
On-Street Parking Maneuver Rate [/h]	0	0
Local Bus Stopping Rate [/h]	0	0
Pedestrian Volume [ped/h]	0	0

Intersection Level Of Service Report
Intersection 2100: Frank Sound Road at East-West Arterial

Control Type:	Roundabout	Delay (sec / veh):	6.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd		East-West Arterial		
Approach	Northbound		Southbound		Eastbound		
Lane Configuration							
Turning Movement	Left	Thru	Thru	Right	Left	Right	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		20.00		50.00		
Grade [%]	0.00		0.00		0.00		
Crosswalk	Yes		Yes		Yes		

Volumes

Name	Frank Sound Rd		Frank Sound Rd		East-West Arterial		
Base Volume Input [veh/h]	279	108	124	126	155	318	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	279	108	124	126	155	318	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	70	27	31	32	39	80	0
Total Analysis Volume [veh/h]	279	108	124	126	155	318	0
Pedestrian Volume [ped/h]	0		0		0		

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1		
Circulating Flow Rate [veh/h]	126		318		108		
Exiting Flow Rate [veh/h]	442		263		405		
Demand Flow Rate [veh/h]	279	108	124	126	155	318	0
Adjusted Demand Flow Rate [veh/h]	279	108	124	126	155	318	0

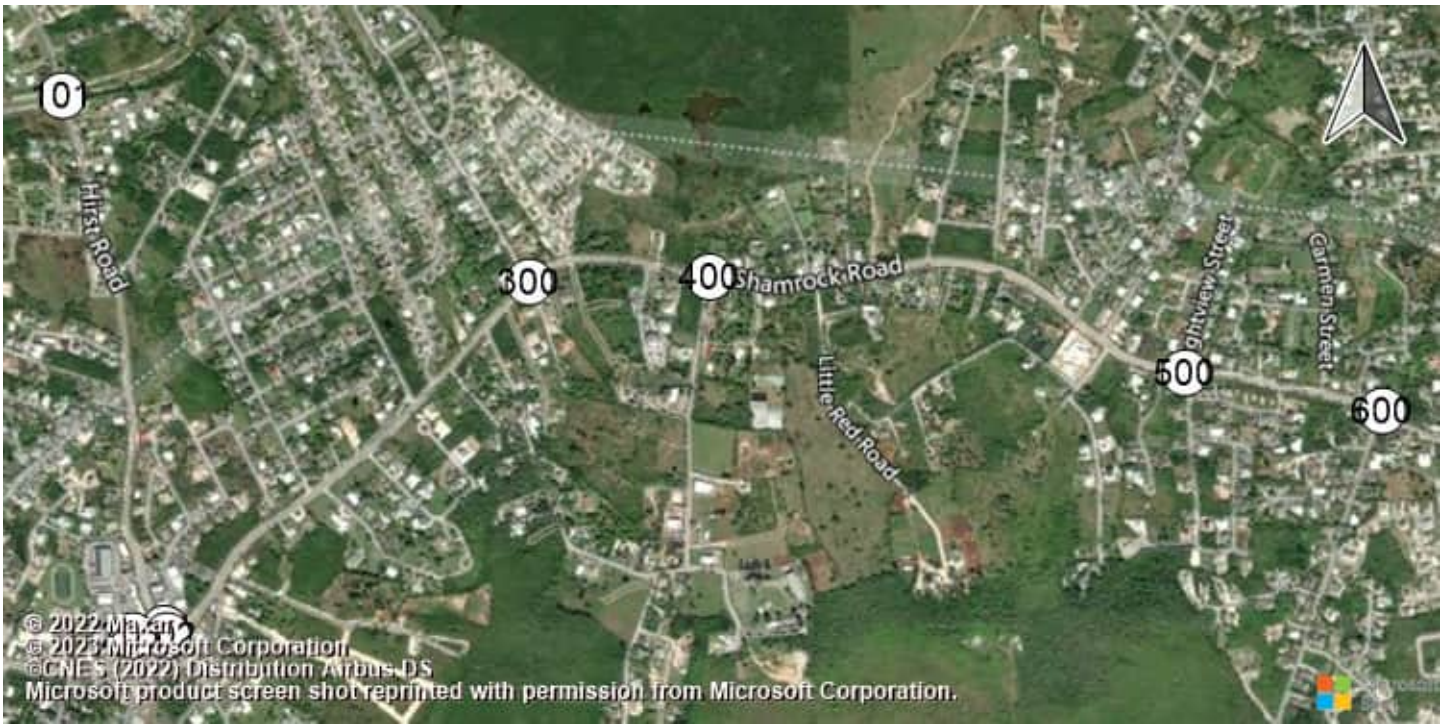
Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	387	250	473
Capacity of Entry and Bypass Lanes [veh/h]	1214	998	1237
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1214	998	1237
X, volume / capacity	0.32	0.25	0.38

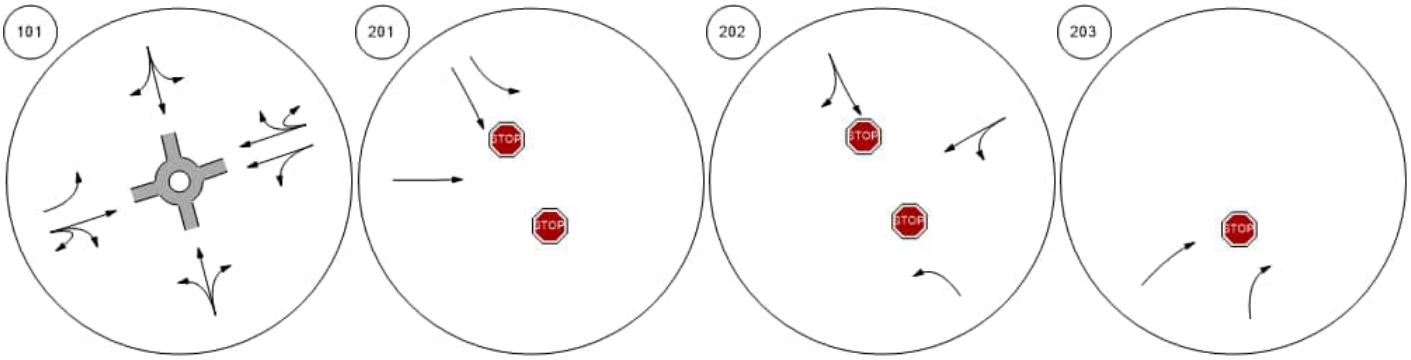
Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	1.39	0.99	1.82
95th-Percentile Queue Length [ft]	34.65	24.81	45.62
Approach Delay [s/veh]	5.94	6.06	6.62
Approach LOS	A	A	A
Intersection Delay [s/veh]	6.26		
Intersection LOS	A		

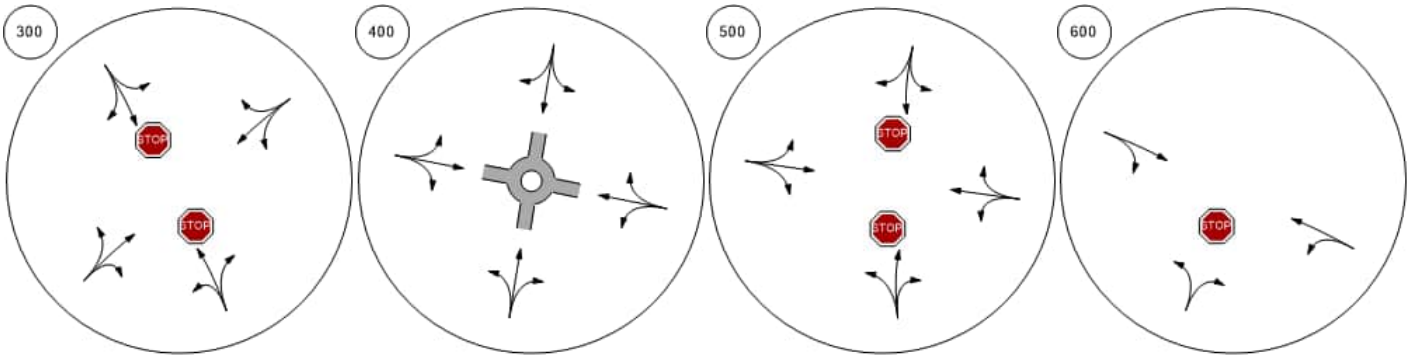
Lane Configuration and Traffic Control



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



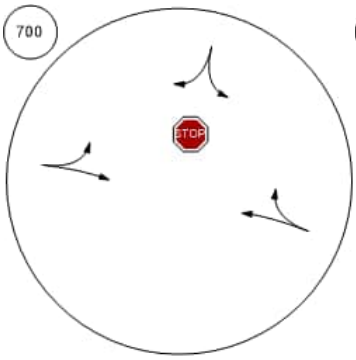
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



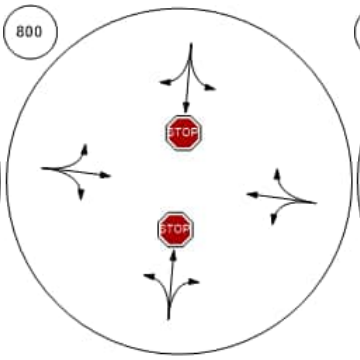
Lane Configuration and Traffic Control



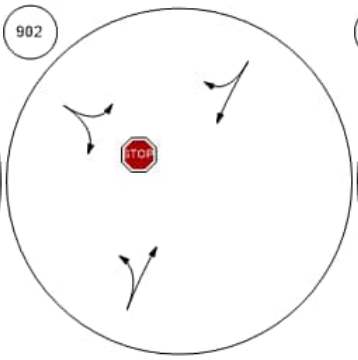
Shamrock Road at Northward



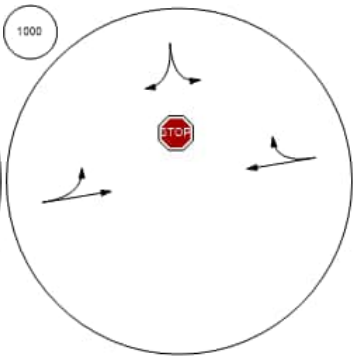
Shamrock Road at Condor R



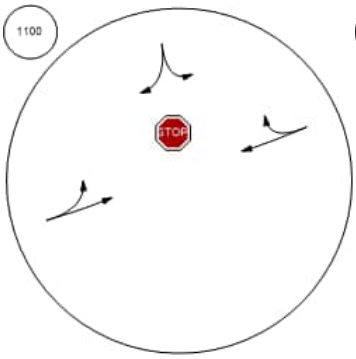
Bodden Town Road at Bodde



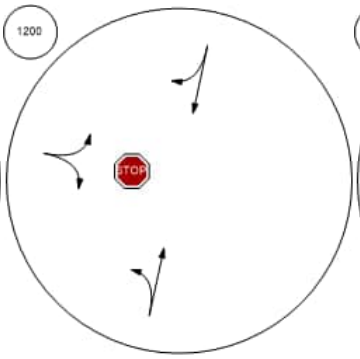
Bodden Town Road at Long



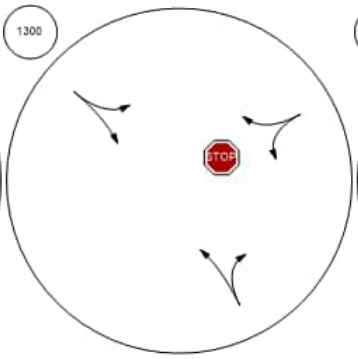
Frank Sound Road at Bodde



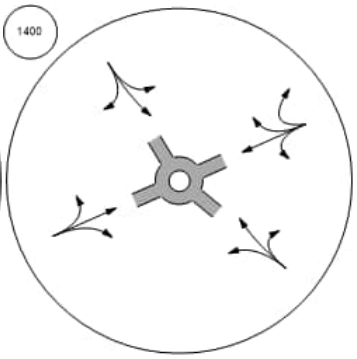
Frank Sound Road at Clifton



Frank Sound Road at North S



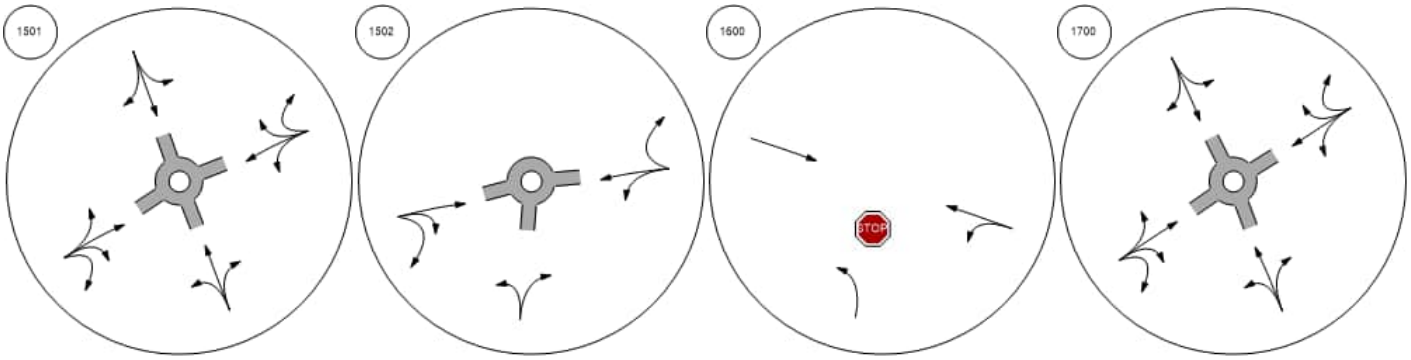
East-West Arterial at Agricola



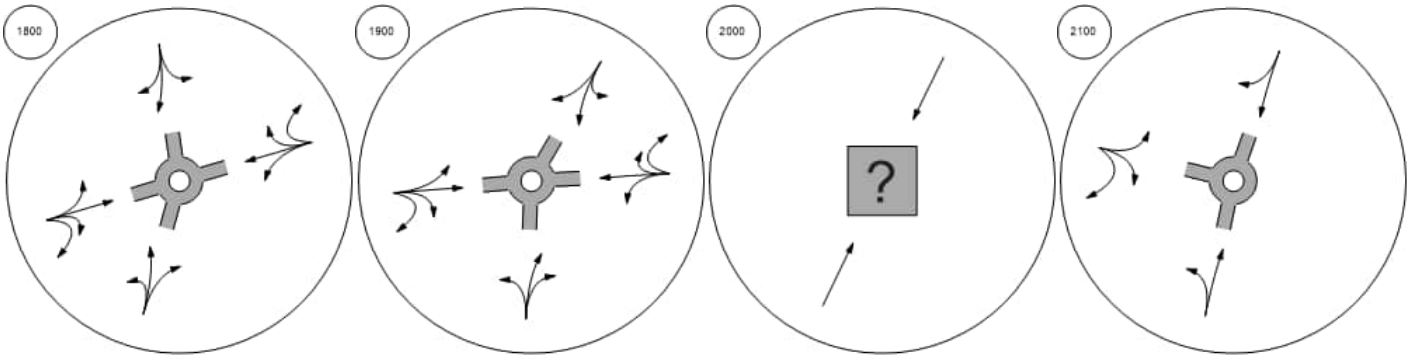
Lane Configuration and Traffic Control



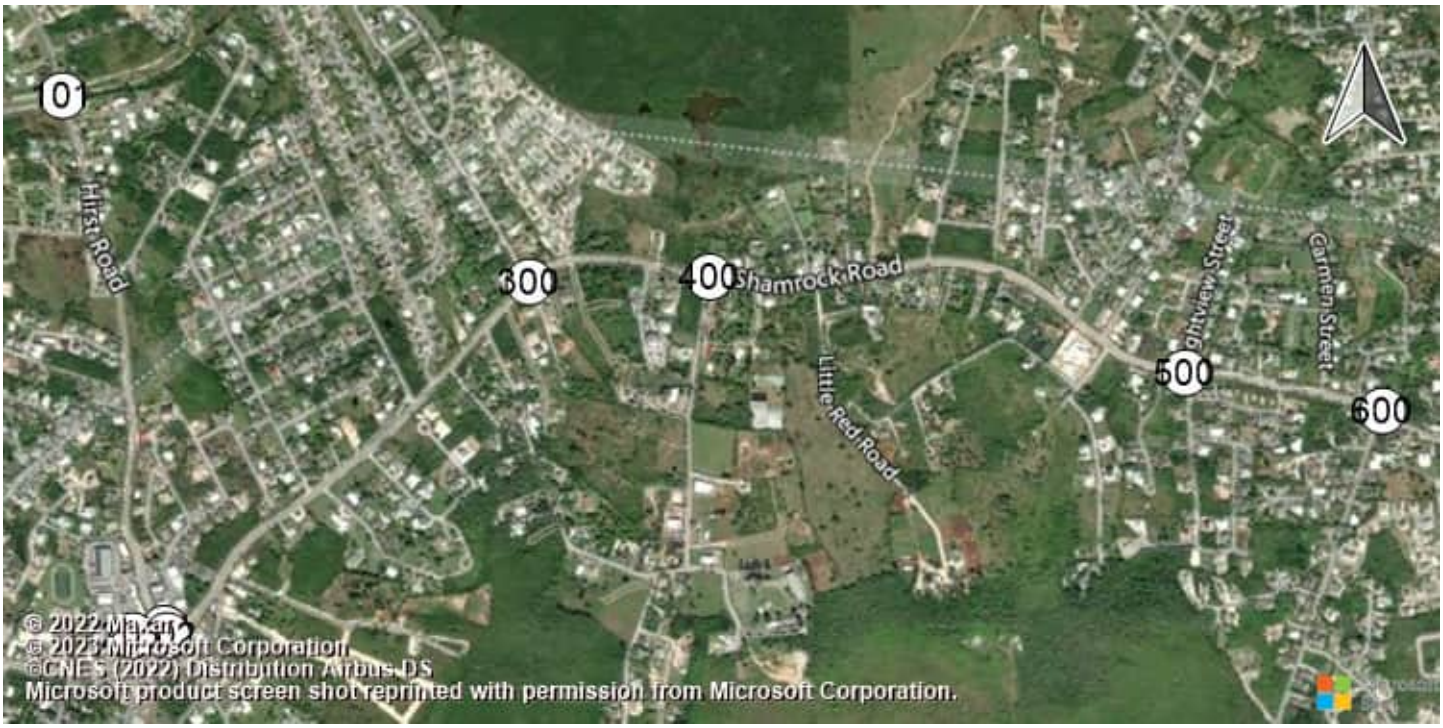
East-West Arterial at Will T C East-West Arterial at Will T C East-West Arterial at Northwa East-West Arterial at Lookout



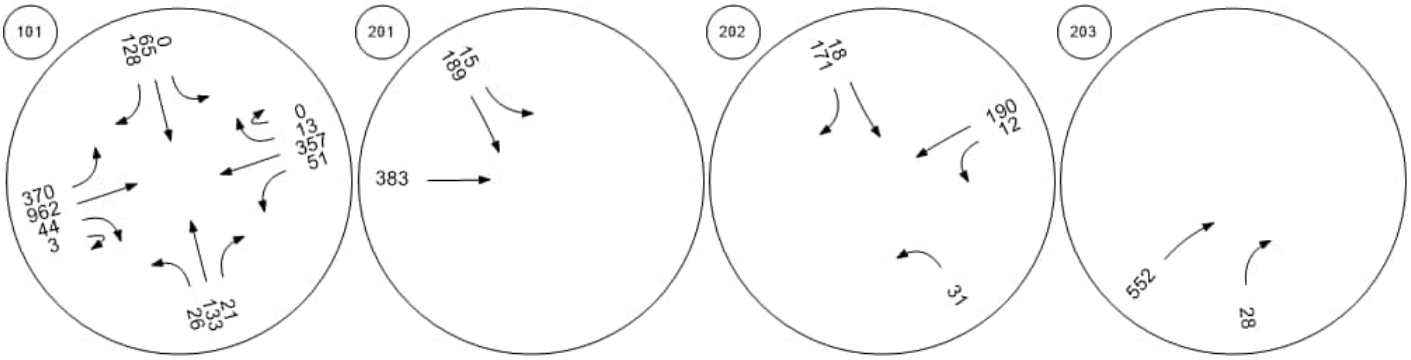
East-West Arterial at Longfell East West Arterial Frank Sound Road at East-W Frank Sound Road at East-W



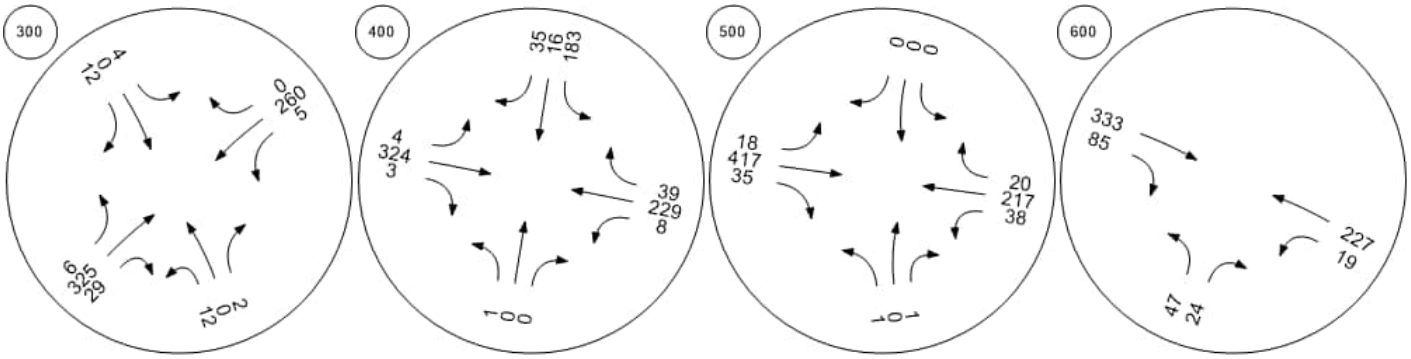
Traffic Volume - Base Volume



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



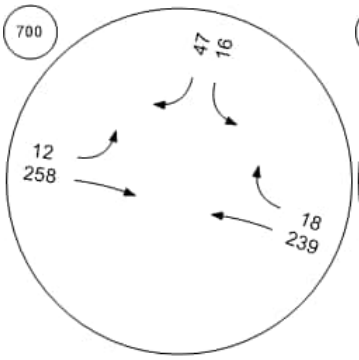
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



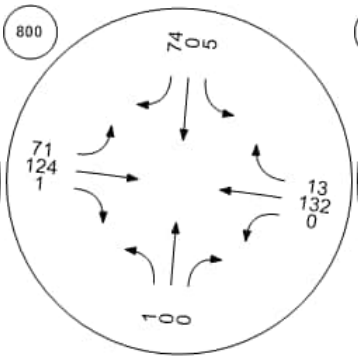
Traffic Volume - Base Volume



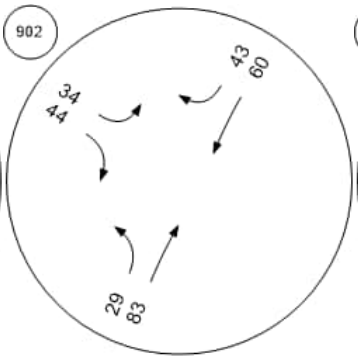
Shamrock Road at Northward



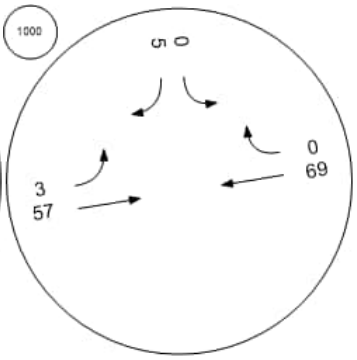
Shamrock Road at Condor R



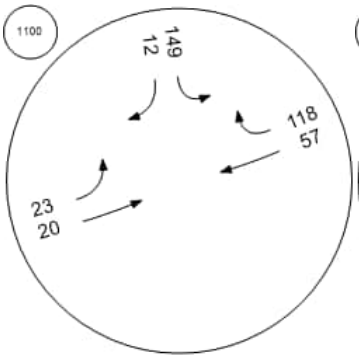
Bodden Town Road at Bodde



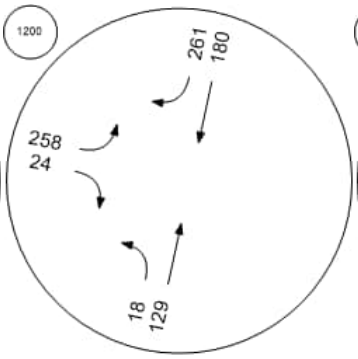
Bodden Town Road at Long



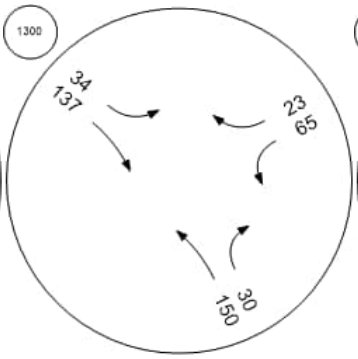
Frank Sound Road at Bodde



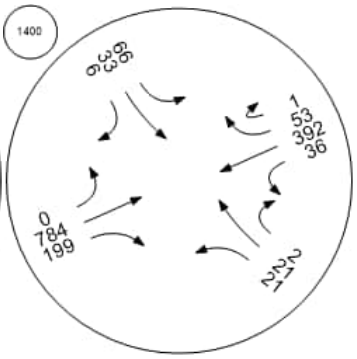
Frank Sound Road at Clifton



Frank Sound Road at North S



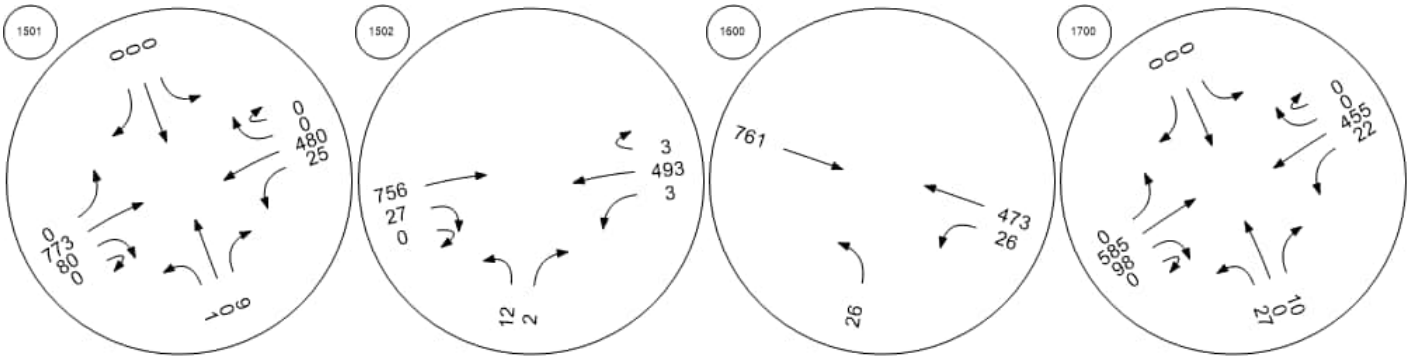
East-West Arterial at Agricola



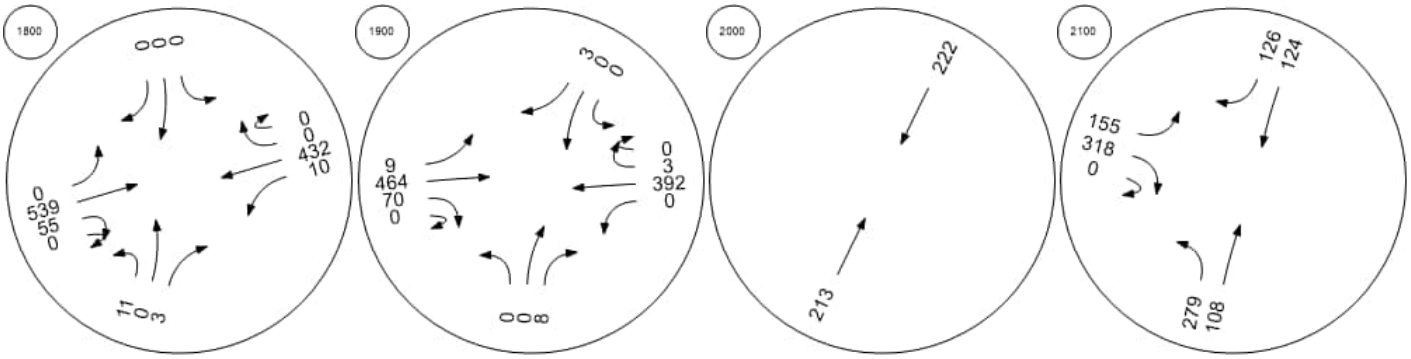
Traffic Volume - Base Volume



East-West Arterial at Will T C East-West Arterial at Will T C East-West Arterial at Northwa East-West Arterial at Lookout



East-West Arterial at Longfell East West Arterial Frank Sound Road at East-W Frank Sound Road at East-W



Intersection Level Of Service Report
Intersection 101: East-West Arterial Road at Hirst Road

Control Type:	Roundabout	Delay (sec / veh):	11.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name									East-West Arterial				East-West Arterial				
Approach	Northbound				Southbound				Eastbound				Westbound				
Lane Configuration																	
Turning Movement	Left	Left	Thru	Right	Left	Thru	Right	Right	Left	Thru	Right	U-tu	Left	Thr	Thr	Rig	U-t
Lane Width [ft]	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.	12.	12.	12.	12.
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Entry Pocket Length [ft]	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	200	100	100	100	100
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Speed [mph]	30.00				30.00				40.00				50.00				
Grade [%]	0.00				0.00				0.00				0.00				
Crosswalk	Yes				Yes				Yes				Yes				

Volumes

Name									East-West Arterial				East-West Arterial				
Base Volume Input [veh/h]	6	0	38	30	16	62	0	537	54	279	6	19	23	906	0	4	0
Base Volume Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	0	38	30	16	62	0	537	54	279	6	19	23	906	0	4	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Other Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Total 15-Minute Volume [veh/h]	2	0	10	8	4	16	0	134	14	70	2	5	6	227	0	1	0
Total Analysis Volume [veh/h]	6	0	38	30	16	62	0	537	54	279	6	19	23	906	0	4	0
Pedestrian Volume [ped/h]	0				0				0				0				

Intersection Settings

Number of Conflicting Circulating Lanes	2				2				2				2				
Circulating Flow Rate [veh/h]	1466				334				72				624				
Exiting Flow Rate [veh/h]	91				96				1468				325				
Demand Flow Rate [veh/h]	6	0	38	30	16	62	0	537	54	279	6	19	23	906	0	4	0
Adjusted Demand Flow Rate [veh/h]	6	0	38	30	16	62	0	537	54	279	6	19	23	906	0	4	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1350.00	1420.00	1350.00
B (coefficient)	0.00085	0.00085	0.00085	0.00092	0.00085	0.00092
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	74	615	54	304	495	439
Capacity of Entry and Bypass Lanes [veh/h]	409	1070	1336	1264	836	761
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	409	1070	1336	1264	836	761
X, volume / capacity	0.18	0.58	0.04	0.24	0.59	0.58

Movement, Approach, & Intersection Results

Lane LOS	B	B	A	A	B	B
95th-Percentile Queue Length [veh]	0.65	3.81	0.13	0.94	3.98	3.74
95th-Percentile Queue Length [ft]	16.34	95.20	3.16	23.58	99.47	93.50
Approach Delay [s/veh]	11.66	10.70	4.66		13.57	
Approach LOS	B	B	A		B	
Intersection Delay [s/veh]	11.00					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 201: Shamrock Road at Hirst Rd (1)

Control Type:	Two-way stop	Delay (sec / veh):	11.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.169

Intersection Setup

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	0	0	0	19	106	0	0	211	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	19	106	0	0	211	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	5	28	0	0	57	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	20	114	0	0	227	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop			Stop			Free			Free			
Flared Lane													
Storage Area [veh]	0			0			0			0			
Two-Stage Gap Acceptance				No									
Number of Storage Spaces in Median	0			0			0			0			

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.02	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	9.51	11.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Movement LOS				A	B			A					
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.08	0.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	1.88	15.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
d_A, Approach Delay [s/veh]	0.00			11.12			0.00			0.00			
Approach LOS	A			B			A			A			
d_I, Intersection Delay [s/veh]	4.13												
Intersection LOS	B												

Intersection Level Of Service Report
Intersection 202: Shamrock Road at Hirst Rd (2)

Control Type:	Two-way stop	Delay (sec / veh):	20.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.318

Intersection Setup

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	32	0	0	0	6	100	0	0	0	7	630	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	32	0	0	0	6	100	0	0	0	7	630	0
Peak Hour Factor	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	0	0	0	2	27	0	0	0	2	169	0
Total Analysis Volume [veh/h]	34	0	0	0	6	108	0	0	0	8	677	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.00	0.00	0.00	0.02	0.32	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	13.57	0.00	0.00	0.00	19.85	20.80	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	B				C	C				A	A	
95th-Percentile Queue Length [veh/ln]	0.24	0.00	0.00	0.00	1.43	1.43	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	6.05	0.00	0.00	0.00	35.82	35.82	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.57			20.75			0.00			0.00		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	3.39											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 203: Shamrock Road atHirst Road Jughandle

Control Type:	Two-way stop	Delay (sec / veh):	10.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.025

Intersection Setup

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	0	17	264	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	17	264	0	0	0
Peak Hour Factor	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	5	71	0	0	0
Total Analysis Volume [veh/h]	0	18	284	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.03	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	10.20	0.00	0.00	0.00	0.00
Movement LOS		B	A			
95th-Percentile Queue Length [veh/ln]	0.00	0.08	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	1.95	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	10.20		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.61					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 300: Shamrock Road at Woodland Drive

Control Type:	Two-way stop	Delay (sec / veh):	17.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.061

Intersection Setup

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	40	0	6	0	0	18	3	117	6	2	581	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	0	6	0	0	18	3	117	6	2	581	0
Peak Hour Factor	0.9700	0.9700	1.0000	1.0000	0.9700	0.9700	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	0	2	0	0	5	1	29	2	1	145	0
Total Analysis Volume [veh/h]	41	0	6	0	0	19	3	117	6	2	581	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.00	0.02	0.00	0.00	0.06	0.00	0.00	0.01	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	12.76	15.88	16.13	9.59	15.84	17.35	0.00	0.00	8.62	0.00	0.00	7.43
Movement LOS	B	C	C	A	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.32	0.32	0.32	0.19	0.19	0.19	0.02	0.02	0.02	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	7.97	7.97	7.97	4.86	4.86	4.86	0.45	0.45	0.45	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.19			17.35			0.41			0.00		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	1.29											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 400: Shamrock Road at Agricola Drive

Control Type:	Roundabout	Delay (sec / veh):	6.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	2	6	1	25	13	34	3	118	1	3	546	108
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	6	1	25	13	34	3	118	1	3	546	108
Peak Hour Factor	1.0000	1.0000	0.9200	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9200	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	0	6	3	9	1	30	0	1	137	27
Total Analysis Volume [veh/h]	2	6	1	25	13	34	3	118	1	3	546	108
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	688			120			115			48		
Exiting Flow Rate [veh/h]	17			117			582			144		
Demand Flow Rate [veh/h]	2	6	1	25	13	34	3	118	1	3	546	108
Adjusted Demand Flow Rate [veh/h]	2	6	1	25	13	34	3	118	1	3	546	108

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	9	72	122	657
Capacity of Entry and Bypass Lanes [veh/h]	685	1222	1228	1315
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	685	1222	1228	1315
X, volume / capacity	0.01	0.06	0.10	0.50

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.04	0.19	0.33	2.90
95th-Percentile Queue Length [ft]	1.00	4.69	8.26	72.44
Approach Delay [s/veh]	5.40	3.43	3.75	7.95
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	6.95			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 500: Shamrock Road at Brightview Drive / Calla Lily Drive

Control Type:	Two-way stop	Delay (sec / veh):	15.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.014

Intersection Setup

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			20.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	9	0	4	3	0	5	0	139	0	0	537	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	0	4	3	0	5	0	139	0	0	537	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	0	1	1	0	1	0	35	0	0	134	0
Total Analysis Volume [veh/h]	9	0	4	3	0	5	0	139	0	0	537	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	11.78	14.74	15.00	9.07	14.67	15.10	0.00	0.00	8.46	0.00	0.00	7.47
Movement LOS	B	B	B	A	B	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.08	0.08	0.08	0.05	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	2.10	2.10	2.10	1.30	1.30	1.30	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.77			12.84			0.00			0.00		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	0.39											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 600: Shamrock Road at Beach Bay Road

Control Type:	Two-way stop	Delay (sec / veh):	15.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.051

Intersection Setup

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	140	21	136	10	13	397
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	140	21	136	10	13	397
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	6	37	3	4	109
Total Analysis Volume [veh/h]	154	23	149	11	14	436
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.25	0.05	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	13.40	15.52	0.00	8.24	0.00	0.00
Movement LOS	B	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.25	1.25	0.03	0.03	0.00	0.00
95th-Percentile Queue Length [ft/ln]	31.31	31.31	0.74	0.74	0.00	0.00
d_A, Approach Delay [s/veh]	13.68		0.57		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	3.19					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 700: Shamrock Road at Northward Road

Control Type:	Two-way stop	Delay (sec / veh):	13.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	9	3	9	159	376	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	3	9	159	376	23
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	1	2	41	97	6
Total Analysis Volume [veh/h]	9	3	9	164	388	24
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	9.17	13.01	0.00	0.00	0.00	7.59
Movement LOS	A	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.00	0.00	0.05	0.05
95th-Percentile Queue Length [ft/ln]	1.28	1.28	0.00	0.00	1.29	1.29
d_A, Approach Delay [s/veh]	10.13		0.00		0.44	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.51					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 800: Shamrock Road at Condor Road

Control Type:	Two-way stop	Delay (sec / veh):	12.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.271

Intersection Setup

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Base Volume Input [veh/h]	4	1	0	1	0	191	55	108	0	0	95	7
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	1	0	1	0	191	55	108	0	0	95	7
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	0	0	48	14	27	0	0	24	2
Total Analysis Volume [veh/h]	4	1	0	1	0	191	55	108	0	0	95	7
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.27	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.75	10.69	10.10	10.82	12.37	12.01	0.00	0.00	7.38	0.00	0.00	7.53
Movement LOS	A	B	B	B	B	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.02	1.10	1.10	1.10	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.43	0.43	0.43	27.59	27.59	27.59	0.00	0.00	0.00	0.37	0.37	0.37
d_A, Approach Delay [s/veh]	9.14			12.00			0.00			0.52		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	5.20											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 902: Bodden Town Road at Bodden Town Bypass

Control Type:	Two-way stop	Delay (sec / veh):	10.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.027

Intersection Setup

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	26	19	13	89	22	44
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	26	19	13	89	22	44
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	5	3	24	6	12
Total Analysis Volume [veh/h]	28	20	14	95	23	47
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.03	0.00	0.00	0.00	0.03
d_M, Delay for Movement [s/veh]	9.00	10.05	0.00	0.00	0.00	7.49
Movement LOS	A	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.18	0.18	0.00	0.00	0.10	0.10
95th-Percentile Queue Length [ft/ln]	4.43	4.43	0.00	0.00	2.43	2.43
d_A, Approach Delay [s/veh]	9.44		0.00		5.03	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.55					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1000: Bodden Town Road at Long Fellow Drive

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	0	2	0	42	27	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	2	0	42	27	0
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	0	12	7	0
Total Analysis Volume [veh/h]	0	2	0	46	30	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.51	8.87	0.00	0.00	0.00	7.29
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.16	0.16	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.87		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.23					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1100: Frank Sound Road at Bodden Town Road

Control Type:	Two-way stop	Delay (sec / veh):	10.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

Intersection Setup

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Base Volume Input [veh/h]	74	8	14	22	14	79
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	74	8	14	22	14	79
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	2	4	6	4	21
Total Analysis Volume [veh/h]	80	9	15	24	15	85
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.01	0.00	0.00	0.00	0.05
d_M, Delay for Movement [s/veh]	8.78	10.25	0.00	0.00	0.00	7.37
Movement LOS	A	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.29	0.29	0.00	0.00	0.17	0.17
95th-Percentile Queue Length [ft/ln]	7.27	7.27	0.00	0.00	4.19	4.19
d_A, Approach Delay [s/veh]	8.93		0.00		6.26	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	6.23					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1200: Frank Sound Road at Clifton Hunter High School

Control Type:	Two-way stop	Delay (sec / veh):	15.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.015

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd			
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		20.00		20.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Frank Sound Rd			
Base Volume Input [veh/h]	29	114	75	202	227	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	29	114	75	202	227	6
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	29	19	51	57	2
Total Analysis Volume [veh/h]	29	114	75	202	227	6
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.14	0.24	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	7.88	10.29	15.51
Movement LOS	A	A	A	A	B	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.48	0.48	1.04	1.04
95th-Percentile Queue Length [ft/ln]	0.00	0.00	12.08	12.08	26.04	26.04
d_A, Approach Delay [s/veh]	0.00		5.75		10.43	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	6.16					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1300: Frank Sound Road at North Side Road/Old Robin Road

Control Type:	Two-way stop	Delay (sec / veh):	10.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Base Volume Input [veh/h]	92	29	9	70	36	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	92	29	9	70	36	3
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	8	3	20	10	1
Total Analysis Volume [veh/h]	103	33	10	79	40	3
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.02	0.00	0.00	0.04	0.00
d_M, Delay for Movement [s/veh]	0.00	7.42	0.00	0.00	8.85	10.16
Movement LOS	A	A	A	A	A	B
95th-Percentile Queue Length [veh/ln]	0.07	0.07	0.00	0.00	0.14	0.14
95th-Percentile Queue Length [ft/ln]	1.66	1.66	0.00	0.00	3.52	3.52
d_A, Approach Delay [s/veh]	1.80		0.00		8.94	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.35					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1400: East-West Arterial at Agricola Drive Connector

Control Type:	Roundabout	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			50.00			50.00			
Grade [%]	0.00			0.00			0.00			0.00			
Crosswalk	Yes			Yes			Yes			Yes			

Volumes

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Base Volume Input [veh/h]	144	18	5	39	51	10	3	294	28	1	779	22	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	144	18	5	39	51	10	3	294	28	1	779	22	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	36	5	1	10	13	3	1	74	7	0	195	6	0
Total Analysis Volume [veh/h]	144	18	5	39	51	10	3	294	28	1	779	22	0
Pedestrian Volume [ped/h]	0			0			0			0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1			
Circulating Flow Rate [veh/h]	811			327			45			89			
Exiting Flow Rate [veh/h]	80			43			933			338			
Demand Flow Rate [veh/h]	144	18	5	39	51	10	3	294	28	1	779	22	0
Adjusted Demand Flow Rate [veh/h]	144	18	5	39	51	10	3	294	28	1	779	22	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	167	100	325	802
Capacity of Entry and Bypass Lanes [veh/h]	604	989	1319	1261
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	604	989	1319	1261
X, volume / capacity	0.28	0.10	0.25	0.64

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	B
95th-Percentile Queue Length [veh]	1.12	0.34	0.97	4.84
95th-Percentile Queue Length [ft]	28.12	8.41	24.35	121.03
Approach Delay [s/veh]	9.62	4.56	4.86	10.89
Approach LOS	A	A	A	B
Intersection Delay [s/veh]	8.88			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1501: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	7.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name							East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name							East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	9	0	14	0	0	0	0	334	4	0	5	790	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	0	14	0	0	0	0	334	4	0	5	790	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	2	0	4	0	0	0	0	84	1	0	1	198	0	0
Total Analysis Volume [veh/h]	9	0	14	0	0	0	0	334	4	0	5	790	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1				
Circulating Flow Rate [veh/h]	790			352			14				4				
Exiting Flow Rate [veh/h]	9			0			799				348				
Demand Flow Rate [veh/h]	9	0	14	0	0	0	0	334	4	0	5	790	0	0	
Adjusted Demand Flow Rate [veh/h]	9	0	14	0	0	0	0	334	4	0	5	790	0	0	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	23	0	338	795
Capacity of Entry and Bypass Lanes [veh/h]	617	964	1361	1375
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	617	964	1361	1375
X, volume / capacity	0.04	0.00	0.25	0.58

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.12	0.00	0.98	3.91
95th-Percentile Queue Length [ft]	2.90	0.00	24.60	97.65
Approach Delay [s/veh]	6.25	3.74	4.76	9.04
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	7.73			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1502: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	6.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name			East-West Arterial			East-West Arterial		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	Thru	Right	U-turn	Left	Thru	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00			50.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	Yes		Yes			Yes		

Volumes

Name			East-West Arterial			East-West Arterial		
Base Volume Input [veh/h]	198	5	347	1	0	1	597	16
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	198	5	347	1	0	1	597	16
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	50	1	87	0	0	0	149	4
Total Analysis Volume [veh/h]	198	5	347	1	0	1	597	16
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1		1			1		
Circulating Flow Rate [veh/h]	613		21			1		
Exiting Flow Rate [veh/h]	2		795			368		
Demand Flow Rate [veh/h]	198	5	347	1	0	1	597	16
Adjusted Demand Flow Rate [veh/h]	198	5	347	1	0	1	597	16

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	203	348	614
Capacity of Entry and Bypass Lanes [veh/h]	739	1351	1379
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	739	1351	1379
X, volume / capacity	0.27	0.26	0.45

Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	1.12	1.03	2.35
95th-Percentile Queue Length [ft]	27.97	25.82	58.78
Approach Delay [s/veh]	8.09	4.88	6.92
Approach LOS	A	A	A
Intersection Delay [s/veh]	6.51		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 1600: East-West Arterial at Northward Rd

Control Type:	Two-way stop	Delay (sec / veh):	12.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.138

Intersection Setup

Name	Northward Rd		East-West Arterial		East-West Arterial	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		East-West Arterial		East-West Arterial	
Base Volume Input [veh/h]	75	0	368	0	4	539
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	75	0	368	0	4	539
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	0	92	0	1	135
Total Analysis Volume [veh/h]	75	0	368	0	4	539
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	12.66	0.00	0.00	0.00	0.00	0.00
Movement LOS	B		A		A	A
95th-Percentile Queue Length [veh/ln]	0.47	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	11.87	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.66		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.96					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1700: East-West Arterial at Lookout Rd

Control Type:	Roundabout	Delay (sec / veh):	6.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Lookout Rd			Lookout Rd			East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Lookout Rd			Lookout Rd			East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	29	0	4	0	0	0	0	303	23	41	4	531	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	29	0	4	0	0	0	0	303	23	41	4	531	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	7	0	1	0	0	0	0	76	6	10	1	133	0	0
Total Analysis Volume [veh/h]	29	0	4	0	0	0	0	303	23	41	4	531	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1				
Circulating Flow Rate [veh/h]	572			371			4				64				
Exiting Flow Rate [veh/h]	27			0			601				307				
Demand Flow Rate [veh/h]	29	0	4	0	0	0	0	303	23	41	4	531	0	0	
Adjusted Demand Flow Rate [veh/h]	29	0	4	0	0	0	0	303	23	41	4	531	0	0	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	33	0	367	535
Capacity of Entry and Bypass Lanes [veh/h]	771	946	1375	1293
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	771	946	1375	1293
X, volume / capacity	0.04	0.00	0.27	0.41

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.13	0.00	1.08	2.07
95th-Percentile Queue Length [ft]	3.35	0.00	27.09	51.82
Approach Delay [s/veh]	5.10	3.81	4.91	6.81
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	6.00			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1800: East-West Arterial at Longfellow Rd

Control Type:	Roundabout	Delay (sec / veh):	5.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Longfellow Rd			Longfellow Rd			East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Longfellow Rd			Longfellow Rd			East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	12	0	0	0	0	0	0	303	0	0	0	463	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	0	0	0	0	0	0	303	0	0	0	463	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	3	0	0	0	0	0	0	76	0	0	0	116	0	0
Total Analysis Volume [veh/h]	12	0	0	0	0	0	0	303	0	0	0	463	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1				
Circulating Flow Rate [veh/h]	463			303			0				0				
Exiting Flow Rate [veh/h]	0			0			475				303				
Demand Flow Rate [veh/h]	12	0	0	0	0	0	0	303	0	0	0	463	0	0	
Adjusted Demand Flow Rate [veh/h]	12	0	0	0	0	0	0	303	0	0	0	463	0	0	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	12	0	303	463
Capacity of Entry and Bypass Lanes [veh/h]	861	1014	1380	1380
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	861	1014	1380	1380
X, volume / capacity	0.01	0.00	0.22	0.34

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.04	0.00	0.84	1.50
95th-Percentile Queue Length [ft]	1.06	0.00	20.97	37.38
Approach Delay [s/veh]	4.31	3.55	4.44	5.60
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	5.13			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1900: East West Arterial

Control Type:	Roundabout	Delay (sec / veh):	4.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name							East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name							East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	48	0	6	0	0	12	1	278	24	0	0	402	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	48	0	6	0	0	12	1	278	24	0	0	402	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	12	0	2	0	0	3	0	70	6	0	0	101	0	0
Total Analysis Volume [veh/h]	48	0	6	0	0	12	1	278	24	0	0	402	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1			
Circulating Flow Rate [veh/h]	414			308			6				36			
Exiting Flow Rate [veh/h]	24			1			462				284			
Demand Flow Rate [veh/h]	48	0	6	0	0	12	1	278	24	0	0	402	0	0
Adjusted Demand Flow Rate [veh/h]	48	0	6	0	0	12	1	278	24	0	0	402	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	54	12	303	402
Capacity of Entry and Bypass Lanes [veh/h]	905	1008	1372	1331
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	905	1008	1372	1331
X, volume / capacity	0.06	0.01	0.22	0.30

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.19	0.04	0.85	1.28
95th-Percentile Queue Length [ft]	4.75	0.90	21.13	32.12
Approach Delay [s/veh]	4.53	3.67	4.47	5.38
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	4.94			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 2000: Frank Sound Road at East-West Arterial

Control Type:	Unknown	Delay (sec / veh):	?
Analysis Method:	?	Level Of Service:	?
Analysis Period:	15 minutes	Volume to Capacity (v/c):	?

Intersection Setup

Name	Frank Sound Rd	Frank Sound Rd
Approach	Northeastbound	Southwestbound
Lane Configuration		
Turning Movement	Thru	Thru
Crosswalk	Yes	Yes

Volumes

Name	Frank Sound Rd	Frank Sound Rd
Base Volume Input [veh/h]	127	133
Base Volume Adjustment Factor	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00
Growth Factor	1.0000	1.0000
In-Process Volume [veh/h]	0	0
Site-Generated Trips [veh/h]	0	0
Diverted Trips [veh/h]	0	0
Pass-by Trips [veh/h]	0	0
Existing Site Adjustment Volume [veh/h]	0	0
Other Volume [veh/h]	0	0
Left-Turn on Red Volume [veh/h]	0	0
Total Hourly Volume [veh/h]	127	133
Peak Hour Factor	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	33
Total Analysis Volume [veh/h]	127	133
Presence of On-Street Parking	No	No
On-Street Parking Maneuver Rate [/h]	0	0
Local Bus Stopping Rate [/h]	0	0
Pedestrian Volume [ped/h]	0	0

Intersection Level Of Service Report
Intersection 2100: Frank Sound Road at East-West Arterial

Control Type:	Roundabout	Delay (sec / veh):	5.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd		East-West Arterial		
Approach	Northbound		Southbound		Eastbound		
Lane Configuration							
Turning Movement	Left	Thru	Thru	Right	Left	Right	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		20.00		50.00		
Grade [%]	0.00		0.00		0.00		
Crosswalk	Yes		Yes		Yes		

Volumes

Name	Frank Sound Rd		Frank Sound Rd		East-West Arterial		
Base Volume Input [veh/h]	282	59	67	122	79	210	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	282	59	67	122	79	210	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	71	15	17	31	20	53	0
Total Analysis Volume [veh/h]	282	59	67	122	79	210	0
Pedestrian Volume [ped/h]	0		0		0		

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1		
Circulating Flow Rate [veh/h]	122		210		59		
Exiting Flow Rate [veh/h]	277		138		404		
Demand Flow Rate [veh/h]	282	59	67	122	79	210	0
Adjusted Demand Flow Rate [veh/h]	282	59	67	122	79	210	0

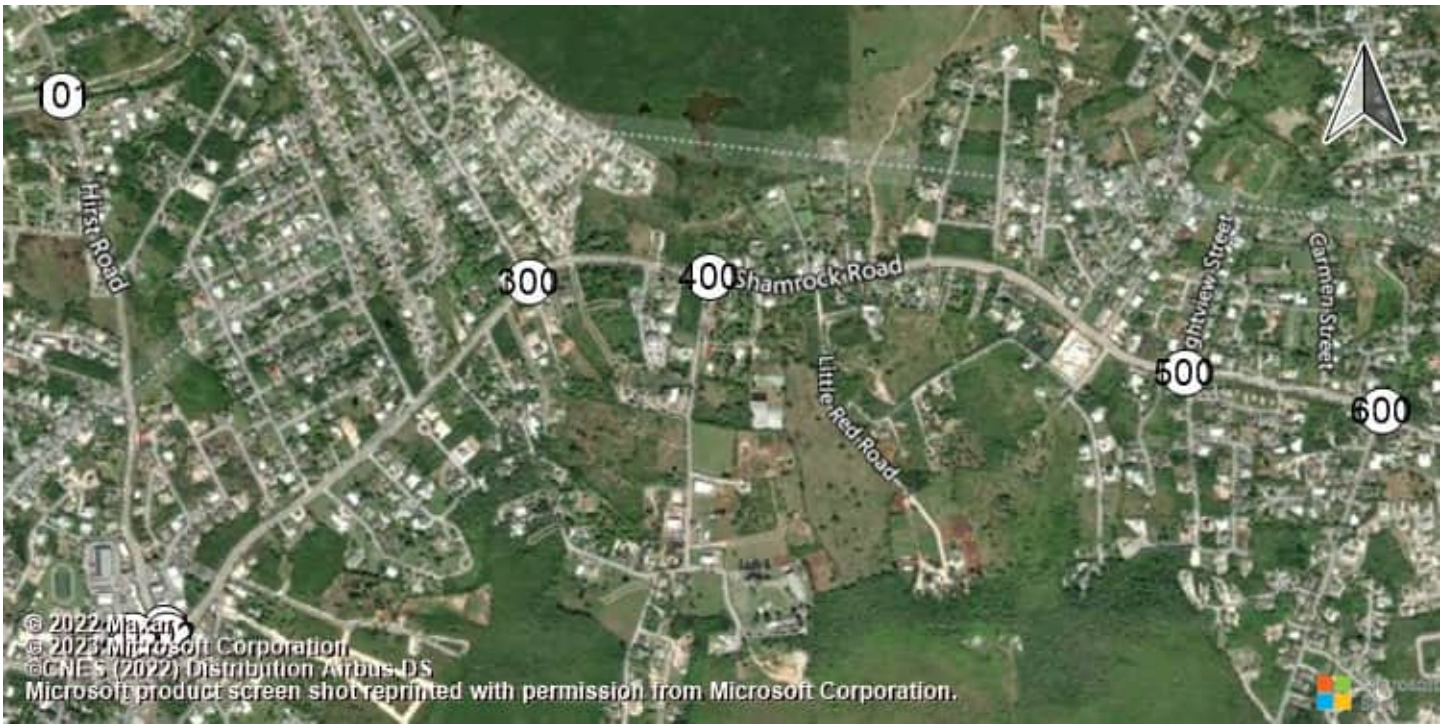
Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	341	189	289
Capacity of Entry and Bypass Lanes [veh/h]	1219	1114	1300
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1219	1114	1300
X, volume / capacity	0.28	0.17	0.22

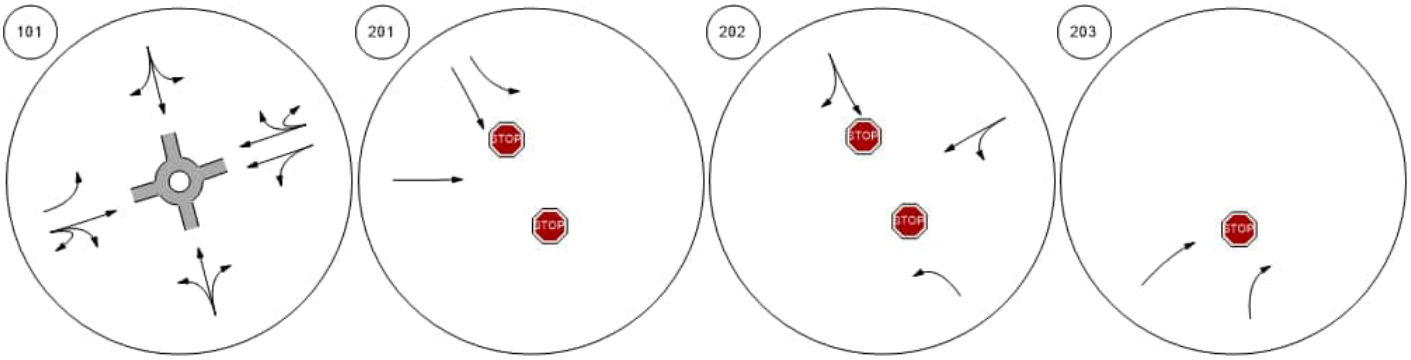
Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	1.15	0.61	0.85
95th-Percentile Queue Length [ft]	28.84	15.25	21.31
Approach Delay [s/veh]	5.50	4.74	4.67
Approach LOS	A	A	A
Intersection Delay [s/veh]	5.03		
Intersection LOS	A		

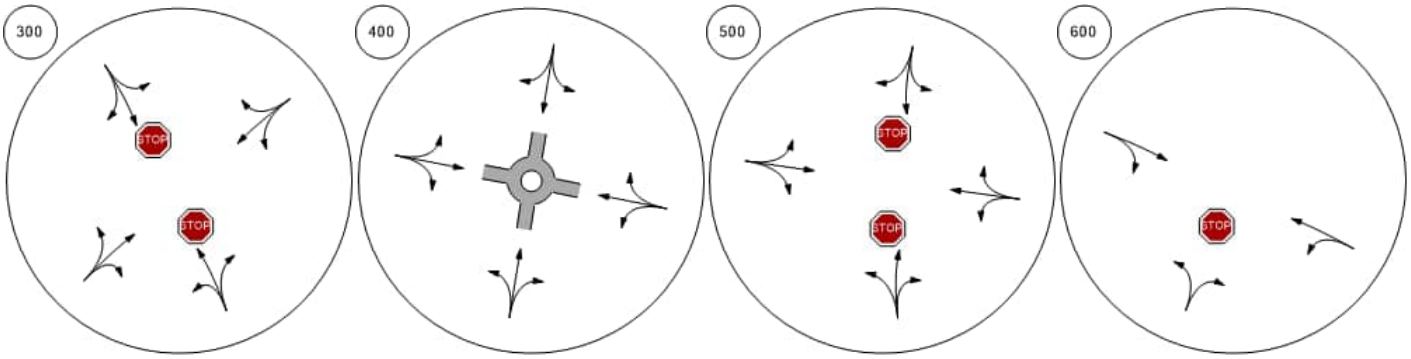
Lane Configuration and Traffic Control



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



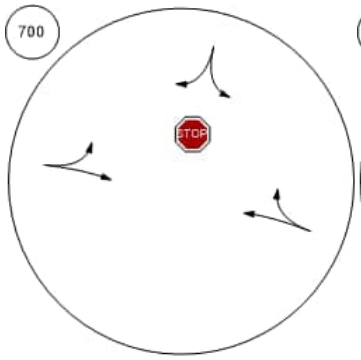
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



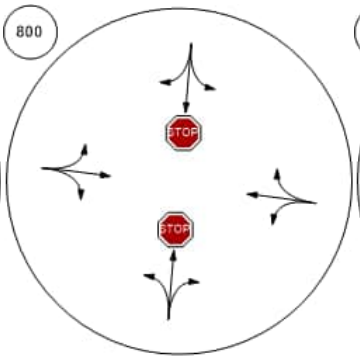
Lane Configuration and Traffic Control



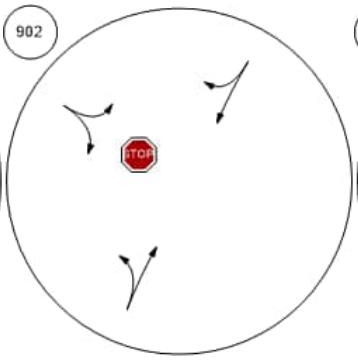
Shamrock Road at Northward



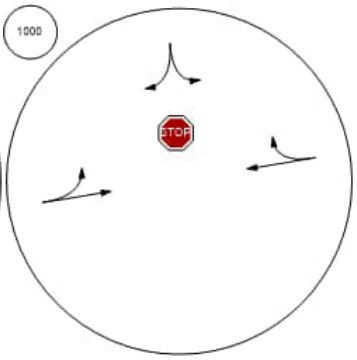
Shamrock Road at Condor R



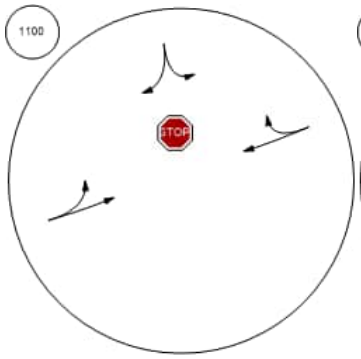
Bodden Town Road at Bodde



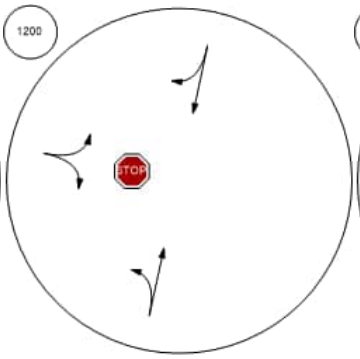
Bodden Town Road at Long



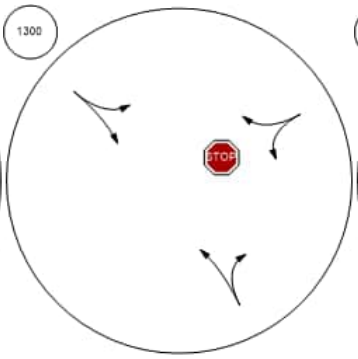
Frank Sound Road at Bodde



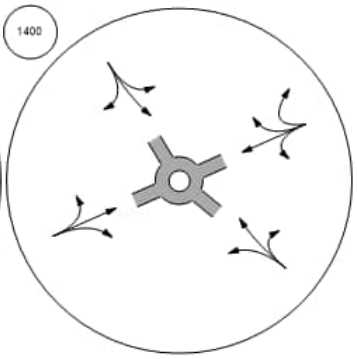
Frank Sound Road at Clifton



Frank Sound Road at North S



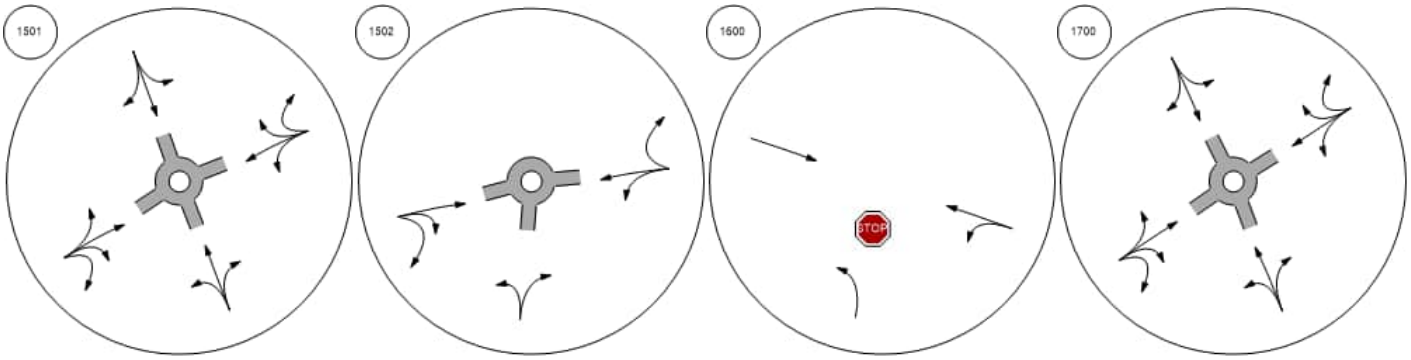
East-West Arterial at Agricola



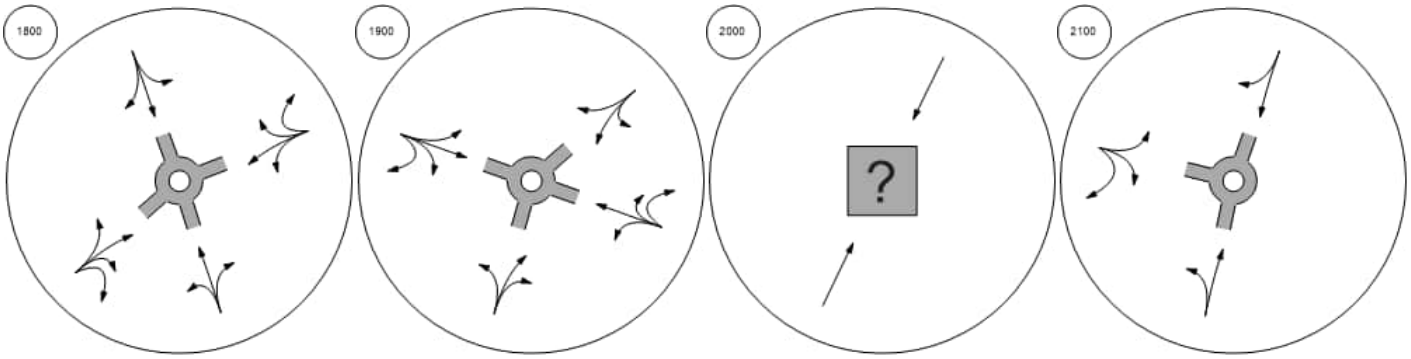
Lane Configuration and Traffic Control



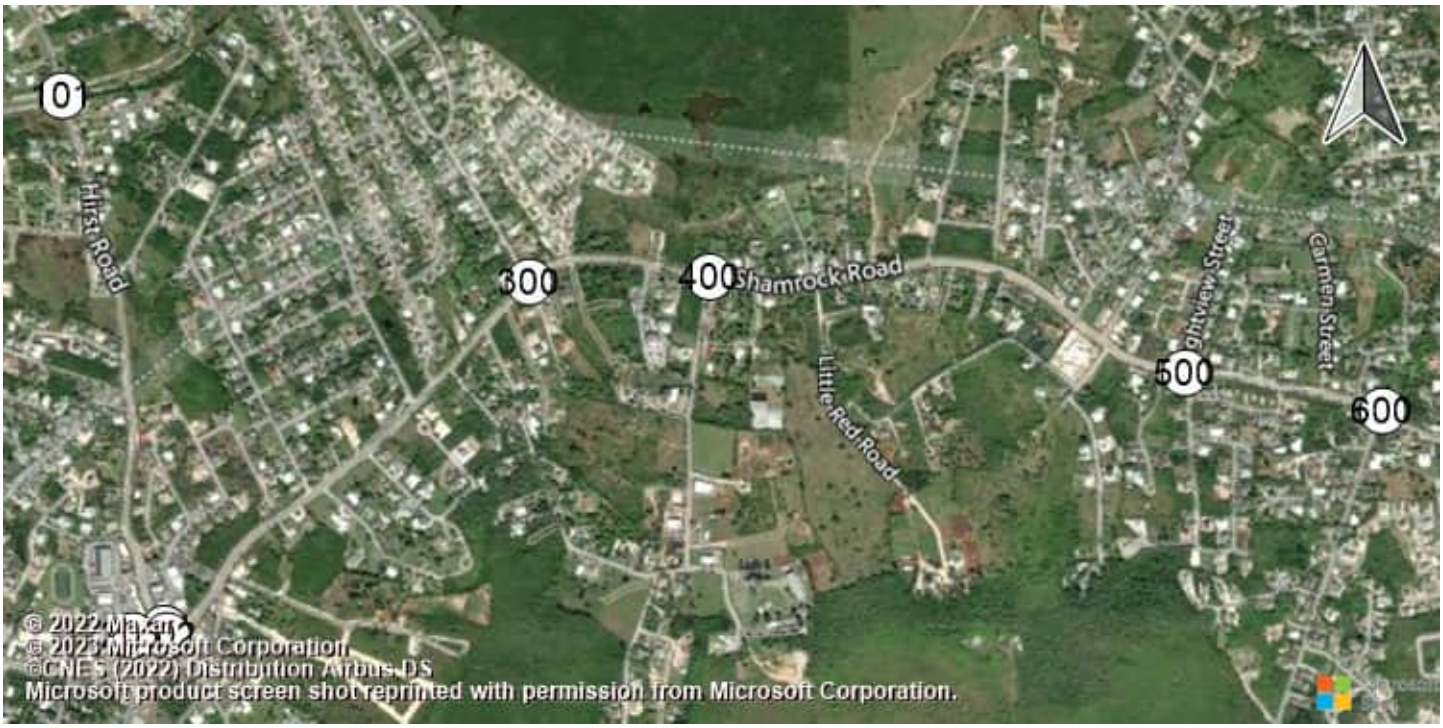
East-West Arterial at Will T C East-West Arterial at Will T C East-West Arterial at Northwa East-West Arterial at Lookout



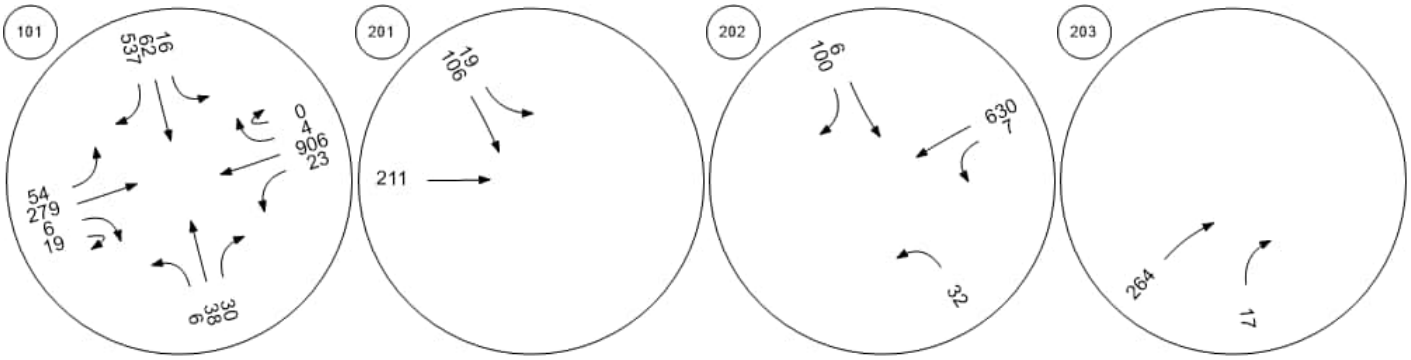
East-West Arterial at Longfell East West Arterial Frank Sound Road at East-W Frank Sound Road at East-W



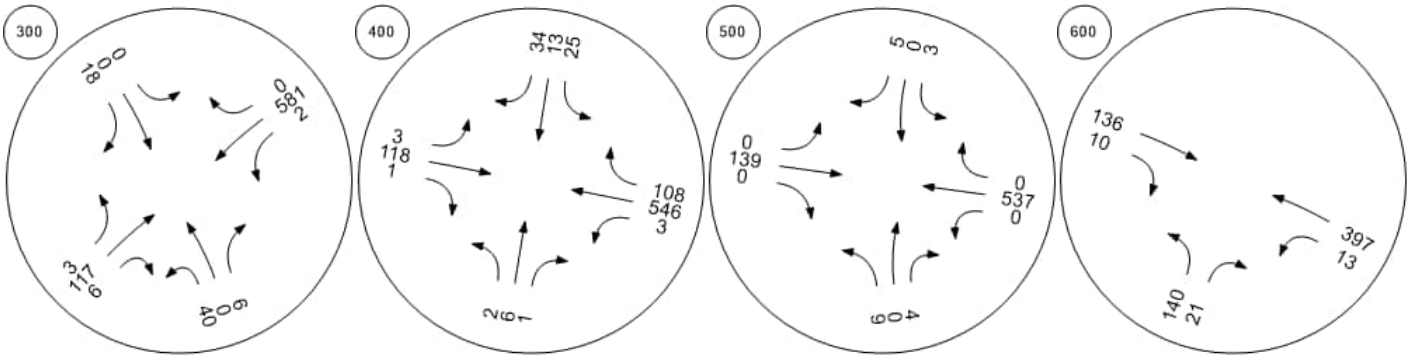
Traffic Volume - Base Volume



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



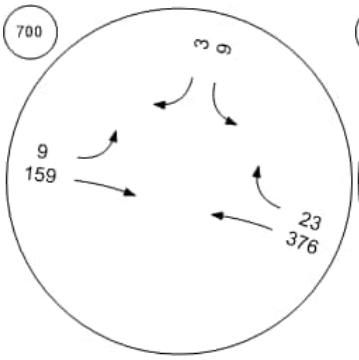
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



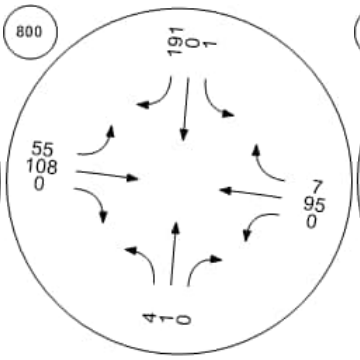
Traffic Volume - Base Volume



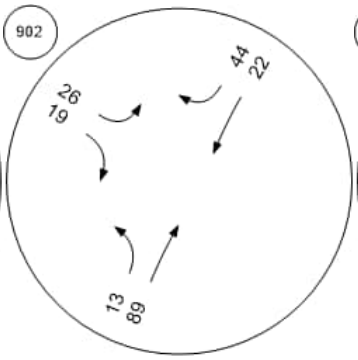
Shamrock Road at Northward



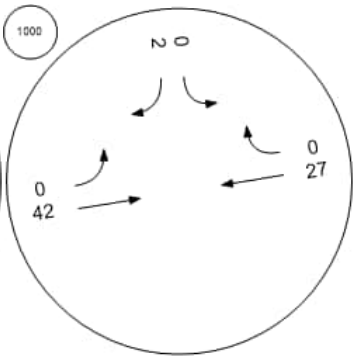
Shamrock Road at Condor R



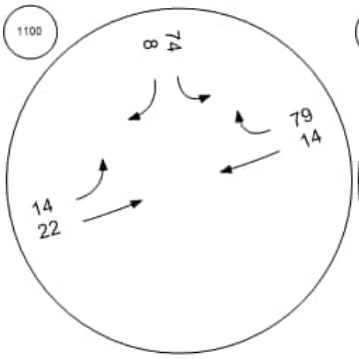
Bodden Town Road at Bodde



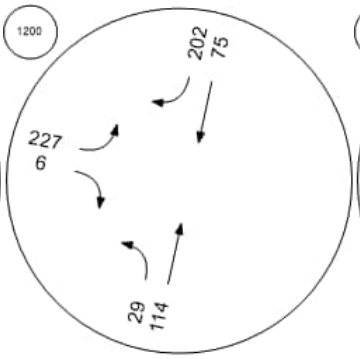
Bodden Town Road at Long



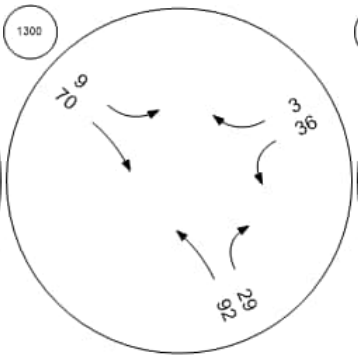
Frank Sound Road at Bodde



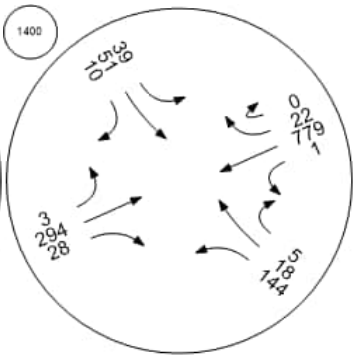
Frank Sound Road at Clifton



Frank Sound Road at North S



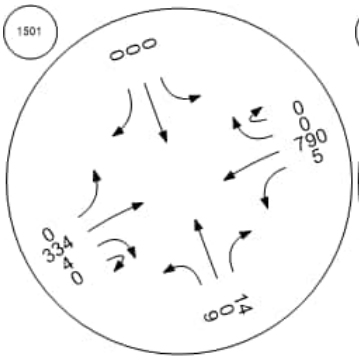
East-West Arterial at Agricola



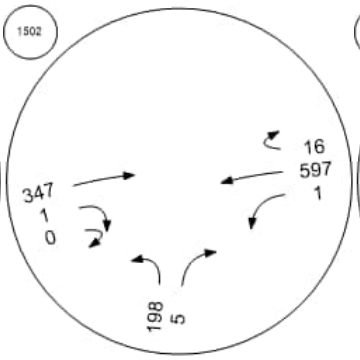
Traffic Volume - Base Volume



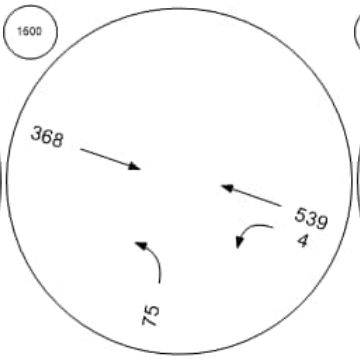
East-West Arterial at Will T C



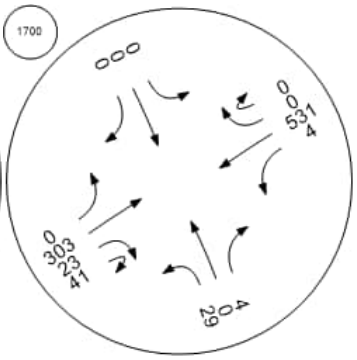
East-West Arterial at Will T C



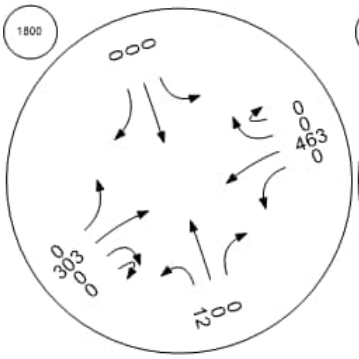
East-West Arterial at Northwa



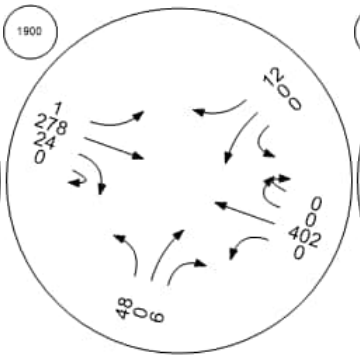
East-West Arterial at Lookout



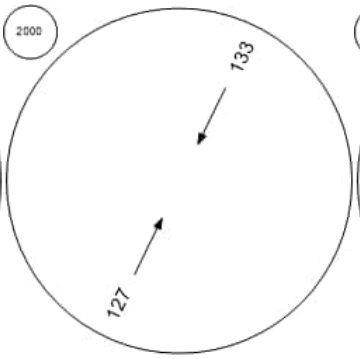
East-West Arterial at Longfell



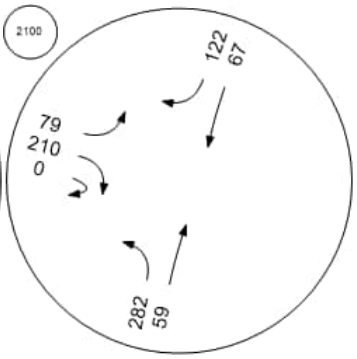
East West Arterial



Frank Sound Road at East-W



Frank Sound Road at East-W



Intersection Level Of Service Report
Intersection 101: East-West Arterial Road at Hirst Road

Control Type:	Roundabout	Delay (sec / veh):	13.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name									East-West Arterial				East-West Arterial				
Approach	Northbound				Southbound				Eastbound				Westbound				
Lane Configuration																	
Turning Movement	Left	Left	Thru	Right	Left	Thru	Right	Right	Left	Thru	Right	U-tu	Left	Thr	Thr	Rig	U-t
Lane Width [ft]	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.	12.	12.	12.	12.
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Entry Pocket Length [ft]	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	200	100	100	100	100
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Speed [mph]	30.00				30.00				40.00				50.00				
Grade [%]	0.00				0.00				0.00				0.00				
Crosswalk	Yes				Yes				Yes				Yes				

Volumes

Name									East-West Arterial				East-West Arterial				
Base Volume Input [veh/h]	26	0	133	21	0	65	0	128	370	943	47	3	50	354	0	13	0
Base Volume Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	26	0	133	21	0	65	0	128	370	943	47	3	50	354	0	13	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Other Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Total 15-Minute Volume [veh/h]	7	0	33	5	0	16	0	32	93	236	12	1	13	89	0	3	0
Total Analysis Volume [veh/h]	26	0	133	21	0	65	0	128	370	943	47	3	50	354	0	13	0
Pedestrian Volume [ped/h]	0				0				0				0				

Intersection Settings

Number of Conflicting Circulating Lanes	2				2				2				2				
Circulating Flow Rate [veh/h]	498				1014				167				243				
Exiting Flow Rate [veh/h]	162				516				511				964				
Demand Flow Rate [veh/h]	26	0	133	21	0	65	0	128	370	943	47	3	50	354	0	13	0
Adjusted Demand Flow Rate [veh/h]	26	0	133	21	0	65	0	128	370	943	47	3	50	354	0	13	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1350.00	1420.00	1350.00
B (coefficient)	0.00085	0.00085	0.00085	0.00092	0.00085	0.00092
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	180	193	370	993	222	196
Capacity of Entry and Bypass Lanes [veh/h]	930	600	1233	1158	1156	1080
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	930	600	1233	1158	1156	1080
X, volume / capacity	0.19	0.32	0.30	0.86	0.19	0.18

Movement, Approach, & Intersection Results

Lane LOS	A	B	A	C	A	A
95th-Percentile Queue Length [veh]	0.71	1.39	1.27	11.58	0.71	0.66
95th-Percentile Queue Length [ft]	17.87	34.64	31.81	289.40	17.64	16.54
Approach Delay [s/veh]	5.77	10.43	17.97		4.89	
Approach LOS	A	B	C		A	
Intersection Delay [s/veh]	13.74					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 201: Shamrock Road at Hirst Rd (1)

Control Type:	Two-way stop	Delay (sec / veh):	16.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.388

Intersection Setup

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	0	0	0	16	189	0	0	396	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	16	189	0	0	396	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	4	51	0	0	106	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	17	203	0	0	426	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop			Stop			Free			Free			
Flared Lane													
Storage Area [veh]	0			0			0			0			
Two-Stage Gap Acceptance				No									
Number of Storage Spaces in Median	0			0			0			0			

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.03	0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	10.85	16.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Movement LOS				B	C			A					
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.08	1.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	2.07	45.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
d_A, Approach Delay [s/veh]	0.00			15.75			0.00			0.00			
Approach LOS	A			C			A			A			
d_I, Intersection Delay [s/veh]	5.37												
Intersection LOS	C												

Intersection Level Of Service Report
Intersection 202: Shamrock Road at Hirst Rd (2)

Control Type:	Two-way stop	Delay (sec / veh):	12.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.026

Intersection Setup

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	31	0	0	0	17	172	0	0	0	12	190	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	31	0	0	0	17	172	0	0	0	12	190	0
Peak Hour Factor	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	0	0	0	5	46	0	0	0	3	51	0
Total Analysis Volume [veh/h]	33	0	0	0	18	185	0	0	0	13	204	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.00	0.00	0.00	0.03	0.26	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.49	0.00	0.00	0.00	12.22	11.96	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	A				B	B				A	A	
95th-Percentile Queue Length [veh/ln]	0.12	0.00	0.00	0.00	1.16	1.16	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	3.08	0.00	0.00	0.00	29.05	29.05	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.49			11.98			0.00			0.00		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	6.06											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 203: Shamrock Road atHirst Road Jughandle

Control Type:	Two-way stop	Delay (sec / veh):	13.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.065

Intersection Setup

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	0	28	565	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	28	565	0	0	0
Peak Hour Factor	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	8	152	0	0	0
Total Analysis Volume [veh/h]	0	30	608	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.06	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	13.33	0.00	0.00	0.00	0.00
Movement LOS		B	A			
95th-Percentile Queue Length [veh/ln]	0.00	0.21	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	5.19	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.33		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.63					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 300: Shamrock Road at Woodland Drive

Control Type:	Two-way stop	Delay (sec / veh):	15.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.033

Intersection Setup

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	12	0	2	4	0	12	5	340	29	5	260	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	0	2	4	0	12	5	340	29	5	260	0
Peak Hour Factor	0.9700	0.9700	1.0000	1.0000	0.9700	0.9700	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	1	1	0	3	1	85	7	1	65	0
Total Analysis Volume [veh/h]	12	0	2	4	0	12	5	340	30	5	260	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.01	0.01	0.00	0.03	0.00	0.00	0.02	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.72	14.82	14.98	10.47	15.06	15.38	0.00	0.00	7.81	0.00	0.00	7.94
Movement LOS	A	B	B	B	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.06	0.06	0.06	0.12	0.12	0.12	0.07	0.07	0.07	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.60	1.60	1.60	3.04	3.04	3.04	1.76	1.76	1.76	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	10.47			14.15			0.62			0.00		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	0.91											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 400: Shamrock Road at Agricola Drive

Control Type:	Roundabout	Delay (sec / veh):	5.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	1	0	0	192	16	35	4	339	3	8	229	39
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	0	192	16	35	4	339	3	8	229	39
Peak Hour Factor	1.0000	1.0000	0.9200	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9200	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	48	4	9	1	85	1	2	57	10
Total Analysis Volume [veh/h]	1	0	0	192	16	35	4	339	3	9	229	39
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1			
Circulating Flow Rate [veh/h]	303			342			39			54			
Exiting Flow Rate [veh/h]	28			43			265			531			
Demand Flow Rate [veh/h]	1	0	0	192	16	35	4	339	3	8	229	39	
Adjusted Demand Flow Rate [veh/h]	1	0	0	192	16	35	4	339	3	9	229	39	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	1	243	346	277
Capacity of Entry and Bypass Lanes [veh/h]	1014	974	1327	1307
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1014	974	1327	1307
X, volume / capacity	0.00	0.25	0.26	0.21

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.99	1.05	0.80
95th-Percentile Queue Length [ft]	0.07	24.68	26.25	20.06
Approach Delay [s/veh]	3.56	6.17	4.97	4.56
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	5.17			
Intersection LOS	A			

Intersection Level Of Service Report

Intersection 500: Shamrock Road at Brightview Drive / Calla Lily Drive

Control Type:	Two-way stop	Delay (sec / veh):	16.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			20.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	1	0	1	0	0	0	18	444	21	52	218	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	1	0	0	0	18	444	21	52	218	20
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0	5	111	5	13	55	5
Total Analysis Volume [veh/h]	1	0	1	0	0	0	18	444	21	52	218	20
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	9.54	16.59	16.83	10.89	16.81	16.81	0.00	0.00	7.80	0.00	0.00	8.30
Movement LOS	A	C	C	B	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.00	0.00	0.00	0.05	0.05	0.05	0.06	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.34	0.34	0.34	0.00	0.00	0.00	1.23	1.23	1.23	1.38	1.38	1.38
d_A, Approach Delay [s/veh]	13.18			14.84			0.34			0.57		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	0.46											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 600: Shamrock Road at Beach Bay Road

Control Type:	Two-way stop	Delay (sec / veh):	18.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.087

Intersection Setup

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	47	24	360	85	19	242
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	47	24	360	85	19	242
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	7	99	23	5	66
Total Analysis Volume [veh/h]	52	26	396	93	21	266
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.09	0.00	0.07	0.00	0.00
d_M, Delay for Movement [s/veh]	11.00	18.34	0.00	8.02	0.00	0.00
Movement LOS	B	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.54	0.54	0.23	0.23	0.00	0.00
95th-Percentile Queue Length [ft/ln]	13.59	13.59	5.83	5.83	0.00	0.00
d_A, Approach Delay [s/veh]	13.44		1.52		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	2.10					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 700: Shamrock Road at Northward Road

Control Type:	Two-way stop	Delay (sec / veh):	13.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.075

Intersection Setup

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	17	33	12	285	267	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	17	33	12	285	267	18
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	9	3	73	69	5
Total Analysis Volume [veh/h]	18	34	12	294	275	19
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.08	0.00	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	10.60	13.74	0.00	0.00	0.00	7.89
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.33	0.33	0.00	0.00	0.05	0.05
95th-Percentile Queue Length [ft/ln]	8.25	8.25	0.00	0.00	1.14	1.14
d_A, Approach Delay [s/veh]	12.65		0.00		0.51	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	1.24					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 800: Shamrock Road at Condor Road

Control Type:	Two-way stop	Delay (sec / veh):	12.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.127

Intersection Setup

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Base Volume Input [veh/h]	1	0	0	5	0	74	71	153	1	0	153	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	0	5	0	74	71	153	1	0	153	13
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	1	0	19	18	38	0	0	38	3
Total Analysis Volume [veh/h]	1	0	0	5	0	74	71	153	1	0	153	13
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	9.01	11.77	11.21	10.11	12.38	12.08	0.00	0.00	7.50	0.00	0.00	7.68
Movement LOS	A	B	B	B	B	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.45	0.45	0.45	0.00	0.00	0.00	0.03	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.08	0.08	0.08	11.37	11.37	11.37	0.05	0.05	0.05	0.73	0.73	0.73
d_A, Approach Delay [s/veh]	9.01			11.95			0.03			0.60		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	2.25											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 902: Bodden Town Road at Bodden Town Bypass

Control Type:	Two-way stop	Delay (sec / veh):	11.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.074

Intersection Setup

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	34	44	29	112	82	55
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	34	44	29	112	82	55
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	12	8	30	22	15
Total Analysis Volume [veh/h]	36	47	31	119	87	59
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.07	0.00	0.00	0.00	0.04
d_M, Delay for Movement [s/veh]	9.54	11.33	0.00	0.00	0.00	7.60
Movement LOS	A	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.38	0.38	0.00	0.00	0.13	0.13
95th-Percentile Queue Length [ft/ln]	9.56	9.56	0.00	0.00	3.19	3.19
d_A, Approach Delay [s/veh]	10.55		0.00		3.07	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	3.49					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1000: Bodden Town Road at Long Fellow Drive

Control Type:	Two-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	0	3	4	59	108	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	3	4	59	108	0
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	1	16	30	0
Total Analysis Volume [veh/h]	0	3	4	65	119	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.61	9.47	0.00	0.00	0.00	7.33
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.28	0.28	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.47		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.15					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1100: Frank Sound Road at Bodden Town Road

Control Type:	Two-way stop	Delay (sec / veh):	12.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.071

Intersection Setup

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Base Volume Input [veh/h]	148	40	24	21	59	115
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	148	40	24	21	59	115
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	11	6	6	16	31
Total Analysis Volume [veh/h]	159	43	26	23	63	124
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.15	0.07	0.00	0.00	0.00	0.08
d_M, Delay for Movement [s/veh]	9.60	12.13	0.00	0.00	0.00	7.43
Movement LOS	A	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.86	0.86	0.00	0.00	0.25	0.25
95th-Percentile Queue Length [ft/ln]	21.44	21.44	0.00	0.00	6.27	6.27
d_A, Approach Delay [s/veh]	10.14		0.00		4.93	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	6.78					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1200: Frank Sound Road at Clifton Hunter High School

Control Type:	Two-way stop	Delay (sec / veh):	22.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.173

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd			
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		20.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Frank Sound Rd			
Base Volume Input [veh/h]	19	127	184	258	233	47
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	19	127	184	258	233	47
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	32	46	65	58	12
Total Analysis Volume [veh/h]	19	127	184	258	233	47
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.18	0.25	0.17
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	8.02	12.94	22.24
Movement LOS	A	A	A	A	B	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.65	0.65	2.13	2.13
95th-Percentile Queue Length [ft/ln]	0.00	0.00	16.18	16.18	53.37	53.37
d_A, Approach Delay [s/veh]	0.00		4.68		14.50	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	7.06					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1300: Frank Sound Road at North Side Road/Old Robin Road

Control Type:	Two-way stop	Delay (sec / veh):	11.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.044

Intersection Setup

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Base Volume Input [veh/h]	150	29	34	137	64	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	150	29	34	137	64	23
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	8	10	38	18	6
Total Analysis Volume [veh/h]	169	33	38	154	72	26
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.02	0.00	0.00	0.08	0.04
d_M, Delay for Movement [s/veh]	0.00	7.65	0.00	0.00	9.78	11.80
Movement LOS	A	A	A	A	A	B
95th-Percentile Queue Length [veh/ln]	0.07	0.07	0.00	0.00	0.43	0.43
95th-Percentile Queue Length [ft/ln]	1.82	1.82	0.00	0.00	10.80	10.80
d_A, Approach Delay [s/veh]	1.25		0.00		10.32	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	2.57					
Intersection LOS	B					

Intersection Level Of Service Report

Intersection 1400: East-West Arterial at Agricola Drive Connector

Control Type:	Roundabout	Delay (sec / veh):	12.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			50.00			50.00			
Grade [%]	0.00			0.00			0.00			0.00			
Crosswalk	Yes			Yes			Yes			Yes			

Volumes

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Base Volume Input [veh/h]	21	21	2	66	33	6	0	756	208	35	389	53	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	21	21	2	66	33	6	0	756	208	35	389	53	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	5	5	1	17	8	2	0	189	52	9	97	13	0
Total Analysis Volume [veh/h]	21	21	2	66	33	6	0	756	208	35	389	53	1
Pedestrian Volume [ped/h]	0			0			0			0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1			
Circulating Flow Rate [veh/h]	449			967			77			247			
Exiting Flow Rate [veh/h]	276			74			416			825			
Demand Flow Rate [veh/h]	21	21	2	66	33	6	0	756	208	35	389	53	1
Adjusted Demand Flow Rate [veh/h]	21	21	2	66	33	6	0	756	208	35	389	53	1

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	44	105	964	478
Capacity of Entry and Bypass Lanes [veh/h]	873	515	1276	1073
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	873	515	1276	1073
X, volume / capacity	0.05	0.20	0.76	0.45

Movement, Approach, & Intersection Results

Lane LOS	A	A	B	A
95th-Percentile Queue Length [veh]	0.16	0.76	7.74	2.34
95th-Percentile Queue Length [ft]	3.97	18.94	193.48	58.45
Approach Delay [s/veh]	4.59	9.80	14.73	8.25
Approach LOS	A	A	B	A
Intersection Delay [s/veh]	12.18			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1501: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	8.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name							East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name							East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	1	0	8	0	0	0	0	743	82	0	11	476	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	8	0	0	0	0	743	82	0	11	476	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	0	0	2	0	0	0	0	186	21	0	3	119	0	0
Total Analysis Volume [veh/h]	1	0	8	0	0	0	0	743	82	0	11	476	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1			
Circulating Flow Rate [veh/h]	476			833			8				82			
Exiting Flow Rate [veh/h]	93			0			477				751			
Demand Flow Rate [veh/h]	1	0	8	0	0	0	0	743	82	0	11	476	0	0
Adjusted Demand Flow Rate [veh/h]	1	0	8	0	0	0	0	743	82	0	11	476	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	9	0	825	487
Capacity of Entry and Bypass Lanes [veh/h]	850	591	1369	1270
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	850	591	1369	1270
X, volume / capacity	0.01	0.00	0.60	0.38

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.03	0.00	4.28	1.83
95th-Percentile Queue Length [ft]	0.80	0.00	107.04	45.83
Approach Delay [s/veh]	4.34	6.10	9.55	6.51
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	8.39			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1502: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	7.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name			East-West Arterial			East-West Arterial		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	Thru	Right	U-turn	Left	Thru	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00			50.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	Yes		Yes			Yes		

Volumes

Name			East-West Arterial			East-West Arterial		
Base Volume Input [veh/h]	12	1	725	27	0	3	474	29
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	1	725	27	0	3	474	29
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	181	7	0	1	119	7
Total Analysis Volume [veh/h]	12	1	725	27	0	3	474	29
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1	
Circulating Flow Rate [veh/h]	503			30			27	
Exiting Flow Rate [veh/h]	30			486			755	
Demand Flow Rate [veh/h]	12	1		725	27	0	3	474	29
Adjusted Demand Flow Rate [veh/h]	12	1		725	27	0	3	474	29

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	13	752	506
Capacity of Entry and Bypass Lanes [veh/h]	827	1339	1343
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	827	1339	1343
X, volume / capacity	0.02	0.56	0.38

Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	0.05	3.66	1.78
95th-Percentile Queue Length [ft]	1.20	91.60	44.61
Approach Delay [s/veh]	4.51	8.89	6.18
Approach LOS	A	A	A
Intersection Delay [s/veh]	7.77		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 1600: East-West Arterial at Northward Rd

Control Type:	Two-way stop	Delay (sec / veh):	11.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.044

Intersection Setup

Name	Northward Rd		East-West Arterial		East-West Arterial	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		East-West Arterial		East-West Arterial	
Base Volume Input [veh/h]	26	0	755	0	12	481
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	26	0	755	0	12	481
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	0	189	0	3	120
Total Analysis Volume [veh/h]	26	0	755	0	12	481
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.00	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.44	0.00	0.00	0.00	0.00	0.00
Movement LOS	B		A		A	A
95th-Percentile Queue Length [veh/ln]	0.14	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	3.48	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.44		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.23					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1700: East-West Arterial at Lookout Rd

Control Type:	Roundabout	Delay (sec / veh):	8.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Lookout Rd			Lookout Rd			East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Lookout Rd			Lookout Rd			East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	27	0	10	0	0	0	0	550	99	106	17	421	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	27	0	10	0	0	0	0	550	99	106	17	421	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	7	0	3	0	0	0	0	138	25	27	4	105	0	0
Total Analysis Volume [veh/h]	27	0	10	0	0	0	0	550	99	106	17	421	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1			
Circulating Flow Rate [veh/h]	527			765			10				205			
Exiting Flow Rate [veh/h]	116			0			554				560			
Demand Flow Rate [veh/h]	27	0	10	0	0	0	0	550	99	106	17	421	0	0
Adjusted Demand Flow Rate [veh/h]	27	0	10	0	0	0	0	550	99	106	17	421	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	37	0	755	438
Capacity of Entry and Bypass Lanes [veh/h]	807	633	1366	1120
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	807	633	1366	1120
X, volume / capacity	0.05	0.00	0.55	0.39

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.14	0.00	3.54	1.89
95th-Percentile Queue Length [ft]	3.60	0.00	88.57	47.15
Approach Delay [s/veh]	4.91	5.69	8.60	7.22
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	8.00			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1800: East-West Arterial at Longfellow Rd

Control Type:	Roundabout	Delay (sec / veh):	5.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Longfellow Rd			Longfellow Rd			East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Longfellow Rd			Longfellow Rd			East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	8	0	0	0	0	0	0	531	21	0	0	395	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	0	0	0	0	0	0	531	21	0	0	395	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	2	0	0	0	0	0	0	133	5	0	0	99	0	0
Total Analysis Volume [veh/h]	8	0	0	0	0	0	0	531	21	0	0	395	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1				
Circulating Flow Rate [veh/h]	395			552			0				21				
Exiting Flow Rate [veh/h]	21			0			403				531				
Demand Flow Rate [veh/h]	8	0	0	0	0	0	0	531	21	0	0	395	0	0	
Adjusted Demand Flow Rate [veh/h]	8	0	0	0	0	0	0	531	21	0	0	395	0	0	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	8	0	552	395
Capacity of Entry and Bypass Lanes [veh/h]	923	786	1380	1351
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	923	786	1380	1351
X, volume / capacity	0.01	0.00	0.40	0.29

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.03	0.00	1.96	1.23
95th-Percentile Queue Length [ft]	0.66	0.00	49.07	30.68
Approach Delay [s/veh]	3.98	4.58	6.34	5.23
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	5.86			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1900: East West Arterial

Control Type:	Roundabout	Delay (sec / veh):	5.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name							East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name							East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	38	0	8	0	0	3	9	455	68	0	0	354	3	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	38	0	8	0	0	3	9	455	68	0	0	354	3	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	10	0	2	0	0	1	2	114	17	0	0	89	1	0
Total Analysis Volume [veh/h]	38	0	8	0	0	3	9	455	68	0	0	354	3	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1			
Circulating Flow Rate [veh/h]	360			531			11				71			
Exiting Flow Rate [veh/h]	68			12			395				463			
Demand Flow Rate [veh/h]	38	0	8	0	0	3	9	455	68	0	0	354	3	0
Adjusted Demand Flow Rate [veh/h]	38	0	8	0	0	3	9	455	68	0	0	354	3	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	46	3	532	357
Capacity of Entry and Bypass Lanes [veh/h]	956	803	1365	1284
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	956	803	1365	1284
X, volume / capacity	0.05	0.00	0.39	0.28

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.15	0.01	1.88	1.14
95th-Percentile Queue Length [ft]	3.79	0.28	47.07	28.61
Approach Delay [s/veh]	4.20	4.52	6.26	5.27
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	5.78			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 2000: Frank Sound Road at East-West Arterial

Control Type:	Unknown	Delay (sec / veh):	?
Analysis Method:	?	Level Of Service:	?
Analysis Period:	15 minutes	Volume to Capacity (v/c):	?

Intersection Setup

Name	Frank Sound Rd	Frank Sound Rd
Approach	Northeastbound	Southwestbound
Lane Configuration		
Turning Movement	Thru	Thru
Crosswalk	Yes	Yes

Volumes

Name	Frank Sound Rd	Frank Sound Rd
Base Volume Input [veh/h]	211	221
Base Volume Adjustment Factor	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00
Growth Factor	1.0000	1.0000
In-Process Volume [veh/h]	0	0
Site-Generated Trips [veh/h]	0	0
Diverted Trips [veh/h]	0	0
Pass-by Trips [veh/h]	0	0
Existing Site Adjustment Volume [veh/h]	0	0
Other Volume [veh/h]	0	0
Left-Turn on Red Volume [veh/h]	0	0
Total Hourly Volume [veh/h]	211	221
Peak Hour Factor	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000
Total 15-Minute Volume [veh/h]	53	55
Total Analysis Volume [veh/h]	211	221
Presence of On-Street Parking	No	No
On-Street Parking Maneuver Rate [/h]	0	0
Local Bus Stopping Rate [/h]	0	0
Pedestrian Volume [ped/h]	0	0

Intersection Level Of Service Report
Intersection 2100: Frank Sound Road at East-West Arterial

Control Type:	Roundabout	Delay (sec / veh):	6.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd		East-West Arterial		
Approach	Northbound		Southbound		Eastbound		
Lane Configuration							
Turning Movement	Left	Thru	Thru	Right	Left	Right	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		50.00		
Grade [%]	0.00		0.00		0.00		
Crosswalk	Yes		Yes		Yes		

Volumes

Name	Frank Sound Rd		Frank Sound Rd		East-West Arterial		
Base Volume Input [veh/h]	251	109	130	118	152	312	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	251	109	130	118	152	312	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	63	27	33	30	38	78	0
Total Analysis Volume [veh/h]	251	109	130	118	152	312	0
Pedestrian Volume [ped/h]	0		0		0		

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1		
Circulating Flow Rate [veh/h]	118		312		109		
Exiting Flow Rate [veh/h]	442		261		369		
Demand Flow Rate [veh/h]	251	109	130	118	152	312	0
Adjusted Demand Flow Rate [veh/h]	251	109	130	118	152	312	0

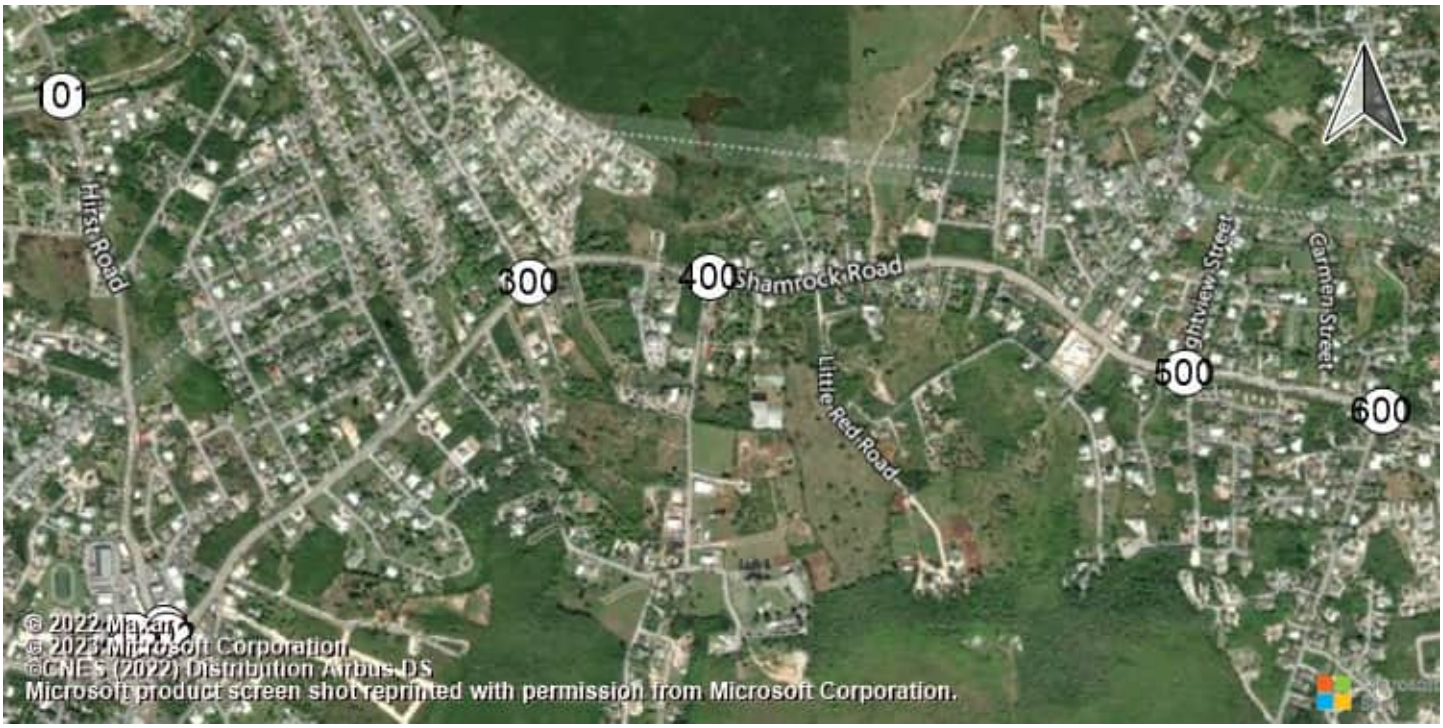
Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	360	248	464
Capacity of Entry and Bypass Lanes [veh/h]	1224	1004	1235
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1224	1004	1235
X, volume / capacity	0.29	0.25	0.38

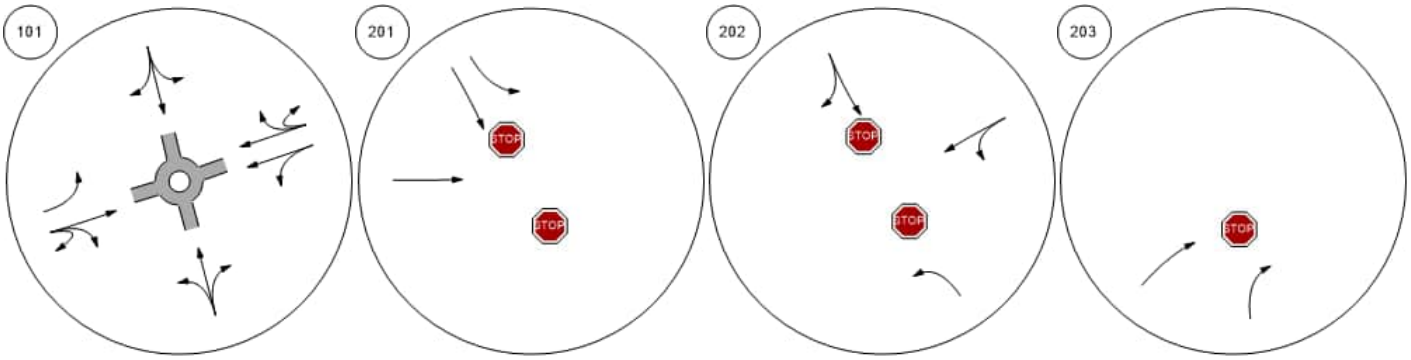
Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	1.24	0.97	1.77
95th-Percentile Queue Length [ft]	30.91	24.36	44.33
Approach Delay [s/veh]	5.64	5.99	6.54
Approach LOS	A	A	A
Intersection Delay [s/veh]	6.11		
Intersection LOS	A		

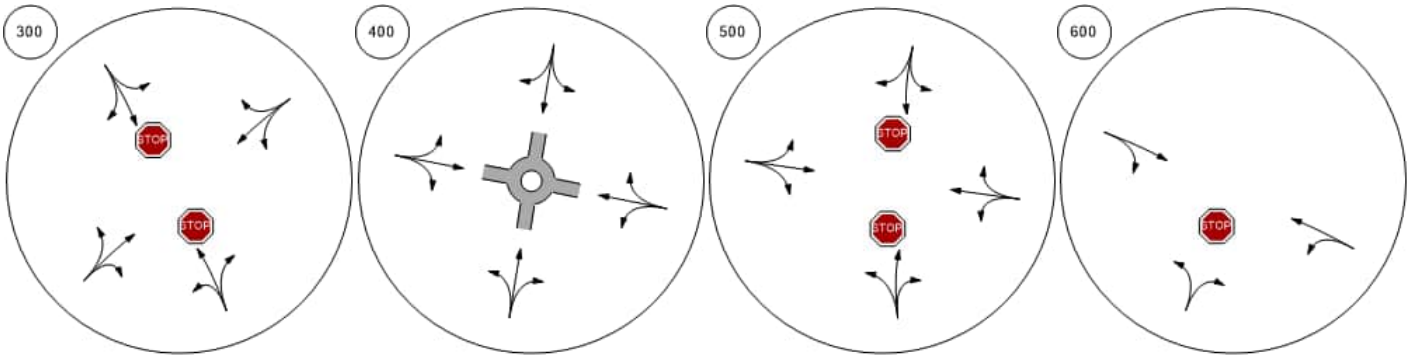
Lane Configuration and Traffic Control



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



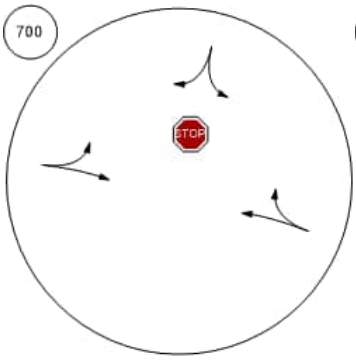
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



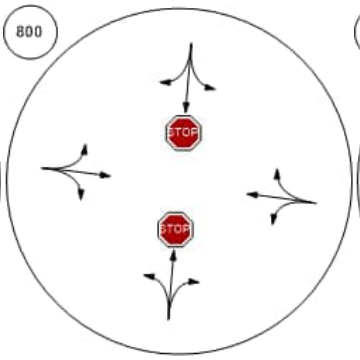
Lane Configuration and Traffic Control



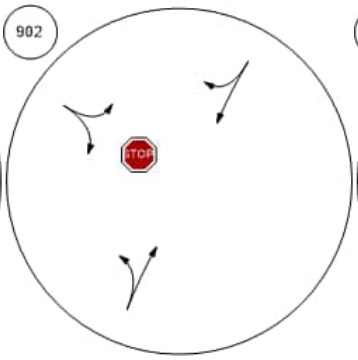
Shamrock Road at Northward



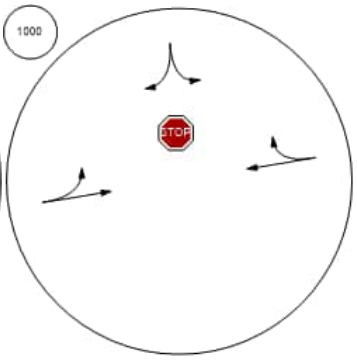
Shamrock Road at Condor R



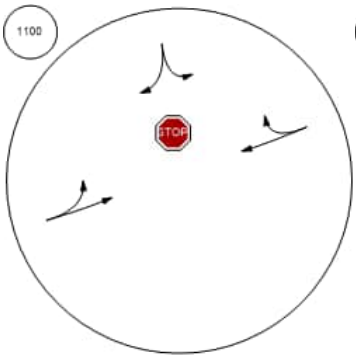
Bodden Town Road at Bodde



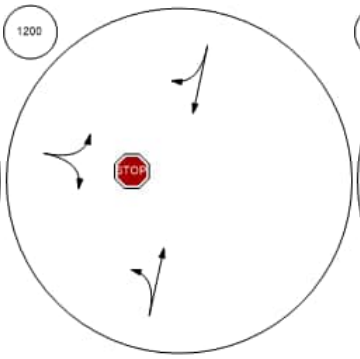
Bodden Town Road at Long



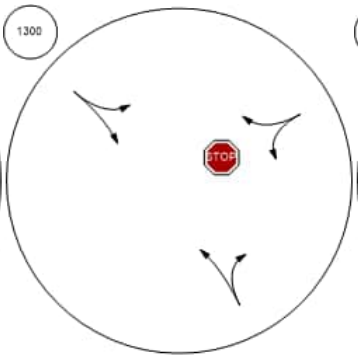
Frank Sound Road at Bodde



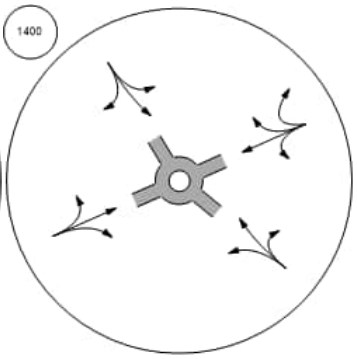
Frank Sound Road at Clifton



Frank Sound Road at North S



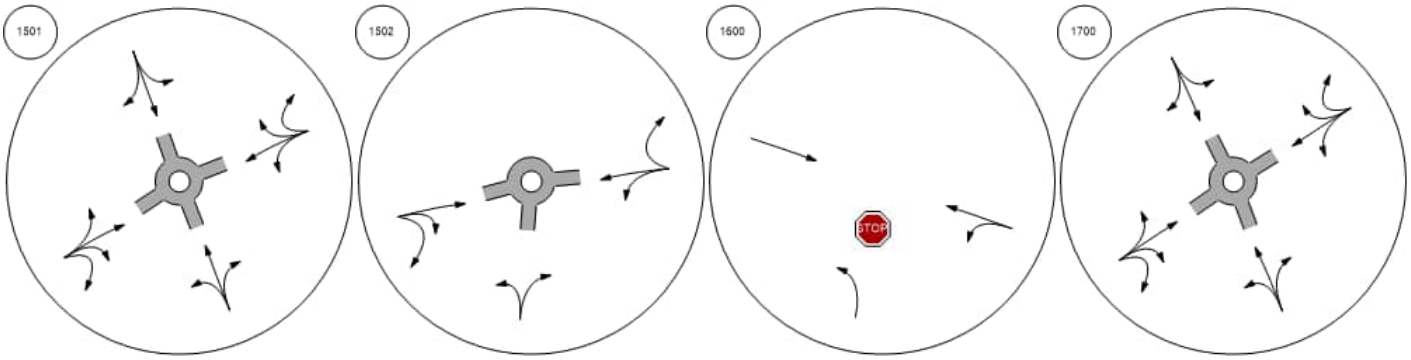
East-West Arterial at Agricola



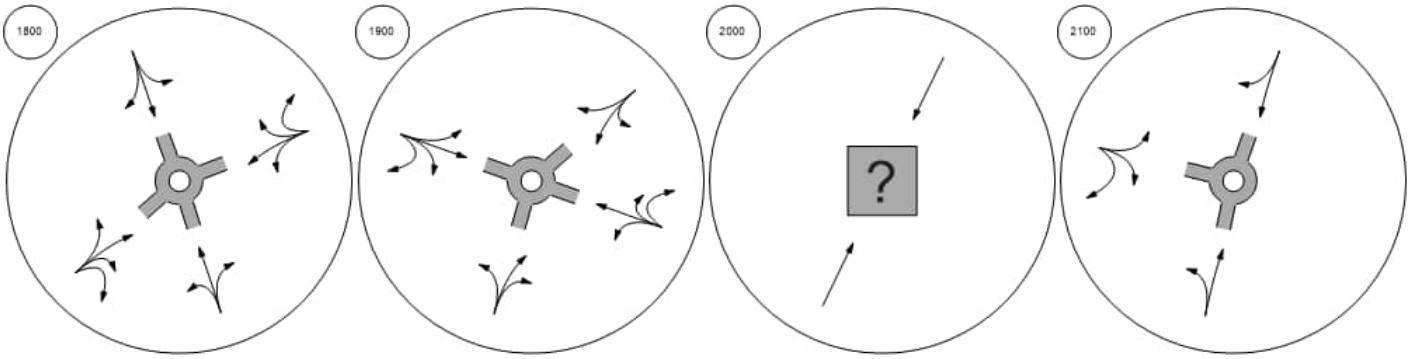
Lane Configuration and Traffic Control



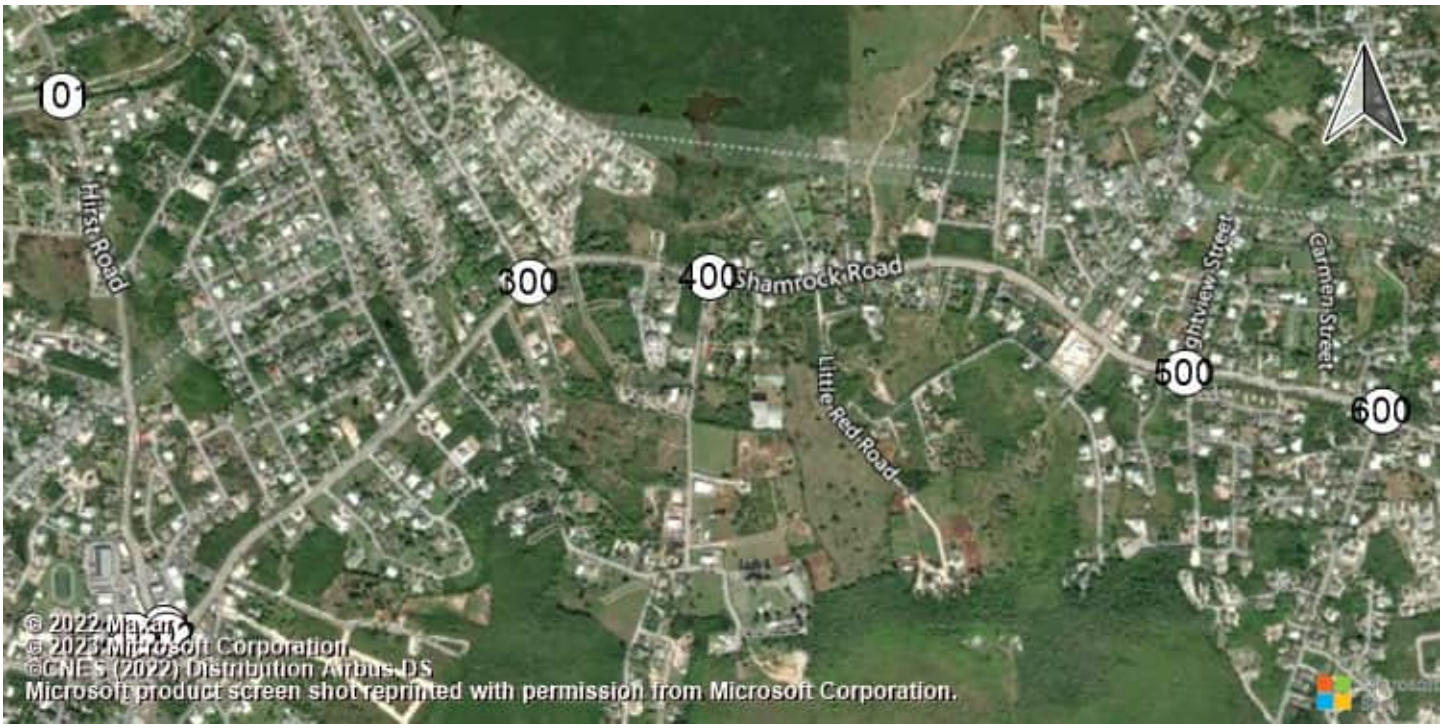
East-West Arterial at Will T C East-West Arterial at Will T C East-West Arterial at Northwa East-West Arterial at Lookout



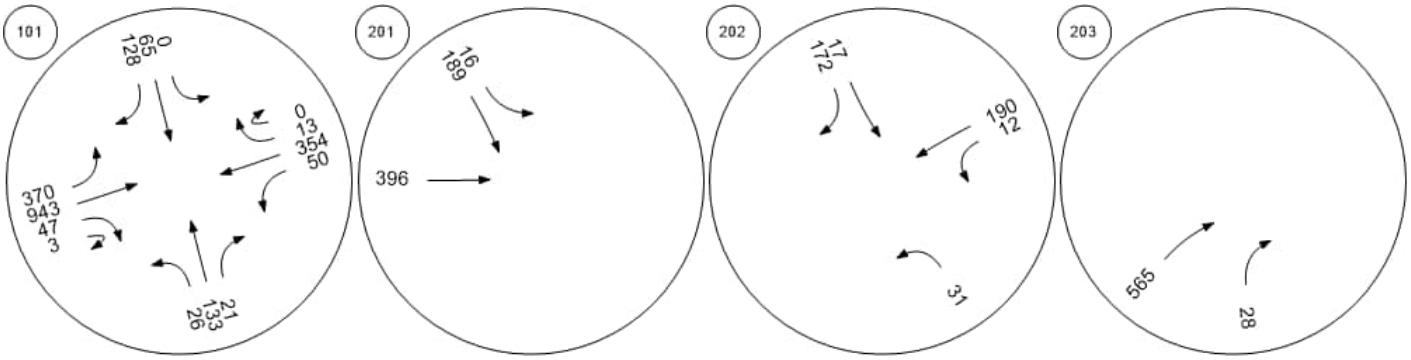
East-West Arterial at Longfell East West Arterial Frank Sound Road at East-W Frank Sound Road at East-W



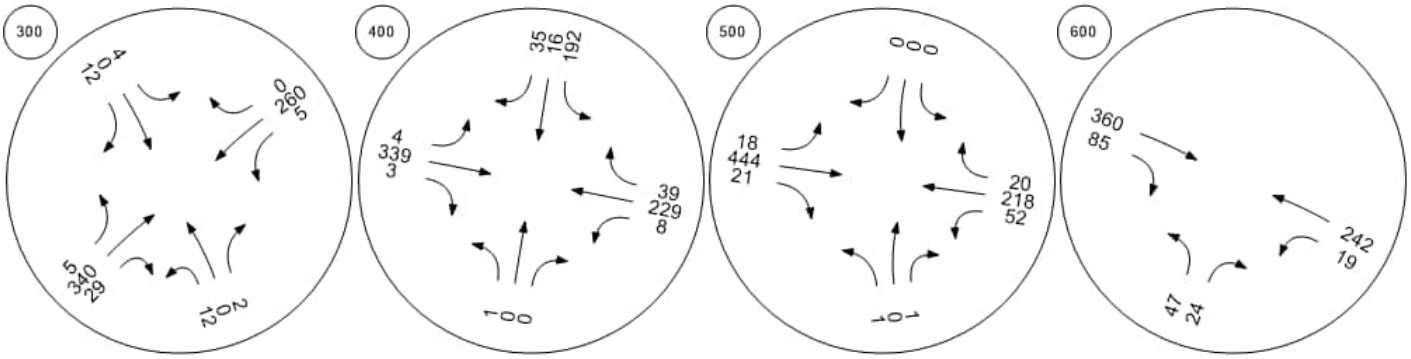
Traffic Volume - Base Volume



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



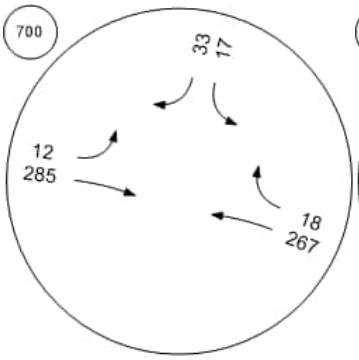
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



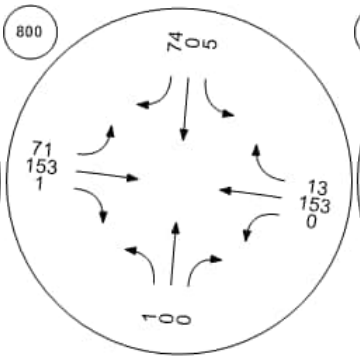
Traffic Volume - Base Volume



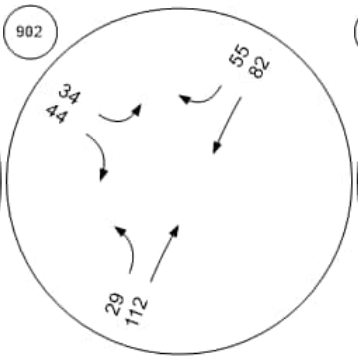
Shamrock Road at Northward



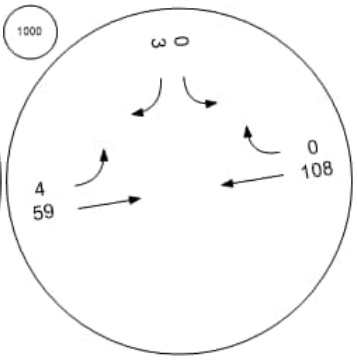
Shamrock Road at Condor R



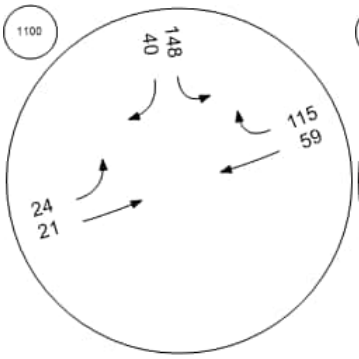
Bodden Town Road at Bodde



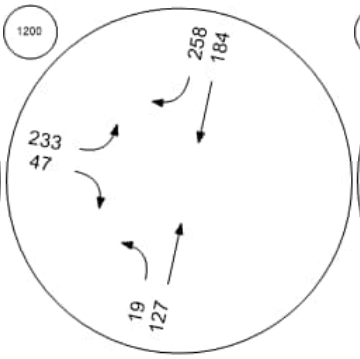
Bodden Town Road at Long



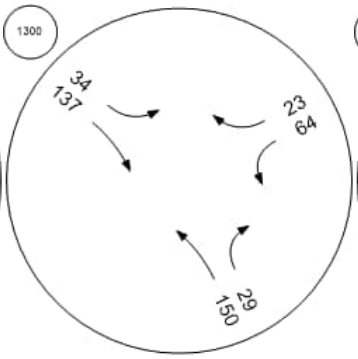
Frank Sound Road at Bodde



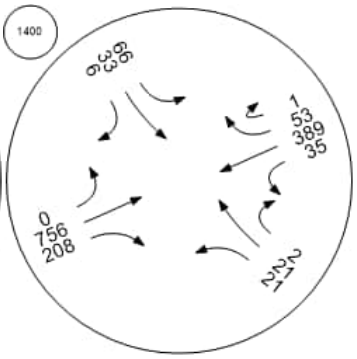
Frank Sound Road at Clifton



Frank Sound Road at North S



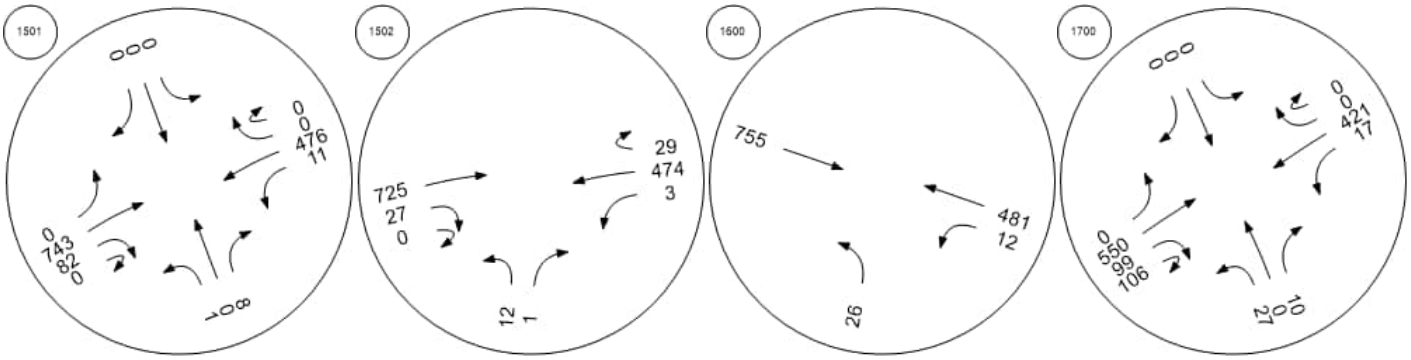
East-West Arterial at Agricola



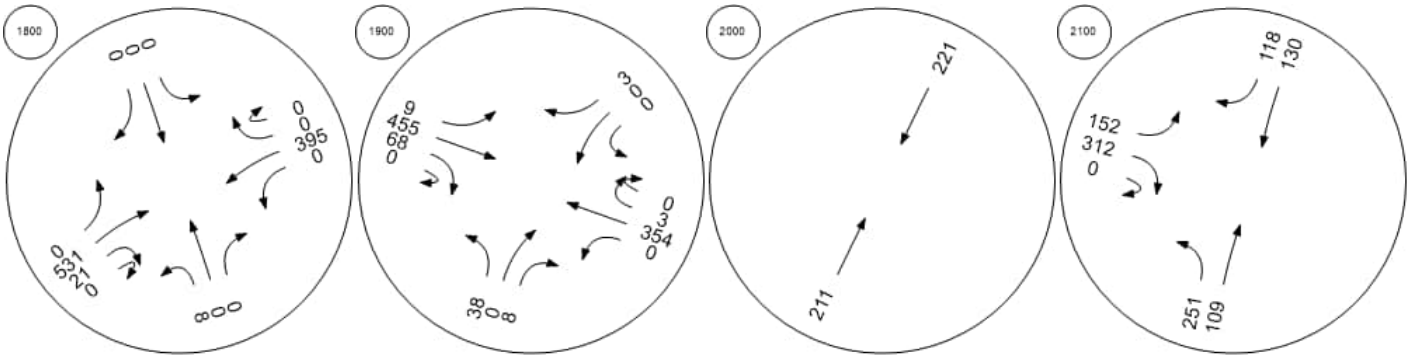
Traffic Volume - Base Volume



East-West Arterial at Will T C East-West Arterial at Will T C East-West Arterial at Northwa East-West Arterial at Lookout



East-West Arterial at Longfell East West Arterial Frank Sound Road at East-W Frank Sound Road at East-W



Intersection Level Of Service Report
Intersection 101: East-West Arterial Road at Hirst Road

Control Type:	Roundabout	Delay (sec / veh):	10.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name									East-West Arterial				East-West Arterial				
Approach	Northbound				Southbound				Eastbound				Westbound				
Lane Configuration																	
Turning Movement	Left	Left	Thru	Right	Left	Thru	Right	Right	Left	Thru	Right	U-tu	Left	Thr	Thr	Rig	U-t
Lane Width [ft]	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.	12.	12.	12.	12.
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Entry Pocket Length [ft]	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	200	100	100	100	100
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Speed [mph]	30.00				30.00				40.00				50.00				
Grade [%]	0.00				0.00				0.00				0.00				
Crosswalk	Yes				Yes				Yes				Yes				

Volumes

Name									East-West Arterial				East-West Arterial				
Base Volume Input [veh/h]	7	0	38	19	14	62	0	508	54	263	6	20	13	895	0	4	0
Base Volume Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	0	38	19	14	62	0	508	54	263	6	20	13	895	0	4	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Other Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Total 15-Minute Volume [veh/h]	2	0	10	5	4	16	0	127	14	66	2	5	3	224	0	1	0
Total Analysis Volume [veh/h]	7	0	38	19	14	62	0	508	54	263	6	20	13	895	0	4	0
Pedestrian Volume [ped/h]	0				0				0				0				

Intersection Settings

Number of Conflicting Circulating Lanes	2				2				2				2				
Circulating Flow Rate [veh/h]	1427				308				61				596				
Exiting Flow Rate [veh/h]	81				96				1430				296				
Demand Flow Rate [veh/h]	7	0	38	19	14	62	0	508	54	263	6	20	13	895	0	4	0
Adjusted Demand Flow Rate [veh/h]	7	0	38	19	14	62	0	508	54	263	6	20	13	895	0	4	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1350.00	1420.00	1350.00
B (coefficient)	0.00085	0.00085	0.00085	0.00092	0.00085	0.00092
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	64	584	54	289	484	429
Capacity of Entry and Bypass Lanes [veh/h]	423	1093	1349	1277	856	781
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	423	1093	1349	1277	856	781
X, volume / capacity	0.15	0.53	0.04	0.23	0.56	0.55

Movement, Approach, & Intersection Results

Lane LOS	B	A	A	A	B	B
95th-Percentile Queue Length [veh]	0.53	3.27	0.13	0.87	3.61	3.40
95th-Percentile Queue Length [ft]	13.24	81.85	3.13	21.80	90.37	84.89
Approach Delay [s/veh]	10.80	9.68	4.49		12.58	
Approach LOS	B	A	A		B	
Intersection Delay [s/veh]	10.17					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 201: Shamrock Road at Hirst Rd (1)

Control Type:	Two-way stop	Delay (sec / veh):	11.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.159

Intersection Setup

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	0	0	0	20	103	0	0	190	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	20	103	0	0	190	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	5	28	0	0	51	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	22	111	0	0	204	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.03	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	9.39	11.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS				A	B			A				
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.08	0.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	2.01	14.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			10.86			0.00			0.00		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	4.29											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 202: Shamrock Road at Hirst Rd (2)

Control Type:	Two-way stop	Delay (sec / veh):	20.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.310

Intersection Setup

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	32	0	0	0	5	98	0	0	0	8	631	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	32	0	0	0	5	98	0	0	0	8	631	0
Peak Hour Factor	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	0	0	0	1	26	0	0	0	2	170	0
Total Analysis Volume [veh/h]	34	0	0	0	5	105	0	0	0	9	678	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.00	0.00	0.00	0.01	0.31	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	13.59	0.00	0.00	0.00	19.65	20.60	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	B				C	C				A	A	
95th-Percentile Queue Length [veh/ln]	0.24	0.00	0.00	0.00	1.37	1.37	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	6.06	0.00	0.00	0.00	34.22	34.22	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.59			20.56			0.00			0.00		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	3.28											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 203: Shamrock Road atHirst Road Jughandle

Control Type:	Two-way stop	Delay (sec / veh):	10.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.026

Intersection Setup

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	0	18	240	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	18	240	0	0	0
Peak Hour Factor	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	5	65	0	0	0
Total Analysis Volume [veh/h]	0	19	258	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.03	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	10.03	0.00	0.00	0.00	0.00
Movement LOS		B	A			
95th-Percentile Queue Length [veh/ln]	0.00	0.08	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	1.99	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	10.03		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.69					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 300: Shamrock Road at Woodland Drive

Control Type:	Two-way stop	Delay (sec / veh):	17.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.060

Intersection Setup

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	40	0	6	0	0	18	3	97	6	2	583	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	0	6	0	0	18	3	97	6	2	583	0
Peak Hour Factor	0.9700	0.9700	1.0000	1.0000	0.9700	0.9700	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	0	2	0	0	5	1	24	2	1	146	0
Total Analysis Volume [veh/h]	41	0	6	0	0	19	3	97	6	2	583	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.00	0.02	0.00	0.00	0.06	0.00	0.00	0.01	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	12.77	15.64	15.85	9.45	15.56	16.99	0.00	0.00	8.62	0.00	0.00	7.39
Movement LOS	B	C	C	A	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.32	0.32	0.32	0.19	0.19	0.19	0.02	0.02	0.02	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	7.95	7.95	7.95	4.72	4.72	4.72	0.45	0.45	0.45	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.16			16.99			0.49			0.00		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	1.31											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 400: Shamrock Road at Agricola Drive

Control Type:	Roundabout	Delay (sec / veh):	6.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	2	6	1	21	13	34	3	99	1	3	549	84
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	6	1	21	13	34	3	99	1	3	549	84
Peak Hour Factor	1.0000	1.0000	0.9200	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9200	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	0	5	3	9	1	25	0	1	137	21
Total Analysis Volume [veh/h]	2	6	1	21	13	34	3	99	1	3	549	84
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	667			101			91			48		
Exiting Flow Rate [veh/h]	17			93			585			121		
Demand Flow Rate [veh/h]	2	6	1	21	13	34	3	99	1	3	549	84
Adjusted Demand Flow Rate [veh/h]	2	6	1	21	13	34	3	99	1	3	549	84

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	9	68	103	636
Capacity of Entry and Bypass Lanes [veh/h]	699	1245	1258	1315
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	699	1245	1258	1315
X, volume / capacity	0.01	0.05	0.08	0.48

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.04	0.17	0.27	2.73
95th-Percentile Queue Length [ft]	0.98	4.33	6.68	68.16
Approach Delay [s/veh]	5.28	3.33	3.53	7.70
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	6.78			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 500: Shamrock Road at Brightview Drive / Calla Lily Drive

Control Type:	Two-way stop	Delay (sec / veh):	15.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			20.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	8	0	6	3	0	4	0	132	0	0	568	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	0	6	3	0	4	0	132	0	0	568	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	0	2	1	0	1	0	33	0	0	142	0
Total Analysis Volume [veh/h]	8	0	6	3	0	4	0	132	0	0	568	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.02	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	12.12	15.11	15.43	9.01	14.95	15.43	0.00	0.00	8.55	0.00	0.00	7.46
Movement LOS	B	C	C	A	B	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.10	0.10	0.10	0.04	0.04	0.04	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	2.48	2.48	2.48	1.12	1.12	1.12	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.54			12.68			0.00			0.00		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	0.39											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 600: Shamrock Road at Beach Bay Road

Control Type:	Two-way stop	Delay (sec / veh):	16.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.058

Intersection Setup

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	139	23	131	10	13	430
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	139	23	131	10	13	430
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	6	36	3	4	118
Total Analysis Volume [veh/h]	153	25	144	11	14	473
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.26	0.06	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	14.05	16.23	0.00	8.35	0.00	0.00
Movement LOS	B	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.35	1.35	0.03	0.03	0.00	0.00
95th-Percentile Queue Length [ft/ln]	33.84	33.84	0.77	0.77	0.00	0.00
d_A, Approach Delay [s/veh]	14.35		0.59		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	3.23					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 700: Shamrock Road at Northward Road

Control Type:	Two-way stop	Delay (sec / veh):	13.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	15	3	9	157	410	16
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	3	9	157	410	16
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	1	2	40	106	4
Total Analysis Volume [veh/h]	15	3	9	162	423	16
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.01	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	9.19	13.16	0.00	0.00	0.00	7.57
Movement LOS	A	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.07	0.07	0.00	0.00	0.03	0.03
95th-Percentile Queue Length [ft/ln]	1.82	1.82	0.00	0.00	0.86	0.86
d_A, Approach Delay [s/veh]	9.85		0.00		0.28	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.48					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 800: Shamrock Road at Condor Road

Control Type:	Two-way stop	Delay (sec / veh):	11.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.244

Intersection Setup

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Base Volume Input [veh/h]	3	1	1	1	0	190	54	30	0	0	110	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	1	1	1	0	190	54	30	0	0	110	6
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	0	0	48	14	8	0	0	28	2
Total Analysis Volume [veh/h]	3	1	1	1	0	190	54	30	0	0	110	6
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.24	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.82	10.23	9.62	10.04	11.52	11.11	0.00	0.00	7.41	0.00	0.00	7.37
Movement LOS	A	B	A	B	B	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.02	0.96	0.96	0.96	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.44	0.44	0.44	24.00	24.00	24.00	0.00	0.00	0.00	0.30	0.30	0.30
d_A, Approach Delay [s/veh]	9.26			11.10			0.00			0.38		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	5.58											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 901: Lookout Road at Bodden Town Bypass

Control Type:	Roundabout	Delay (sec / veh):	5.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name				Lookout Rd			An/Bo				An/Bo			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			35.00			30.00				35.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name				Lookout Rd			An/Bo				An/Bo			
Base Volume Input [veh/h]	1	3	4	247	0	31	2	109	0	0	0	49	473	7
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	3	4	247	0	31	2	109	0	0	0	49	473	7
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	0	1	1	62	0	8	1	27	0	0	0	12	118	2
Total Analysis Volume [veh/h]	1	3	4	247	0	31	2	109	0	0	0	49	473	7
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1			
Circulating Flow Rate [veh/h]	560			120			487				31			
Exiting Flow Rate [veh/h]	0			478			81				367			
Demand Flow Rate [veh/h]	1	3	4	247	0	31	2	109	0	0	0	49	473	7
Adjusted Demand Flow Rate [veh/h]	1	3	4	247	0	31	2	109	0	0	0	49	473	7

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	8	278	111	529
Capacity of Entry and Bypass Lanes [veh/h]	780	1222	840	1338
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	780	1222	840	1338
X, volume / capacity	0.01	0.23	0.13	0.40

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.03	0.88	0.45	1.93
95th-Percentile Queue Length [ft]	0.78	21.95	11.37	48.18
Approach Delay [s/veh]	4.72	4.95	5.60	6.42
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	5.87			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 902: Bodden Town Road at Bodden Town Bypass

Control Type:	Roundabout	Delay (sec / veh):	5.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Bodden Town Bypass			Bodden Town Rd			Bodden Town Rd		
Approach	Southbound			Eastbound			Westbound		
Lane Configuration									
Turning Movement	Left	Right	U-turn	Left	Thru	U-turn	Thru	Right	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Bodden Town Bypass			Bodden Town Rd			Bodden Town Rd		
Base Volume Input [veh/h]	360	18	3	20	13	0	47	506	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	360	18	3	20	13	0	47	506	6
Peak Hour Factor	0.9400	0.9400	1.0000	0.9400	0.9400	1.0000	0.9400	0.9400	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	96	5	1	5	3	0	13	135	2
Total Analysis Volume [veh/h]	383	19	3	21	14	0	50	538	6
Pedestrian Volume [ped/h]	0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			2		
Circulating Flow Rate [veh/h]	20			547			22		
Exiting Flow Rate [veh/h]	562			69			403		
Demand Flow Rate [veh/h]	360	18	3	20	13	0	47	506	6
Adjusted Demand Flow Rate [veh/h]	383	19	3	21	14	0	50	538	6

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1350.00
B (coefficient)	0.00085	0.00085	0.00085	0.00092
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	405	35	50	544
Capacity of Entry and Bypass Lanes [veh/h]	1397	892	1394	1323
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1397	892	1394	1323
X, volume / capacity	0.29	0.04	0.04	0.41

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	1.21	0.12	0.11	2.05
95th-Percentile Queue Length [ft]	30.35	3.06	2.79	51.30
Approach Delay [s/veh]	5.08	4.40	6.34	
Approach LOS	A	A	A	
Intersection Delay [s/veh]	5.78			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1000: Bodden Town Road at Long Fellow Drive

Control Type:	Roundabout	Delay (sec / veh):	3.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Longfellow Dr		Bodden Town Rd			Bodden Town Rd		
Approach	Southbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	Left	Thru	U-turn	Thru	Right	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		45.00			45.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	Yes		Yes			Yes		

Volumes

Name	Longfellow Dr		Bodden Town Rd			Bodden Town Rd		
Base Volume Input [veh/h]	14	0	1	301	0	463	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	0	1	301	0	463	0	0
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	1.0000	0.9100	0.9100	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	0	0	83	0	127	0	0
Total Analysis Volume [veh/h]	15	0	1	331	0	509	0	0
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	2		1			1		
Circulating Flow Rate [veh/h]	331		0			0		
Exiting Flow Rate [veh/h]	1		509			346		
Demand Flow Rate [veh/h]	14	0	1	301	0	463	0	0
Adjusted Demand Flow Rate [veh/h]	15	0	1	331	0	509	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	15	176	157	270	240
Capacity of Entry and Bypass Lanes [veh/h]	1072	1420	1420	1420	1420
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1072	1420	1420	1420	1420
X, volume / capacity	0.01	0.12	0.11	0.19	0.17

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.04	0.42	0.37	0.70	0.61
95th-Percentile Queue Length [ft]	1.06	10.58	9.24	17.50	15.13
Approach Delay [s/veh]	3.48	3.46		3.99	
Approach LOS	A	A		A	
Intersection Delay [s/veh]	3.78				
Intersection LOS	A				

Intersection Level Of Service Report
Intersection 1100: Frank Sound Road at Bodden Town Road

Control Type:	Roundabout	Delay (sec / veh):	4.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Bodden Town Rd			Sea View Rd	
Approach	Southbound		Eastbound			Westbound	
Lane Configuration							
Turning Movement	Left	Right	Left	Thru	U-turn	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		45.00			50.00	
Grade [%]	0.00		0.00			0.00	
Crosswalk	Yes		Yes			Yes	

Volumes

Name	Frank Sound Rd		Bodden Town Rd			Sea View Rd	
Base Volume Input [veh/h]	10	313	185	87	0	84	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	313	185	87	0	84	11
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	1.0000	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	84	50	23	0	23	3
Total Analysis Volume [veh/h]	11	337	199	94	0	90	12
Pedestrian Volume [ped/h]	0		0			0	

Intersection Settings

Number of Conflicting Circulating Lanes	2		1			1	
Circulating Flow Rate [veh/h]	94		12			337	
Exiting Flow Rate [veh/h]	211		427			105	
Demand Flow Rate [veh/h]	10	313	185	87	0	84	11
Adjusted Demand Flow Rate [veh/h]	11	337	199	94	0	90	12

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1380.00
B (coefficient)	0.00085	0.00091	0.00091	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	348	199	94	102
Capacity of Entry and Bypass Lanes [veh/h]	1311	1405	1405	979
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1311	1405	1405	979
X, volume / capacity	0.27	0.14	0.07	0.10

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	1.07	0.49	0.21	0.35
95th-Percentile Queue Length [ft]	26.86	12.34	5.37	8.70
Approach Delay [s/veh]	5.06	3.50		4.63
Approach LOS	A	A		A
Intersection Delay [s/veh]	4.39			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1200: Frank Sound Road at Clifton Hunter High School

Control Type:	Two-way stop	Delay (sec / veh):	14.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.301

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd			
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		20.00		20.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Frank Sound Rd			
Base Volume Input [veh/h]	141	76	118	74	50	170
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	141	76	118	74	50	170
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	19	30	19	13	43
Total Analysis Volume [veh/h]	141	76	118	74	50	170
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.05	0.06	0.30
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	7.79	12.16	14.56
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.17	0.17	1.61	1.61
95th-Percentile Queue Length [ft/ln]	0.00	0.00	4.30	4.30	40.19	40.19
d_A, Approach Delay [s/veh]	0.00		3.00		14.02	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	5.82					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1300: Frank Sound Road at North Side Road/Old Robin Road

Control Type:	Two-way stop	Delay (sec / veh):	10.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Base Volume Input [veh/h]	86	27	10	64	35	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	86	27	10	64	35	4
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	8	3	18	10	1
Total Analysis Volume [veh/h]	97	30	11	72	39	4
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.02	0.00	0.00	0.04	0.01
d_M, Delay for Movement [s/veh]	0.00	7.41	0.00	0.00	8.82	10.03
Movement LOS	A	A	A	A	A	B
95th-Percentile Queue Length [veh/ln]	0.06	0.06	0.00	0.00	0.14	0.14
95th-Percentile Queue Length [ft/ln]	1.50	1.50	0.00	0.00	3.52	3.52
d_A, Approach Delay [s/veh]	1.75		0.00		8.93	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.40					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1400: East-West Arterial at Agricola Drive Connector

Control Type:	Roundabout	Delay (sec / veh):	8.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			50.00			50.00			
Grade [%]	0.00			0.00			0.00			0.00			
Crosswalk	Yes			Yes			Yes			Yes			

Volumes

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Base Volume Input [veh/h]	123	16	1	37	48	44	3	269	25	1	746	23	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	123	16	1	37	48	44	3	269	25	1	746	23	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	31	4	0	9	12	11	1	67	6	0	187	6	0
Total Analysis Volume [veh/h]	123	16	1	37	48	44	3	269	25	1	746	23	0
Pedestrian Volume [ped/h]	0			0			0			0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1			
Circulating Flow Rate [veh/h]	813			295			40			117			
Exiting Flow Rate [veh/h]	74			42			913			307			
Demand Flow Rate [veh/h]	123	16	1	37	48	44	3	269	25	1	746	23	0
Adjusted Demand Flow Rate [veh/h]	123	16	1	37	48	44	3	269	25	1	746	23	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	140	129	297	770
Capacity of Entry and Bypass Lanes [veh/h]	603	1022	1325	1225
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	603	1022	1325	1225
X, volume / capacity	0.23	0.13	0.22	0.63

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	B
95th-Percentile Queue Length [veh]	0.89	0.43	0.86	4.69
95th-Percentile Queue Length [ft]	22.37	10.80	21.53	117.31
Approach Delay [s/veh]	8.94	4.66	4.62	10.92
Approach LOS	A	A	A	B
Intersection Delay [s/veh]	8.71			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1501: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	7.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name							East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name							East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	27	0	1	0	0	0	0	303	4	0	0	740	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	27	0	1	0	0	0	0	303	4	0	0	740	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	7	0	0	0	0	0	0	76	1	0	0	185	0	0
Total Analysis Volume [veh/h]	27	0	1	0	0	0	0	303	4	0	0	740	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1				
Circulating Flow Rate [veh/h]	740			308			1				4				
Exiting Flow Rate [veh/h]	4			0			767				304				
Demand Flow Rate [veh/h]	27	0	1	0	0	0	0	303	4	0	0	740	0	0	
Adjusted Demand Flow Rate [veh/h]	27	0	1	0	0	0	0	303	4	0	0	740	0	0	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	28	0	307	740
Capacity of Entry and Bypass Lanes [veh/h]	649	1008	1379	1375
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	649	1008	1379	1375
X, volume / capacity	0.04	0.00	0.22	0.54

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.14	0.00	0.85	3.36
95th-Percentile Queue Length [ft]	3.38	0.00	21.35	83.93
Approach Delay [s/veh]	6.02	3.57	4.47	8.32
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	7.16			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1502: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	6.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name			East-West Arterial			East-West Arterial		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	Thru	Right	U-turn	Left	Thru	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00			50.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	Yes		Yes			Yes		

Volumes

Name			East-West Arterial			East-West Arterial		
Base Volume Input [veh/h]	222	4	304	1	0	1	518	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	222	4	304	1	0	1	518	15
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	56	1	76	0	0	0	130	4
Total Analysis Volume [veh/h]	222	4	304	1	0	1	518	15
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1		1			1		
Circulating Flow Rate [veh/h]	533		19			1		
Exiting Flow Rate [veh/h]	2		740			323		
Demand Flow Rate [veh/h]	222	4	304	1	0	1	518	15
Adjusted Demand Flow Rate [veh/h]	222	4	304	1	0	1	518	15

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	226	305	534
Capacity of Entry and Bypass Lanes [veh/h]	802	1354	1379
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	802	1354	1379
X, volume / capacity	0.28	0.23	0.39

Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	1.16	0.87	1.86
95th-Percentile Queue Length [ft]	29.00	21.67	46.60
Approach Delay [s/veh]	7.66	4.56	6.19
Approach LOS	A	A	A
Intersection Delay [s/veh]	6.03		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 1600: East-West Arterial at Northward Rd

Control Type:	Two-way stop	Delay (sec / veh):	11.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.121

Intersection Setup

Name	Northward Rd		East-West Arterial		East-West Arterial	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		East-West Arterial		East-West Arterial	
Base Volume Input [veh/h]	73	0	322	0	5	461
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	73	0	322	0	5	461
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	0	81	0	1	115
Total Analysis Volume [veh/h]	73	0	322	0	5	461
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.79	0.00	0.00	0.00	0.00	0.00
Movement LOS	B		A		A	A
95th-Percentile Queue Length [veh/ln]	0.41	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	10.27	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.79		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	1.00					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1700: East-West Arterial at Lookout Rd

Control Type:	Roundabout	Delay (sec / veh):	5.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Lookout Rd		East-West Arterial			Lookout Rd	
Approach	Southbound		Eastbound			Westbound	
Lane Configuration							
Turning Movement	Left	Right	Left	Thru	U-turn	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		35.00			35.00	
Grade [%]	0.00		0.00			0.00	
Crosswalk	Yes		Yes			Yes	

Volumes

Name	Lookout Rd		East-West Arterial			Lookout Rd	
Base Volume Input [veh/h]	0	0	0	258	64	487	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	258	64	487	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	65	16	122	0
Total Analysis Volume [veh/h]	0	0	0	258	64	487	0
Pedestrian Volume [ped/h]	0		0			0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1			1		
Circulating Flow Rate [veh/h]	322		0			64		
Exiting Flow Rate [veh/h]	0		551			258		
Demand Flow Rate [veh/h]	0	0	0	258	64	487	0	
Adjusted Demand Flow Rate [veh/h]	0	0	0	258	64	487	0	

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	0	322	487
Capacity of Entry and Bypass Lanes [veh/h]	994	1380	1293
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	994	1380	1293
X, volume / capacity	0.00	0.23	0.38

Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.91	1.78
95th-Percentile Queue Length [ft]	0.00	22.67	44.54
Approach Delay [s/veh]	3.62	4.57	6.34
Approach LOS	A	A	A
Intersection Delay [s/veh]	5.64		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 2000: Frank Sound Road at East-West Arterial

Control Type:	Unknown	Delay (sec / veh):	?
Analysis Method:	?	Level Of Service:	?
Analysis Period:	15 minutes	Volume to Capacity (v/c):	?

Intersection Setup

Name	Frank Sound Rd	Frank Sound Rd
Approach	Northeastbound	Southwestbound
Lane Configuration		
Turning Movement	Thru	Thru
Crosswalk	Yes	Yes

Volumes

Name	Frank Sound Rd	Frank Sound Rd
Base Volume Input [veh/h]	118	124
Base Volume Adjustment Factor	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00
Growth Factor	1.0000	1.0000
In-Process Volume [veh/h]	0	0
Site-Generated Trips [veh/h]	0	0
Diverted Trips [veh/h]	0	0
Pass-by Trips [veh/h]	0	0
Existing Site Adjustment Volume [veh/h]	0	0
Other Volume [veh/h]	0	0
Left-Turn on Red Volume [veh/h]	0	0
Total Hourly Volume [veh/h]	118	124
Peak Hour Factor	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	31
Total Analysis Volume [veh/h]	118	124
Presence of On-Street Parking	No	No
On-Street Parking Maneuver Rate [/h]	0	0
Local Bus Stopping Rate [/h]	0	0
Pedestrian Volume [ped/h]	0	0

Intersection Level Of Service Report
Intersection 2100: Frank Sound Road at East-West Arterial

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd			
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		20.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Frank Sound Rd			
Base Volume Input [veh/h]	125	0	0	192	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	125	0	0	192	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	31	0	0	48	0	0
Total Analysis Volume [veh/h]	125	0	0	192	0	0
Pedestrian Volume [ped/h]	0		0		0	

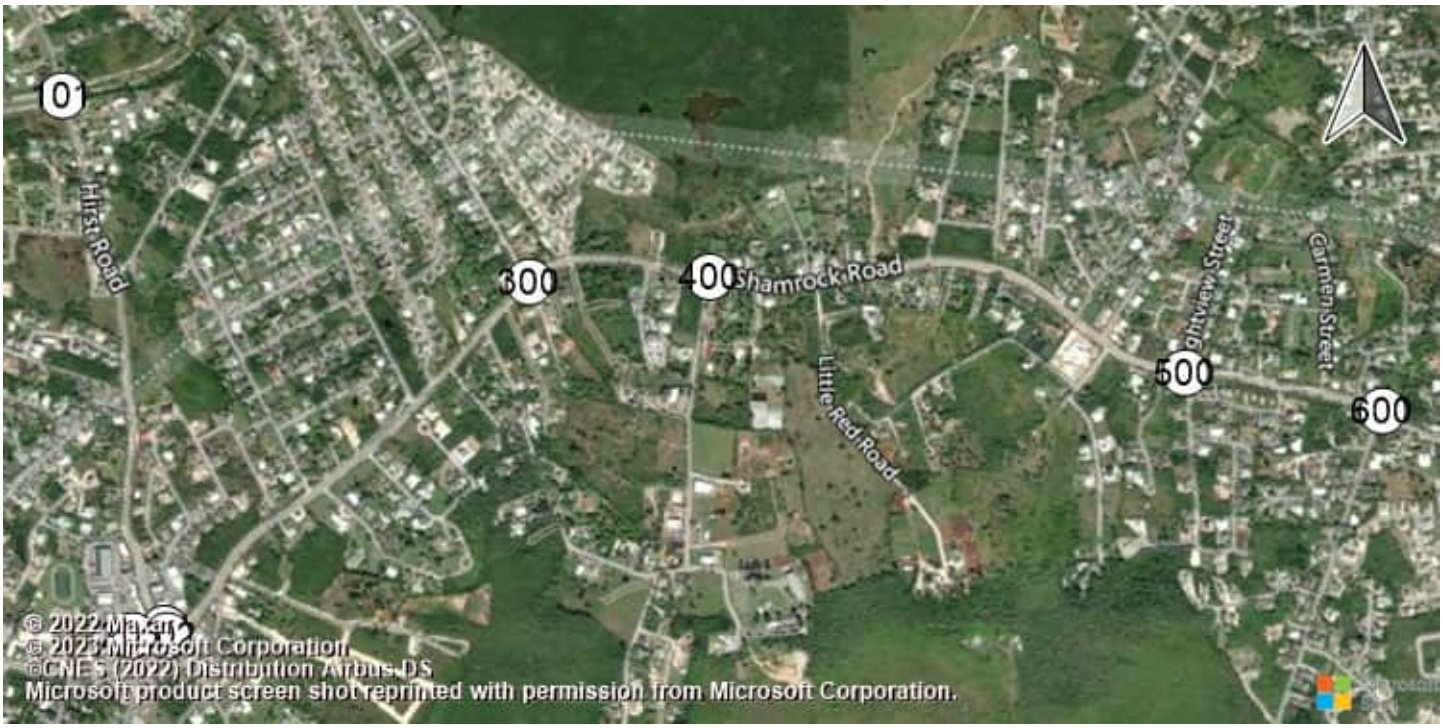
Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

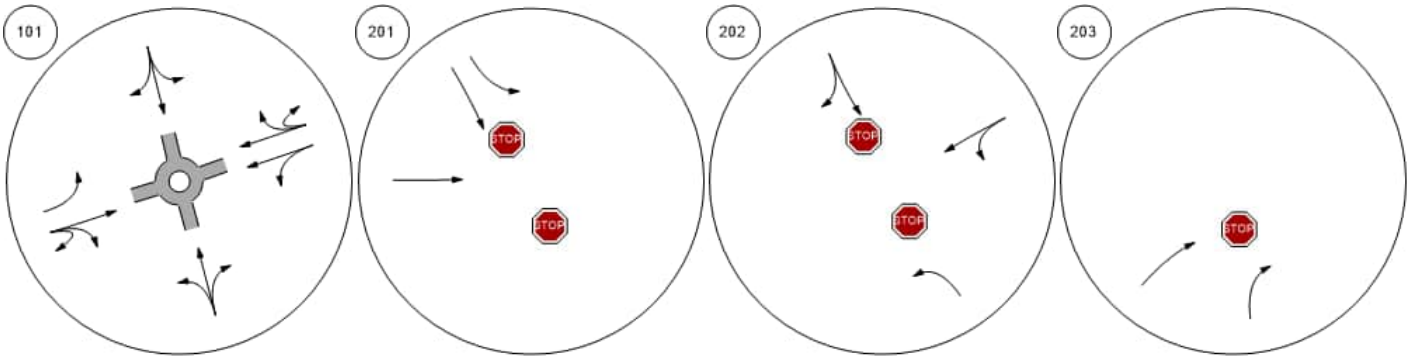
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	7.58	0.00	0.00	9.21	10.29
Movement LOS	A	A	A	A	A	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		9.75	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

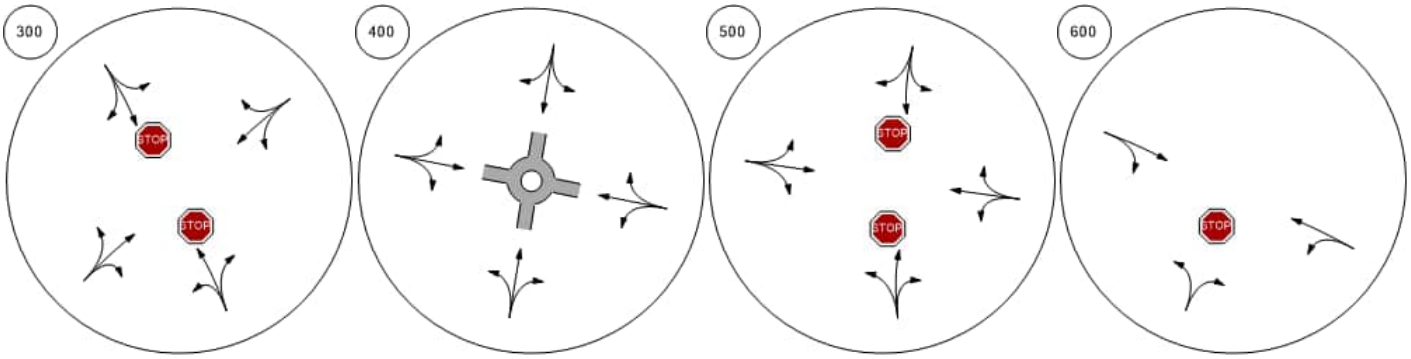
Lane Configuration and Traffic Control



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



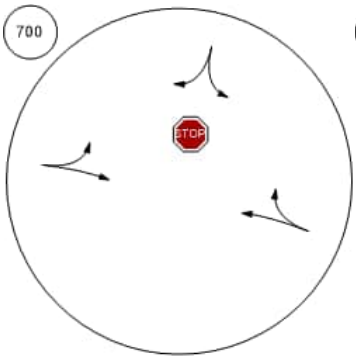
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



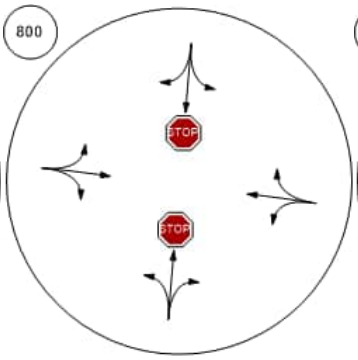
Lane Configuration and Traffic Control



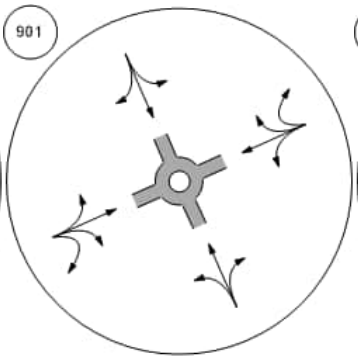
Shamrock Road at Northward



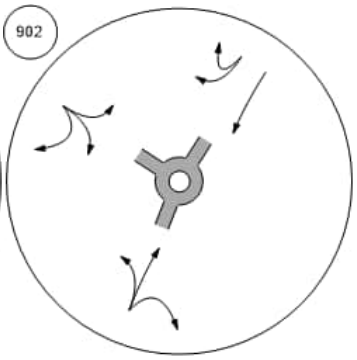
Shamrock Road at Condor R



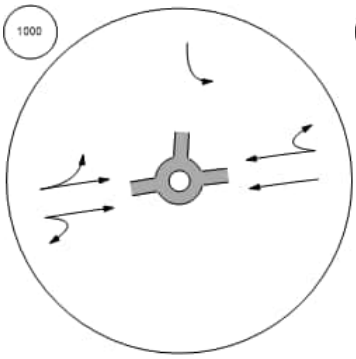
Lookout Road at Bodden To



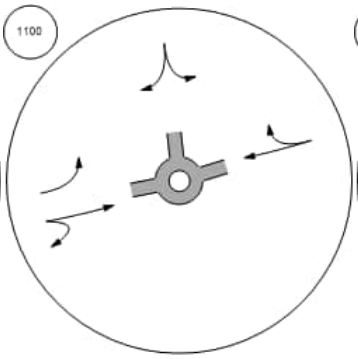
Bodden Town Road at Bodde



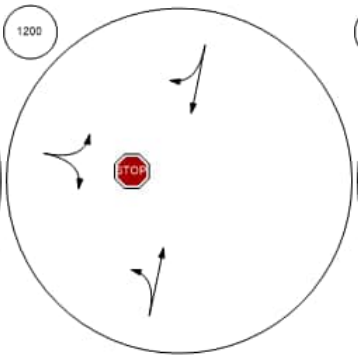
Bodden Town Road at Long



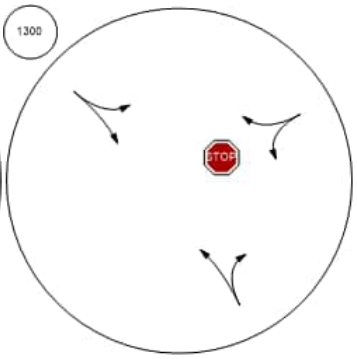
Frank Sound Road at Bodde



Frank Sound Road at Clifton



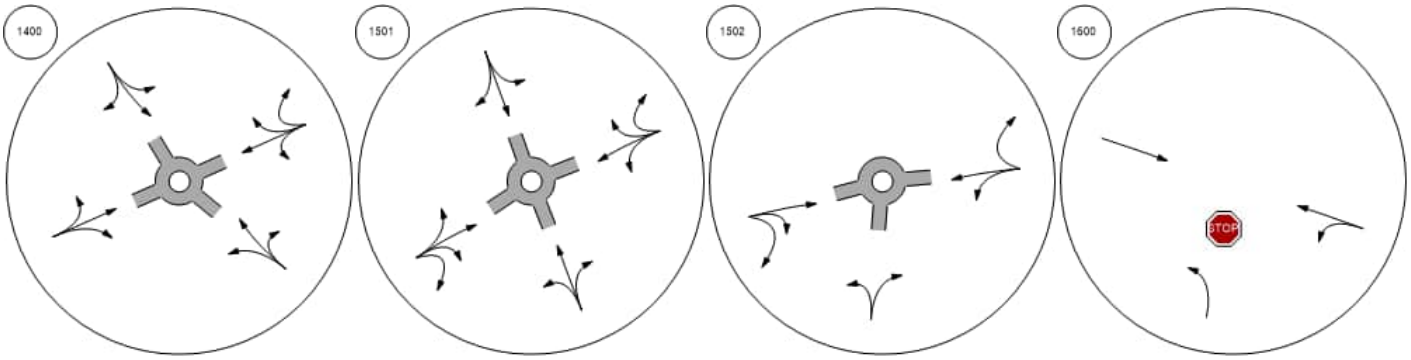
Frank Sound Road at North S



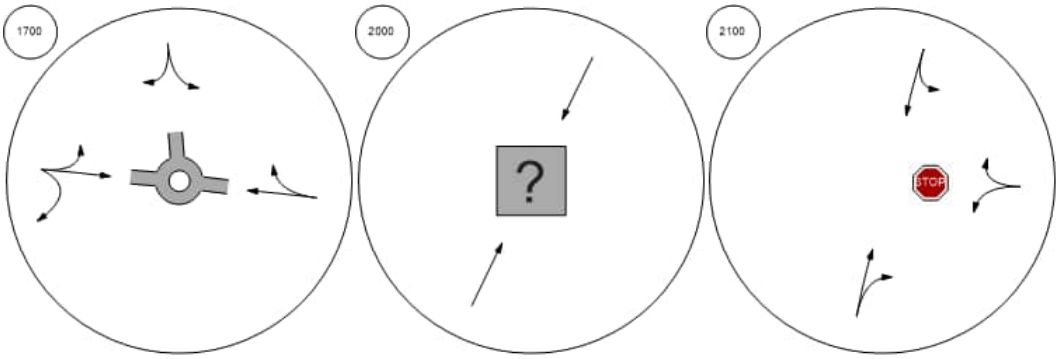
Lane Configuration and Traffic Control



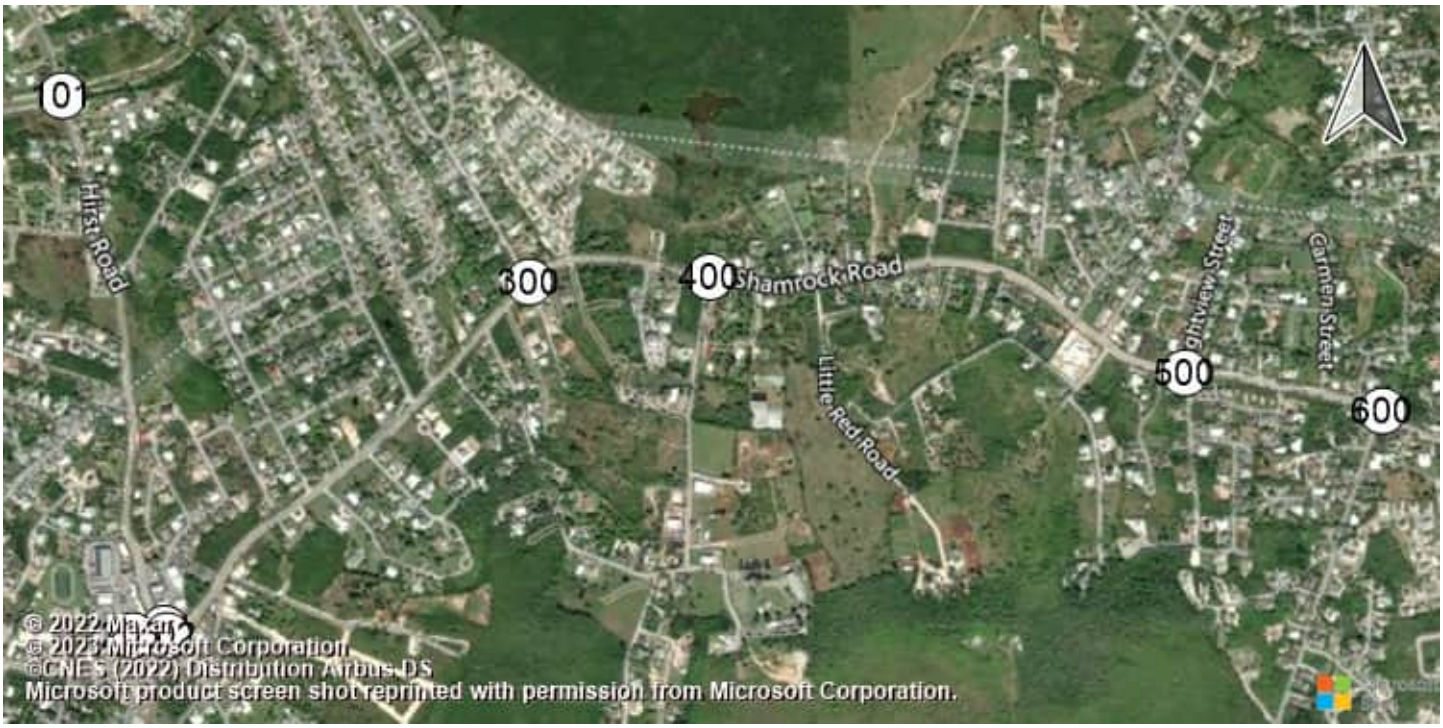
East-West Arterial at Agricola | East-West Arterial at Will T C | East-West Arterial at Will T C | East-West Arterial at Northwa



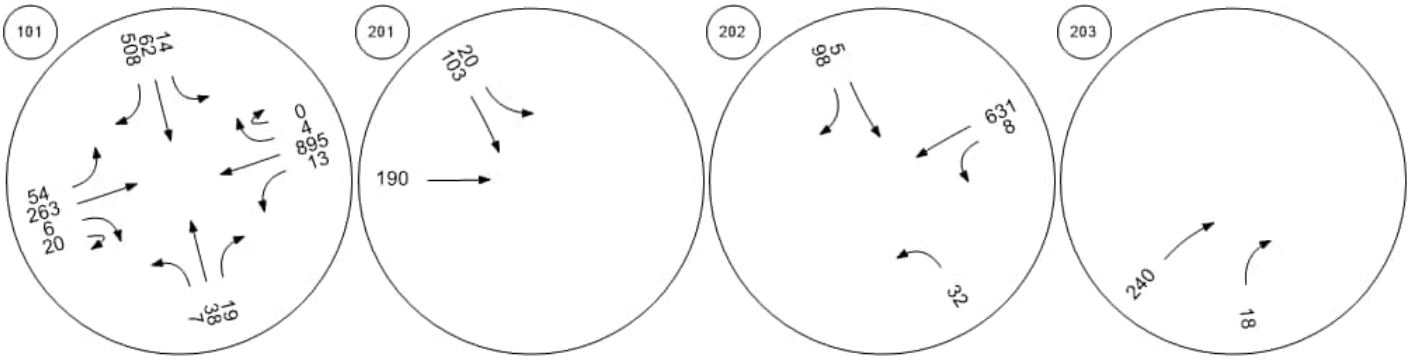
East-West Arterial at Lookout | Frank Sound Road at East-W | Frank Sound Road at East-W



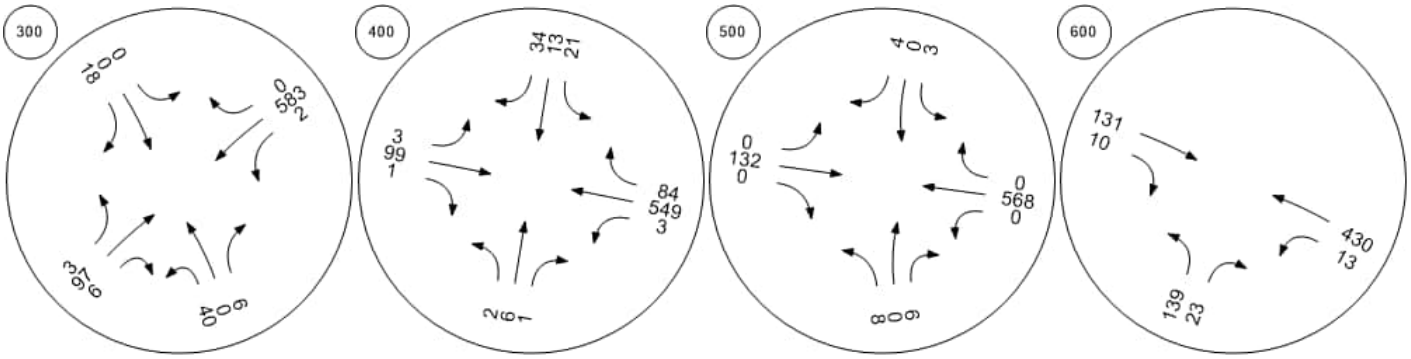
Traffic Volume - Base Volume



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



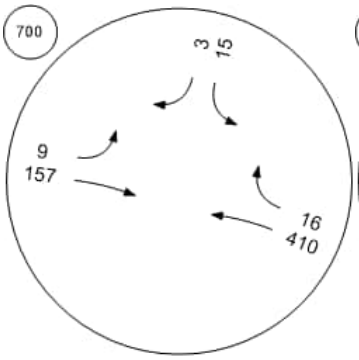
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



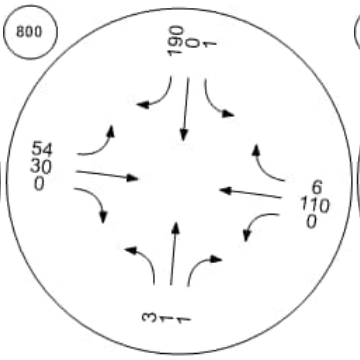
Traffic Volume - Base Volume



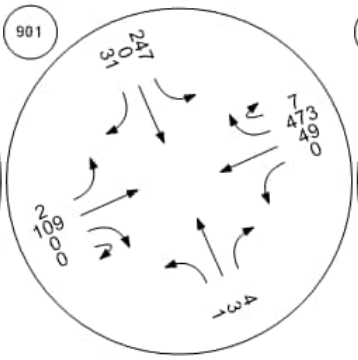
Shamrock Road at Northward



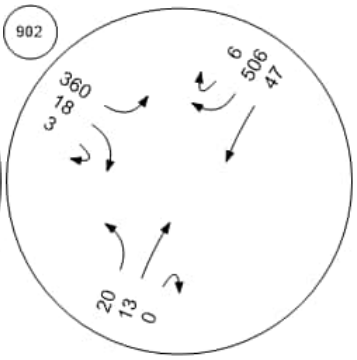
Shamrock Road at Condor R



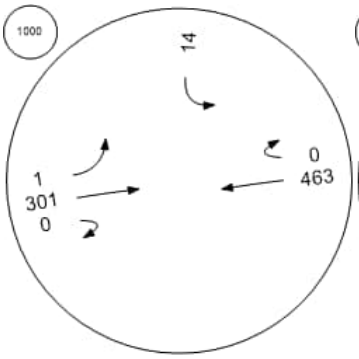
Lookout Road at Bodden To



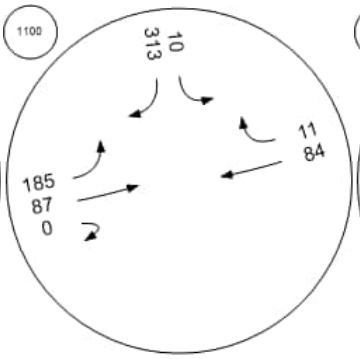
Bodden Town Road at Bodde



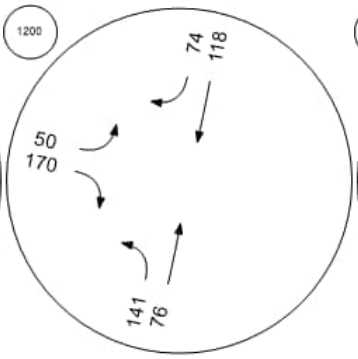
Bodden Town Road at Long



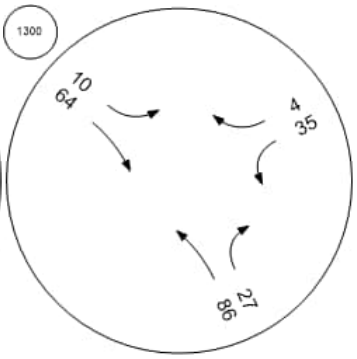
Frank Sound Road at Bodde



Frank Sound Road at Clifton



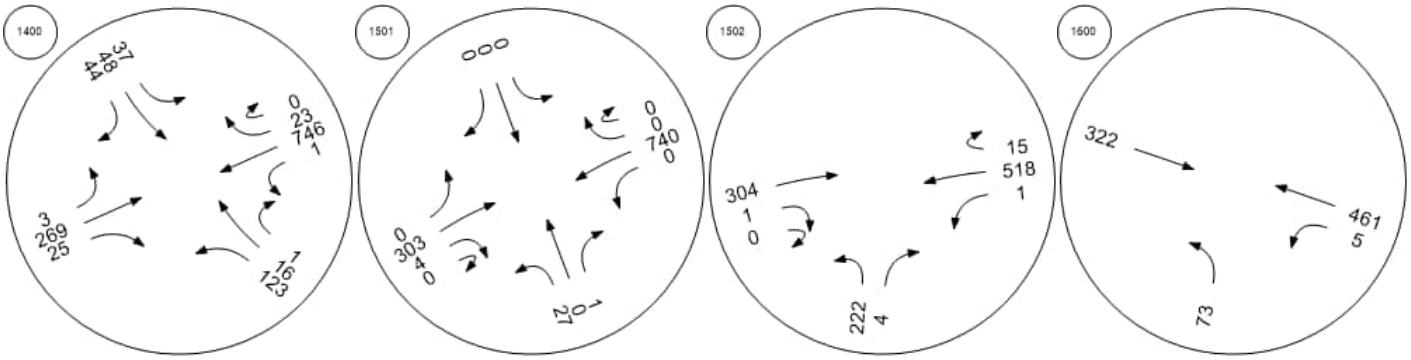
Frank Sound Road at North S



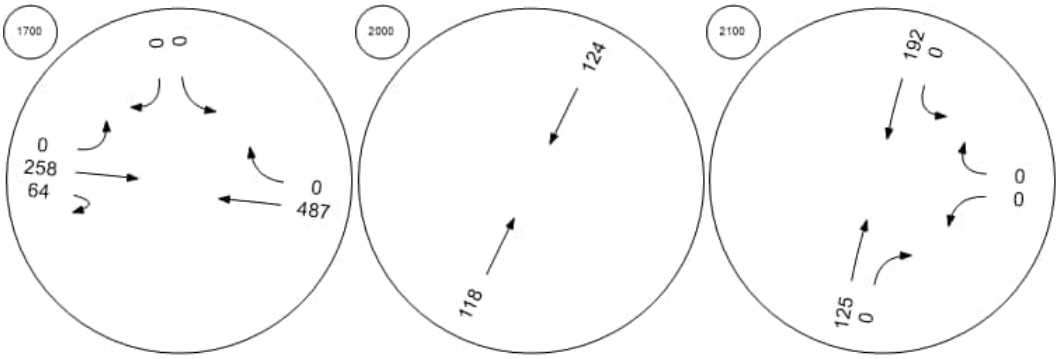
Traffic Volume - Base Volume



East-West Arterial at Agricola East-West Arterial at Will T C East-West Arterial at Will T C East-West Arterial at Northwa



East-West Arterial at Lookout Frank Sound Road at East-W Frank Sound Road at East-W



Intersection Level Of Service Report
Intersection 101: East-West Arterial Road at Hirst Road

Control Type:	Roundabout	Delay (sec / veh):	12.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name									East-West Arterial				East-West Arterial				
Approach	Northbound				Southbound				Eastbound				Westbound				
Lane Configuration																	
Turning Movement	Left	Left	Thru	Right	Left	Thru	Right	Right	Left	Thru	Right	U-tu	Left	Thr	Thr	Rig	U-t
Lane Width [ft]	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.	12.	12.	12.	12.
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Entry Pocket Length [ft]	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	200	100	100	100	100
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Speed [mph]	30.00				30.00				40.00				50.00				
Grade [%]	0.00				0.00				0.00				0.00				
Crosswalk	Yes				Yes				Yes				Yes				

Volumes

Name									East-West Arterial				East-West Arterial				
Base Volume Input [veh/h]	27	0	133	8	0	63	0	128	374	929	46	3	34	281	0	11	0
Base Volume Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	27	0	133	8	0	63	0	128	374	929	46	3	34	281	0	11	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Other Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Total 15-Minute Volume [veh/h]	7	0	33	2	0	16	0	32	94	232	12	1	9	70	0	3	0
Total Analysis Volume [veh/h]	27	0	133	8	0	63	0	128	374	929	46	3	34	281	0	11	0
Pedestrian Volume [ped/h]	0				0				0				0				

Intersection Settings

Number of Conflicting Circulating Lanes	2				2				2				2				
Circulating Flow Rate [veh/h]	423				986				152				240				
Exiting Flow Rate [veh/h]	143				518				439				937				
Demand Flow Rate [veh/h]	27	0	133	8	0	63	0	128	374	929	46	3	34	281	0	11	0
Adjusted Demand Flow Rate [veh/h]	27	0	133	8	0	63	0	128	374	929	46	3	34	281	0	11	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1350.00	1420.00	1350.00
B (coefficient)	0.00085	0.00085	0.00085	0.00092	0.00085	0.00092
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	168	191	374	978	173	154
Capacity of Entry and Bypass Lanes [veh/h]	992	615	1248	1174	1158	1083
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	992	615	1248	1174	1158	1083
X, volume / capacity	0.17	0.31	0.30	0.83	0.15	0.14

Movement, Approach, & Intersection Results

Lane LOS	A	B	A	C	A	A
95th-Percentile Queue Length [veh]	0.61	1.32	1.27	10.49	0.52	0.49
95th-Percentile Queue Length [ft]	15.22	33.02	31.73	262.22	13.10	12.31
Approach Delay [s/veh]	5.22	10.04	16.22		4.48	
Approach LOS	A	B	C		A	
Intersection Delay [s/veh]	12.86					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 201: Shamrock Road at Hirst Rd (1)

Control Type:	Two-way stop	Delay (sec / veh):	15.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.368

Intersection Setup

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	0	0	0	16	184	0	0	376	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	16	184	0	0	376	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	4	49	0	0	101	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	17	198	0	0	404	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop			Stop			Free			Free			
Flared Lane													
Storage Area [veh]	0			0			0			0			
Two-Stage Gap Acceptance				No									
Number of Storage Spaces in Median	0			0			0			0			

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.03	0.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	10.68	15.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Movement LOS				B	C			A					
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.08	1.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	2.01	41.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
d_A, Approach Delay [s/veh]	0.00			15.13			0.00			0.00			
Approach LOS	A			C			A			A			
d_I, Intersection Delay [s/veh]	5.26												
Intersection LOS	C												

Intersection Level Of Service Report
Intersection 202: Shamrock Road at Hirst Rd (2)

Control Type:	Two-way stop	Delay (sec / veh):	13.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.027

Intersection Setup

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	31	0	0	0	16	169	0	0	0	14	239	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	31	0	0	0	16	169	0	0	0	14	239	0
Peak Hour Factor	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	0	0	0	4	45	0	0	0	4	64	0
Total Analysis Volume [veh/h]	33	0	0	0	17	182	0	0	0	15	257	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.00	0.00	0.00	0.03	0.27	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.83	0.00	0.00	0.00	12.97	12.76	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	A				B	B				A	A	
95th-Percentile Queue Length [veh/ln]	0.13	0.00	0.00	0.00	1.26	1.26	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	3.31	0.00	0.00	0.00	31.62	31.62	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.83			12.78			0.00			0.00		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	5.69											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 203: Shamrock Road atHirst Road Jughandle

Control Type:	Two-way stop	Delay (sec / veh):	13.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.069

Intersection Setup

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	0	31	544	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	31	544	0	0	0
Peak Hour Factor	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	8	146	0	0	0
Total Analysis Volume [veh/h]	0	33	585	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.07	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	13.11	0.00	0.00	0.00	0.00
Movement LOS		B	A			
95th-Percentile Queue Length [veh/ln]	0.00	0.22	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	5.56	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.11		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.70					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 300: Shamrock Road at Woodland Drive

Control Type:	Two-way stop	Delay (sec / veh):	16.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.035

Intersection Setup

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	12	0	2	0	0	12	5	323	29	5	311	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	0	2	0	0	12	5	323	29	5	311	0
Peak Hour Factor	0.9700	0.9700	1.0000	1.0000	0.9700	0.9700	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	1	0	0	3	1	81	7	1	78	0
Total Analysis Volume [veh/h]	12	0	2	0	0	12	5	323	30	5	311	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.01	0.00	0.00	0.04	0.00	0.00	0.02	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	10.05	15.28	15.44	10.38	15.54	15.97	0.00	0.00	7.94	0.00	0.00	7.90
Movement LOS	B	C	C	B	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.07	0.07	0.07	0.11	0.11	0.11	0.07	0.07	0.07	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.70	1.70	1.70	2.73	2.73	2.73	1.84	1.84	1.84	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	10.82			15.97			0.67			0.00		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	0.83											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 400: Shamrock Road at Agricola Drive

Control Type:	Roundabout	Delay (sec / veh):	5.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	1	0	0	165	18	6	4	318	3	9	308	39
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	0	165	18	6	4	318	3	9	308	39
Peak Hour Factor	1.0000	1.0000	0.9200	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9200	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	41	5	2	1	80	1	2	77	10
Total Analysis Volume [veh/h]	1	0	0	165	18	6	4	318	3	10	308	39
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	353			321			39			27		
Exiting Flow Rate [veh/h]	31			43			315			483		
Demand Flow Rate [veh/h]	1	0	0	165	18	6	4	318	3	9	308	39
Adjusted Demand Flow Rate [veh/h]	1	0	0	165	18	6	4	318	3	10	308	39

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	1	189	325	357
Capacity of Entry and Bypass Lanes [veh/h]	963	995	1327	1343
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	963	995	1327	1343
X, volume / capacity	0.00	0.19	0.25	0.27

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.70	0.97	1.08
95th-Percentile Queue Length [ft]	0.08	17.47	24.16	26.93
Approach Delay [s/veh]	3.75	5.42	4.82	4.98
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	5.01			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 500: Shamrock Road at Brightview Drive / Calla Lily Drive

Control Type:	Two-way stop	Delay (sec / veh):	17.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			20.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	1	0	1	0	0	0	10	405	20	52	294	28
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	1	0	0	0	10	405	20	52	294	28
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0	3	101	5	13	74	7
Total Analysis Volume [veh/h]	1	0	1	0	0	0	10	405	20	52	294	28
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	10.01	17.38	17.81	10.57	17.69	17.79	0.00	0.00	7.99	0.00	0.00	8.19
Movement LOS	B	C	C	B	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.00	0.00	0.00	0.05	0.05	0.05	0.07	0.07	0.07
95th-Percentile Queue Length [ft/ln]	0.37	0.37	0.37	0.00	0.00	0.00	1.25	1.25	1.25	1.86	1.86	1.86
d_A, Approach Delay [s/veh]	13.91			15.35			0.37			0.61		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	0.51											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 600: Shamrock Road at Beach Bay Road

Control Type:	Two-way stop	Delay (sec / veh):	19.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.093

Intersection Setup

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	47	24	322	84	20	327
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	47	24	322	84	20	327
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	7	88	23	5	90
Total Analysis Volume [veh/h]	52	26	354	92	22	359
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.09	0.00	0.08	0.00	0.00
d_M, Delay for Movement [s/veh]	11.89	19.52	0.00	8.28	0.00	0.00
Movement LOS	B	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.61	0.61	0.25	0.25	0.00	0.00
95th-Percentile Queue Length [ft/ln]	15.15	15.15	6.28	6.28	0.00	0.00
d_A, Approach Delay [s/veh]	14.43		1.71		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	2.09					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 700: Shamrock Road at Northward Road

Control Type:	Two-way stop	Delay (sec / veh):	14.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.062

Intersection Setup

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	34	25	14	245	362	16
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	34	25	14	245	362	16
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	6	4	63	93	4
Total Analysis Volume [veh/h]	35	26	14	253	373	16
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.06	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	10.34	14.28	0.00	0.00	0.00	7.79
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.36	0.36	0.00	0.00	0.04	0.04
95th-Percentile Queue Length [ft/ln]	8.88	8.88	0.00	0.00	0.93	0.93
d_A, Approach Delay [s/veh]	12.02		0.00		0.32	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	1.20					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 800: Shamrock Road at Condor Road

Control Type:	Two-way stop	Delay (sec / veh):	11.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.119

Intersection Setup

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Base Volume Input [veh/h]	1	0	0	5	0	72	72	115	1	0	167	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	0	5	0	72	72	115	1	0	167	13
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	1	0	18	18	29	0	0	42	3
Total Analysis Volume [veh/h]	1	0	0	5	0	72	72	115	1	0	167	13
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	9.08	11.57	10.99	9.82	12.10	11.77	0.00	0.00	7.53	0.00	0.00	7.60
Movement LOS	A	B	B	A	B	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.42	0.42	0.42	0.00	0.00	0.00	0.03	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.09	0.09	0.09	10.59	10.59	10.59	0.05	0.05	0.05	0.70	0.70	0.70
d_A, Approach Delay [s/veh]	9.08			11.64			0.04			0.55		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	2.27											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 901: Lookout Road at Bodden Town Bypass

Control Type:	Roundabout	Delay (sec / veh):	6.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name				Lookout Rd			An/Bo				An/Bo			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			35.00			30.00				35.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name				Lookout Rd			An/Bo				An/Bo			
Base Volume Input [veh/h]	0	1	2	539	8	16	7	69	1	0	3	121	313	28
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1	2	539	8	16	7	69	1	0	3	121	313	28
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	0	0	1	135	2	4	2	17	0	0	1	30	78	7
Total Analysis Volume [veh/h]	0	1	2	539	8	16	7	69	1	0	3	121	313	28
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1				
Circulating Flow Rate [veh/h]	478			100			344				25				
Exiting Flow Rate [veh/h]	12			321			137				638				
Demand Flow Rate [veh/h]	0	1	2	539	8	16	7	69	1	0	3	121	313	28	
Adjusted Demand Flow Rate [veh/h]	0	1	2	539	8	16	7	69	1	0	3	121	313	28	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	3	563	77	465
Capacity of Entry and Bypass Lanes [veh/h]	848	1247	972	1346
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	848	1247	972	1346
X, volume / capacity	0.00	0.45	0.08	0.35

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.01	2.40	0.26	1.56
95th-Percentile Queue Length [ft]	0.27	60.11	6.44	39.06
Approach Delay [s/veh]	4.28	7.51	4.42	5.81
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	6.57			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 902: Bodden Town Road at Bodden Town Bypass

Control Type:	Roundabout	Delay (sec / veh):	6.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Bodden Town Bypass			Bodden Town Rd			Bodden Town Rd		
Approach	Southbound			Eastbound			Westbound		
Lane Configuration									
Turning Movement	Left	Right	U-turn	Left	Thru	U-turn	Thru	Right	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Bodden Town Bypass			Bodden Town Rd			Bodden Town Rd		
Base Volume Input [veh/h]	596	31	5	36	63	0	106	424	16
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	596	31	5	36	63	0	106	424	16
Peak Hour Factor	0.9400	0.9400	1.0000	0.9400	0.9400	1.0000	0.9400	0.9400	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	159	8	1	10	17	0	28	113	4
Total Analysis Volume [veh/h]	634	33	5	38	67	0	113	451	16
Pedestrian Volume [ped/h]	0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			2		
Circulating Flow Rate [veh/h]	83			472			38		
Exiting Flow Rate [veh/h]	494			146			717		
Demand Flow Rate [veh/h]	596	31	5	36	63	0	106	424	16
Adjusted Demand Flow Rate [veh/h]	634	33	5	38	67	0	113	451	16

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1350.00
B (coefficient)	0.00085	0.00085	0.00085	0.00092
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	672	105	113	467
Capacity of Entry and Bypass Lanes [veh/h]	1324	951	1375	1304
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1324	951	1375	1304
X, volume / capacity	0.51	0.11	0.08	0.36

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	2.99	0.37	0.27	1.65
95th-Percentile Queue Length [ft]	74.65	9.28	6.70	41.22
Approach Delay [s/veh]	8.03	4.81	5.54	
Approach LOS	A	A	A	
Intersection Delay [s/veh]	6.72			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1000: Bodden Town Road at Long Fellow Drive

Control Type:	Roundabout	Delay (sec / veh):	4.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Longfellow Dr		Bodden Town Rd			Bodden Town Rd		
Approach	Southbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	Left	Thru	U-turn	Thru	Right	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		45.00			45.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	Yes		Yes			Yes		

Volumes

Name	Longfellow Dr		Bodden Town Rd			Bodden Town Rd		
Base Volume Input [veh/h]	12	0	24	552	0	477	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	0	24	552	0	477	0	0
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	1.0000	0.9100	0.9100	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	7	152	0	131	0	0
Total Analysis Volume [veh/h]	13	0	26	607	0	524	0	0
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	2		1			1		
Circulating Flow Rate [veh/h]	607		0			0		
Exiting Flow Rate [veh/h]	26		524			620		
Demand Flow Rate [veh/h]	12	0	24	552	0	477	0	0
Adjusted Demand Flow Rate [veh/h]	13	0	26	607	0	524	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	13	336	298	278	247
Capacity of Entry and Bypass Lanes [veh/h]	848	1420	1420	1420	1420
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	848	1420	1420	1420	1420
X, volume / capacity	0.02	0.24	0.21	0.20	0.17

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.05	0.92	0.79	0.73	0.63
95th-Percentile Queue Length [ft]	1.17	23.04	19.77	18.14	15.67
Approach Delay [s/veh]	4.39	4.38		4.04	
Approach LOS	A	A		A	
Intersection Delay [s/veh]	4.23				
Intersection LOS	A				

Intersection Level Of Service Report
Intersection 1100: Frank Sound Road at Bodden Town Road

Control Type:	Roundabout	Delay (sec / veh):	4.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Bodden Town Rd			Sea View Rd	
Approach	Southbound		Eastbound			Westbound	
Lane Configuration							
Turning Movement	Left	Right	Left	Thru	U-turn	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		45.00			50.00	
Grade [%]	0.00		0.00			0.00	
Crosswalk	Yes		Yes			Yes	

Volumes

Name	Frank Sound Rd		Bodden Town Rd			Sea View Rd	
Base Volume Input [veh/h]	19	274	323	150	0	150	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	19	274	323	150	0	150	25
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	1.0000	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	74	87	40	0	40	7
Total Analysis Volume [veh/h]	20	295	347	161	0	161	27
Pedestrian Volume [ped/h]	0		0			0	

Intersection Settings

Number of Conflicting Circulating Lanes	2		1			1	
Circulating Flow Rate [veh/h]	161		27			295	
Exiting Flow Rate [veh/h]	374		456			181	
Demand Flow Rate [veh/h]	19	274	323	150	0	150	25
Adjusted Demand Flow Rate [veh/h]	20	295	347	161	0	161	27

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1380.00
B (coefficient)	0.00085	0.00091	0.00091	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	315	347	161	188
Capacity of Entry and Bypass Lanes [veh/h]	1239	1386	1386	1022
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1239	1386	1386	1022
X, volume / capacity	0.25	0.25	0.12	0.18

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	1.01	0.99	0.39	0.67
95th-Percentile Queue Length [ft]	25.36	24.87	9.84	16.81
Approach Delay [s/veh]	5.17	4.34		5.24
Approach LOS	A	A		A
Intersection Delay [s/veh]	4.76			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1200: Frank Sound Road at Clifton Hunter High School

Control Type:	Two-way stop	Delay (sec / veh):	20.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.406

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd			
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		20.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Frank Sound Rd			
Base Volume Input [veh/h]	154	168	130	108	91	174
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	154	168	130	108	91	174
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	42	33	27	23	44
Total Analysis Volume [veh/h]	154	168	130	108	91	174
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.09	0.11	0.41
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	8.15	16.89	20.78
Movement LOS	A	A	A	A	C	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.28	0.28	2.96	2.96
95th-Percentile Queue Length [ft/ln]	0.00	0.00	7.08	7.08	74.00	74.00
d_A, Approach Delay [s/veh]	0.00		3.70		19.45	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	7.31					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1300: Frank Sound Road at North Side Road/Old Robin Road

Control Type:	Two-way stop	Delay (sec / veh):	11.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.045

Intersection Setup

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Base Volume Input [veh/h]	143	28	35	130	63	24
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	143	28	35	130	63	24
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	8	10	37	18	7
Total Analysis Volume [veh/h]	161	31	39	146	71	27
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.02	0.00	0.00	0.08	0.04
d_M, Delay for Movement [s/veh]	0.00	7.63	0.00	0.00	9.73	11.62
Movement LOS	A	A	A	A	A	B
95th-Percentile Queue Length [veh/ln]	0.07	0.07	0.00	0.00	0.43	0.43
95th-Percentile Queue Length [ft/ln]	1.70	1.70	0.00	0.00	10.66	10.66
d_A, Approach Delay [s/veh]	1.23		0.00		10.25	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	2.61					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1400: East-West Arterial at Agricola Drive Connector

Control Type:	Roundabout	Delay (sec / veh):	11.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			50.00			50.00			
Grade [%]	0.00			0.00			0.00			0.00			
Crosswalk	Yes			Yes			Yes			Yes			

Volumes

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Base Volume Input [veh/h]	20	20	1	69	31	6	0	756	182	3	300	51	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	20	1	69	31	6	0	756	182	3	300	51	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	5	5	0	17	8	2	0	189	46	1	75	13	0
Total Analysis Volume [veh/h]	20	20	1	69	31	6	0	756	182	3	300	51	0
Pedestrian Volume [ped/h]	0			0			0			0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1			
Circulating Flow Rate [veh/h]	357			939			72			219			
Exiting Flow Rate [veh/h]	216			71			326			826			
Demand Flow Rate [veh/h]	20	20	1	69	31	6	0	756	182	3	300	51	0
Adjusted Demand Flow Rate [veh/h]	20	20	1	69	31	6	0	756	182	3	300	51	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	41	106	938	354
Capacity of Entry and Bypass Lanes [veh/h]	959	530	1283	1104
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	959	530	1283	1104
X, volume / capacity	0.04	0.20	0.73	0.32

Movement, Approach, & Intersection Results

Lane LOS	A	A	B	A
95th-Percentile Queue Length [veh]	0.13	0.74	7.03	1.40
95th-Percentile Queue Length [ft]	3.35	18.51	175.66	34.89
Approach Delay [s/veh]	4.14	9.49	13.68	6.40
Approach LOS	A	A	B	A
Intersection Delay [s/veh]	11.31			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1501: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	8.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name							East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name							East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	1	0	2	0	0	0	0	743	83	0	2	352	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	2	0	0	0	0	743	83	0	2	352	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	0	0	1	0	0	0	0	186	21	0	1	88	0	0
Total Analysis Volume [veh/h]	1	0	2	0	0	0	0	743	83	0	2	352	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1					
Circulating Flow Rate [veh/h]	352			828			2				83					
Exiting Flow Rate [veh/h]	85			0			353				745					
Demand Flow Rate [veh/h]	1	0	2	0	0	0	0	743	83	0	2	352	0	0		
Adjusted Demand Flow Rate [veh/h]	1	0	2	0	0	0	0	743	83	0	2	352	0	0		

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	3	0	826	354
Capacity of Entry and Bypass Lanes [veh/h]	964	594	1378	1268
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	964	594	1378	1268
X, volume / capacity	0.00	0.00	0.60	0.28

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.01	0.00	4.24	1.15
95th-Percentile Queue Length [ft]	0.23	0.00	105.88	28.76
Approach Delay [s/veh]	3.76	6.07	9.45	5.33
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	8.20			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1502: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	7.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name			East-West Arterial			East-West Arterial		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	Thru	Right	U-turn	Left	Thru	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00			50.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	Yes		Yes			Yes		

Volumes

Name			East-West Arterial			East-West Arterial		
Base Volume Input [veh/h]	12	1	718	27	0	2	341	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	1	718	27	0	2	341	40
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	180	7	0	1	85	10
Total Analysis Volume [veh/h]	12	1	718	27	0	2	341	40
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1	
Circulating Flow Rate [veh/h]	381			41			27	
Exiting Flow Rate [veh/h]	29			353			759	
Demand Flow Rate [veh/h]	12	1		718	27	0	2	341	40
Adjusted Demand Flow Rate [veh/h]	12	1		718	27	0	2	341	40

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	13	745	383
Capacity of Entry and Bypass Lanes [veh/h]	936	1324	1343
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	936	1324	1343
X, volume / capacity	0.01	0.56	0.29

Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	0.04	3.68	1.19
95th-Percentile Queue Length [ft]	1.06	91.92	29.64
Approach Delay [s/veh]	3.97	8.98	5.17
Approach LOS	A	A	A
Intersection Delay [s/veh]	7.64		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 1600: East-West Arterial at Northward Rd

Control Type:	Two-way stop	Delay (sec / veh):	10.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.038

Intersection Setup

Name	Northward Rd		East-West Arterial		East-West Arterial	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		East-West Arterial		East-West Arterial	
Base Volume Input [veh/h]	26	0	759	0	22	357
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	26	0	759	0	22	357
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	0	190	0	6	89
Total Analysis Volume [veh/h]	26	0	759	0	22	357
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.00	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	10.49	0.00	0.00	0.00	0.00	0.00
Movement LOS	B		A		A	A
95th-Percentile Queue Length [veh/ln]	0.12	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	2.97	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	10.49		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.23					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1700: East-West Arterial at Lookout Rd

Control Type:	Roundabout	Delay (sec / veh):	7.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Lookout Rd		East-West Arterial			Lookout Rd	
Approach	Southbound		Eastbound			Westbound	
Lane Configuration							
Turning Movement	Left	Right	Left	Thru	U-turn	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		35.00			35.00	
Grade [%]	0.00		0.00			0.00	
Crosswalk	Yes		Yes			Yes	

Volumes

Name	Lookout Rd		East-West Arterial			Lookout Rd	
Base Volume Input [veh/h]	0	0	0	611	148	316	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	611	148	316	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	153	37	79	0
Total Analysis Volume [veh/h]	0	0	0	611	148	316	0
Pedestrian Volume [ped/h]	0		0			0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1			1	
Circulating Flow Rate [veh/h]	759		0			148	
Exiting Flow Rate [veh/h]	0		464			611	
Demand Flow Rate [veh/h]	0	0	0	611	148	316	0
Adjusted Demand Flow Rate [veh/h]	0	0	0	611	148	316	0

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	0	759	316
Capacity of Entry and Bypass Lanes [veh/h]	637	1380	1187
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	637	1380	1187
X, volume / capacity	0.00	0.55	0.27

Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	0.00	3.51	1.08
95th-Percentile Queue Length [ft]	0.00	87.70	26.95
Approach Delay [s/veh]	5.66	8.50	5.46
Approach LOS	A	A	A
Intersection Delay [s/veh]	7.61		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 2000: Frank Sound Road at East-West Arterial

Control Type:	Unknown	Delay (sec / veh):	?
Analysis Method:	?	Level Of Service:	?
Analysis Period:	15 minutes	Volume to Capacity (v/c):	?

Intersection Setup

Name	Frank Sound Rd	Frank Sound Rd
Approach	Northeastbound	Southwestbound
Lane Configuration		
Turning Movement	Thru	Thru
Crosswalk	Yes	Yes

Volumes

Name	Frank Sound Rd	Frank Sound Rd
Base Volume Input [veh/h]	202	212
Base Volume Adjustment Factor	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00
Growth Factor	1.0000	1.0000
In-Process Volume [veh/h]	0	0
Site-Generated Trips [veh/h]	0	0
Diverted Trips [veh/h]	0	0
Pass-by Trips [veh/h]	0	0
Existing Site Adjustment Volume [veh/h]	0	0
Other Volume [veh/h]	0	0
Left-Turn on Red Volume [veh/h]	0	0
Total Hourly Volume [veh/h]	202	212
Peak Hour Factor	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000
Total 15-Minute Volume [veh/h]	51	53
Total Analysis Volume [veh/h]	202	212
Presence of On-Street Parking	No	No
On-Street Parking Maneuver Rate [/h]	0	0
Local Bus Stopping Rate [/h]	0	0
Pedestrian Volume [ped/h]	0	0

Intersection Level Of Service Report
Intersection 2100: Frank Sound Road at East-West Arterial

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd			
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Frank Sound Rd			
Base Volume Input [veh/h]	259	0	0	238	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	259	0	0	238	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	65	0	0	60	0	0
Total Analysis Volume [veh/h]	259	0	0	238	0	0
Pedestrian Volume [ped/h]	0		0		0	

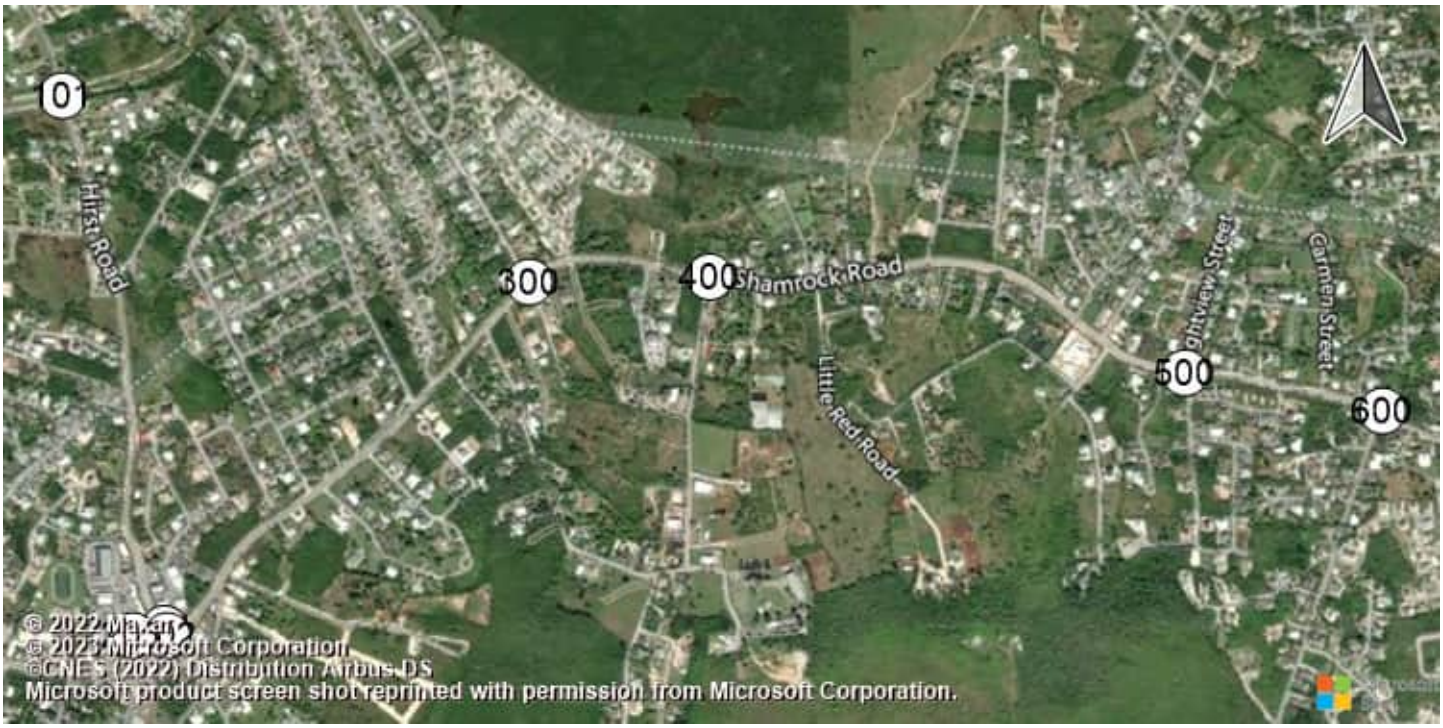
Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

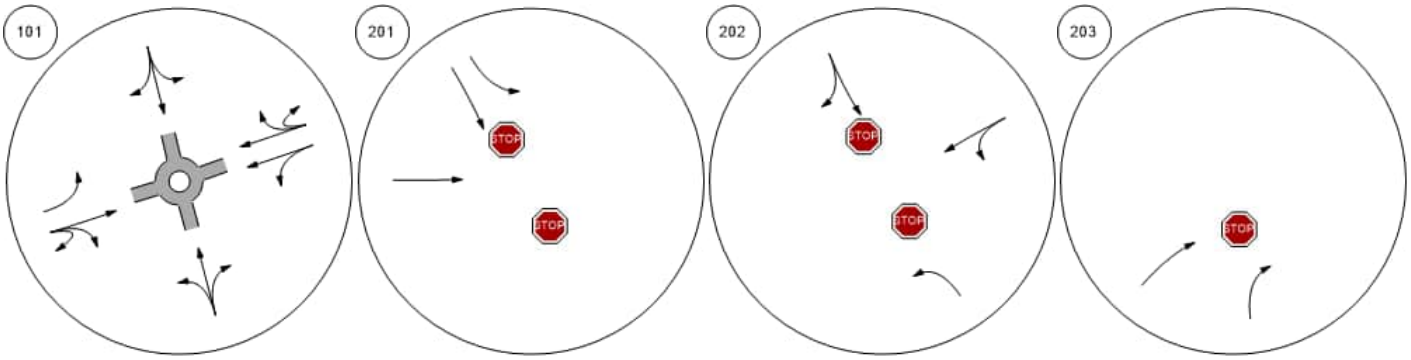
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	7.68	0.00	0.00	9.47	11.72
Movement LOS	A	A	A	A	A	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		10.59	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

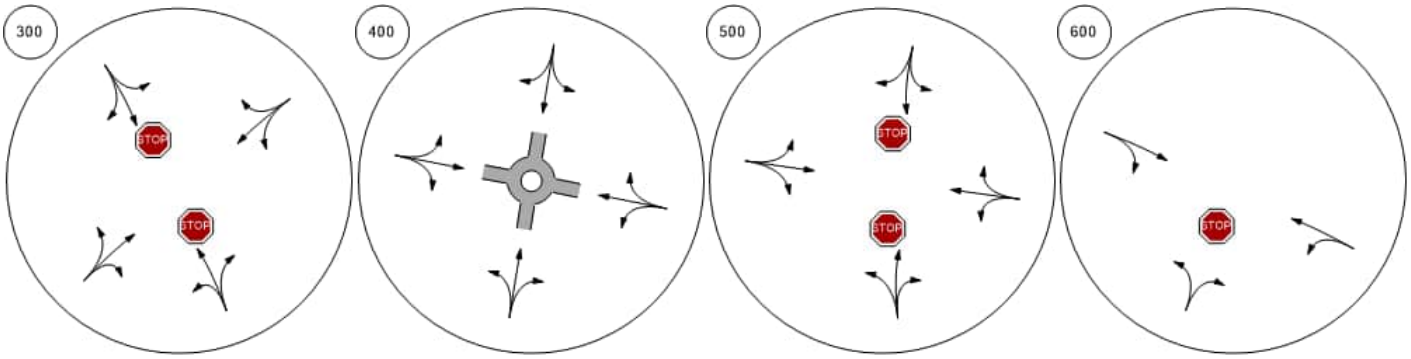
Lane Configuration and Traffic Control



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



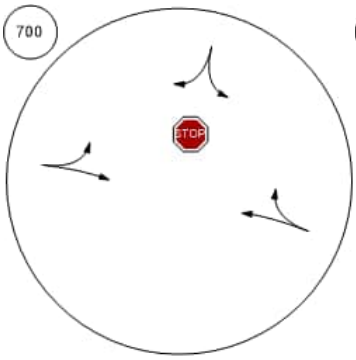
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



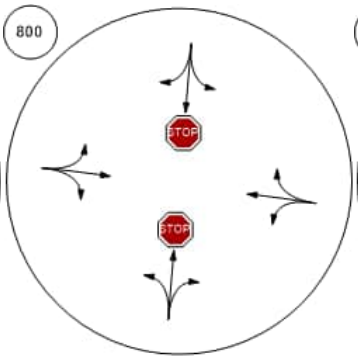
Lane Configuration and Traffic Control



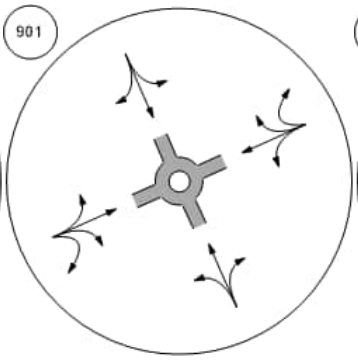
Shamrock Road at Northward



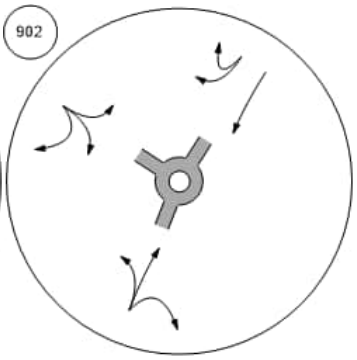
Shamrock Road at Condor R



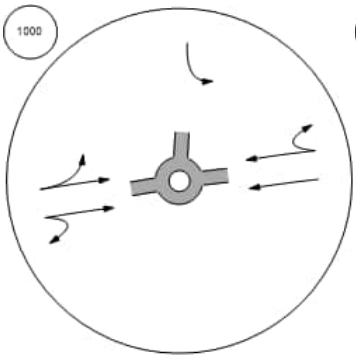
Lookout Road at Bodden To



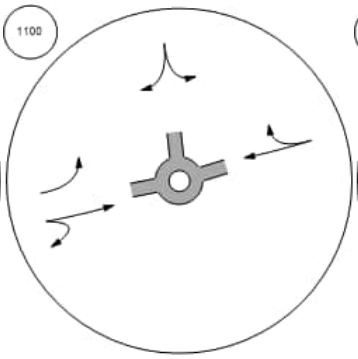
Bodden Town Road at Bodde



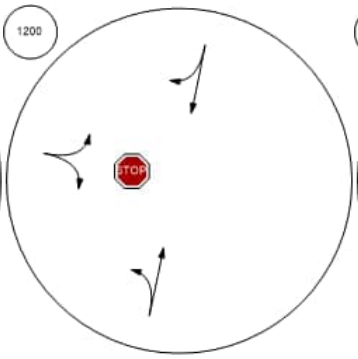
Bodden Town Road at Long



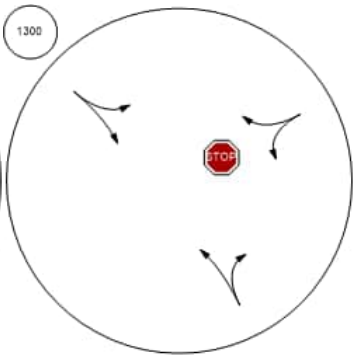
Frank Sound Road at Bodde



Frank Sound Road at Clifton



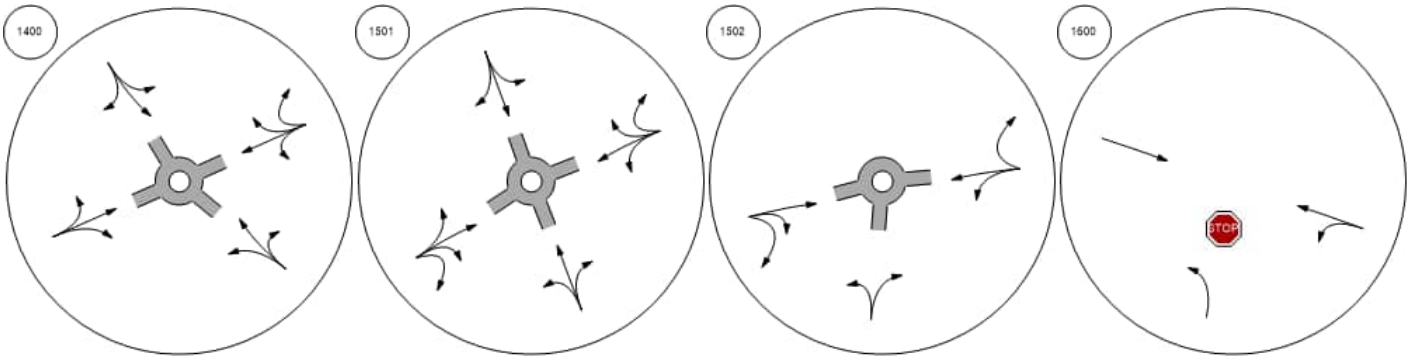
Frank Sound Road at North S



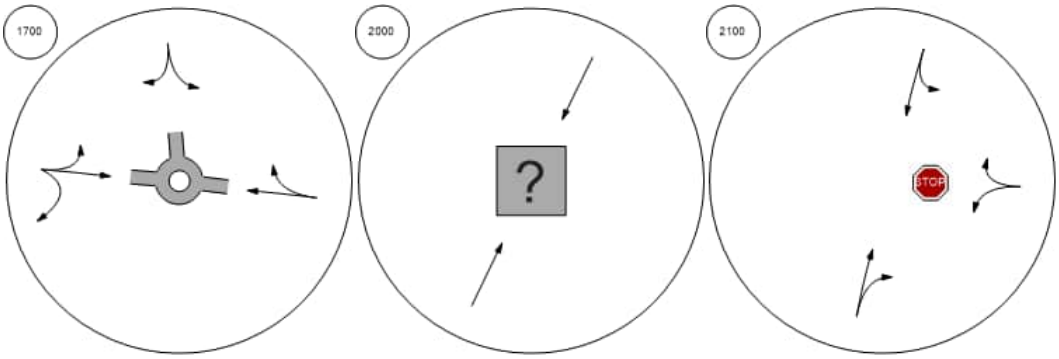
Lane Configuration and Traffic Control



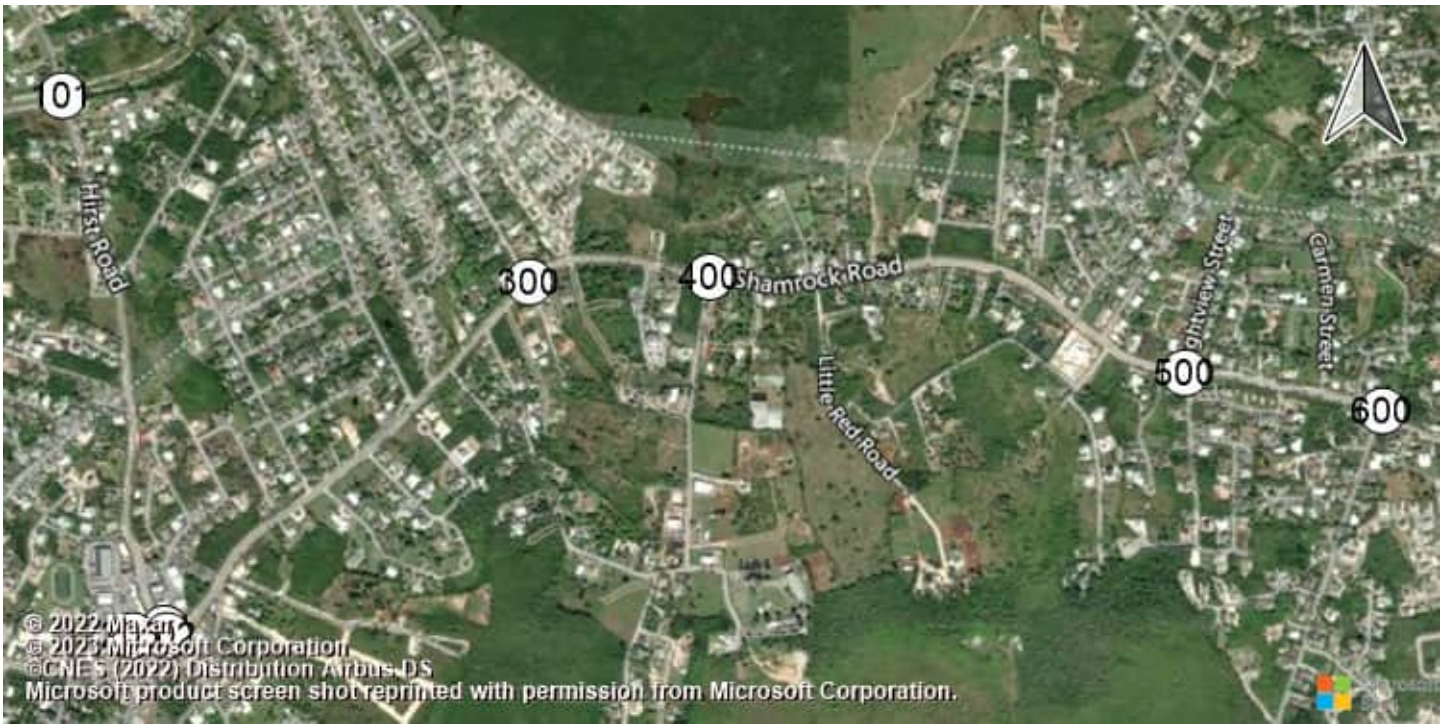
East-West Arterial at Agricola | East-West Arterial at Will T C | East-West Arterial at Will T C | East-West Arterial at Northwa



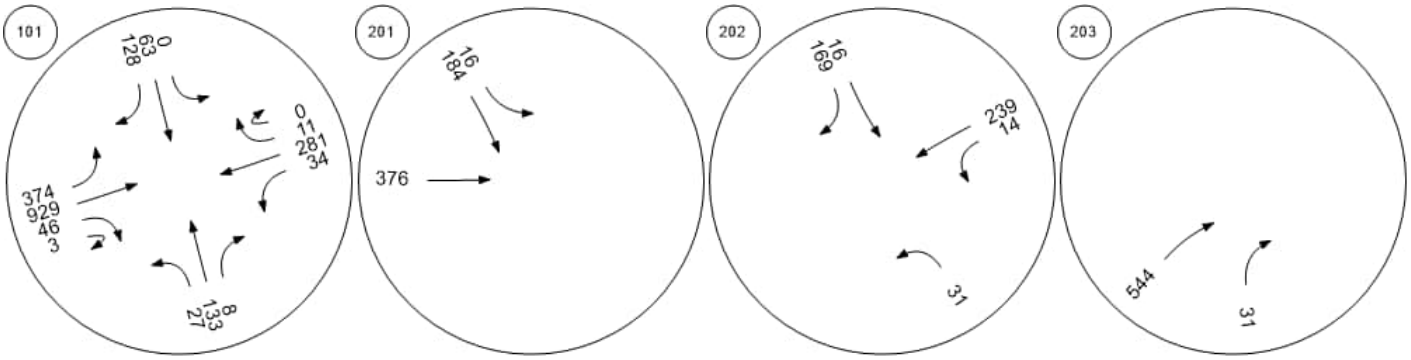
East-West Arterial at Lookout | Frank Sound Road at East-W | Frank Sound Road at East-W



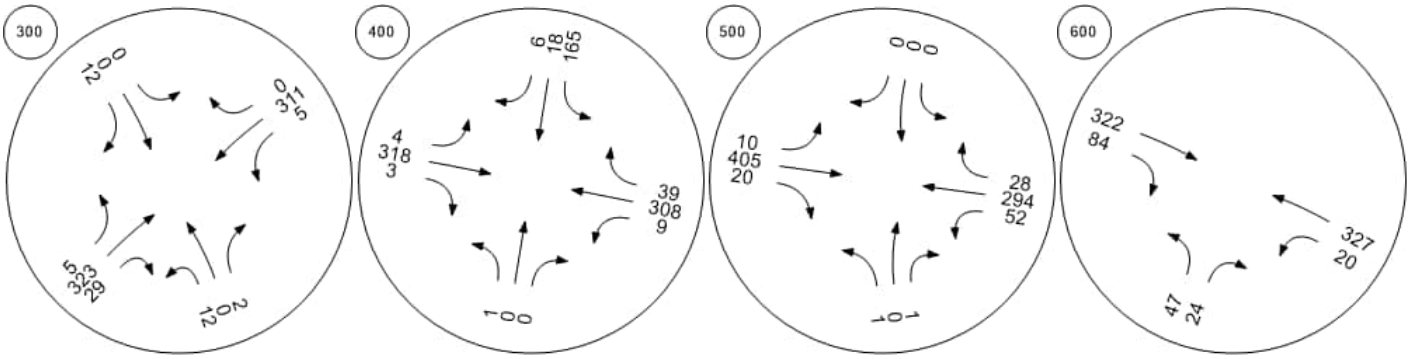
Traffic Volume - Base Volume



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



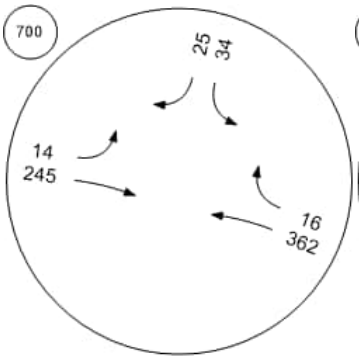
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



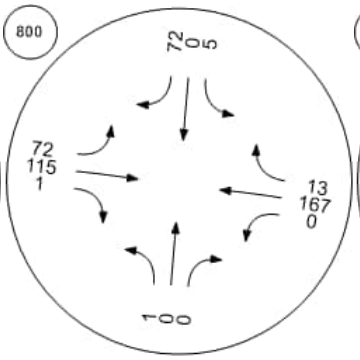
Traffic Volume - Base Volume



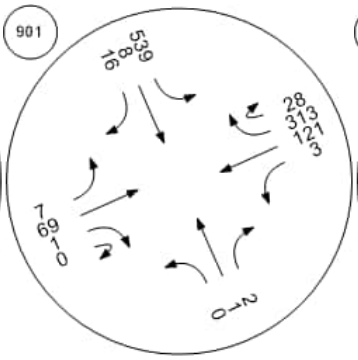
Shamrock Road at Northward



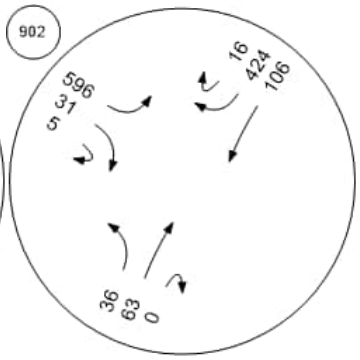
Shamrock Road at Condor R



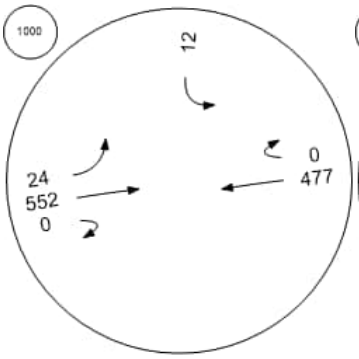
Lookout Road at Bodden To



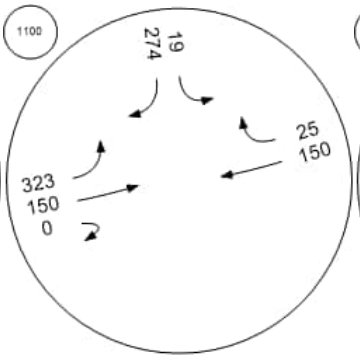
Bodden Town Road at Bodde



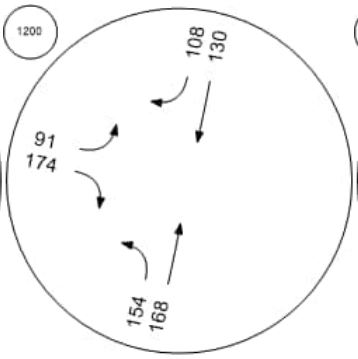
Bodden Town Road at Long



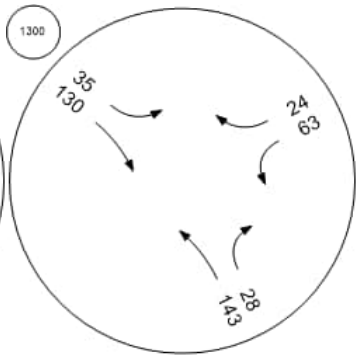
Frank Sound Road at Bodde



Frank Sound Road at Clifton



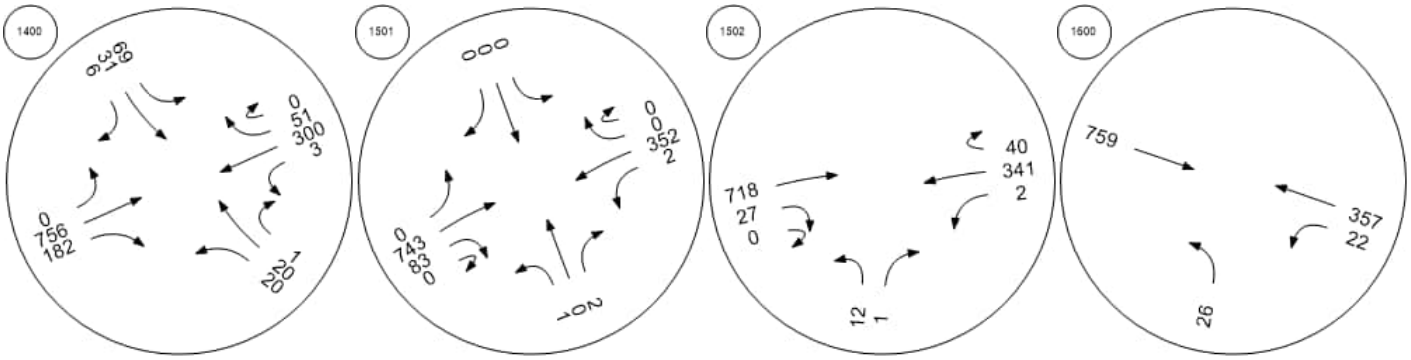
Frank Sound Road at North S



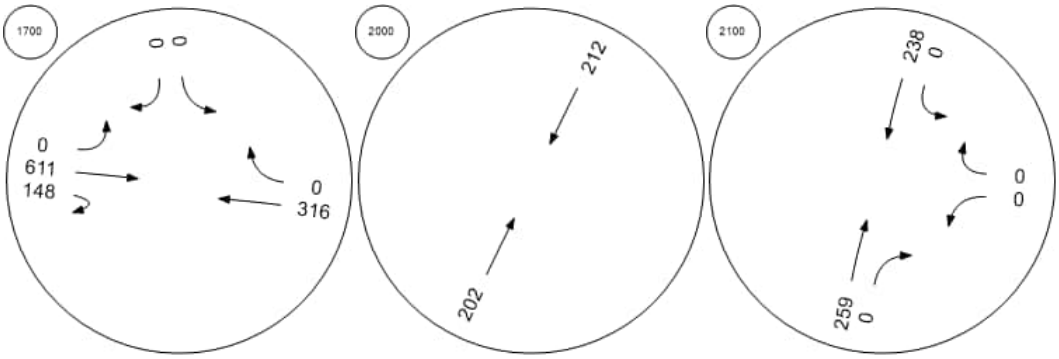
Traffic Volume - Base Volume



East-West Arterial at Agricola | East-West Arterial at Will T C | East-West Arterial at Will T C | East-West Arterial at Northwa



East-West Arterial at Lookout | Frank Sound Road at East-W | Frank Sound Road at East-W



Attachment D3

2036 Alternative VISTRO Reports

Intersection Level Of Service Report
Intersection 101: East-West Arterial Road at Hirst Road

Control Type:	Roundabout	Delay (sec / veh):	45.1
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes		

Intersection Setup

Name											East-West Arterial									
Approach	Northbound					Southbound					Eastbound					Westbound				
Lane Configuration																				
Turning Movement	Left	Left	Thr	Rig	Rig	Left	Left	Thr	Rig	Rig	Left	Thr	Thr	Rig	U-t	Left	Thr	Thr	Rig	U-t
Lane Width [ft]	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Speed [mph]	30.00					30.00					40.00					40.00				
Grade [%]	0.00					0.00					0.00					0.00				
Crosswalk	Yes					Yes					Yes					Yes				

Volumes

Name											East-West Arterial									
Base Volume Input [veh/h]	206	0	43	0	2	0	0	71	0	586	64	0	433	22	21	0	887	0	0	0
Base Volume Adjustment Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Heavy Vehicles Percentage [%]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Growth Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	206	0	43	0	2	0	0	71	0	586	64	0	433	22	21	0	887	0	0	0
Peak Hour Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Other Adjustment Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Total 15-Minute Volume [veh/h]	52	0	11	0	1	0	0	18	0	147	16	0	108	6	5	0	222	0	0	0
Total Analysis Volume [veh/h]	206	0	43	0	2	0	0	71	0	586	64	0	433	22	21	0	887	0	0	0
Pedestrian Volume [ped/h]	0					0					0					0				

Intersection Settings

Number of Conflicting Circulating Lanes	2					2					2					2				
Circulating Flow Rate [veh/h]	1494					478					45					700				
Exiting Flow Rate [veh/h]	93					107					1700					435				
Demand Flow Rate [veh/h]	206	0	43	0	2	0	0	71	0	586	64	0	433	22	21	0	887	0	0	0
Adjusted Demand Flow Rate [veh/h]	206	0	43	0	2	0	0	71	0	586	64	0	433	22	21	0	887	0	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1350.00	1420.00
B (coefficient)	0.00085	0.00085	0.00085	0.00092	0.00085
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	251	657	497	43	887
Capacity of Entry and Bypass Lanes [veh/h]	399	946	1367	1296	784
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	399	946	1367	1296	784
X, volume / capacity	0.63	0.69	0.36	0.03	1.13

Movement, Approach, & Intersection Results

Lane LOS	D	C	A	A	F
95th-Percentile Queue Length [veh]	4.16	5.87	1.69	0.10	25.84
95th-Percentile Queue Length [ft]	103.96	146.73	42.20	2.57	646.09
Approach Delay [s/veh]	26.30	15.45	5.72		96.26
Approach LOS	D	C	A		F
Intersection Delay [s/veh]	45.06				
Intersection LOS	E				

Intersection Level Of Service Report
Intersection 201: Shamrock Road at Hirst Rd (1)

Control Type:	Two-way stop	Delay (sec / veh):	18.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.305

Intersection Setup

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	0	0	0	38	112	0	0	601	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	38	112	0	0	601	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	10	30	0	0	162	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	41	120	0	0	646	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.09	0.31	0.00	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	13.29	18.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS				B	C			A				
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.28	1.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	7.05	31.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			16.91			0.00			0.00		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	3.37											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 202: Shamrock Road at Hirst Rd (2)

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.076

Intersection Setup

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	404	0	0	0	19	93	0	0	0	5	877	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	404	0	0	0	19	93	0	0	0	5	877	0
Peak Hour Factor	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	109	0	0	0	5	25	0	0	0	1	236	0
Total Analysis Volume [veh/h]	434	0	0	0	20	100	0	0	0	5	943	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	1.36	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	211.50	0.00	0.00	0.00	10000.	10000.	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	F				F	F				A	A	
95th-Percentile Queue Length [veh/ln]	21.73	0.00	0.00	0.00	17.56	17.56	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	543.18	0.00	0.00	0.00	439.06	439.06	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	211.50			10000.00			0.00			0.00		
Approach LOS	F			F			A			A		
d_I, Intersection Delay [s/veh]	860.05											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 203: Shamrock Road atHirst Road Jughandle

Control Type:	Two-way stop	Delay (sec / veh):	17.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.285

Intersection Setup

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	0	110	641	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	110	641	0	0	0
Peak Hour Factor	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	30	172	0	0	0
Total Analysis Volume [veh/h]	0	118	689	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.28	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	17.10	0.00	0.00	0.00	0.00
Movement LOS		C	A			
95th-Percentile Queue Length [veh/ln]	0.00	1.16	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	28.93	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	17.10		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	2.50					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 300: Shamrock Road at Woodland Drive

Control Type:	Two-way stop	Delay (sec / veh):	40.2
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.131

Intersection Setup

Name	Woodland Dr			Woodland Dr			Shamrock Rd					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Woodland Dr			Woodland Dr			Shamrock Rd					
Base Volume Input [veh/h]	40	1	5	10	0	15	11	460	6	2	814	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	1	5	10	0	15	11	460	6	2	814	12
Peak Hour Factor	0.9700	0.9700	1.0000	1.0000	0.9700	0.9700	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	0	1	3	0	4	3	115	2	1	204	3
Total Analysis Volume [veh/h]	41	1	5	10	0	15	11	460	6	2	814	12
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.01	0.04	0.02	0.00	0.13	0.00	0.00	0.01	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	16.56	30.61	34.88	14.66	32.03	40.23	0.00	0.00	9.42	0.00	0.00	8.30
Movement LOS	C	D	D	B	D	E	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.53	0.53	0.53	0.51	0.51	0.51	0.02	0.02	0.02	0.03	0.03	0.03
95th-Percentile Queue Length [ft/ln]	13.31	13.31	13.31	12.68	12.68	12.68	0.55	0.55	0.55	0.83	0.83	0.83
d_A, Approach Delay [s/veh]	18.81			30.00			0.12			0.12		
Approach LOS	C			D			A			A		
d_I, Intersection Delay [s/veh]	1.30											
Intersection LOS	E											

Intersection Level Of Service Report
Intersection 400: Shamrock Road at Agricola Drive

Control Type:	Roundabout	Delay (sec / veh):	86.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	1	7	1	436	12	27	0	474	1	2	799	828
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	7	1	436	12	27	0	474	1	2	799	828
Peak Hour Factor	1.0000	1.0000	0.9200	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9200	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	0	109	3	7	0	119	0	1	200	207
Total Analysis Volume [veh/h]	1	7	1	436	12	27	0	474	1	2	799	828
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	1654			476			836			40		
Exiting Flow Rate [veh/h]	15			835			827			911		
Demand Flow Rate [veh/h]	1	7	1	436	12	27	0	474	1	2	799	828
Adjusted Demand Flow Rate [veh/h]	1	7	1	436	12	27	0	474	1	2	799	828

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	9	475	475	1629
Capacity of Entry and Bypass Lanes [veh/h]	256	850	589	1325
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	256	850	589	1325
X, volume / capacity	0.04	0.56	0.81	1.23

Movement, Approach, & Intersection Results

Lane LOS	B	B	D	F
95th-Percentile Queue Length [veh]	0.11	3.54	8.03	50.19
95th-Percentile Queue Length [ft]	2.73	88.50	200.74	1254.80
Approach Delay [s/veh]	14.79	12.28	30.88	123.97
Approach LOS	B	B	D	F
Intersection Delay [s/veh]	86.00			
Intersection LOS	F			

Intersection Level Of Service Report
Intersection 500: Shamrock Road at Brightview Drive / Calla Lily Drive

Control Type:	Two-way stop	Delay (sec / veh):	166.4
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.225

Intersection Setup

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			20.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	10	0	5	3	0	6	1	918	1	0	1359	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	0	5	3	0	6	1	918	1	0	1359	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	1	1	0	2	0	230	0	0	340	0
Total Analysis Volume [veh/h]	10	0	5	3	0	6	1	918	1	0	1359	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.00	0.18	0.01	0.00	0.22	0.00	0.01	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	40.70	110.64	149.07	42.37	120.99	166.41	0.00	0.00	12.04	0.00	0.00	9.79
Movement LOS	E	F	F	E	F	F	A	A	B	A	A	A
95th-Percentile Queue Length [veh/ln]	0.80	0.80	0.80	0.76	0.76	0.76	0.01	0.01	0.01	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	20.08	20.08	20.08	18.98	18.98	18.98	0.15	0.15	0.15	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	76.82			125.06			0.01			0.00		
Approach LOS	F			F			A			A		
d_I, Intersection Delay [s/veh]	0.99											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 600: Shamrock Road at Beach Bay Road

Control Type:	Two-way stop	Delay (sec / veh):	662.5
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.314

Intersection Setup

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	3	2	772	154	47	1357
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	2	772	154	47	1357
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	212	42	13	373
Total Analysis Volume [veh/h]	3	2	848	169	52	1491
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.31	0.01	0.39	0.00	0.01
d_M, Delay for Movement [s/veh]	121.64	662.47	0.00	18.39	0.00	0.00
Movement LOS	F	F	A	C	A	A
95th-Percentile Queue Length [veh/ln]	0.88	0.88	1.80	1.80	0.00	0.00
95th-Percentile Queue Length [ft/ln]	22.04	22.04	45.04	45.04	0.00	0.00
d_A, Approach Delay [s/veh]	337.97		3.06		0.00	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	1.87					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 700: Shamrock Road at Northward Road

Control Type:	Two-way stop	Delay (sec / veh):	1,876.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	4.641

Intersection Setup

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	21	161	63	722	1208	76
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	21	161	63	722	1208	76
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	41	16	186	311	20
Total Analysis Volume [veh/h]	22	166	65	744	1245	78
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	4.64	0.00	0.01	0.01	0.09
d_M, Delay for Movement [s/veh]	1784.34	1875.99	0.00	0.00	0.00	9.82
Movement LOS	F	F	A	A	A	A
95th-Percentile Queue Length [veh/ln]	21.74	21.74	0.00	0.00	0.31	0.31
95th-Percentile Queue Length [ft/ln]	543.46	543.46	0.00	0.00	7.80	7.80
d_A, Approach Delay [s/veh]	1865.26		0.00		0.58	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	151.48					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 800: Shamrock Road at Condor Road

Control Type:	Two-way stop	Delay (sec / veh):	44.9
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.376

Intersection Setup

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Base Volume Input [veh/h]	4	1	0	3	0	53	65	572	0	0	661	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	1	0	3	0	53	65	572	0	0	661	6
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	1	0	13	16	143	0	0	165	2
Total Analysis Volume [veh/h]	4	1	0	3	0	53	65	572	0	0	661	6
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.01	0.00	0.38	0.00	0.01	0.00	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	12.89	27.82	30.46	26.59	41.08	44.94	0.00	0.00	8.84	0.00	0.00	8.79
Movement LOS	B	D	D	D	E	E	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.05	1.62	1.62	1.62	0.00	0.00	0.00	0.02	0.02	0.02
95th-Percentile Queue Length [ft/ln]	1.13	1.13	1.13	40.52	40.52	40.52	0.00	0.00	0.00	0.47	0.47	0.47
d_A, Approach Delay [s/veh]	15.87			43.95			0.00			0.08		
Approach LOS	C			E			A			A		
d_I, Intersection Delay [s/veh]	1.90											
Intersection LOS	E											

Intersection Level Of Service Report
Intersection 902: Bodden Town Road at Bodden Town Bypass

Control Type:	Two-way stop	Delay (sec / veh):	149.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.489

Intersection Setup

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	152	17	11	572	657	284
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	152	17	11	572	657	284
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	5	3	152	175	76
Total Analysis Volume [veh/h]	162	18	12	609	699	302
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane	No					
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance	No					
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.33	0.49	0.00	0.01	0.01	0.31
d_M, Delay for Movement [s/veh]	58.74	149.27	0.00	0.00	0.00	10.38
Movement LOS	F	F	A	A	A	B
95th-Percentile Queue Length [veh/ln]	6.07	6.07	0.00	0.00	1.34	1.34
95th-Percentile Queue Length [ft/ln]	151.66	151.66	0.00	0.00	33.40	33.40
d_A, Approach Delay [s/veh]	67.80		0.00		3.13	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	8.51					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 1000: Bodden Town Road at Long Fellow Drive

Control Type:	Two-way stop	Delay (sec / veh):	41.1
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.131

Intersection Setup

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	0	14	1	650	825	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	14	1	650	825	0
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	4	0	179	227	0
Total Analysis Volume [veh/h]	0	15	1	714	907	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.13	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	17.98	41.15	0.00	0.00	0.00	9.02
Movement LOS	C	E	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.44	0.44	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	10.93	10.93	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	41.15		0.00		0.00	
Approach LOS	E		A		A	
d_I, Intersection Delay [s/veh]	0.38					
Intersection LOS	E					

Intersection Level Of Service Report
Intersection 1100: Frank Sound Road at Bodden Town Road

Control Type:	Two-way stop	Delay (sec / veh):	824.9
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.536

Intersection Setup

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Base Volume Input [veh/h]	100	423	366	260	354	149
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	100	423	366	260	354	149
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	114	98	70	95	40
Total Analysis Volume [veh/h]	108	455	394	280	381	160
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.18	2.54	0.00	0.00	0.00	0.12
d_M, Delay for Movement [s/veh]	810.93	824.91	0.00	0.00	0.00	8.17
Movement LOS	F	F	A	A	A	A
95th-Percentile Queue Length [veh/ln]	48.81	48.81	0.00	0.00	0.42	0.42
95th-Percentile Queue Length [ft/ln]	1220.29	1220.29	0.00	0.00	10.55	10.55
d_A, Approach Delay [s/veh]	822.23		0.00		2.42	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	261.09					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 1200: Frank Sound Road at Clifton Hunter High School

Control Type:	Two-way stop	Delay (sec / veh):	20.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.506

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd		High School Access	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		20.00		20.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Frank Sound Rd		High School Access	
Base Volume Input [veh/h]	227	93	95	80	52	265
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	227	93	95	80	52	265
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	57	23	24	20	13	66
Total Analysis Volume [veh/h]	227	93	95	80	52	265
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.06	0.06	0.51
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	8.07	17.42	19.99
Movement LOS	A	A	A	A	C	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.20	0.20	3.53	3.53
95th-Percentile Queue Length [ft/ln]	0.00	0.00	5.12	5.12	88.17	88.17
d_A, Approach Delay [s/veh]	0.00		3.69		19.57	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	8.44					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1300: Frank Sound Road at North Side Road/Old Robin Road

Control Type:	Two-way stop	Delay (sec / veh):	10.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Base Volume Input [veh/h]	96	34	39	65	9	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	96	34	39	65	9	3
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	10	11	18	3	1
Total Analysis Volume [veh/h]	108	38	44	73	10	3
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.03	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	7.49	0.00	0.00	8.78	10.24
Movement LOS	A	A	A	A	A	B
95th-Percentile Queue Length [veh/ln]	0.08	0.08	0.00	0.00	0.04	0.04
95th-Percentile Queue Length [ft/ln]	1.97	1.97	0.00	0.00	1.11	1.11
d_A, Approach Delay [s/veh]	1.95		0.00		9.12	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.46					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1400: East-West Arterial at Agricola Drive Connector

Control Type:	Roundabout	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial		
Approach	Northbound			Southbound			Eastbound		
Lane Configuration									
Turning Movement	Left	Left	Thru	Thru	Right	Right	Left	Right	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial		
Base Volume Input [veh/h]	887	0	36	87	0	0	4	431	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	887	0	36	87	0	0	4	431	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	222	0	9	22	0	0	1	108	0
Total Analysis Volume [veh/h]	887	0	36	87	0	0	4	431	0
Pedestrian Volume [ped/h]	0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1		
Circulating Flow Rate [veh/h]	0			431			36		
Exiting Flow Rate [veh/h]	518			40			887		
Demand Flow Rate [veh/h]	887	0	36	87	0	0	4	431	0
Adjusted Demand Flow Rate [veh/h]	887	0	36	87	0	0	4	431	0

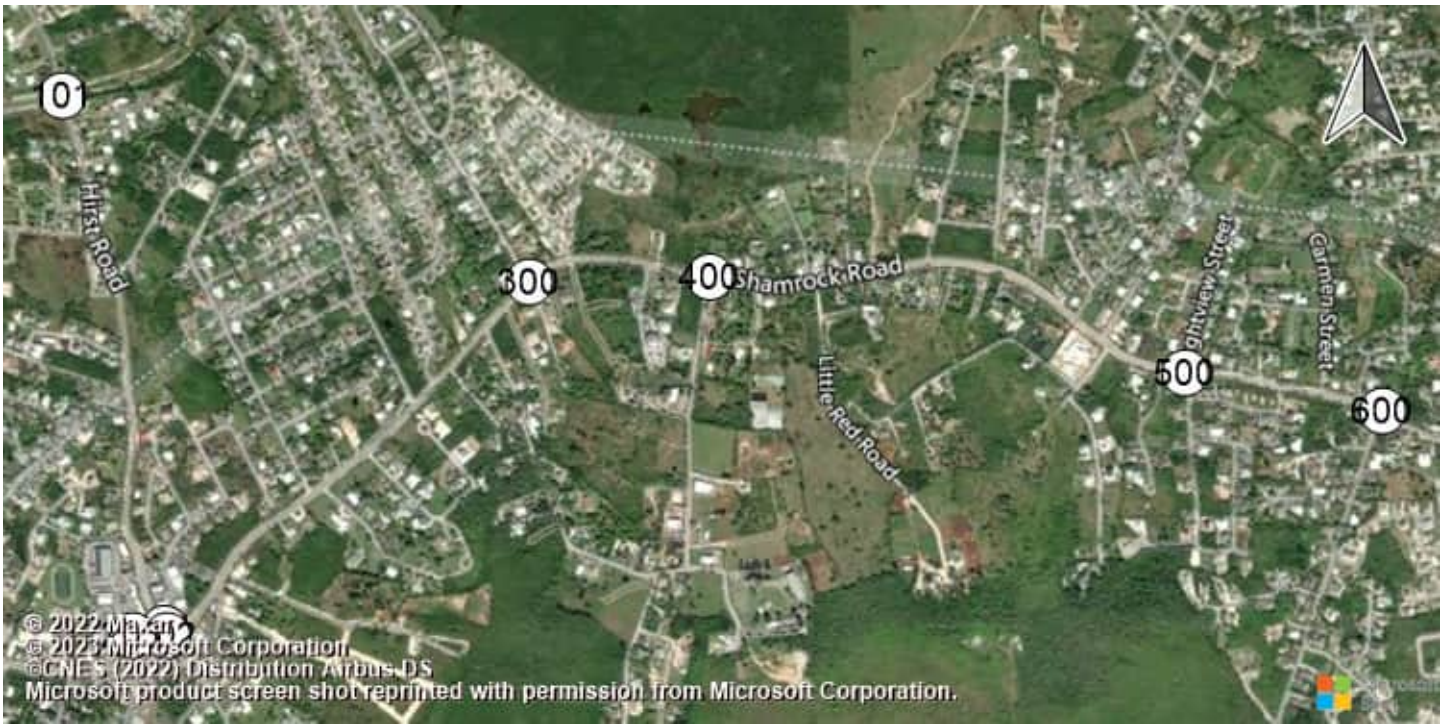
Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	923	87	435
Capacity of Entry and Bypass Lanes [veh/h]	1380	890	1331
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1380	890	1331
X, volume / capacity	0.67	0.10	0.33

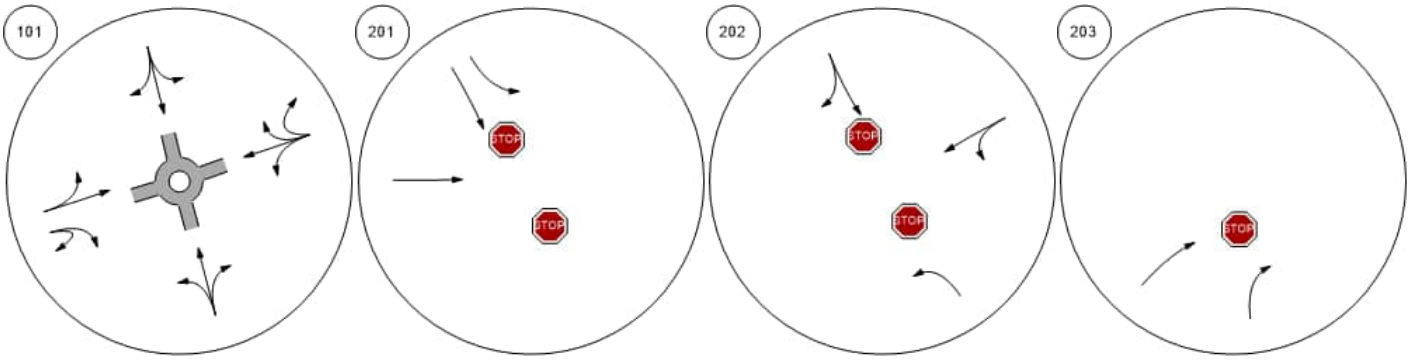
Movement, Approach, & Intersection Results

Lane LOS	B	A	A
95th-Percentile Queue Length [veh]	5.52	0.32	1.44
95th-Percentile Queue Length [ft]	138.12	8.11	35.98
Approach Delay [s/veh]	11.05	4.98	5.65
Approach LOS	B	A	A
Intersection Delay [s/veh]	9.06		
Intersection LOS	A		

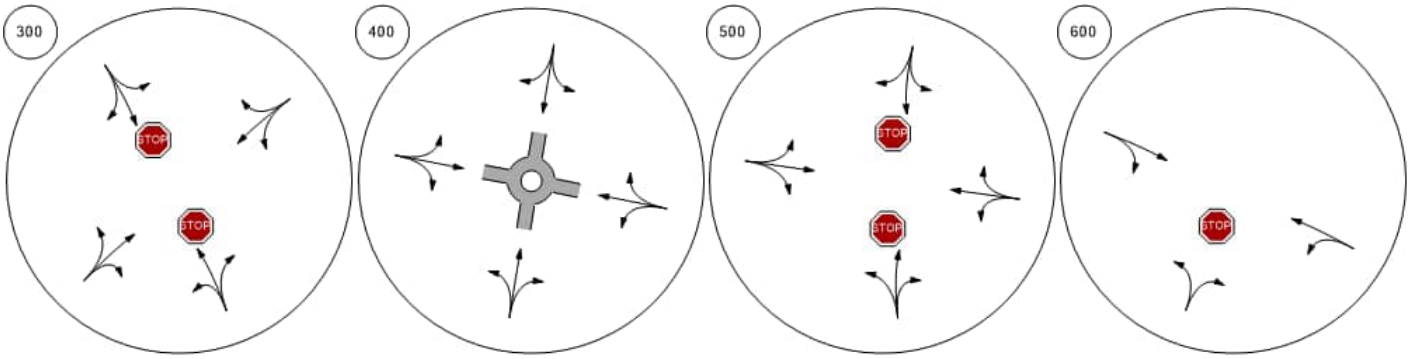
Lane Configuration and Traffic Control



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



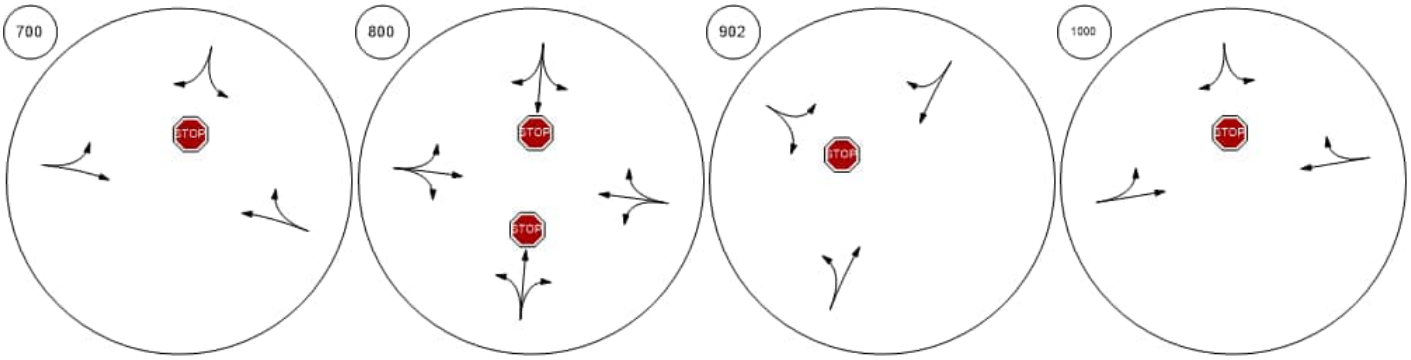
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



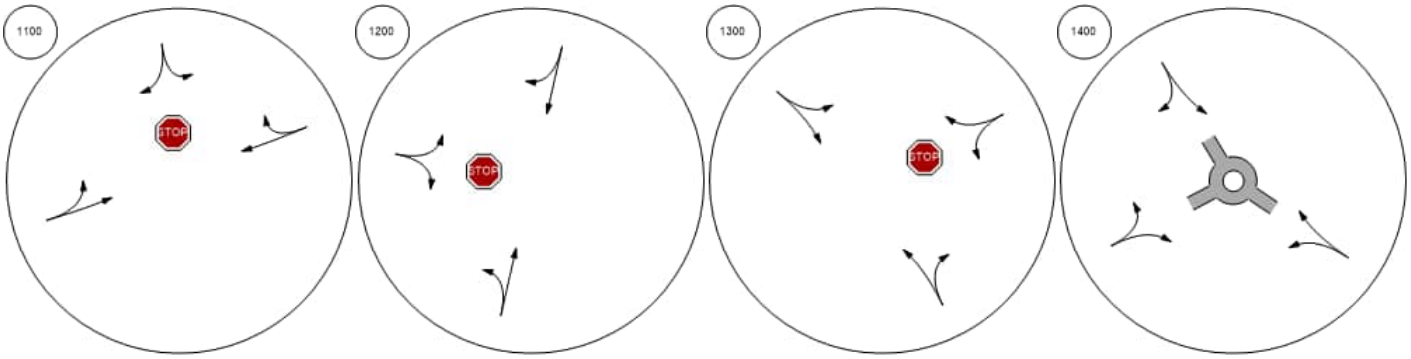
Lane Configuration and Traffic Control



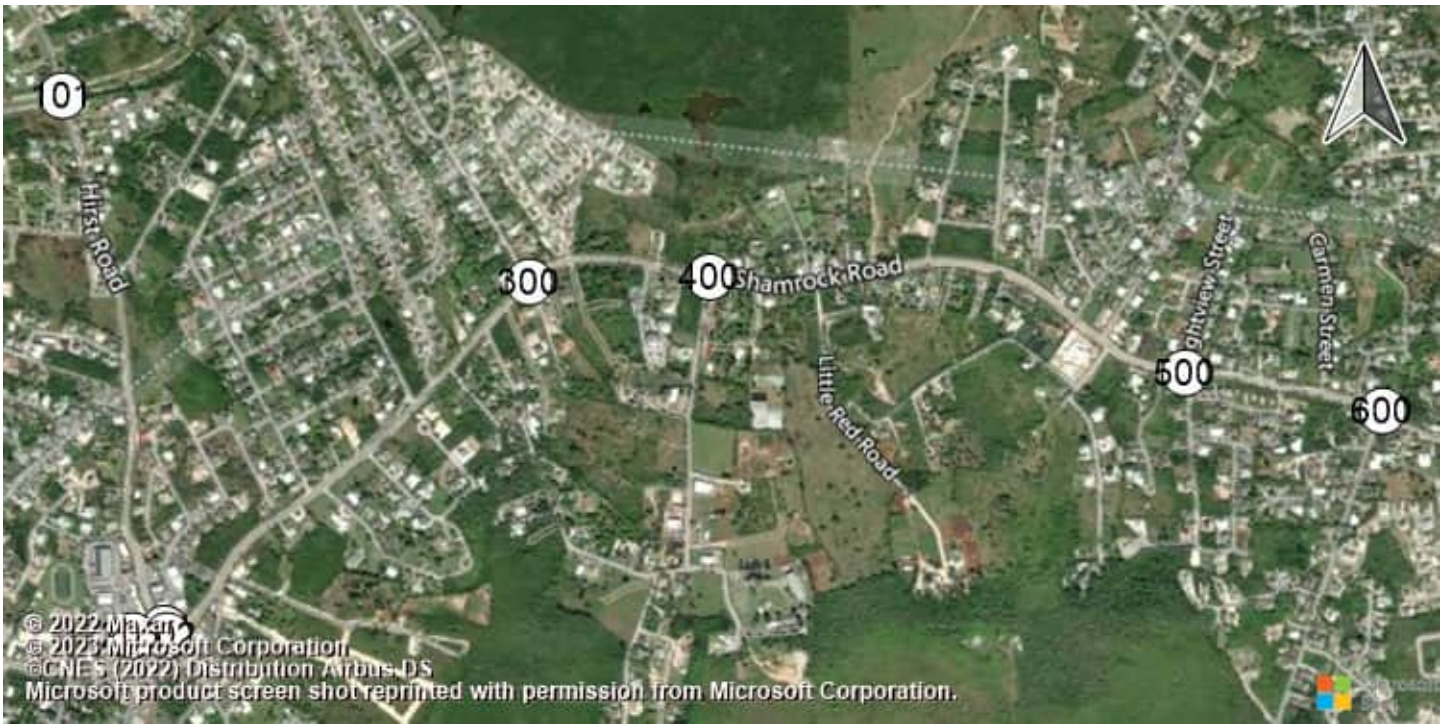
Shamrock Road at Northward | Shamrock Road at Condor R | Bodden Town Road at Bodde | Bodden Town Road at Long



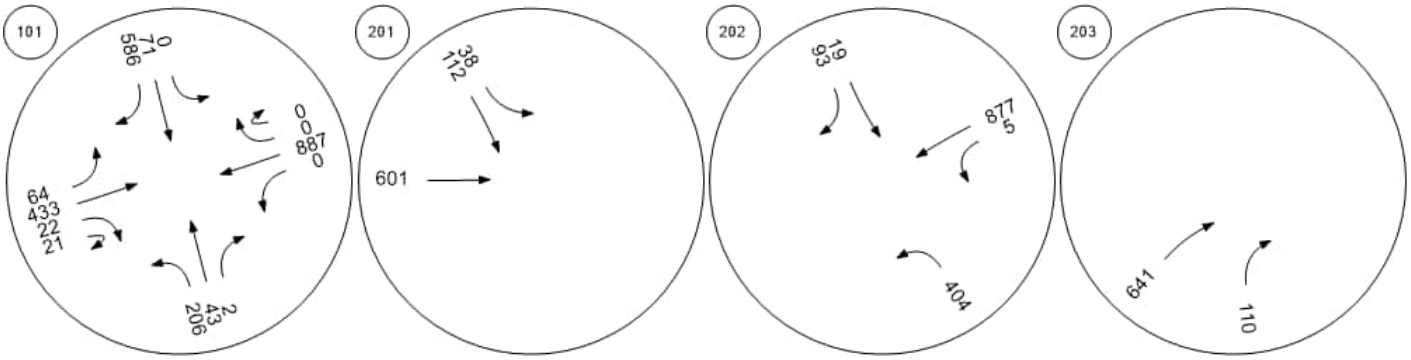
Frank Sound Road at Bodde | Frank Sound Road at Clifton | Frank Sound Road at North S | East-West Arterial at Agricola



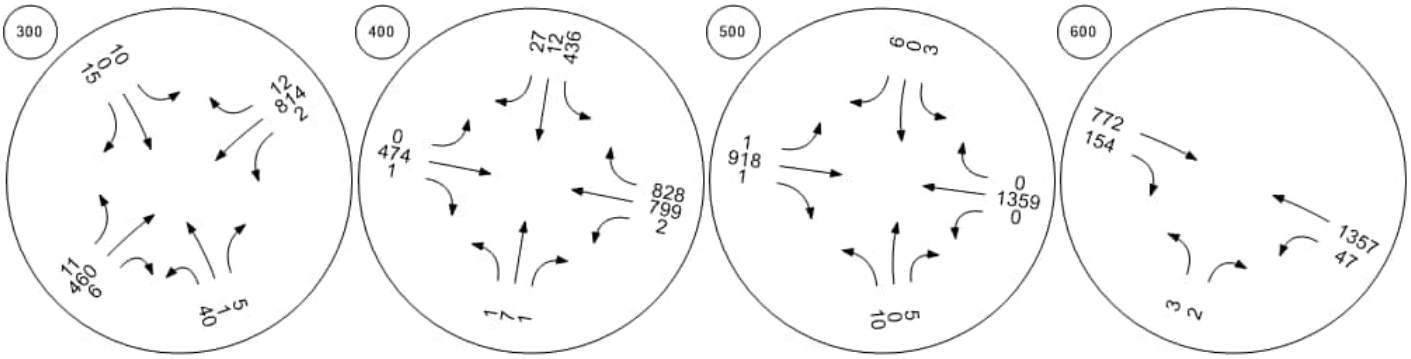
Traffic Volume - Base Volume



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



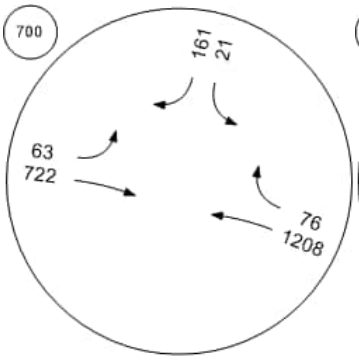
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



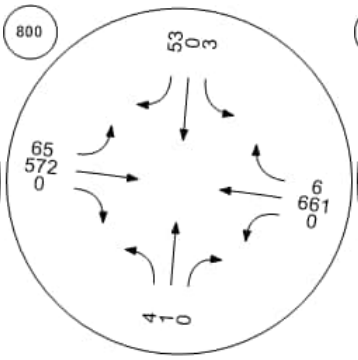
Traffic Volume - Base Volume



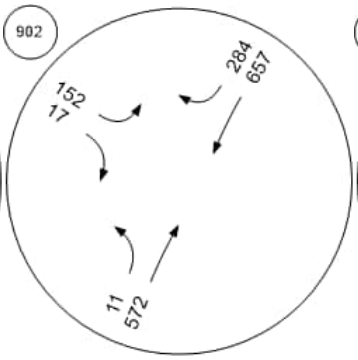
Shamrock Road at Northward



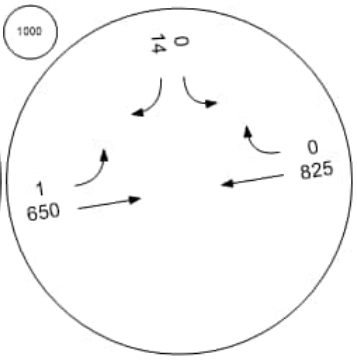
Shamrock Road at Condor R



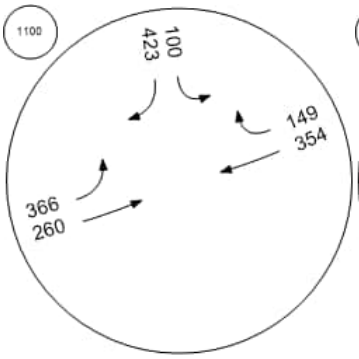
Bodden Town Road at Bodde



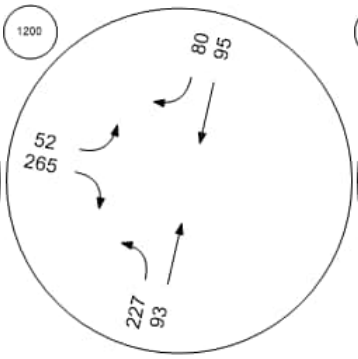
Bodden Town Road at Long



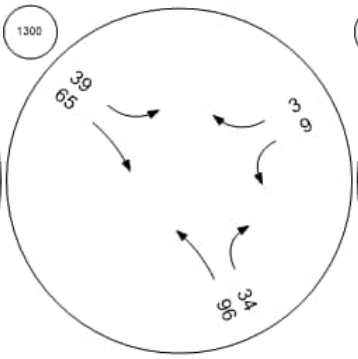
Frank Sound Road at Bodde



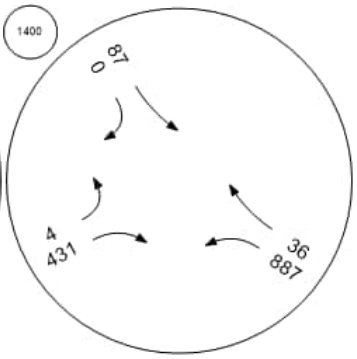
Frank Sound Road at Clifton



Frank Sound Road at North S



East-West Arterial at Agricola



Intersection Level Of Service Report
Intersection 101: East-West Arterial Road at Hirst Road

Control Type:	Roundabout	Delay (sec / veh):	15.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes		

Intersection Setup

Name											East-West Arterial									
Approach	Northbound					Southbound					Eastbound					Westbound				
Lane Configuration																				
Turning Movement	Left	Left	Thr	Rig	Rig	Left	Left	Thr	Rig	Rig	Left	Thr	Thr	Rig	U-t	Left	Thr	Thr	Rig	U-t
Lane Width [ft]	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.	12.
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Speed [mph]	30.00					30.00					40.00					40.00				
Grade [%]	0.00					0.00					0.00					0.00				
Crosswalk	Yes					Yes					Yes					Yes				

Volumes

Name											East-West Arterial									
Base Volume Input [veh/h]	139	0	134	0	0	18	0	71	0	154	401	0	689	540	4	20	198	0	8	0
Base Volume Adjustment Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Heavy Vehicles Percentage [%]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Growth Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	139	0	134	0	0	18	0	71	0	154	401	0	689	540	4	20	198	0	8	0
Peak Hour Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Other Adjustment Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Total 15-Minute Volume [veh/h]	35	0	34	0	0	5	0	18	0	39	100	0	172	135	1	5	50	0	2	0
Total Analysis Volume [veh/h]	139	0	134	0	0	18	0	71	0	154	401	0	689	540	4	20	198	0	8	0
Pedestrian Volume [ped/h]	0					0					0					0				

Intersection Settings

Number of Conflicting Circulating Lanes	2					2					2					2				
Circulating Flow Rate [veh/h]	364					1233					142					769				
Exiting Flow Rate [veh/h]	631					543					495					707				
Demand Flow Rate [veh/h]	139	0	134	0	0	18	0	71	0	154	401	0	689	540	4	20	198	0	8	0
Adjusted Demand Flow Rate [veh/h]	139	0	134	0	0	18	0	71	0	154	401	0	689	540	4	20	198	0	8	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1350.00	1420.00
B (coefficient)	0.00085	0.00085	0.00085	0.00092	0.00085
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	273	243	1090	544	226
Capacity of Entry and Bypass Lanes [veh/h]	1043	498	1259	1185	739
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1043	498	1259	1185	739
X, volume / capacity	0.26	0.49	0.87	0.46	0.31

Movement, Approach, & Intersection Results

Lane LOS	A	C	C	A	A
95th-Percentile Queue Length [veh]	1.05	2.64	12.26	2.47	1.30
95th-Percentile Queue Length [ft]	26.33	66.03	306.58	61.78	32.41
Approach Delay [s/veh]	5.99	16.37	17.32		8.54
Approach LOS	A	C	C		A
Intersection Delay [s/veh]	15.09				
Intersection LOS	C				

Intersection Level Of Service Report
Intersection 201: Shamrock Road at Hirst Rd (1)

Control Type:	Two-way stop	Delay (sec / veh):	114.2
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.105

Intersection Setup

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	0	0	0	282	360	0	0	682	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	282	360	0	0	682	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	76	97	0	0	183	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	303	387	0	0	733	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.71	1.10	0.00	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	32.08	114.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS				D	F			A				
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	5.51	14.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	137.72	364.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			78.12			0.00			0.00		
Approach LOS	A			F			A			A		
d_I, Intersection Delay [s/veh]	37.88											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 202: Shamrock Road at Hirst Rd (2)

Control Type:	Two-way stop	Delay (sec / veh):	462.4
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.052

Intersection Setup

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	242	0	0	0	249	110	0	0	0	15	712	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	242	0	0	0	249	110	0	0	0	15	712	0
Peak Hour Factor	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	65	0	0	0	67	30	0	0	0	4	191	0
Total Analysis Volume [veh/h]	260	0	0	0	268	118	0	0	0	16	766	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.65	0.00	0.00	0.00	0.82	1.05	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	28.99	0.00	0.00	0.00	441.25	462.37	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	D				F	F				A	A	
95th-Percentile Queue Length [veh/ln]	4.41	0.00	0.00	0.00	27.66	27.66	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	110.21	0.00	0.00	0.00	691.51	691.51	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	28.99			447.70			0.00			0.00		
Approach LOS	D			F			A			A		
d_I, Intersection Delay [s/veh]	126.30											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 203: Shamrock Road atHirst Road Jughandle

Control Type:	Two-way stop	Delay (sec / veh):	18.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.137

Intersection Setup

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	0	40	832	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	40	832	0	0	0
Peak Hour Factor	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	11	224	0	0	0
Total Analysis Volume [veh/h]	0	43	895	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.14	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	18.29	0.00	0.00	0.00	0.00
Movement LOS		C	A			
95th-Percentile Queue Length [veh/ln]	0.00	0.47	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	11.75	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	18.29		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.84					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 300: Shamrock Road at Woodland Drive

Control Type:	Two-way stop	Delay (sec / veh):	72.1
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.164

Intersection Setup

Name	Woodland Dr			Woodland Dr			Shamrock Rd					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Woodland Dr			Woodland Dr			Shamrock Rd					
Base Volume Input [veh/h]	12	1	3	18	1	10	12	864	29	5	781	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	1	3	18	1	10	12	864	29	5	781	12
Peak Hour Factor	0.9700	0.9700	1.0000	1.0000	0.9700	0.9700	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	1	5	0	3	3	216	7	1	195	3
Total Analysis Volume [veh/h]	12	1	3	18	1	10	12	864	30	5	781	12
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.01	0.05	0.05	0.01	0.16	0.00	0.01	0.04	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	16.23	52.63	67.71	23.29	58.37	72.10	0.00	0.00	9.43	0.00	0.00	9.69
Movement LOS	C	F	F	C	F	F	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.30	0.30	0.30	0.83	0.83	0.83	0.11	0.11	0.11	0.05	0.05	0.05
95th-Percentile Queue Length [ft/ln]	7.60	7.60	7.60	20.68	20.68	20.68	2.77	2.77	2.77	1.17	1.17	1.17
d_A, Approach Delay [s/veh]	28.16			41.33			0.31			0.15		
Approach LOS	D			E			A			A		
d_I, Intersection Delay [s/veh]	1.17											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 400: Shamrock Road at Agricola Drive

Control Type:	Roundabout	Delay (sec / veh):	54.1
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	2	0	0	703	6	0	3	875	7	9	796	231
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	0	0	703	6	0	3	875	7	9	796	231
Peak Hour Factor	1.0000	1.0000	0.9200	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9200	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	176	2	0	1	219	2	2	199	58
Total Analysis Volume [veh/h]	2	0	0	703	6	0	3	875	7	10	796	231
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	1027			882			231			13		
Exiting Flow Rate [veh/h]	23			234			798			1578		
Demand Flow Rate [veh/h]	2	0	0	703	6	0	3	875	7	9	796	231
Adjusted Demand Flow Rate [veh/h]	2	0	0	703	6	0	3	875	7	10	796	231

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	2	709	885	1037
Capacity of Entry and Bypass Lanes [veh/h]	485	562	1091	1362
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	485	562	1091	1362
X, volume / capacity	0.00	1.26	0.81	0.76

Movement, Approach, & Intersection Results

Lane LOS	A	F	C	B
95th-Percentile Queue Length [veh]	0.01	27.97	9.45	8.00
95th-Percentile Queue Length [ft]	0.31	699.29	236.28	200.02
Approach Delay [s/veh]	7.49	155.21	19.77	14.31
Approach LOS	A	F	C	B
Intersection Delay [s/veh]	54.08			
Intersection LOS	F			

Intersection Level Of Service Report
Intersection 500: Shamrock Road at Brightview Drive / Calla Lily Drive

Control Type:	Two-way stop	Delay (sec / veh):	232.5
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.060

Intersection Setup

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			20.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	3	0	0	0	0	1	10	1424	20	53	913	28
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	0	0	0	0	1	10	1424	20	53	913	28
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	0	0	0	3	356	5	13	228	7
Total Analysis Volume [veh/h]	3	0	0	0	0	1	10	1424	20	53	913	28
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.06	0.00	0.01	0.03	0.00	0.01	0.06
d_M, Delay for Movement [s/veh]	16.26	161.63	216.89	39.71	179.74	232.47	0.00	0.00	10.13	0.00	0.00	12.97
Movement LOS	C	F	F	E	F	F	A	A	B	A	A	B
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.03	0.17	0.17	0.17	0.09	0.09	0.09	0.19	0.19	0.19
95th-Percentile Queue Length [ft/ln]	0.70	0.70	0.70	4.36	4.36	4.36	2.14	2.14	2.14	4.63	4.63	4.63
d_A, Approach Delay [s/veh]	16.26			232.47			0.14			0.37		
Approach LOS	C			F			A			A		
d_I, Intersection Delay [s/veh]	0.35											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 600: Shamrock Road at Beach Bay Road

Control Type:	Two-way stop	Delay (sec / veh):	196.5
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.408

Intersection Setup

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	20	9	1421	4	23	974
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	9	1421	4	23	974
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	2	390	1	6	268
Total Analysis Volume [veh/h]	22	10	1562	4	25	1070
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.41	0.02	0.01	0.00	0.01
d_M, Delay for Movement [s/veh]	63.04	196.49	0.00	10.62	0.00	0.00
Movement LOS	F	F	A	B	A	A
95th-Percentile Queue Length [veh/ln]	1.96	1.96	0.02	0.02	0.00	0.00
95th-Percentile Queue Length [ft/ln]	49.07	49.07	0.47	0.47	0.00	0.00
d_A, Approach Delay [s/veh]	104.74		0.03		0.00	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	1.26					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 700: Shamrock Road at Northward Road

Control Type:	Two-way stop	Delay (sec / veh):	1,204.1
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.850

Intersection Setup

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	50	74	170	1171	961	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	74	170	1171	961	60
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	19	44	302	248	15
Total Analysis Volume [veh/h]	52	76	175	1207	991	62
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane	No					
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance	No					
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.26	2.85	0.00	0.01	0.01	0.12
d_M, Delay for Movement [s/veh]	1087.06	1204.10	0.00	0.00	0.00	13.18
Movement LOS	F	F	A	A	A	B
95th-Percentile Queue Length [veh/ln]	14.23	14.23	0.00	0.00	0.42	0.42
95th-Percentile Queue Length [ft/ln]	355.69	355.69	0.00	0.00	10.48	10.48
d_A, Approach Delay [s/veh]	1156.55		0.00		0.78	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	58.08					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 800: Shamrock Road at Condor Road

Control Type:	Two-way stop	Delay (sec / veh):	19.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.190

Intersection Setup

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Base Volume Input [veh/h]	1	0	0	57	0	0	89	948	2	0	667	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	0	57	0	0	89	948	2	0	667	14
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	14	0	0	22	237	1	0	167	4
Total Analysis Volume [veh/h]	1	0	0	57	0	0	89	948	2	0	667	14
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.19	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	12.80	47.34	69.23	19.75	47.52	57.63	0.00	0.00	8.87	0.00	0.00	10.42
Movement LOS	B	E	F	C	E	F	A	A	A	A	A	B
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.69	0.69	0.69	0.01	0.01	0.01	0.06	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.16	0.16	0.16	17.16	17.16	17.16	0.16	0.16	0.16	1.58	1.58	1.58
d_A, Approach Delay [s/veh]	12.80			19.75			0.02			0.21		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	0.73											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 902: Bodden Town Road at Bodden Town Bypass

Control Type:	Two-way stop	Delay (sec / veh):	876.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.920

Intersection Setup

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	23	28	27	963	610	266
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	23	28	27	963	610	266
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	7	7	256	162	71
Total Analysis Volume [veh/h]	24	30	29	1024	649	283
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	1.92	0.00	0.01	0.01	0.42
d_M, Delay for Movement [s/veh]	658.31	876.00	0.00	0.00	0.00	14.27
Movement LOS	F	F	A	A	A	B
95th-Percentile Queue Length [veh/ln]	6.50	6.50	0.00	0.00	2.11	2.11
95th-Percentile Queue Length [ft/ln]	162.48	162.48	0.00	0.00	52.71	52.71
d_A, Approach Delay [s/veh]	779.25		0.00		4.33	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	22.62					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 1000: Bodden Town Road at Long Fellow Drive

Control Type:	Two-way stop	Delay (sec / veh):	56.6
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.157

Intersection Setup

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	0	12	24	871	802	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	12	24	871	802	0
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	3	7	239	220	0
Total Analysis Volume [veh/h]	0	13	26	957	881	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.16	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	24.60	56.58	0.00	0.00	0.00	10.07
Movement LOS	C	F	A	A	A	B
95th-Percentile Queue Length [veh/ln]	0.53	0.53	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	13.21	13.21	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	56.58		0.00		0.00	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	0.39					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 1100: Frank Sound Road at Bodden Town Road

Control Type:	Two-way stop	Delay (sec / veh):	901.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.642

Intersection Setup

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Base Volume Input [veh/h]	110	398	451	346	367	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	110	398	451	346	367	120
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	107	121	93	99	32
Total Analysis Volume [veh/h]	118	428	485	372	395	129
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane	No					
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance	No					
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.24	2.64	0.00	0.00	0.00	0.11
d_M, Delay for Movement [s/veh]	886.36	901.31	0.00	0.00	0.00	8.37
Movement LOS	F	F	A	A	A	A
95th-Percentile Queue Length [veh/ln]	48.75	48.75	0.00	0.00	0.36	0.36
95th-Percentile Queue Length [ft/ln]	1218.77	1218.77	0.00	0.00	9.03	9.03
d_A, Approach Delay [s/veh]	898.08		0.00		2.06	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	255.02					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 1200: Frank Sound Road at Clifton Hunter High School

Control Type:	Two-way stop	Delay (sec / veh):	29.6
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.560

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd		High School Access	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		20.00		20.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Frank Sound Rd		High School Access	
Base Volume Input [veh/h]	227	196	90	109	103	230
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	227	196	90	109	103	230
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	57	49	23	27	26	58
Total Analysis Volume [veh/h]	227	196	90	109	103	230
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.10	0.14	0.56
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	8.47	25.71	29.58
Movement LOS	A	A	A	A	D	D
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.31	0.31	5.38	5.38
95th-Percentile Queue Length [ft/ln]	0.00	0.00	7.86	7.86	134.48	134.48
d_A, Approach Delay [s/veh]	0.00		4.64		28.38	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	10.86					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 1300: Frank Sound Road at North Side Road/Old Robin Road

Control Type:	Two-way stop	Delay (sec / veh):	12.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.047

Intersection Setup

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Base Volume Input [veh/h]	164	44	52	122	28	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	164	44	52	122	28	23
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	46	12	15	34	8	6
Total Analysis Volume [veh/h]	184	49	58	137	31	26
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.04	0.00	0.00	0.04	0.05
d_M, Delay for Movement [s/veh]	0.00	7.68	0.00	0.00	9.54	12.02
Movement LOS	A	A	A	A	A	B
95th-Percentile Queue Length [veh/ln]	0.11	0.11	0.00	0.00	0.27	0.27
95th-Percentile Queue Length [ft/ln]	2.74	2.74	0.00	0.00	6.71	6.71
d_A, Approach Delay [s/veh]	1.62		0.00		10.67	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	2.03					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1400:East West Arterial at Agricola Drive Connector

Control Type:	Roundabout	Delay (sec / veh):	7.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial		
Approach	Northbound			Southbound			Eastbound		
Lane Configuration									
Turning Movement	Left	Left	Thru	Thru	Right	Right	Left	Right	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial		
Base Volume Input [veh/h]	218	0	65	68	0	8	0	708	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	218	0	65	68	0	8	0	708	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	55	0	16	17	0	2	0	177	0
Total Analysis Volume [veh/h]	218	0	65	68	0	8	0	708	0
Pedestrian Volume [ped/h]	0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1		
Circulating Flow Rate [veh/h]	8			708			65		
Exiting Flow Rate [veh/h]	776			65			226		
Demand Flow Rate [veh/h]	218	0	65	68	0	8	0	708	0
Adjusted Demand Flow Rate [veh/h]	218	0	65	68	0	8	0	708	0

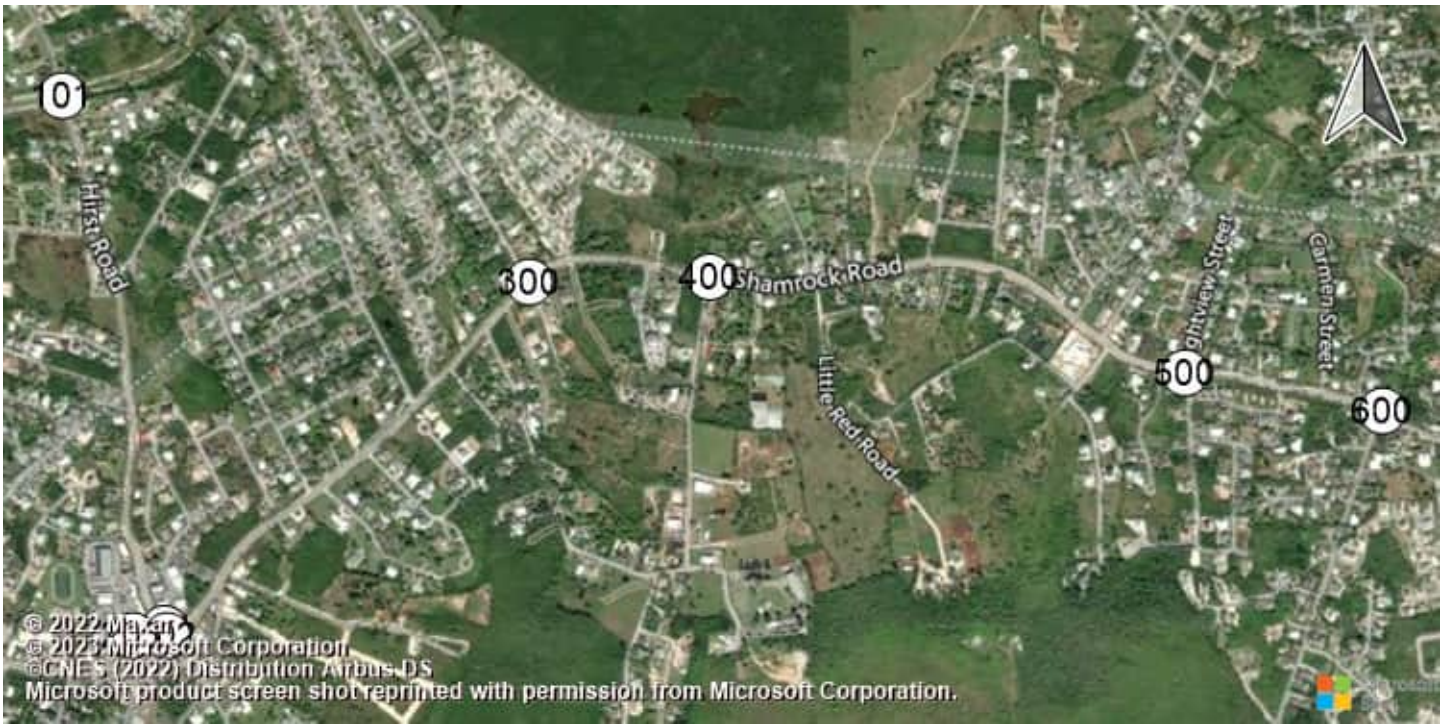
Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	283	76	708
Capacity of Entry and Bypass Lanes [veh/h]	1369	671	1292
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1369	671	1292
X, volume / capacity	0.21	0.11	0.55

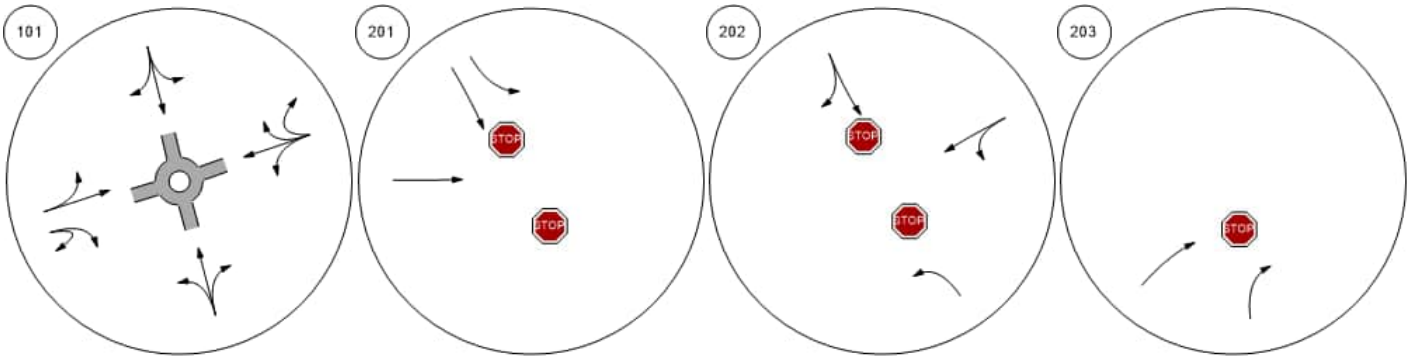
Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	0.78	0.38	3.47
95th-Percentile Queue Length [ft]	19.44	9.54	86.87
Approach Delay [s/veh]	4.35	6.62	8.86
Approach LOS	A	A	A
Intersection Delay [s/veh]	7.50		
Intersection LOS	A		

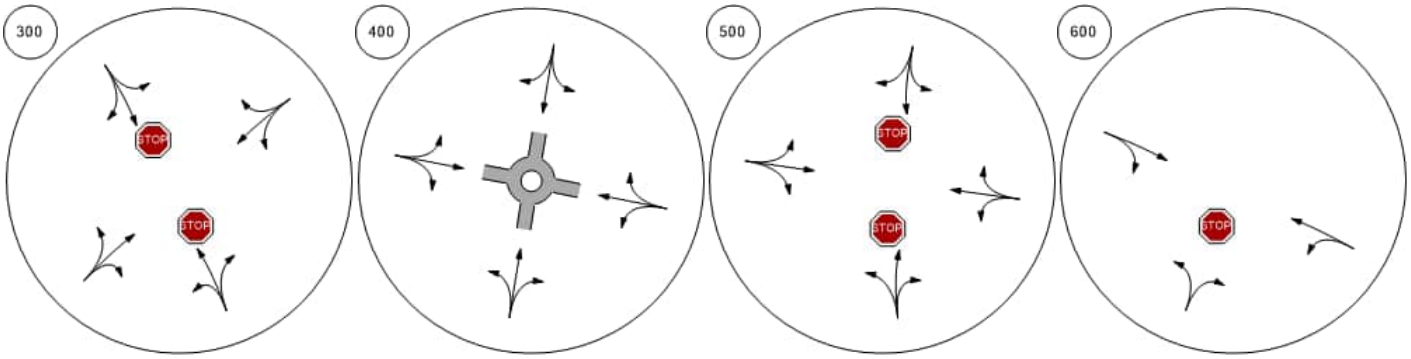
Lane Configuration and Traffic Control



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



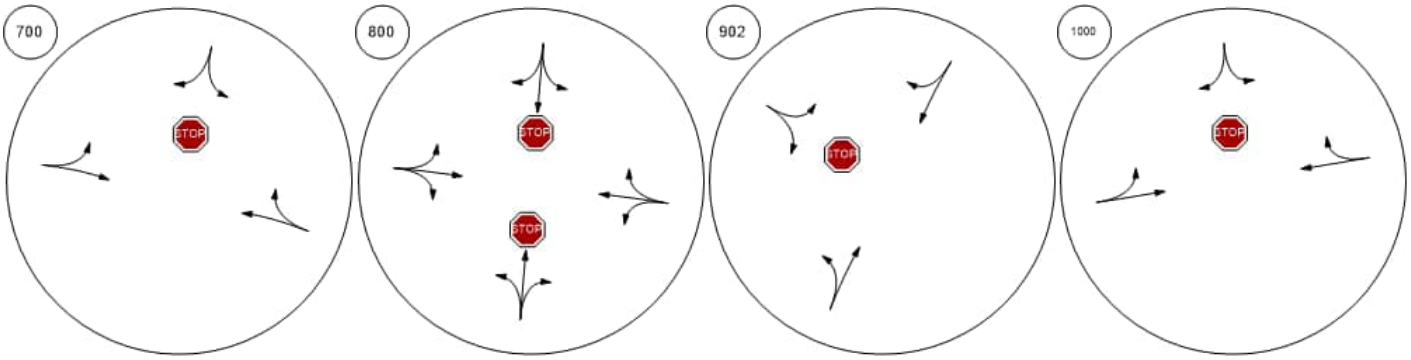
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



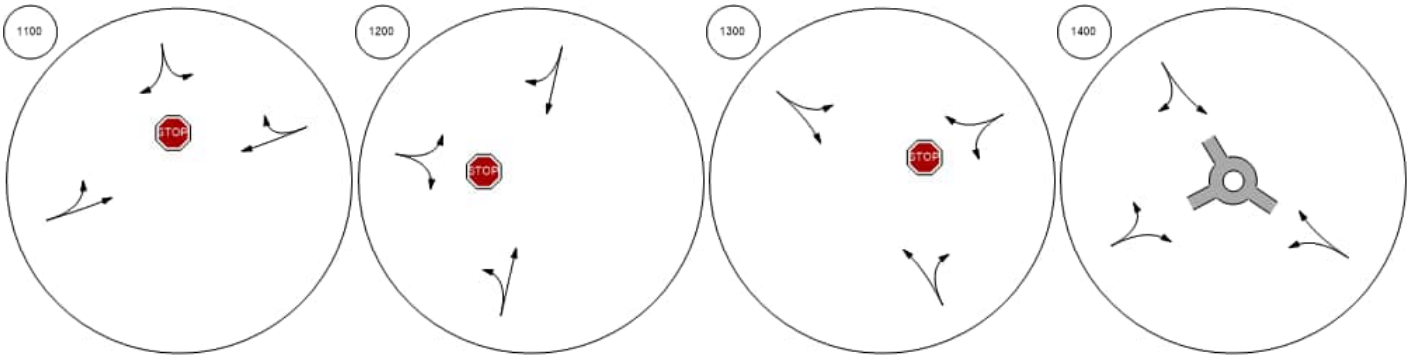
Lane Configuration and Traffic Control



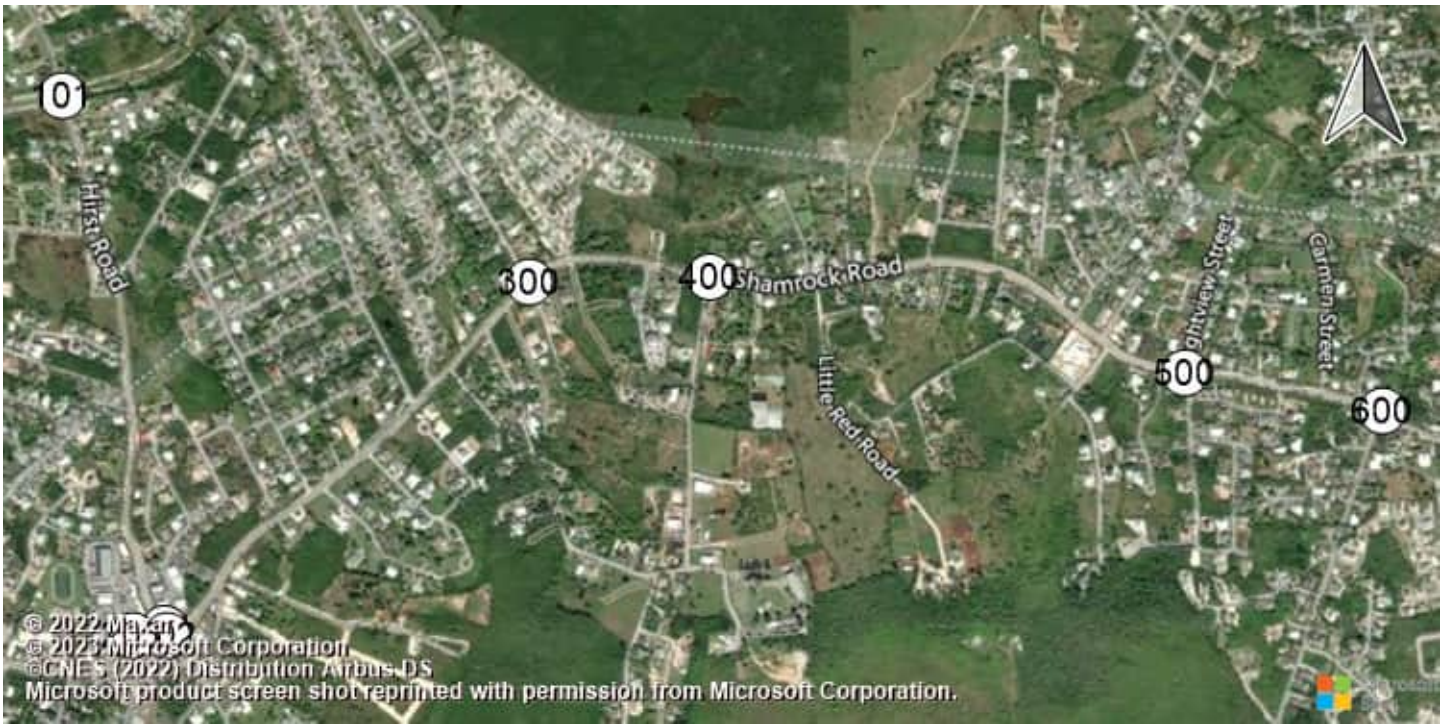
Shamrock Road at Northward | Shamrock Road at Condor R | Bodden Town Road at Bodde | Bodden Town Road at Long



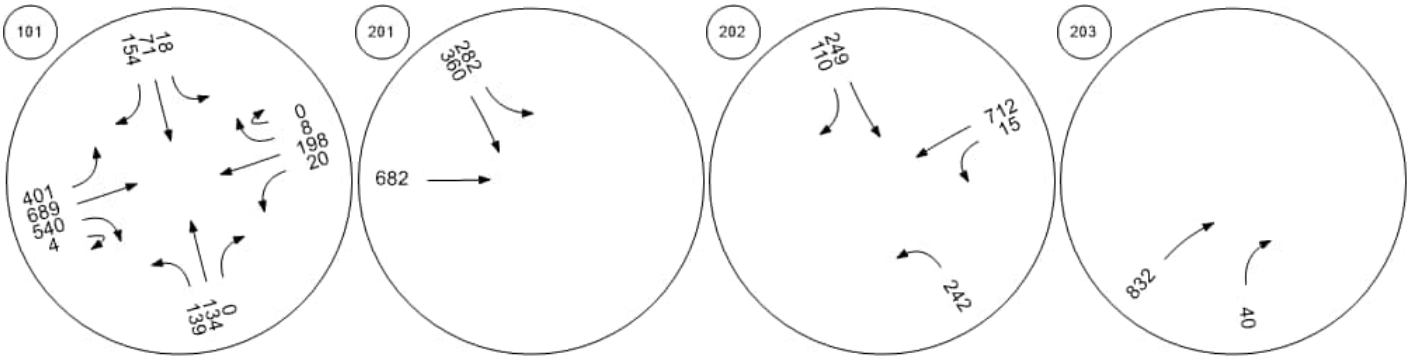
Frank Sound Road at Bodde | Frank Sound Road at Clifton | Frank Sound Road at North S



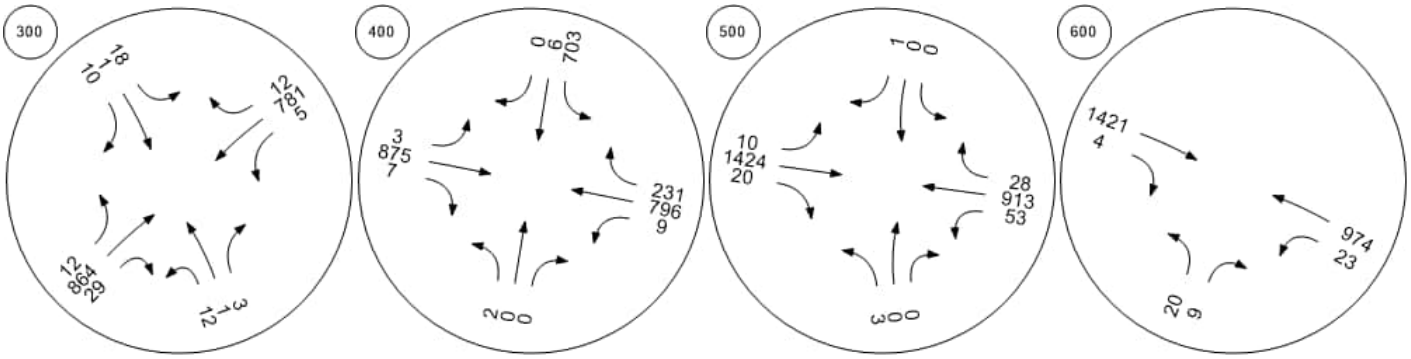
Traffic Volume - Base Volume



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



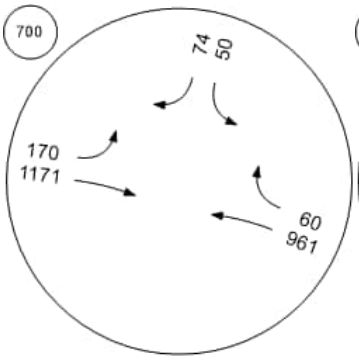
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



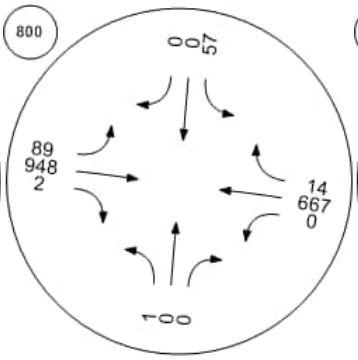
Traffic Volume - Base Volume



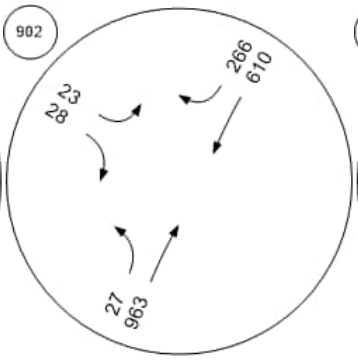
Shamrock Road at Northward



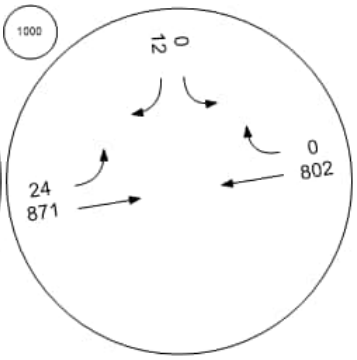
Shamrock Road at Condor R



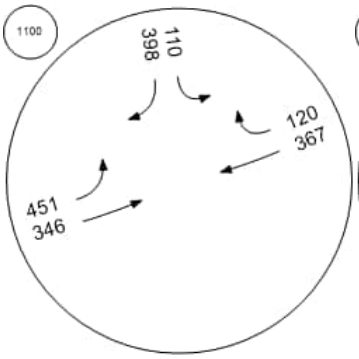
Bodden Town Road at Bodde



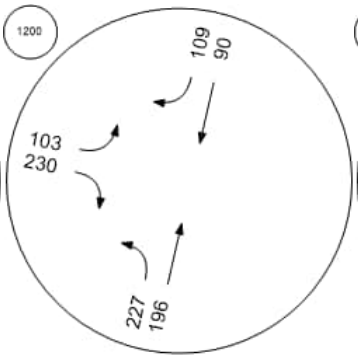
Bodden Town Road at Long



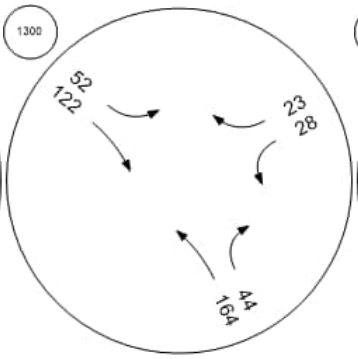
Frank Sound Road at Bodde

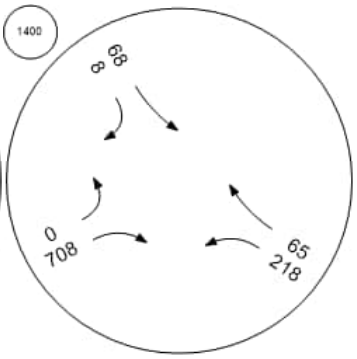


Frank Sound Road at Clifton



Frank Sound Road at North S





Intersection Level Of Service Report
Intersection 101: East-West Arterial Road at Hirst Road

Control Type:	Roundabout	Delay (sec / veh):	19.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes		

Intersection Setup

Name									East-West Arterial				East-West Arterial				
Approach	Northbound				Southbound				Eastbound				Westbound				
Lane Configuration																	
Turning Movement	Left	Left	Thru	Right	Left	Thru	Right	Right	Left	Thru	Right	U-tu	Left	Thr	Thr	Rig	U-t
Lane Width [ft]	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.	12.	12.	12.	12.
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100	100	100	100	100
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Speed [mph]	30.00				30.00				40.00				50.00				
Grade [%]	0.00				0.00				0.00				0.00				
Crosswalk	Yes				Yes				Yes				Yes				

Volumes

Name									East-West Arterial				East-West Arterial				
Base Volume Input [veh/h]	17	0	38	27	17	64	0	531	63	650	7	20	16	130	0	4	0
Base Volume Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	17	0	38	27	17	64	0	531	63	650	7	20	16	130	0	4	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Other Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Total 15-Minute Volume [veh/h]	4	0	10	7	4	16	0	133	16	163	2	5	4	327	0	1	0
Total Analysis Volume [veh/h]	17	0	38	27	17	64	0	531	63	650	7	20	16	130	0	4	0
Pedestrian Volume [ped/h]	0				0				0				0				

Intersection Settings

Number of Conflicting Circulating Lanes	2				2				2				2				
Circulating Flow Rate [veh/h]	1863				704				69				622				
Exiting Flow Rate [veh/h]	87				105				1876				694				
Demand Flow Rate [veh/h]	17	0	38	27	17	64	0	531	63	650	7	20	16	130	0	4	0
Adjusted Demand Flow Rate [veh/h]	17	0	38	27	17	64	0	531	63	650	7	20	16	130	0	4	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1350.00	1420.00	1350.00
B (coefficient)	0.00085	0.00085	0.00085	0.00092	0.00085	0.00092
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	82	612	393	348	704	625
Capacity of Entry and Bypass Lanes [veh/h]	292	781	1340	1267	837	762
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	292	781	1340	1267	837	762
X, volume / capacity	0.28	0.78	0.29	0.27	0.84	0.82

Movement, Approach, & Intersection Results

Lane LOS	C	C	A	A	D	D
95th-Percentile Queue Length [veh]	1.13	7.92	1.23	1.12	9.93	8.95
95th-Percentile Queue Length [ft]	28.15	197.93	30.74	28.10	248.36	223.77
Approach Delay [s/veh]	18.52	23.10	5.27		26.56	
Approach LOS	C	C	A		D	
Intersection Delay [s/veh]	19.85					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 201: Shamrock Road at Hirst Rd (1)

Control Type:	Two-way stop	Delay (sec / veh):	14.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.250

Intersection Setup

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	0	0	0	20	115	0	0	436	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	20	115	0	0	436	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	5	31	0	0	117	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	22	124	0	0	469	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.04	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	11.25	14.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS				B	B			A				
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.11	0.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	2.86	24.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			14.16			0.00			0.00		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	3.36											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 202: Shamrock Road at Hirst Rd (2)

Control Type:	Two-way stop	Delay (sec / veh):	249.1
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.178

Intersection Setup

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	315	0	0	0	19	96	0	0	0	7	640	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	315	0	0	0	19	96	0	0	0	7	640	0
Peak Hour Factor	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	85	0	0	0	5	26	0	0	0	2	172	0
Total Analysis Volume [veh/h]	339	0	0	0	20	103	0	0	0	8	688	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.76	0.00	0.00	0.00	0.05	1.18	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	34.13	0.00	0.00	0.00	217.77	249.14	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	D				F	F				A	A	
95th-Percentile Queue Length [veh/ln]	6.38	0.00	0.00	0.00	8.39	8.39	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	159.48	0.00	0.00	0.00	209.82	209.82	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	34.13			244.04			0.00			0.00		
Approach LOS	D			F			A			A		
d_I, Intersection Delay [s/veh]	35.91											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 203: Shamrock Road atHirst Road Jughandle

Control Type:	Two-way stop	Delay (sec / veh):	12.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.039

Intersection Setup

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	0	19	487	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	19	487	0	0	0
Peak Hour Factor	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	5	131	0	0	0
Total Analysis Volume [veh/h]	0	20	524	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.04	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	12.24	0.00	0.00	0.00	0.00
Movement LOS		B	A			
95th-Percentile Queue Length [veh/ln]	0.00	0.12	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	3.01	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.24		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.45					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 300: Shamrock Road at Woodland Drive

Control Type:	Two-way stop	Delay (sec / veh):	23.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.100

Intersection Setup

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	40	1	5	0	0	21	7	328	6	2	585	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	1	5	0	0	21	7	328	6	2	585	0
Peak Hour Factor	0.9700	0.9700	1.0000	1.0000	0.9700	0.9700	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	0	1	0	0	5	2	82	2	1	146	0
Total Analysis Volume [veh/h]	41	1	5	0	0	22	7	328	6	2	585	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.00	0.02	0.00	0.00	0.10	0.00	0.00	0.01	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	12.92	19.44	20.41	11.84	20.28	23.12	0.00	0.00	8.63	0.00	0.00	7.91
Movement LOS	B	C	C	B	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.34	0.34	0.34	0.33	0.33	0.33	0.02	0.02	0.02	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	8.61	8.61	8.61	8.20	8.20	8.20	0.45	0.45	0.45	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.86			23.12			0.15			0.00		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	1.22											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 400: Shamrock Road at Agricola Drive

Control Type:	Roundabout	Delay (sec / veh):	9.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	1	7	1	40	12	37	2	330	2	3	548	304
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	7	1	40	12	37	2	330	2	3	548	304
Peak Hour Factor	1.0000	1.0000	0.9200	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9200	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	0	10	3	9	1	83	1	1	137	76
Total Analysis Volume [veh/h]	1	7	1	40	12	37	2	330	2	3	548	304
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	889			333			312			51		
Exiting Flow Rate [veh/h]	17			313			586			371		
Demand Flow Rate [veh/h]	1	7	1	40	12	37	2	330	2	3	548	304
Adjusted Demand Flow Rate [veh/h]	1	7	1	40	12	37	2	330	2	3	548	304

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	9	89	334	855
Capacity of Entry and Bypass Lanes [veh/h]	558	983	1004	1311
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	558	983	1004	1311
X, volume / capacity	0.02	0.09	0.33	0.65

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	B
95th-Percentile Queue Length [veh]	0.05	0.30	1.47	5.17
95th-Percentile Queue Length [ft]	1.23	7.45	36.75	129.18
Approach Delay [s/veh]	6.65	4.48	7.03	11.01
Approach LOS	A	A	A	B
Intersection Delay [s/veh]	9.50			
Intersection LOS	A			

Intersection Level Of Service Report

Intersection 500: Shamrock Road at Brightview Drive / Calla Lily Drive

Control Type:	Two-way stop	Delay (sec / veh):	24.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.031

Intersection Setup

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			20.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	11	0	5	3	0	6	1	368	1	0	707	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	0	5	3	0	6	1	368	1	0	707	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	1	1	0	2	0	92	0	0	177	0
Total Analysis Volume [veh/h]	11	0	5	3	0	6	1	368	1	0	707	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.00	0.03	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	13.81	21.95	23.91	10.81	21.87	24.34	0.00	0.00	9.00	0.00	0.00	8.00
Movement LOS	B	C	C	B	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.16	0.16	0.16	0.11	0.11	0.11	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	3.97	3.97	3.97	2.77	2.77	2.77	0.08	0.08	0.08	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	16.97			19.83			0.02			0.00		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	0.42											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 600: Shamrock Road at Beach Bay Road

Control Type:	Two-way stop	Delay (sec / veh):	43.2
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.148

Intersection Setup

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	8	15	185	191	47	699
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	15	185	191	47	699
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	4	51	52	13	192
Total Analysis Volume [veh/h]	9	16	203	210	52	768
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.15	0.00	0.26	0.00	0.01
d_M, Delay for Movement [s/veh]	19.19	43.19	0.00	10.92	0.00	0.00
Movement LOS	C	E	A	B	A	A
95th-Percentile Queue Length [veh/ln]	0.59	0.59	1.02	1.02	0.00	0.00
95th-Percentile Queue Length [ft/ln]	14.84	14.84	25.57	25.57	0.00	0.00
d_A, Approach Delay [s/veh]	34.55		5.55		0.00	
Approach LOS	D		A		A	
d_I, Intersection Delay [s/veh]	2.51					
Intersection LOS	E					

Intersection Level Of Service Report
Intersection 700: Shamrock Road at Northward Road

Control Type:	Two-way stop	Delay (sec / veh):	18.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.030

Intersection Setup

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	13	8	9	200	703	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	8	9	200	703	22
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	2	2	52	181	6
Total Analysis Volume [veh/h]	13	8	9	206	725	23
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.03	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	9.68	18.65	0.00	0.00	0.00	7.68
Movement LOS	A	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.14	0.14	0.00	0.00	0.05	0.05
95th-Percentile Queue Length [ft/ln]	3.53	3.53	0.00	0.00	1.28	1.28
d_A, Approach Delay [s/veh]	13.10		0.00		0.24	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.46					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 800: Shamrock Road at Condor Road

Control Type:	Two-way stop	Delay (sec / veh):	16.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.405

Intersection Setup

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Base Volume Input [veh/h]	4	0	0	1	0	210	69	139	0	0	262	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	0	0	1	0	210	69	139	0	0	262	6
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	0	0	53	17	35	0	0	66	2
Total Analysis Volume [veh/h]	4	0	0	1	0	210	69	139	0	0	262	6
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.63	12.46	11.92	13.77	16.77	16.60	0.00	0.00	7.74	0.00	0.00	7.63
Movement LOS	A	B	B	B	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.02	1.95	1.95	1.95	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.39	0.39	0.39	48.82	48.82	48.82	0.00	0.00	0.00	0.33	0.33	0.33
d_A, Approach Delay [s/veh]	9.63			16.59			0.00			0.17		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	5.19											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 902: Bodden Town Road at Bodden Town Bypass

Control Type:	Two-way stop	Delay (sec / veh):	15.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.055

Intersection Setup

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	47	19	12	133	192	157
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	47	19	12	133	192	157
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	5	3	35	51	42
Total Analysis Volume [veh/h]	50	20	13	141	204	167
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.06	0.00	0.00	0.00	0.12
d_M, Delay for Movement [s/veh]	9.68	15.65	0.00	0.00	0.00	7.83
Movement LOS	A	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.37	0.37	0.00	0.00	0.39	0.39
95th-Percentile Queue Length [ft/ln]	9.27	9.27	0.00	0.00	9.82	9.82
d_A, Approach Delay [s/veh]	11.39		0.00		3.52	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	3.54					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1000: Bodden Town Road at Long Fellow Drive

Control Type:	Two-way stop	Delay (sec / veh):	11.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	0	2	0	111	304	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	2	0	111	304	0
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	0	30	84	0
Total Analysis Volume [veh/h]	0	2	0	122	334	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.87	11.38	0.00	0.00	0.00	7.44
Movement LOS	A	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.27	0.27	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.38		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.05					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1100: Frank Sound Road at Bodden Town Road

Control Type:	Two-way stop	Delay (sec / veh):	22.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.185

Intersection Setup

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Base Volume Input [veh/h]	311	51	40	62	247	206
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	311	51	40	62	247	206
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	84	14	11	17	66	55
Total Analysis Volume [veh/h]	334	55	43	67	266	222
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.34	0.18	0.00	0.00	0.00	0.14
d_M, Delay for Movement [s/veh]	14.01	22.42	0.00	0.00	0.00	7.72
Movement LOS	B	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	3.12	3.12	0.00	0.00	0.50	0.50
95th-Percentile Queue Length [ft/ln]	78.10	78.10	0.00	0.00	12.52	12.52
d_A, Approach Delay [s/veh]	15.20		0.00		3.51	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	7.72					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1200: Frank Sound Road at Clifton Hunter High School

Control Type:	Roundabout	Delay (sec / veh):	7.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd		Clifton Hunter HS Entrance	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		20.00		20.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Frank Sound Rd		Clifton Hunter HS Entrance	
Base Volume Input [veh/h]	136	224	418	182	225	97
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	136	224	418	182	225	97
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	56	105	46	56	24
Total Analysis Volume [veh/h]	136	224	418	182	225	97
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	182		97		224	
Exiting Flow Rate [veh/h]	515		449		318	
Demand Flow Rate [veh/h]	136	224	418	182	225	97
Adjusted Demand Flow Rate [veh/h]	136	224	418	182	225	97

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	360	600	322
Capacity of Entry and Bypass Lanes [veh/h]	1147	1250	1099
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1147	1250	1099
X, volume / capacity	0.31	0.48	0.29

Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	1.36	2.68	1.23
95th-Percentile Queue Length [ft]	33.88	67.02	30.73
Approach Delay [s/veh]	6.14	7.91	6.10
Approach LOS	A	A	A
Intersection Delay [s/veh]	6.96		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 1300: Frank Sound Road at North Side Road/Old Robin Road

Control Type:	Two-way stop	Delay (sec / veh):	10.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Base Volume Input [veh/h]	102	33	8	100	44	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	102	33	8	100	44	2
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	9	2	28	12	1
Total Analysis Volume [veh/h]	115	37	9	112	49	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.03	0.00	0.00	0.05	0.00
d_M, Delay for Movement [s/veh]	0.00	7.50	0.00	0.00	9.05	10.58
Movement LOS	A	A	A	A	A	B
95th-Percentile Queue Length [veh/ln]	0.08	0.08	0.00	0.00	0.17	0.17
95th-Percentile Queue Length [ft/ln]	1.92	1.92	0.00	0.00	4.36	4.36
d_A, Approach Delay [s/veh]	1.82		0.00		9.11	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.29					
Intersection LOS	B					

Intersection Level Of Service Report

Intersection 1400: East-West Arterial at Agricola Drive Connector

Control Type:	Roundabout	Delay (sec / veh):	14.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			50.00			50.00			
Grade [%]	0.00			0.00			0.00			0.00			
Crosswalk	Yes			Yes			Yes			Yes			

Volumes

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Base Volume Input [veh/h]	359	19	5	35	55	45	4	619	71	5	923	20	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	359	19	5	35	55	45	4	619	71	5	923	20	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	90	5	1	9	14	11	1	155	18	1	231	5	0
Total Analysis Volume [veh/h]	359	19	5	35	55	45	4	619	71	5	923	20	0
Pedestrian Volume [ped/h]	0			0			0			0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1			1			
Circulating Flow Rate [veh/h]	988			695			44			171			
Exiting Flow Rate [veh/h]	131			43			1327			659			
Demand Flow Rate [veh/h]	359	19	5	35	55	45	4	619	71	5	923	20	0
Adjusted Demand Flow Rate [veh/h]	359	19	5	35	55	45	4	619	71	5	923	20	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1380.00
B (coefficient)	0.00085	0.00085	0.00091	0.00091	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	383	135	623	71	948
Capacity of Entry and Bypass Lanes [veh/h]	614	787	1365	1365	1160
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	614	787	1365	1365	1160
X, volume / capacity	0.62	0.17	0.46	0.05	0.82

Movement, Approach, & Intersection Results

Lane LOS	C	A	A	A	C
95th-Percentile Queue Length [veh]	4.34	0.62	2.46	0.16	9.82
95th-Percentile Queue Length [ft]	108.45	15.42	61.41	4.11	245.45
Approach Delay [s/veh]	18.26	6.38	6.70		19.34
Approach LOS	C	A	A		C
Intersection Delay [s/veh]	14.28				
Intersection LOS	B				

Intersection Level Of Service Report
Intersection 1501: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	9.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name							East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name							East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	21	0	7	0	0	0	0	654	6	0	2	923	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	21	0	7	0	0	0	0	654	6	0	2	923	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	5	0	2	0	0	0	0	164	2	0	1	231	0	0
Total Analysis Volume [veh/h]	21	0	7	0	0	0	0	654	6	0	2	923	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1			
Circulating Flow Rate [veh/h]	923			667			7				6			
Exiting Flow Rate [veh/h]	8			0			944				661			
Demand Flow Rate [veh/h]	21	0	7	0	0	0	0	654	6	0	2	923	0	0
Adjusted Demand Flow Rate [veh/h]	21	0	7	0	0	0	0	654	6	0	2	923	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	28	0	660	925
Capacity of Entry and Bypass Lanes [veh/h]	539	699	1371	1372
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	539	699	1371	1372
X, volume / capacity	0.05	0.00	0.48	0.67

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	B
95th-Percentile Queue Length [veh]	0.16	0.00	2.71	5.64
95th-Percentile Queue Length [ft]	4.10	0.00	67.64	141.08
Approach Delay [s/veh]	7.31	5.15	7.45	11.25
Approach LOS	A	A	A	B
Intersection Delay [s/veh]	9.63			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1502: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	8.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name			East-West Arterial			East-West Arterial		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	Thru	Right	U-turn	Left	Thru	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00			50.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	Yes		Yes			Yes		

Volumes

Name			East-West Arterial			East-West Arterial		
Base Volume Input [veh/h]	172	4	659	2	0	1	753	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	172	4	659	2	0	1	753	8
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	1	165	1	0	0	188	2
Total Analysis Volume [veh/h]	172	4	659	2	0	1	753	8
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1		1			1		
Circulating Flow Rate [veh/h]	761		12			2		
Exiting Flow Rate [veh/h]	3		925			671		
Demand Flow Rate [veh/h]	172	4	659	2	0	1	753	8
Adjusted Demand Flow Rate [veh/h]	172	4	659	2	0	1	753	8

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	176	661	762
Capacity of Entry and Bypass Lanes [veh/h]	635	1364	1378
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	635	1364	1378
X, volume / capacity	0.28	0.48	0.55

Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	1.13	2.74	3.55
95th-Percentile Queue Length [ft]	28.20	68.46	88.80
Approach Delay [s/veh]	9.21	7.52	8.57
Approach LOS	A	A	A
Intersection Delay [s/veh]	8.21		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 1600: East-West Arterial at Northward Rd

Control Type:	Two-way stop	Delay (sec / veh):	14.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.159

Intersection Setup

Name	Northward Rd		East-West Arterial		East-West Arterial	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		East-West Arterial		East-West Arterial	
Base Volume Input [veh/h]	71	0	671	0	7	691
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	71	0	671	0	7	691
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	0	168	0	2	173
Total Analysis Volume [veh/h]	71	0	671	0	7	691
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.16	0.00	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	14.60	0.00	0.00	0.00	0.00	0.00
Movement LOS	B		A		A	A
95th-Percentile Queue Length [veh/ln]	0.56	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	14.03	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	14.60		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.72					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1700: East-West Arterial at Lookout Rd

Control Type:	Roundabout	Delay (sec / veh):	7.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Lookout Rd			Lookout Rd			East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Lookout Rd			Lookout Rd			East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	68	0	4	0	0	0	0	605	24	43	4	646	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	68	0	4	0	0	0	0	605	24	43	4	646	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	17	0	1	0	0	0	0	151	6	11	1	162	0	0
Total Analysis Volume [veh/h]	68	0	4	0	0	0	0	605	24	43	4	646	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1				
Circulating Flow Rate [veh/h]	689			676			4				67				
Exiting Flow Rate [veh/h]	28			0			757				609				
Demand Flow Rate [veh/h]	68	0	4	0	0	0	0	605	24	43	4	646	0	0	
Adjusted Demand Flow Rate [veh/h]	68	0	4	0	0	0	0	605	24	43	4	646	0	0	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	72	0	672	650
Capacity of Entry and Bypass Lanes [veh/h]	684	693	1375	1289
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	684	693	1375	1289
X, volume / capacity	0.11	0.00	0.49	0.50

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.35	0.00	2.78	2.94
95th-Percentile Queue Length [ft]	8.79	0.00	69.55	73.60
Approach Delay [s/veh]	6.41	5.20	7.54	8.12
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	7.75			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1800: East-West Arterial at Longfellow Rd

Control Type:	Roundabout	Delay (sec / veh):	6.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Longfellow Rd			Longfellow Rd			East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Longfellow Rd			Longfellow Rd			East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	12	0	0	0	0	0	0	604	0	5	0	576	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	0	0	0	0	0	0	604	0	5	0	576	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	3	0	0	0	0	0	0	151	0	1	0	144	0	0
Total Analysis Volume [veh/h]	12	0	0	0	0	0	0	604	0	5	0	576	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1				
Circulating Flow Rate [veh/h]	581			609			0				5				
Exiting Flow Rate [veh/h]	0			0			593				604				
Demand Flow Rate [veh/h]	12	0	0	0	0	0	0	604	0	5	0	576	0	0	
Adjusted Demand Flow Rate [veh/h]	12	0	0	0	0	0	0	604	0	5	0	576	0	0	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	12	0	609	576
Capacity of Entry and Bypass Lanes [veh/h]	763	742	1380	1373
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	763	742	1380	1373
X, volume / capacity	0.02	0.00	0.44	0.42

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.05	0.00	2.31	2.12
95th-Percentile Queue Length [ft]	1.20	0.00	57.85	53.07
Approach Delay [s/veh]	4.87	4.86	6.86	6.60
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	6.72			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1900: East West Arterial North/South Spurs

Control Type:	Roundabout	Delay (sec / veh):	6.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	East-West Arterial			East-West Arterial			East-West Arterial		
Approach	Northbound			Eastbound			Westbound		
Lane Configuration									
Turning Movement	Left	Right	U-turn	Thru	Right	U-turn	Left	Thru	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			50.00			40.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	East-West Arterial			East-West Arterial			East-West Arterial		
Base Volume Input [veh/h]	453	0	2	75	529	0	0	123	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	453	0	2	75	529	0	0	123	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	113	0	1	19	132	0	0	31	0
Total Analysis Volume [veh/h]	453	0	2	75	529	0	0	123	0
Pedestrian Volume [ped/h]	0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1		
Circulating Flow Rate [veh/h]	123			2			531		
Exiting Flow Rate [veh/h]	531			576			75		
Demand Flow Rate [veh/h]	453	0	2	75	529	0	0	123	0
Adjusted Demand Flow Rate [veh/h]	453	0	2	75	529	0	0	123	0

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	455	604	123
Capacity of Entry and Bypass Lanes [veh/h]	1218	1378	803
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1218	1378	803
X, volume / capacity	0.37	0.44	0.15

Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	1.76	2.29	0.54
95th-Percentile Queue Length [ft]	43.96	57.23	13.48
Approach Delay [s/veh]	6.58	6.83	6.06
Approach LOS	A	A	A
Intersection Delay [s/veh]	6.66		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 2000: Frank Sound Road at East-West Arterial

Control Type:	Roundabout	Delay (sec / veh):	3.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd		East-West Arterial		
Approach	Northbound		Southbound		Eastbound		
Lane Configuration							
Turning Movement	Left	Thru	Thru	Right	Left	Right	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		40.00		
Grade [%]	0.00		0.00		0.00		
Crosswalk	Yes		Yes		Yes		

Volumes

Name	Frank Sound Rd		Frank Sound Rd		East-West Arterial		
Base Volume Input [veh/h]	7	70	55	116	72	4	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	70	55	116	72	4	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	18	14	29	18	1	0
Total Analysis Volume [veh/h]	7	70	55	116	72	4	0
Pedestrian Volume [ped/h]	0		0		0		

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1		
Circulating Flow Rate [veh/h]	116		4		70		
Exiting Flow Rate [veh/h]	59		142		123		
Demand Flow Rate [veh/h]	7	70	55	116	72	4	0
Adjusted Demand Flow Rate [veh/h]	7	70	55	116	72	4	0

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	77	171	76
Capacity of Entry and Bypass Lanes [veh/h]	1227	1375	1285
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1227	1375	1285
X, volume / capacity	0.06	0.12	0.06

Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	0.20	0.43	0.19
95th-Percentile Queue Length [ft]	5.02	10.63	4.71
Approach Delay [s/veh]	3.45	3.61	3.27
Approach LOS	A	A	A
Intersection Delay [s/veh]	3.49		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 2100: Frank Sound Road at East-West Arterial

Control Type:	Roundabout	Delay (sec / veh):	6.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd		East-West Arterial		
Approach	Northbound		Southbound		Eastbound		
Lane Configuration							
Turning Movement	Left	Thru	Thru	Right	Left	Right	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		20.00		40.00		
Grade [%]	0.00		0.00		0.00		
Crosswalk	Yes		Yes		Yes		

Volumes

Name	Frank Sound Rd		Frank Sound Rd		East-West Arterial		
Base Volume Input [veh/h]	374	75	84	23	4	516	27
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	374	75	84	23	4	516	27
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	94	19	21	6	1	129	7
Total Analysis Volume [veh/h]	374	75	84	23	4	516	27
Pedestrian Volume [ped/h]	0		0		0		

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1		
Circulating Flow Rate [veh/h]	50		543		75		
Exiting Flow Rate [veh/h]	600		79		424		
Demand Flow Rate [veh/h]	374	75	84	23	4	516	27
Adjusted Demand Flow Rate [veh/h]	374	75	84	23	4	516	27

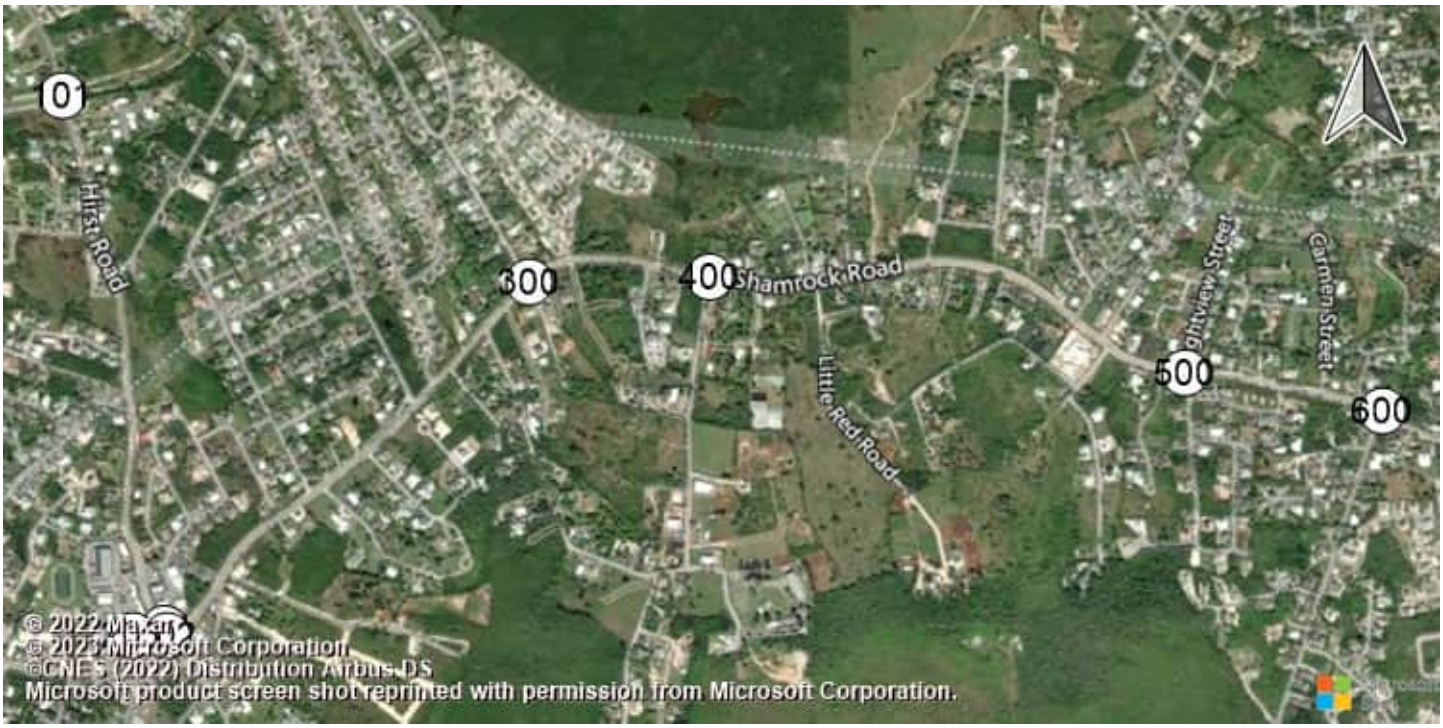
Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	449	107	547
Capacity of Entry and Bypass Lanes [veh/h]	1312	794	1279
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1312	794	1279
X, volume / capacity	0.34	0.13	0.43

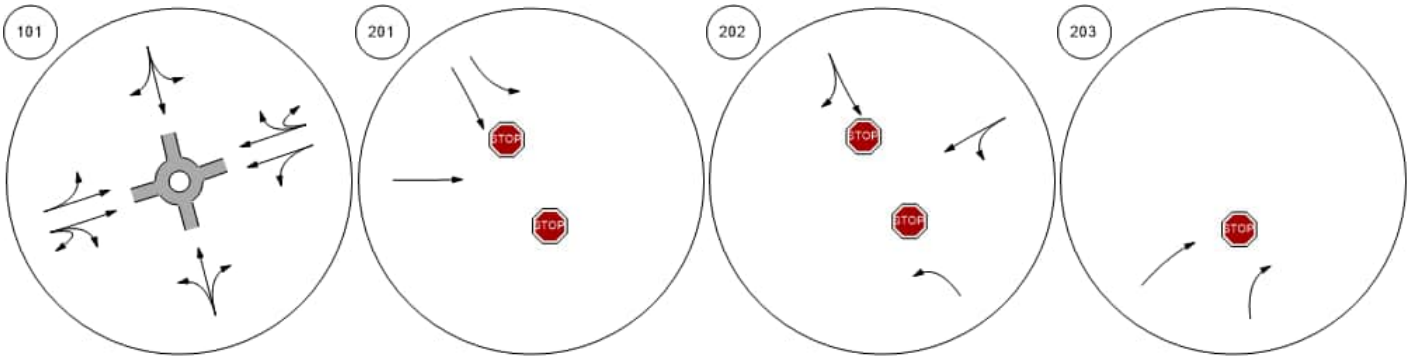
Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	1.54	0.47	2.19
95th-Percentile Queue Length [ft]	38.50	11.63	54.78
Approach Delay [s/veh]	5.88	5.92	7.04
Approach LOS	A	A	A
Intersection Delay [s/veh]	6.46		
Intersection LOS	A		

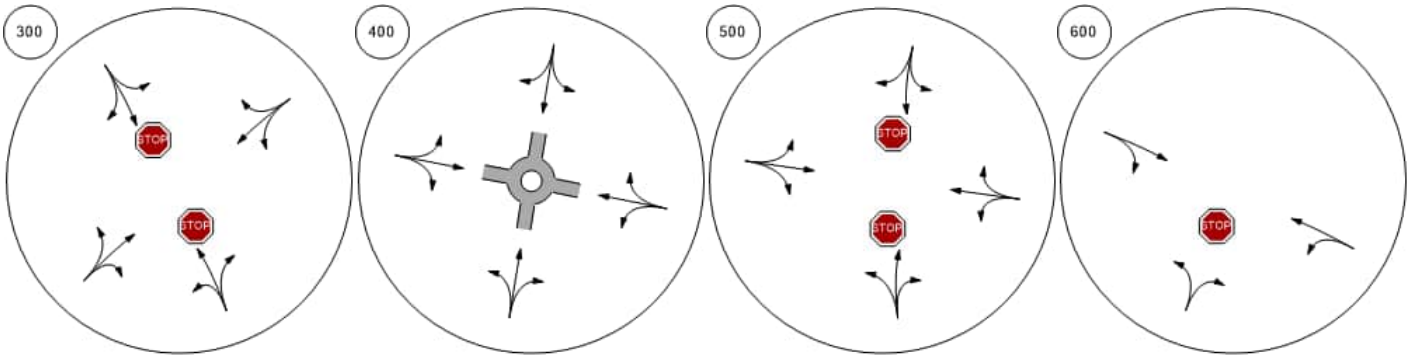
Lane Configuration and Traffic Control



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



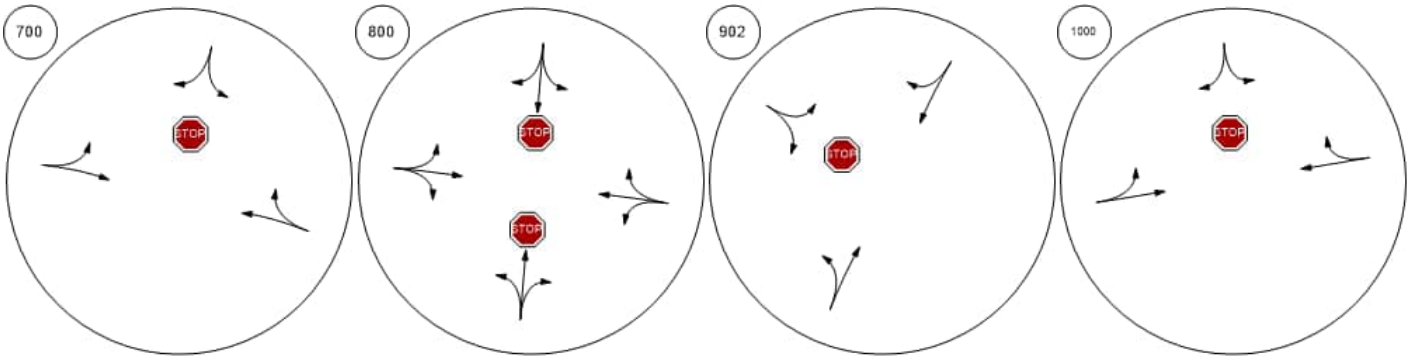
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



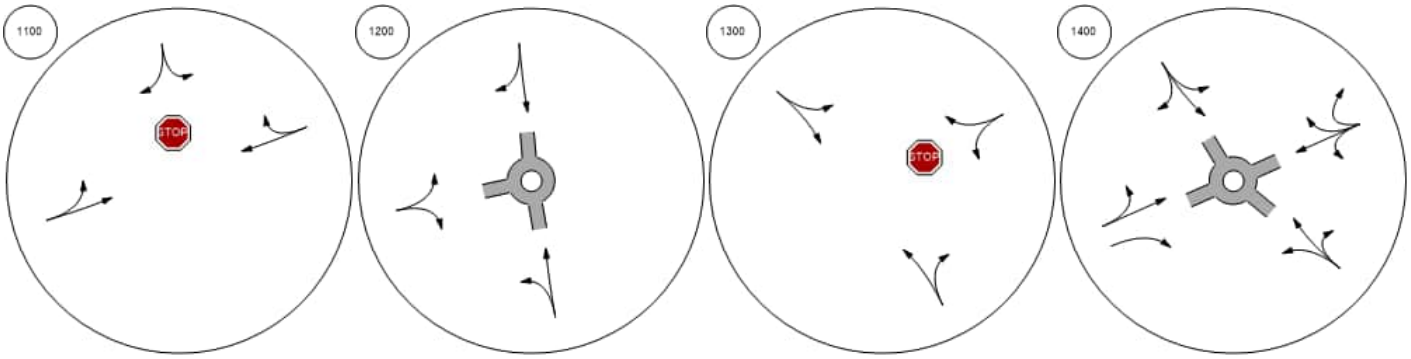
Lane Configuration and Traffic Control



Shamrock Road at Northward | Shamrock Road at Condor R | Bodden Town Road at Bodde | Bodden Town Road at Long



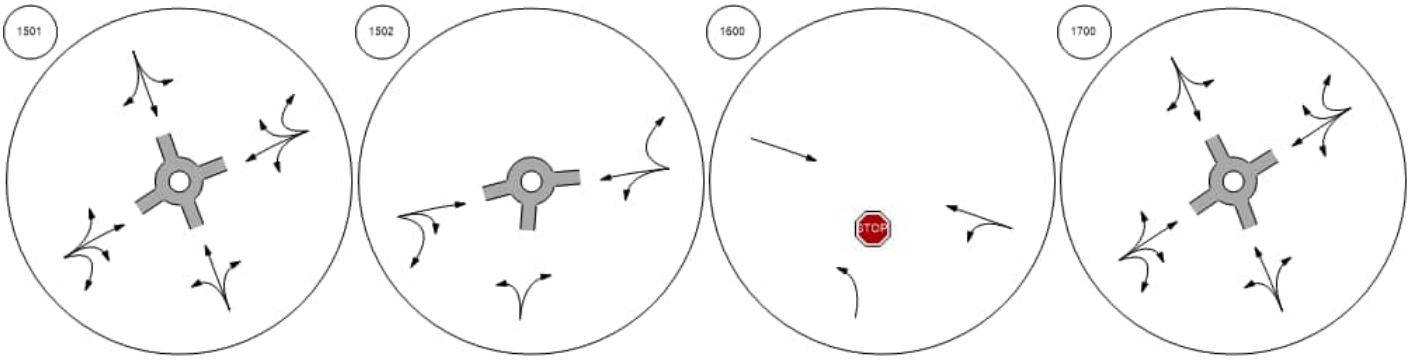
Frank Sound Road at Bodde | Frank Sound Road at Clifton | Frank Sound Road at North S | East-West Arterial at Agricola



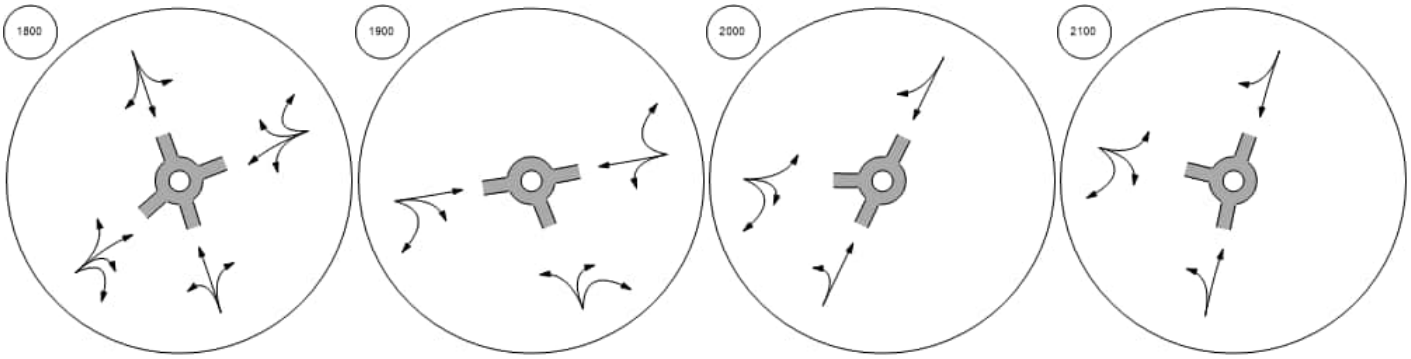
Lane Configuration and Traffic Control



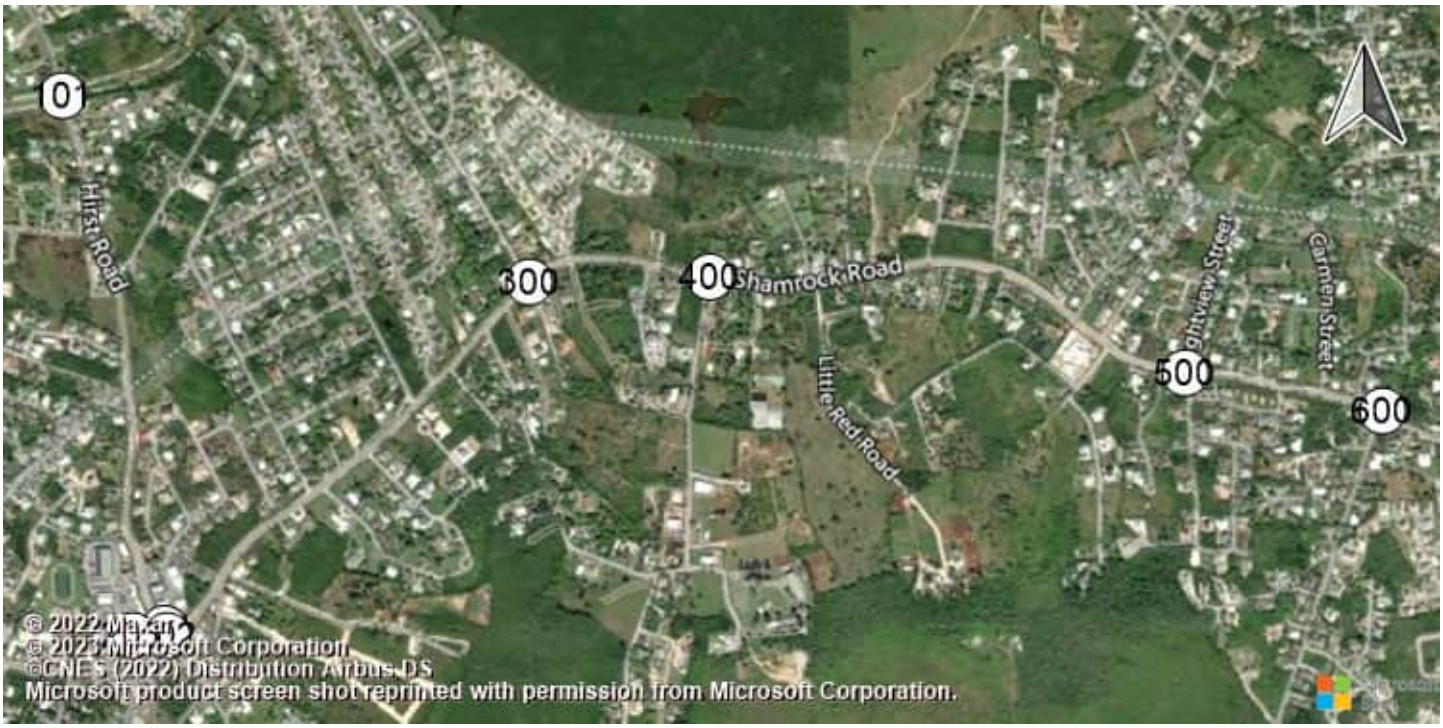
East-West Arterial at Will T C East-West Arterial at Will T C East-West Arterial at Northwa East-West Arterial at Lookout



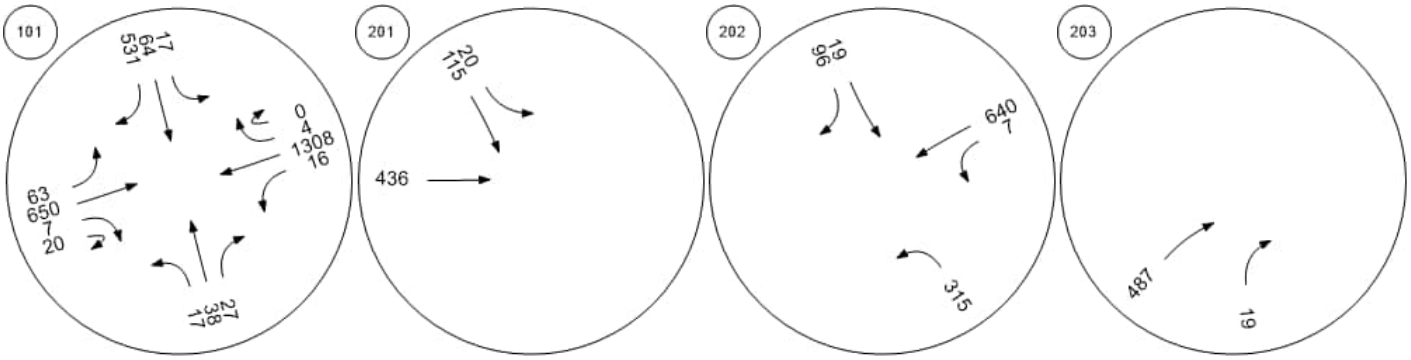
East-West Arterial at Longfell East West Arterial North/Sout Frank Sound Road at East-W Frank Sound Road at East-W



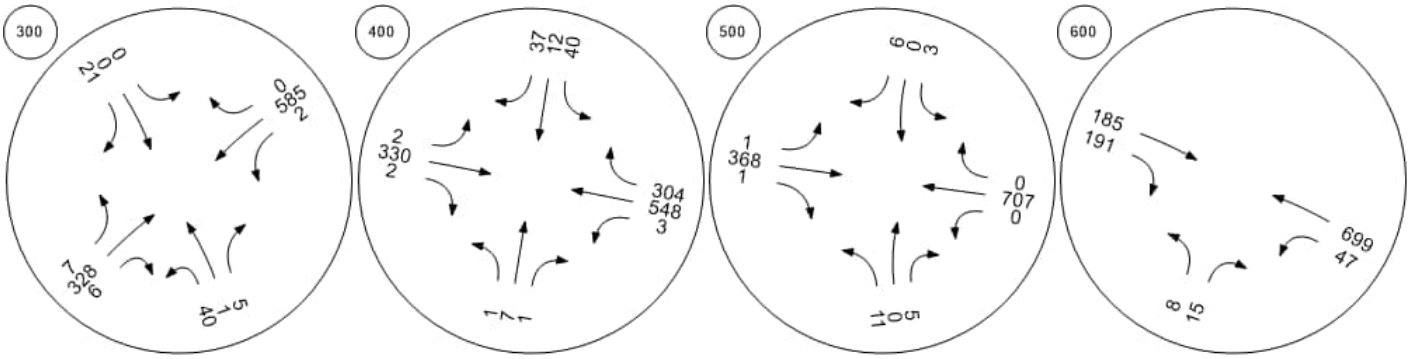
Traffic Volume - Base Volume



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



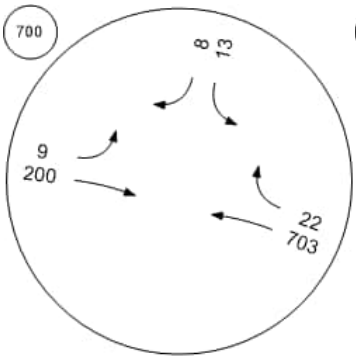
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



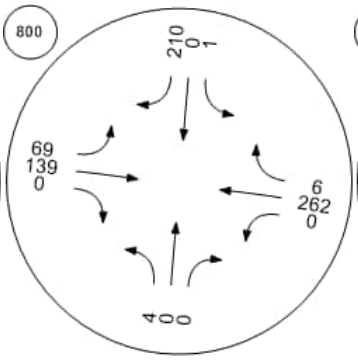
Traffic Volume - Base Volume



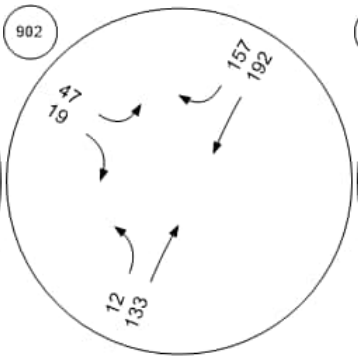
Shamrock Road at Northward



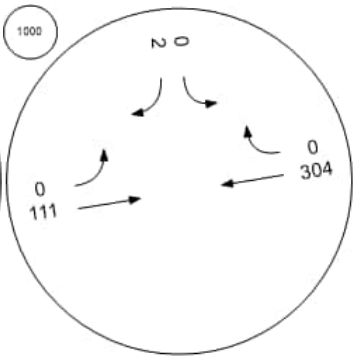
Shamrock Road at Condor R



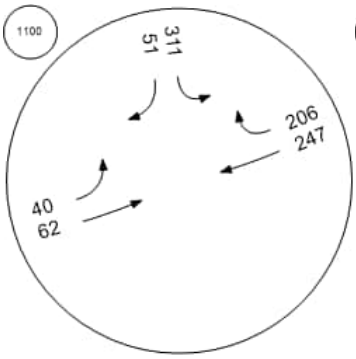
Bodden Town Road at Bodde



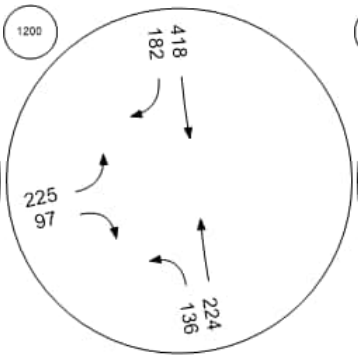
Bodden Town Road at Long



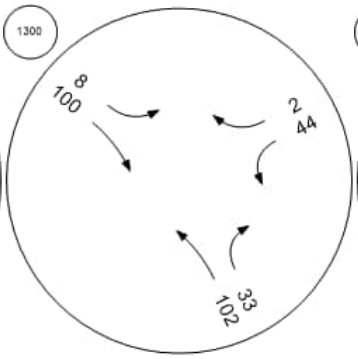
Frank Sound Road at Bodde



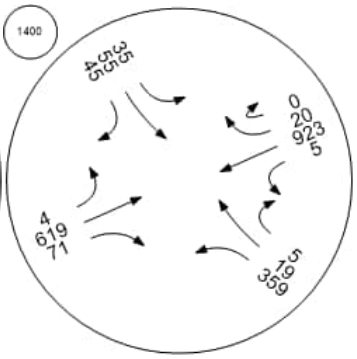
Frank Sound Road at Clifton



Frank Sound Road at North S



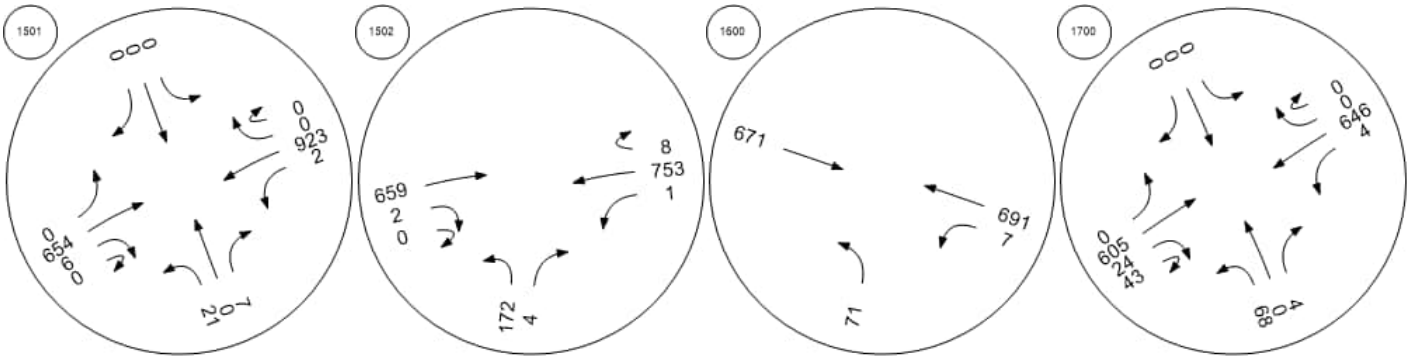
East-West Arterial at Agricola



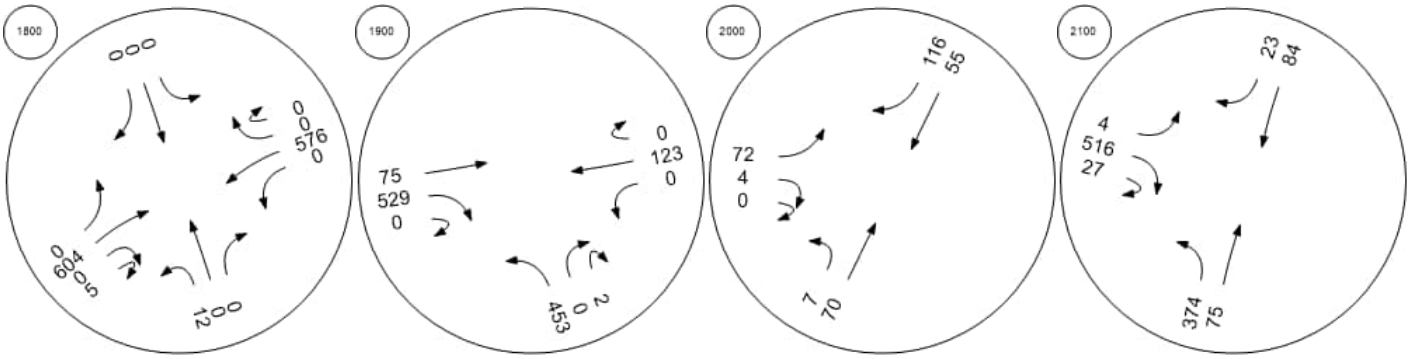
Traffic Volume - Base Volume



East-West Arterial at Will T C East-West Arterial at Will T C East-West Arterial at Northwa East-West Arterial at Lookout



East-West Arterial at Longfell East West Arterial North/Sout Frank Sound Road at East-W Frank Sound Road at East-W



Intersection Level Of Service Report
Intersection 101: East-West Arterial Road at Hirst Road

Control Type:	Roundabout	Delay (sec / veh):	14.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name									East-West Arterial				East-West Arterial				
Approach	Northbound				Southbound				Eastbound				Westbound				
Lane Configuration																	
Turning Movement	Left	Left	Thru	Right	Left	Thru	Right	Right	Left	Thru	Right	U-tu	Left	Thr	Thr	Rig	U-t
Lane Width [ft]	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.	12.	12.	12.	12.
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100	100	100	100	100
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Speed [mph]	30.00				30.00				40.00				50.00				
Grade [%]	0.00				0.00				0.00				0.00				
Crosswalk	Yes				Yes				Yes				Yes				

Volumes

Name									East-West Arterial				East-West Arterial				
Base Volume Input [veh/h]	57	0	125	24	21	62	0	150	363	1437	57	4	51	555	0	12	0
Base Volume Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	57	0	125	24	21	62	0	150	363	1437	57	4	51	555	0	12	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Other Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Total 15-Minute Volume [veh/h]	14	0	31	6	5	16	0	38	91	359	14	1	13	139	0	3	0
Total Analysis Volume [veh/h]	57	0	125	24	21	62	0	150	363	1437	57	4	51	555	0	12	0
Pedestrian Volume [ped/h]	0				0				0				0				

Intersection Settings

Number of Conflicting Circulating Lanes	2				2				2				2			
Circulating Flow Rate [veh/h]	721				1522				161				273			
Exiting Flow Rate [veh/h]	170				500				766				1482			
Demand Flow Rate [veh/h]	57	0	125	24	21	62	0	150	363	1437	57	4	51	555	0	12	0
Adjusted Demand Flow Rate [veh/h]	57	0	125	24	21	62	0	150	363	1437	57	4	51	555	0	12	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1350.00	1420.00	1350.00
B (coefficient)	0.00085	0.00085	0.00085	0.00092	0.00085	0.00092
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	206	233	987	875	328	291
Capacity of Entry and Bypass Lanes [veh/h]	770	390	1239	1165	1126	1051
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	770	390	1239	1165	1126	1051
X, volume / capacity	0.27	0.60	0.80	0.75	0.29	0.28

Movement, Approach, & Intersection Results

Lane LOS	A	D	C	C	A	A
95th-Percentile Queue Length [veh]	1.08	3.75	9.11	7.51	1.22	1.13
95th-Percentile Queue Length [ft]	27.01	93.73	227.68	187.68	30.40	28.34
Approach Delay [s/veh]	7.72	25.09	16.37		6.03	
Approach LOS	A	D	C		A	
Intersection Delay [s/veh]	14.27					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 201: Shamrock Road at Hirst Rd (1)

Control Type:	Two-way stop	Delay (sec / veh):	20.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.495

Intersection Setup

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	0	0	0	13	210	0	0	495	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	13	210	0	0	495	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	3	56	0	0	133	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	14	226	0	0	532	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.03	0.50	0.00	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	11.70	20.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS				B	C			A				
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.08	2.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	1.95	67.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			19.89			0.00			0.00		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	6.18											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 202: Shamrock Road at Hirst Rd (2)

Control Type:	Two-way stop	Delay (sec / veh):	35.1
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.593

Intersection Setup

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	237	0	0	0	35	176	0	0	0	12	396	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	237	0	0	0	35	176	0	0	0	12	396	0
Peak Hour Factor	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	64	0	0	0	9	47	0	0	0	3	106	0
Total Analysis Volume [veh/h]	255	0	0	0	38	189	0	0	0	13	426	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.41	0.00	0.00	0.00	0.07	0.59	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	14.61	0.00	0.00	0.00	30.80	35.11	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	B				D	E				A	A	
95th-Percentile Queue Length [veh/ln]	1.97	0.00	0.00	0.00	4.55	4.55	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	49.27	0.00	0.00	0.00	113.67	113.67	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	14.61			34.39			0.00			0.00		
Approach LOS	B			D			A			A		
d_I, Intersection Delay [s/veh]	12.52											
Intersection LOS	E											

Intersection Level Of Service Report
Intersection 203: Shamrock Road atHirst Road Jughandle

Control Type:	Two-way stop	Delay (sec / veh):	14.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.080

Intersection Setup

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	0	30	664	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	30	664	0	0	0
Peak Hour Factor	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	8	178	0	0	0
Total Analysis Volume [veh/h]	0	32	714	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.08	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	14.76	0.00	0.00	0.00	0.00
Movement LOS		B	A			
95th-Percentile Queue Length [veh/ln]	0.00	0.26	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	6.47	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	14.76		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.63					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 300: Shamrock Road at Woodland Drive

Control Type:	Two-way stop	Delay (sec / veh):	19.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.148

Intersection Setup

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	12	1	3	11	1	41	10	312	29	6	433	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	1	3	11	1	41	10	312	29	6	433	0
Peak Hour Factor	0.9700	0.9700	1.0000	1.0000	0.9700	0.9700	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	1	3	0	11	3	78	7	2	108	0
Total Analysis Volume [veh/h]	12	1	3	11	1	42	10	312	30	6	433	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.01	0.02	0.00	0.15	0.00	0.00	0.03	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.02	17.15	17.92	12.16	19.08	19.94	0.00	0.00	8.27	0.00	0.00	7.88
Movement LOS	B	C	C	B	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.10	0.10	0.10	0.59	0.59	0.59	0.08	0.08	0.08	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	2.56	2.56	2.56	14.77	14.77	14.77	2.04	2.04	2.04	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.70			18.34			0.70			0.00		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	1.67											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 400: Shamrock Road at Agricola Drive

Control Type:	Roundabout	Delay (sec / veh):	6.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	1	0	0	354	19	4	4	320	2	9	434	47
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	0	354	19	4	4	320	2	9	434	47
Peak Hour Factor	1.0000	1.0000	0.9200	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9200	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	89	5	1	1	80	1	2	109	12
Total Analysis Volume [veh/h]	1	0	0	354	19	4	4	320	2	10	434	47
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1			
Circulating Flow Rate [veh/h]	485			322			47			25			
Exiting Flow Rate [veh/h]	31			51			439			674			
Demand Flow Rate [veh/h]	1	0	0	354	19	4	4	320	2	9	434	47	
Adjusted Demand Flow Rate [veh/h]	1	0	0	354	19	4	4	320	2	10	434	47	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	1	377	326	491
Capacity of Entry and Bypass Lanes [veh/h]	842	994	1316	1346
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	842	994	1316	1346
X, volume / capacity	0.00	0.38	0.25	0.36

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	1.79	0.98	1.70
95th-Percentile Queue Length [ft]	0.09	44.81	24.52	42.43
Approach Delay [s/veh]	4.29	7.72	4.88	6.03
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	6.25			
Intersection LOS	A			

Intersection Level Of Service Report

Intersection 500: Shamrock Road at Brightview Drive / Calla Lily Drive

Control Type:	Two-way stop	Delay (sec / veh):	24.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			20.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	2	0	0	0	0	1	12	585	21	53	387	26
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	0	0	0	0	1	12	585	21	53	387	26
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	0	0	0	3	146	5	13	97	7
Total Analysis Volume [veh/h]	2	0	0	0	0	1	12	585	21	53	387	26
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.02	0.00	0.00	0.03
d_M, Delay for Movement [s/veh]	10.62	23.06	24.72	12.16	23.66	24.91	0.00	0.00	8.24	0.00	0.00	8.74
Movement LOS	B	C	C	B	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.02	0.02	0.02	0.06	0.06	0.06	0.08	0.08	0.08
95th-Percentile Queue Length [ft/ln]	0.23	0.23	0.23	0.41	0.41	0.41	1.42	1.42	1.42	2.02	2.02	2.02
d_A, Approach Delay [s/veh]	10.62			24.91			0.28			0.49		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	0.41											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 600: Shamrock Road at Beach Bay Road

Control Type:	Two-way stop	Delay (sec / veh):	35.9
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.319

Intersection Setup

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	22	48	492	94	23	445
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	22	48	492	94	23	445
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	13	135	26	6	122
Total Analysis Volume [veh/h]	24	53	541	103	25	489
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.32	0.01	0.10	0.00	0.00
d_M, Delay for Movement [s/veh]	20.49	35.88	0.00	8.75	0.00	0.00
Movement LOS	C	E	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.55	1.55	0.32	0.32	0.00	0.00
95th-Percentile Queue Length [ft/ln]	38.79	38.79	8.03	8.03	0.00	0.00
d_A, Approach Delay [s/veh]	31.08		1.40		0.00	
Approach LOS	D		A		A	
d_I, Intersection Delay [s/veh]	2.67					
Intersection LOS	E					

Intersection Level Of Service Report
Intersection 700: Shamrock Road at Northward Road

Control Type:	Two-way stop	Delay (sec / veh):	20.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.129

Intersection Setup

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	27	34	13	438	471	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	27	34	13	438	471	18
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	9	3	113	121	5
Total Analysis Volume [veh/h]	28	35	13	452	486	19
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.13	0.00	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	13.04	20.35	0.00	0.00	0.00	8.31
Movement LOS	B	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.63	0.63	0.00	0.00	0.05	0.05
95th-Percentile Queue Length [ft/ln]	15.63	15.63	0.00	0.00	1.31	1.31
d_A, Approach Delay [s/veh]	17.10		0.00		0.31	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	1.20					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 800: Shamrock Road at Condor Road

Control Type:	Two-way stop	Delay (sec / veh):	16.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.214

Intersection Setup

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Base Volume Input [veh/h]	1	0	0	4	0	86	90	271	2	0	268	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	0	4	0	86	90	271	2	0	268	13
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	1	0	22	23	68	1	0	67	3
Total Analysis Volume [veh/h]	1	0	0	4	0	86	90	271	2	0	268	13
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	9.65	14.46	14.03	12.39	16.37	16.42	0.00	0.00	7.76	0.00	0.00	8.01
Movement LOS	A	B	B	B	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.83	0.83	0.83	0.00	0.00	0.00	0.03	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.10	0.10	0.10	20.68	20.68	20.68	0.11	0.11	0.11	0.82	0.82	0.82
d_A, Approach Delay [s/veh]	9.65			16.24			0.04			0.37		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	2.16											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 902: Bodden Town Road at Bodden Town Bypass

Control Type:	Two-way stop	Delay (sec / veh):	17.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.140

Intersection Setup

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	46	44	29	230	204	128
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	46	44	29	230	204	128
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	12	8	61	54	34
Total Analysis Volume [veh/h]	49	47	31	245	217	136
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.14	0.00	0.00	0.00	0.10
d_M, Delay for Movement [s/veh]	11.51	17.61	0.00	0.00	0.00	8.10
Movement LOS	B	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.75	0.75	0.00	0.00	0.35	0.35
95th-Percentile Queue Length [ft/ln]	18.71	18.71	0.00	0.00	8.75	8.75
d_A, Approach Delay [s/veh]	14.49		0.00		3.12	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	3.44					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1000: Bodden Town Road at Long Fellow Drive

Control Type:	Two-way stop	Delay (sec / veh):	12.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	0	3	4	178	305	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	3	4	178	305	0
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	1	49	84	0
Total Analysis Volume [veh/h]	0	3	4	196	335	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.29	12.09	0.00	0.00	0.00	7.60
Movement LOS	A	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.44	0.44	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.09		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.07					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1100: Frank Sound Road at Bodden Town Road

Control Type:	Two-way stop	Delay (sec / veh):	27.9
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.224

Intersection Setup

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Base Volume Input [veh/h]	385	58	56	98	236	212
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	385	58	56	98	236	212
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	103	16	15	26	63	57
Total Analysis Volume [veh/h]	414	62	60	105	254	228
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.45	0.22	0.00	0.00	0.00	0.15
d_M, Delay for Movement [s/veh]	18.83	27.94	0.00	0.00	0.00	7.83
Movement LOS	C	D	A	A	A	A
95th-Percentile Queue Length [veh/ln]	5.26	5.26	0.00	0.00	0.54	0.54
95th-Percentile Queue Length [ft/ln]	131.49	131.49	0.00	0.00	13.41	13.41
d_A, Approach Delay [s/veh]	20.02		0.00		3.70	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	10.08					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 1200: Frank Sound Road at Clifton Hunter High School

Control Type:	Roundabout	Delay (sec / veh):	8.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd		Clifton Hunter HS Entrance	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		20.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Frank Sound Rd		Clifton Hunter HS Entrance	
Base Volume Input [veh/h]	90	320	414	252	211	131
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	90	320	414	252	211	131
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	80	104	63	53	33
Total Analysis Volume [veh/h]	90	320	414	252	211	131
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	252		131		320	
Exiting Flow Rate [veh/h]	545		531		342	
Demand Flow Rate [veh/h]	90	320	414	252	211	131
Adjusted Demand Flow Rate [veh/h]	90	320	414	252	211	131

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	410	666	342
Capacity of Entry and Bypass Lanes [veh/h]	1068	1208	996
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1068	1208	996
X, volume / capacity	0.38	0.55	0.34

Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	1.83	3.51	1.54
95th-Percentile Queue Length [ft]	45.77	87.71	38.51
Approach Delay [s/veh]	7.38	9.34	7.21
Approach LOS	A	A	A
Intersection Delay [s/veh]	8.26		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 1300: Frank Sound Road at North Side Road/Old Robin Road

Control Type:	Two-way stop	Delay (sec / veh):	12.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.046

Intersection Setup

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Base Volume Input [veh/h]	170	37	32	146	69	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	170	37	32	146	69	22
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	48	10	9	41	19	6
Total Analysis Volume [veh/h]	191	42	36	164	78	25
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.03	0.00	0.00	0.09	0.05
d_M, Delay for Movement [s/veh]	0.00	7.68	0.00	0.00	9.90	12.34
Movement LOS	A	A	A	A	A	B
95th-Percentile Queue Length [veh/ln]	0.09	0.09	0.00	0.00	0.47	0.47
95th-Percentile Queue Length [ft/ln]	2.35	2.35	0.00	0.00	11.73	11.73
d_A, Approach Delay [s/veh]	1.38		0.00		10.49	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	2.62					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1400: East-West Arterial at Agricola Drive Connector

Control Type:	Roundabout	Delay (sec / veh):	14.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			50.00			50.00			
Grade [%]	0.00			0.00			0.00			0.00			
Crosswalk	Yes			Yes			Yes			Yes			

Volumes

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Base Volume Input [veh/h]	36	23	5	50	29	8	37	1037	408	7	575	50	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	23	5	50	29	8	37	1037	408	7	575	50	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	9	6	1	13	7	2	9	259	102	2	144	13	0
Total Analysis Volume [veh/h]	36	23	5	50	29	8	37	1037	408	7	575	50	0
Pedestrian Volume [ped/h]	0			0			0			0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1			1			
Circulating Flow Rate [veh/h]	633			1450			78			445			
Exiting Flow Rate [veh/h]	444			110			619			1092			
Demand Flow Rate [veh/h]	36	23	5	50	29	8	37	1037	408	7	575	50	0
Adjusted Demand Flow Rate [veh/h]	36	23	5	50	29	8	37	1037	408	7	575	50	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1380.00
B (coefficient)	0.00085	0.00085	0.00091	0.00091	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	64	87	1074	408	632
Capacity of Entry and Bypass Lanes [veh/h]	830	415	1323	1323	877
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	830	415	1323	1323	877
X, volume / capacity	0.08	0.21	0.81	0.31	0.72

Movement, Approach, & Intersection Results

Lane LOS	A	B	C	A	C
95th-Percentile Queue Length [veh]	0.25	0.78	9.84	1.32	6.41
95th-Percentile Queue Length [ft]	6.26	19.58	246.01	33.07	160.25
Approach Delay [s/veh]	5.09	12.04	14.00		17.56
Approach LOS	A	B	B		C
Intersection Delay [s/veh]	14.67				
Intersection LOS	B				

Intersection Level Of Service Report
Intersection 1501: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	13.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name							East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name							East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	1	0	4	0	0	0	0	1007	86	0	30	629	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	4	0	0	0	0	1007	86	0	30	629	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	0	0	1	0	0	0	0	252	22	0	8	157	0	0
Total Analysis Volume [veh/h]	1	0	4	0	0	0	0	1007	86	0	30	629	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1					
Circulating Flow Rate [veh/h]	629			1097			4				86					
Exiting Flow Rate [veh/h]	116			0			630				1011					
Demand Flow Rate [veh/h]	1	0	4	0	0	0	0	1007	86	0	30	629	0	0		
Adjusted Demand Flow Rate [veh/h]	1	0	4	0	0	0	0	1007	86	0	30	629	0	0		

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	5	0	1093	659
Capacity of Entry and Bypass Lanes [veh/h]	727	451	1375	1265
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	727	451	1375	1265
X, volume / capacity	0.01	0.00	0.80	0.52

Movement, Approach, & Intersection Results

Lane LOS	A	A	C	A
95th-Percentile Queue Length [veh]	0.02	0.00	9.23	3.14
95th-Percentile Queue Length [ft]	0.52	0.00	230.77	78.43
Approach Delay [s/veh]	5.02	7.99	15.84	8.51
Approach LOS	A	A	C	A
Intersection Delay [s/veh]	13.06			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1502: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	11.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name			East-West Arterial			East-West Arterial		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	Thru	Right	U-turn	Left	Thru	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00			50.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	Yes		Yes			Yes		

Volumes

Name			East-West Arterial			East-West Arterial		
Base Volume Input [veh/h]	15	1	981	29	0	3	644	16
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	1	981	29	0	3	644	16
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	0	245	7	0	1	161	4
Total Analysis Volume [veh/h]	15	1	981	29	0	3	644	16
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1		1			1		
Circulating Flow Rate [veh/h]	660		17			29		
Exiting Flow Rate [veh/h]	32		659			998		
Demand Flow Rate [veh/h]	15	1	981	29	0	3	644	16
Adjusted Demand Flow Rate [veh/h]	15	1	981	29	0	3	644	16

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	16	1010	663
Capacity of Entry and Bypass Lanes [veh/h]	704	1357	1340
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	704	1357	1340
X, volume / capacity	0.02	0.74	0.49

Movement, Approach, & Intersection Results

Lane LOS	A	B	A
95th-Percentile Queue Length [veh]	0.07	7.46	2.84
95th-Percentile Queue Length [ft]	1.74	186.58	71.08
Approach Delay [s/veh]	5.35	13.66	7.76
Approach LOS	A	B	A
Intersection Delay [s/veh]	11.27		
Intersection LOS	B		

Intersection Level Of Service Report
Intersection 1600: East-West Arterial at Northward Rd

Control Type:	Two-way stop	Delay (sec / veh):	13.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.053

Intersection Setup

Name	Northward Rd		East-West Arterial		East-West Arterial	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		East-West Arterial		East-West Arterial	
Base Volume Input [veh/h]	25	0	998	0	17	638
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	0	998	0	17	638
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	0	250	0	4	160
Total Analysis Volume [veh/h]	25	0	998	0	17	638
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.00	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	13.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	B		A		A	A
95th-Percentile Queue Length [veh/ln]	0.17	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	4.16	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.00		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.19					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1700: East-West Arterial at Lookout Rd

Control Type:	Roundabout	Delay (sec / veh):	11.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Lookout Rd			Lookout Rd			East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Lookout Rd			Lookout Rd			East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	21	0	9	0	0	0	0	763	127	108	16	591	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	21	0	9	0	0	0	0	763	127	108	16	591	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	5	0	2	0	0	0	0	191	32	27	4	148	0	0
Total Analysis Volume [veh/h]	21	0	9	0	0	0	0	763	127	108	16	591	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1			
Circulating Flow Rate [veh/h]	699			1007			9				235			
Exiting Flow Rate [veh/h]	143			0			720				772			
Demand Flow Rate [veh/h]	21	0	9	0	0	0	0	763	127	108	16	591	0	0
Adjusted Demand Flow Rate [veh/h]	21	0	9	0	0	0	0	763	127	108	16	591	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	30	0	998	607
Capacity of Entry and Bypass Lanes [veh/h]	677	495	1368	1086
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	677	495	1368	1086
X, volume / capacity	0.04	0.00	0.73	0.56

Movement, Approach, & Intersection Results

Lane LOS	A	A	B	B
95th-Percentile Queue Length [veh]	0.14	0.00	7.03	3.59
95th-Percentile Queue Length [ft]	3.47	0.00	175.84	89.69
Approach Delay [s/veh]	5.79	7.29	13.02	10.23
Approach LOS	A	A	B	B
Intersection Delay [s/veh]	11.85			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1800: East-West Arterial at Longfellow Rd

Control Type:	Roundabout	Delay (sec / veh):	7.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Longfellow Rd			Longfellow Rd			East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Longfellow Rd			Longfellow Rd			East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	8	0	0	0	0	0	0	752	20	0	0	559	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	0	0	0	0	0	0	752	20	0	0	559	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	2	0	0	0	0	0	0	188	5	0	0	140	0	0
Total Analysis Volume [veh/h]	8	0	0	0	0	0	0	752	20	0	0	559	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1				
Circulating Flow Rate [veh/h]	559			772			0				20				
Exiting Flow Rate [veh/h]	20			0			567				752				
Demand Flow Rate [veh/h]	8	0	0	0	0	0	0	752	20	0	0	559	0	0	
Adjusted Demand Flow Rate [veh/h]	8	0	0	0	0	0	0	752	20	0	0	559	0	0	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	8	0	772	559
Capacity of Entry and Bypass Lanes [veh/h]	781	628	1380	1353
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	781	628	1380	1353
X, volume / capacity	0.01	0.00	0.56	0.41

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.03	0.00	3.64	2.07
95th-Percentile Queue Length [ft]	0.78	0.00	90.88	51.78
Approach Delay [s/veh]	4.71	5.73	8.66	6.59
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	7.78			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1900: East West Arterial North/South Spurs

Control Type:	Roundabout	Delay (sec / veh):	7.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	East-West Arterial			East-West Arterial			East-West Arterial		
Approach	Northbound			Eastbound			Westbound		
Lane Configuration									
Turning Movement	Left	Right	U-turn	Thru	Right	U-turn	Left	Thru	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			50.00			40.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	East-West Arterial			East-West Arterial			East-West Arterial		
Base Volume Input [veh/h]	441	1	9	144	608	0	1	118	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	441	1	9	144	608	0	1	118	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	110	0	2	36	152	0	0	30	0
Total Analysis Volume [veh/h]	441	1	9	144	608	0	1	118	0
Pedestrian Volume [ped/h]	0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1		
Circulating Flow Rate [veh/h]	118			10			617		
Exiting Flow Rate [veh/h]	618			559			145		
Demand Flow Rate [veh/h]	441	1	9	144	608	0	1	118	0
Adjusted Demand Flow Rate [veh/h]	441	1	9	144	608	0	1	118	0

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	451	752	119
Capacity of Entry and Bypass Lanes [veh/h]	1224	1366	736
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1224	1366	736
X, volume / capacity	0.37	0.55	0.16

Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	1.72	3.51	0.57
95th-Percentile Queue Length [ft]	43.02	87.84	14.37
Approach Delay [s/veh]	6.49	8.57	6.65
Approach LOS	A	A	A
Intersection Delay [s/veh]	7.69		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 2000: Frank Sound Road at East-West Arterial

Control Type:	Roundabout	Delay (sec / veh):	3.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd		East-West Arterial		
Approach	Northbound		Southbound		Eastbound		
Lane Configuration							
Turning Movement	Left	Thru	Thru	Right	Left	Right	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		40.00		
Grade [%]	0.00		0.00		0.00		
Crosswalk	Yes		Yes		Yes		

Volumes

Name	Frank Sound Rd		Frank Sound Rd		East-West Arterial		
Base Volume Input [veh/h]	7	102	124	112	138	7	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	102	124	112	138	7	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	26	31	28	35	2	0
Total Analysis Volume [veh/h]	7	102	124	112	138	7	0
Pedestrian Volume [ped/h]	0		0		0		

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1		
Circulating Flow Rate [veh/h]	112		7		102		
Exiting Flow Rate [veh/h]	131		240		119		
Demand Flow Rate [veh/h]	7	102	124	112	138	7	0
Adjusted Demand Flow Rate [veh/h]	7	102	124	112	138	7	0

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	109	236	145
Capacity of Entry and Bypass Lanes [veh/h]	1232	1371	1244
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1232	1371	1244
X, volume / capacity	0.09	0.17	0.12

Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	0.29	0.62	0.39
95th-Percentile Queue Length [ft]	7.27	15.54	9.87
Approach Delay [s/veh]	3.65	4.03	3.86
Approach LOS	A	A	A
Intersection Delay [s/veh]	3.90		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 2100: Frank Sound Road at East-West Arterial

Control Type:	Roundabout	Delay (sec / veh):	7.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd		East-West Arterial		
Approach	Northbound		Southbound		Eastbound		
Lane Configuration							
Turning Movement	Left	Thru	Thru	Right	Left	Right	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		40.00		
Grade [%]	0.00		0.00		0.00		
Crosswalk	Yes		Yes		Yes		

Volumes

Name	Frank Sound Rd		Frank Sound Rd		East-West Arterial		
Base Volume Input [veh/h]	408	123	139	9	22	528	59
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	408	123	139	9	22	528	59
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	102	31	35	2	6	132	15
Total Analysis Volume [veh/h]	408	123	139	9	22	528	59
Pedestrian Volume [ped/h]	0		0		0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1	
Circulating Flow Rate [veh/h]	68			587			123	
Exiting Flow Rate [veh/h]	667			145			476	
Demand Flow Rate [veh/h]	408	123		139	9		22	528	59
Adjusted Demand Flow Rate [veh/h]	408	123		139	9		22	528	59

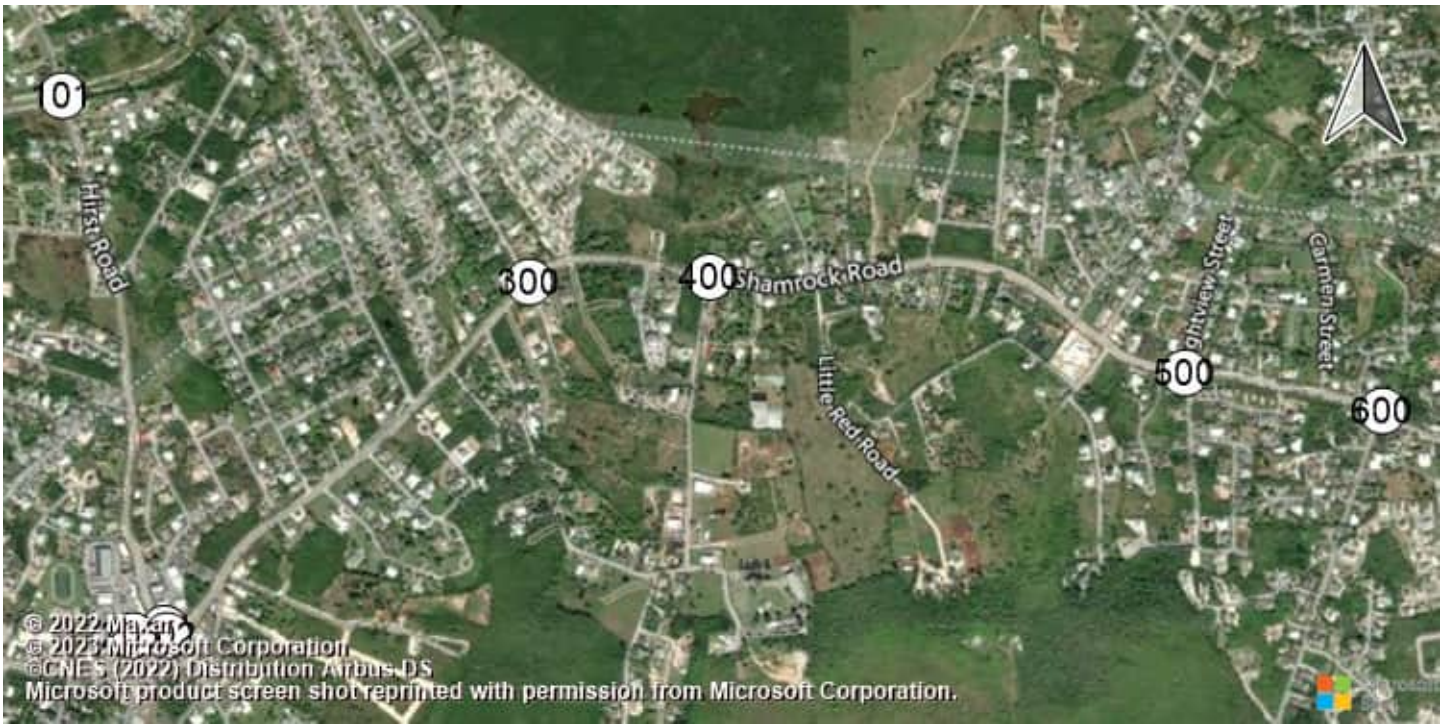
Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	531	148	609
Capacity of Entry and Bypass Lanes [veh/h]	1288	759	1218
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1288	759	1218
X, volume / capacity	0.41	0.20	0.50

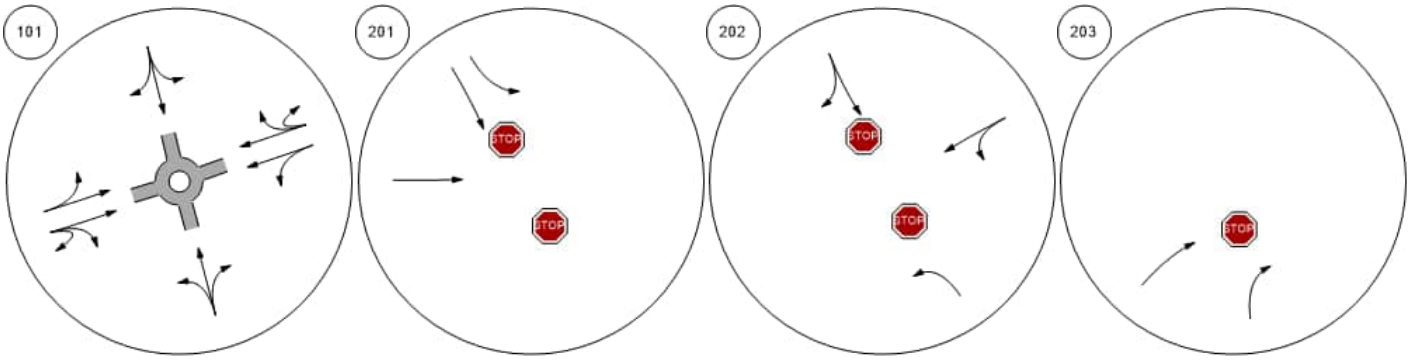
Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	2.06	0.72	2.89
95th-Percentile Queue Length [ft]	51.52	18.02	72.34
Approach Delay [s/veh]	6.81	6.87	8.38
Approach LOS	A	A	A
Intersection Delay [s/veh]	7.56		
Intersection LOS	A		

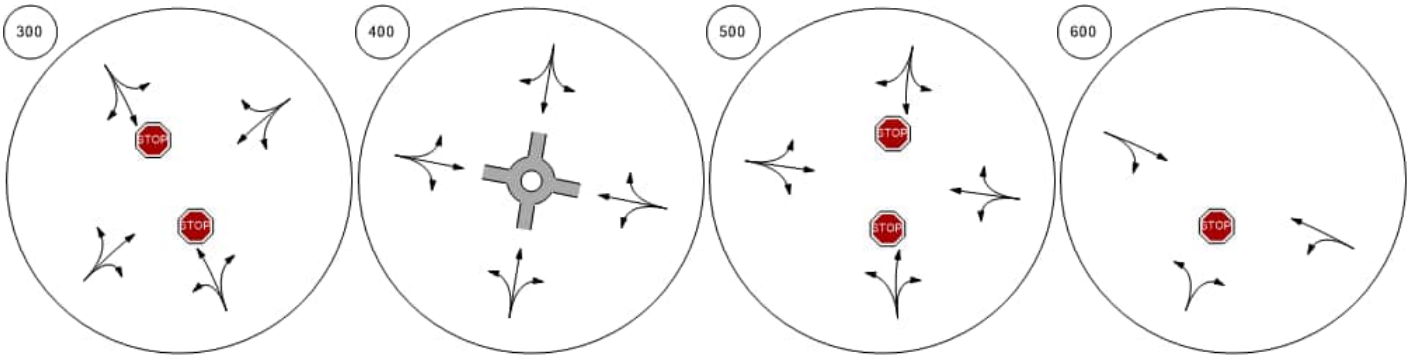
Lane Configuration and Traffic Control



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



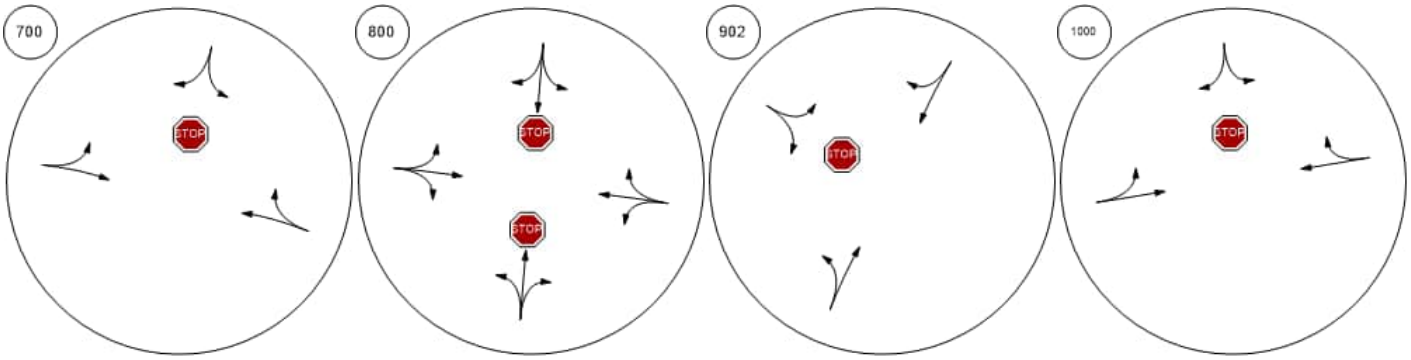
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



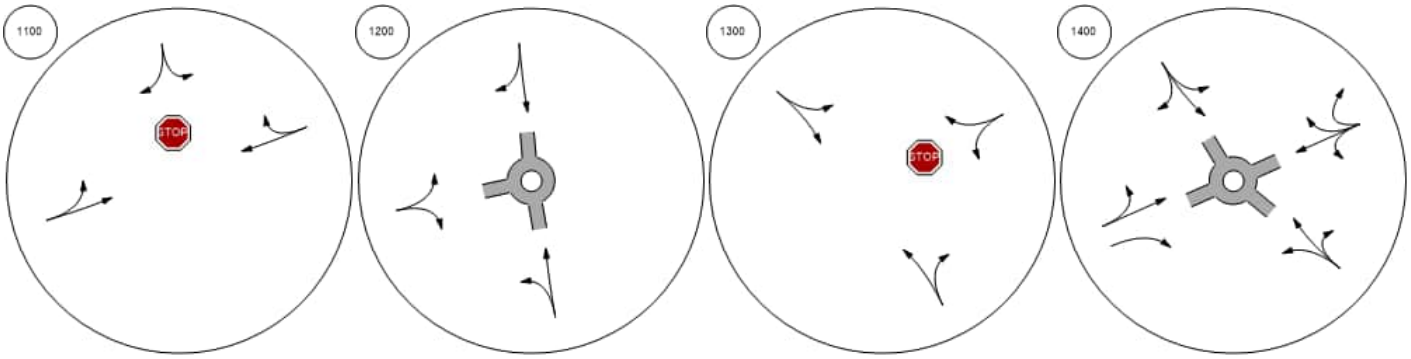
Lane Configuration and Traffic Control



Shamrock Road at Northward | Shamrock Road at Condor R | Bodden Town Road at Bodde | Bodden Town Road at Long



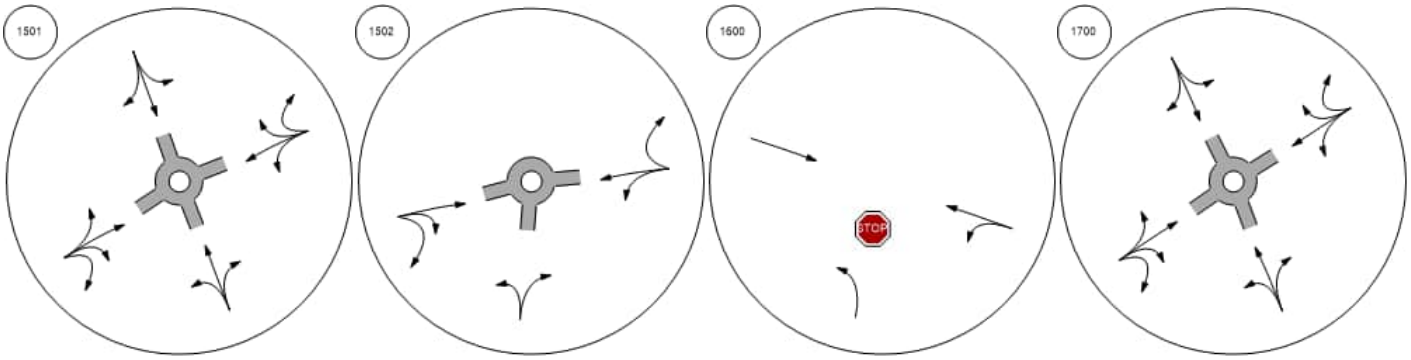
Frank Sound Road at Bodde | Frank Sound Road at Clifton | Frank Sound Road at North S | East-West Arterial at Agricola



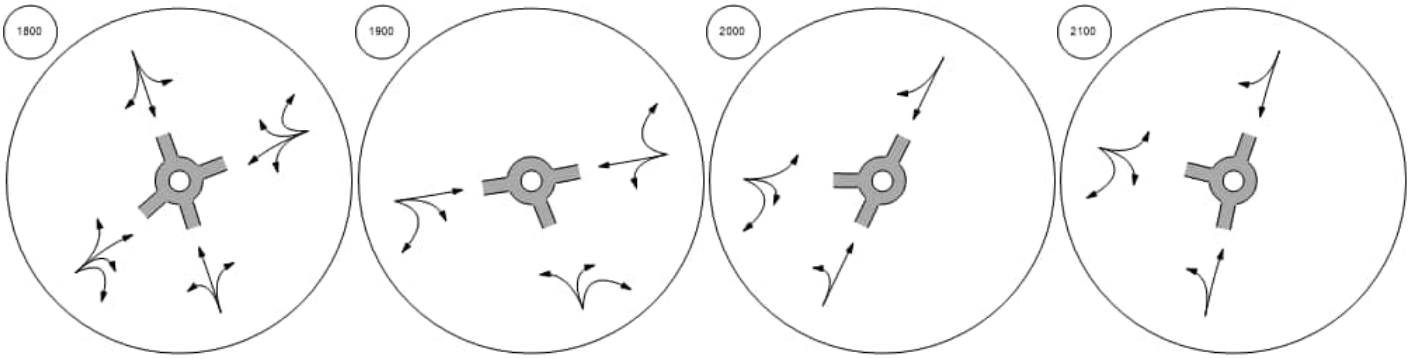
Lane Configuration and Traffic Control



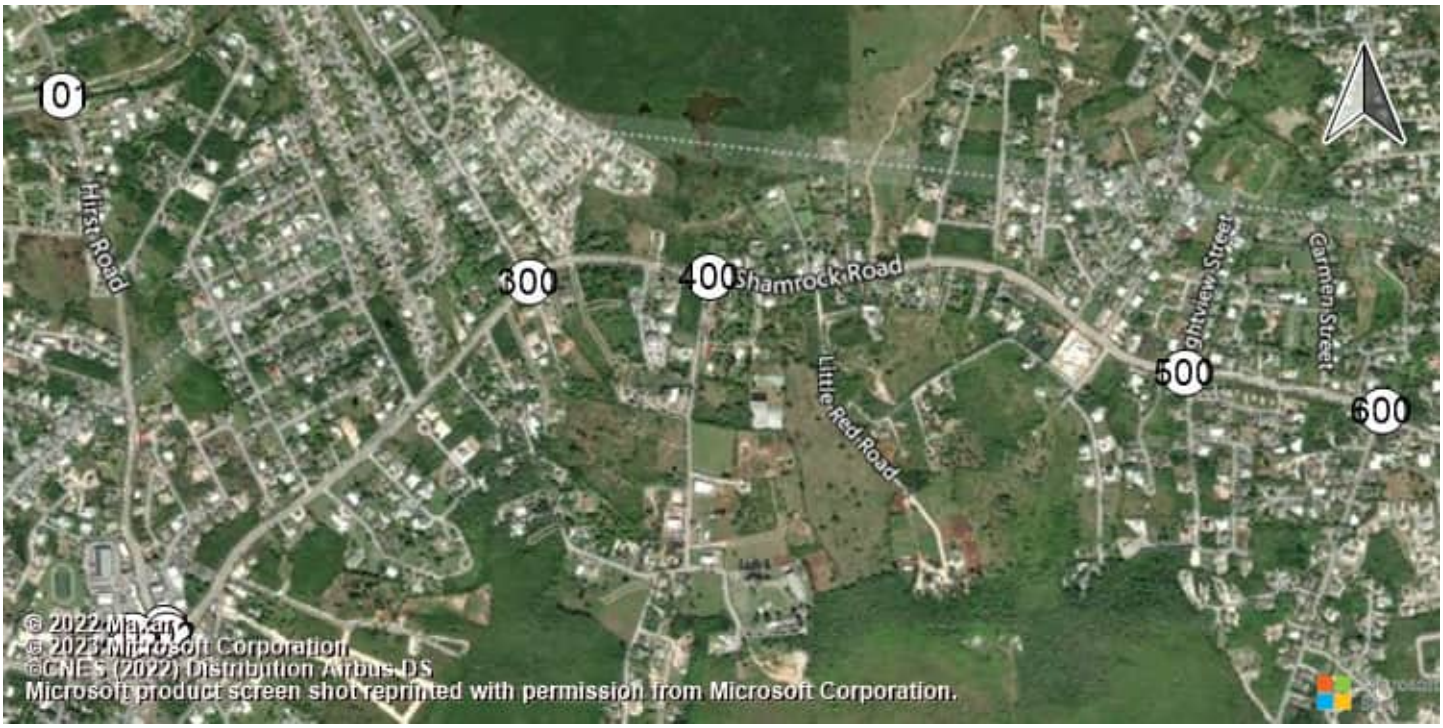
East-West Arterial at Will T C East-West Arterial at Will T C East-West Arterial at Northwa East-West Arterial at Lookout



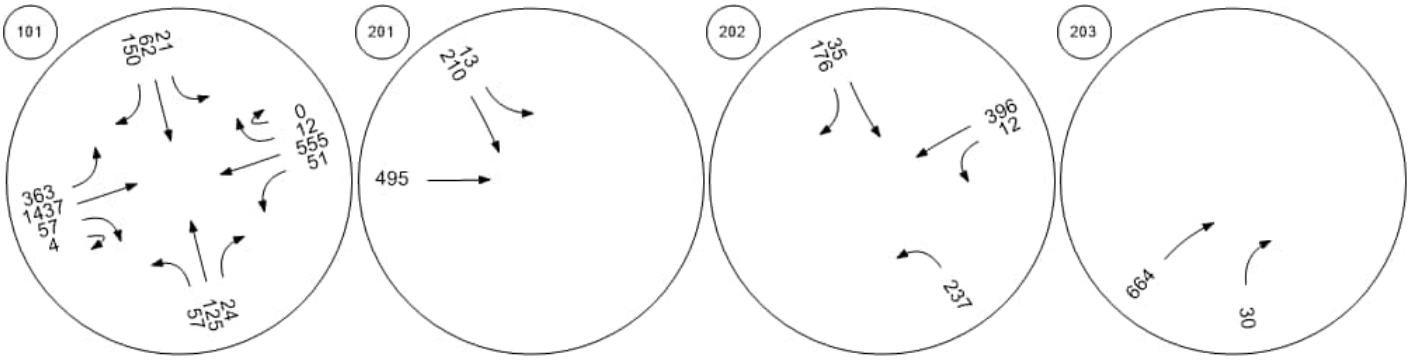
East-West Arterial at Longfell East West Arterial North/Sout Frank Sound Road at East-W Frank Sound Road at East-W



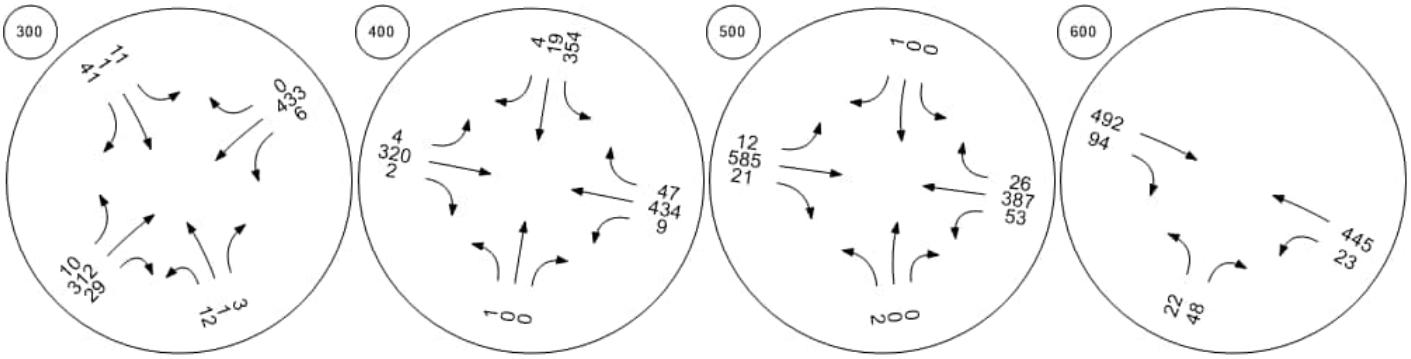
Traffic Volume - Base Volume



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



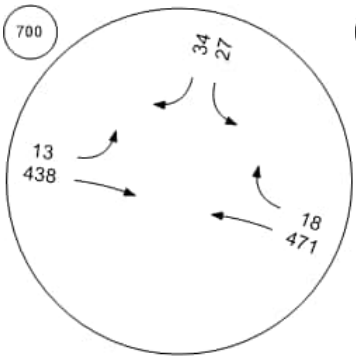
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



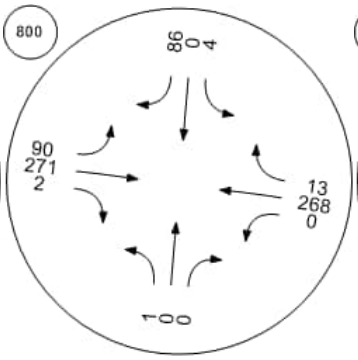
Traffic Volume - Base Volume



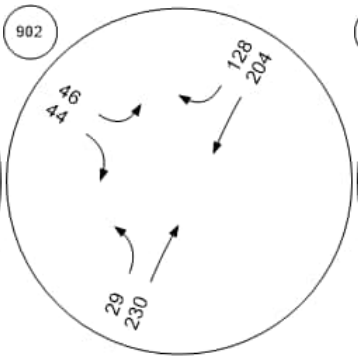
Shamrock Road at Northward



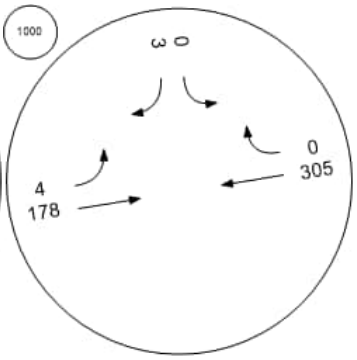
Shamrock Road at Condor R



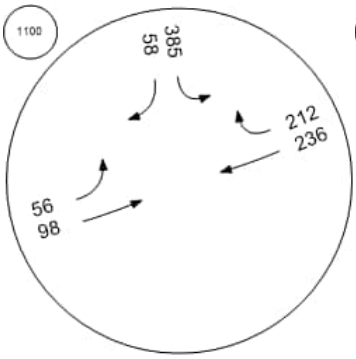
Bodden Town Road at Bodde



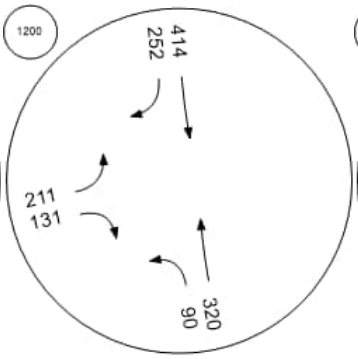
Bodden Town Road at Long



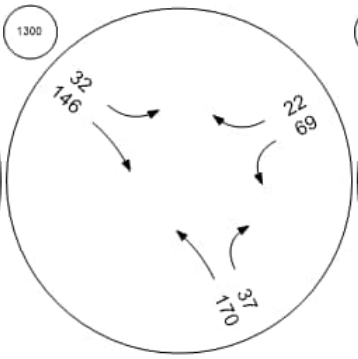
Frank Sound Road at Bodde



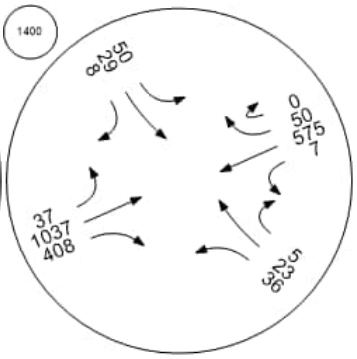
Frank Sound Road at Clifton



Frank Sound Road at North S



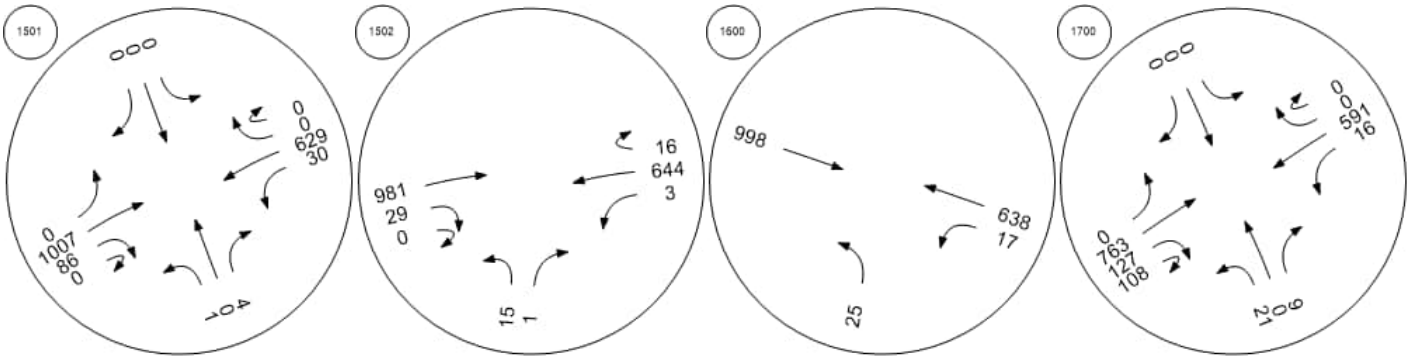
East-West Arterial at Agricola



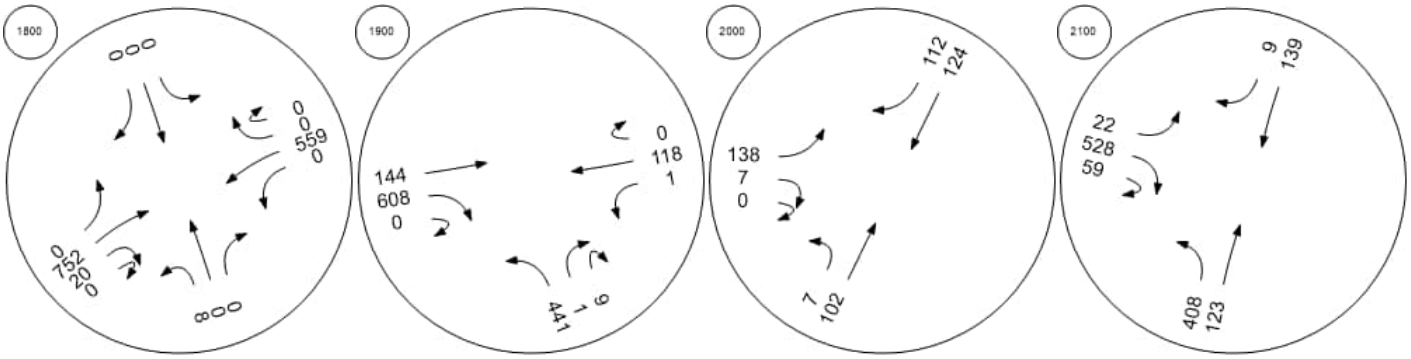
Traffic Volume - Base Volume



East-West Arterial at Will T C East-West Arterial at Will T C East-West Arterial at Northwa East-West Arterial at Lookout



East-West Arterial at Longfell East West Arterial North/Sout Frank Sound Road at East-W Frank Sound Road at East-W



Intersection Level Of Service Report
Intersection 101: East-West Arterial Road at Hirst Road

Control Type:	Roundabout	Delay (sec / veh):	20.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes		

Intersection Setup

Name									East-West Arterial				East-West Arterial				
Approach	Northbound				Southbound				Eastbound				Westbound				
Lane Configuration																	
Turning Movement	Left	Left	Thru	Right	Left	Thru	Right	Right	Left	Thru	Right	U-tu	Left	Thr	Thr	Rig	U-t
Lane Width [ft]	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.	12.	12.	12.	12.
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100	100	100	100	100
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Speed [mph]	30.00				30.00				40.00				50.00				
Grade [%]	0.00				0.00				0.00				0.00				
Crosswalk	Yes				Yes				Yes				Yes				

Volumes

Name									East-West Arterial				East-West Arterial				
Base Volume Input [veh/h]	17	0	38	31	17	64	0	530	63	651	9	20	15	132	0	4	0
Base Volume Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	17	0	38	31	17	64	0	530	63	651	9	20	15	132	0	4	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Other Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Total 15-Minute Volume [veh/h]	4	0	10	8	4	16	0	133	16	163	2	5	4	331	0	1	0
Total Analysis Volume [veh/h]	17	0	38	31	17	64	0	530	63	651	9	20	15	132	0	4	0
Pedestrian Volume [ped/h]	0				0				0				0				

Intersection Settings

Number of Conflicting Circulating Lanes	2				2				2				2				
Circulating Flow Rate [veh/h]	1878				711				73				623				
Exiting Flow Rate [veh/h]	88				105				1891				699				
Demand Flow Rate [veh/h]	17	0	38	31	17	64	0	530	63	651	9	20	15	132	0	4	0
Adjusted Demand Flow Rate [veh/h]	17	0	38	31	17	64	0	530	63	651	9	20	15	132	0	4	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1350.00	1420.00	1350.00
B (coefficient)	0.00085	0.00085	0.00085	0.00092	0.00085	0.00092
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	86	611	394	350	712	632
Capacity of Entry and Bypass Lanes [veh/h]	288	776	1335	1263	837	762
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	288	776	1335	1263	837	762
X, volume / capacity	0.30	0.79	0.30	0.28	0.85	0.83

Movement, Approach, & Intersection Results

Lane LOS	C	C	A	A	D	D
95th-Percentile Queue Length [veh]	1.22	8.01	1.24	1.14	10.32	9.28
95th-Percentile Queue Length [ft]	30.49	200.13	31.07	28.40	257.96	231.98
Approach Delay [s/veh]	19.25	23.45	5.31		27.57	
Approach LOS	C	C	A		D	
Intersection Delay [s/veh]	20.46					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 201: Shamrock Road at Hirst Rd (1)

Control Type:	Two-way stop	Delay (sec / veh):	14.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.246

Intersection Setup

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	0	0	0	21	114	0	0	430	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	21	114	0	0	430	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	6	31	0	0	116	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	23	123	0	0	462	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.04	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	11.20	14.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS				B	B			A				
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.12	0.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	2.96	24.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			14.01			0.00			0.00		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	3.37											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 202: Shamrock Road at Hirst Rd (2)

Control Type:	Two-way stop	Delay (sec / veh):	189.6
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.038

Intersection Setup

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	310	0	0	0	19	95	0	0	0	7	629	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	310	0	0	0	19	95	0	0	0	7	629	0
Peak Hour Factor	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	83	0	0	0	5	26	0	0	0	2	169	0
Total Analysis Volume [veh/h]	333	0	0	0	20	102	0	0	0	8	676	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.73	0.00	0.00	0.00	0.05	1.04	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	31.70	0.00	0.00	0.00	162.59	189.58	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	D				F	F				A	A	
95th-Percentile Queue Length [veh/ln]	5.92	0.00	0.00	0.00	7.43	7.43	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	147.93	0.00	0.00	0.00	185.79	185.79	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	31.70			185.16			0.00			0.00		
Approach LOS	D			F			A			A		
d_I, Intersection Delay [s/veh]	29.10											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 203: Shamrock Road atHirst Road Jughandle

Control Type:	Two-way stop	Delay (sec / veh):	12.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.038

Intersection Setup

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	0	19	482	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	19	482	0	0	0
Peak Hour Factor	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	5	130	0	0	0
Total Analysis Volume [veh/h]	0	20	518	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.04	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	12.18	0.00	0.00	0.00	0.00
Movement LOS		B	A			
95th-Percentile Queue Length [veh/ln]	0.00	0.12	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	2.99	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.18		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.45					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 300: Shamrock Road at Woodland Drive

Control Type:	Two-way stop	Delay (sec / veh):	22.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.097

Intersection Setup

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	40	1	5	0	0	21	7	323	6	2	574	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	1	5	0	0	21	7	323	6	2	574	0
Peak Hour Factor	0.9700	0.9700	1.0000	1.0000	0.9700	0.9700	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	0	1	0	0	5	2	81	2	1	144	0
Total Analysis Volume [veh/h]	41	1	5	0	0	22	7	323	6	2	574	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.00	0.02	0.00	0.00	0.10	0.00	0.00	0.01	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	12.79	19.12	20.02	11.71	19.89	22.60	0.00	0.00	8.60	0.00	0.00	7.90
Movement LOS	B	C	C	B	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.34	0.34	0.34	0.32	0.32	0.32	0.02	0.02	0.02	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	8.46	8.46	8.46	7.97	7.97	7.97	0.45	0.45	0.45	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.69			22.60			0.15			0.00		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	1.22											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 400: Shamrock Road at Agricola Drive

Control Type:	Roundabout	Delay (sec / veh):	9.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	1	7	1	40	12	37	2	325	2	3	538	312
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	7	1	40	12	37	2	325	2	3	538	312
Peak Hour Factor	1.0000	1.0000	0.9200	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9200	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	0	10	3	9	1	81	1	1	135	78
Total Analysis Volume [veh/h]	1	7	1	40	12	37	2	325	2	3	538	312
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	887			328			320			51		
Exiting Flow Rate [veh/h]	17			321			576			366		
Demand Flow Rate [veh/h]	1	7	1	40	12	37	2	325	2	3	538	312
Adjusted Demand Flow Rate [veh/h]	1	7	1	40	12	37	2	325	2	3	538	312

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	9	89	329	853
Capacity of Entry and Bypass Lanes [veh/h]	559	988	996	1311
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	559	988	996	1311
X, volume / capacity	0.02	0.09	0.33	0.65

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	B
95th-Percentile Queue Length [veh]	0.05	0.30	1.46	5.14
95th-Percentile Queue Length [ft]	1.23	7.41	36.38	128.43
Approach Delay [s/veh]	6.63	4.46	7.04	10.97
Approach LOS	A	A	A	B
Intersection Delay [s/veh]	9.48			
Intersection LOS	A			

Intersection Level Of Service Report

Intersection 500: Shamrock Road at Brightview Drive / Calla Lily Drive

Control Type:	Two-way stop	Delay (sec / veh):	23.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.030

Intersection Setup

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			20.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	11	0	5	3	0	6	1	362	1	0	683	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	0	5	3	0	6	1	362	1	0	683	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	1	1	0	2	0	91	0	0	171	0
Total Analysis Volume [veh/h]	11	0	5	3	0	6	1	362	1	0	683	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.02	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	13.51	21.25	23.02	10.73	21.17	23.42	0.00	0.00	8.92	0.00	0.00	7.98
Movement LOS	B	C	C	B	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.15	0.15	0.15	0.11	0.11	0.11	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	3.81	3.81	3.81	2.65	2.65	2.65	0.08	0.08	0.08	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	16.48			19.19			0.02			0.00		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	0.42											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 600: Shamrock Road at Beach Bay Road

Control Type:	Two-way stop	Delay (sec / veh):	41.5
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.157

Intersection Setup

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	7	16	179	190	47	676
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	16	179	190	47	676
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	4	49	52	13	186
Total Analysis Volume [veh/h]	8	18	197	209	52	743
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.16	0.00	0.25	0.00	0.01
d_M, Delay for Movement [s/veh]	19.07	41.49	0.00	10.74	0.00	0.00
Movement LOS	C	E	A	B	A	A
95th-Percentile Queue Length [veh/ln]	0.62	0.62	0.99	0.99	0.00	0.00
95th-Percentile Queue Length [ft/ln]	15.44	15.44	24.71	24.71	0.00	0.00
d_A, Approach Delay [s/veh]	34.59		5.53		0.00	
Approach LOS	D		A		A	
d_I, Intersection Delay [s/veh]	2.56					
Intersection LOS	E					

Intersection Level Of Service Report
Intersection 700: Shamrock Road at Northward Road

Control Type:	Two-way stop	Delay (sec / veh):	18.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.028

Intersection Setup

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	10	8	9	195	680	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	8	9	195	680	22
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	2	2	50	175	6
Total Analysis Volume [veh/h]	10	8	9	201	701	23
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.03	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	9.62	18.10	0.00	0.00	0.00	7.67
Movement LOS	A	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.13	0.13	0.00	0.00	0.05	0.05
95th-Percentile Queue Length [ft/ln]	3.14	3.14	0.00	0.00	1.28	1.28
d_A, Approach Delay [s/veh]	13.39		0.00		0.24	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.44					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 800: Shamrock Road at Condor Road

Control Type:	Two-way stop	Delay (sec / veh):	16.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.398

Intersection Setup

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Base Volume Input [veh/h]	4	0	0	1	0	213	69	132	0	0	248	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	0	0	1	0	213	69	132	0	0	248	6
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	0	0	53	17	33	0	0	62	2
Total Analysis Volume [veh/h]	4	0	0	1	0	213	69	132	0	0	248	6
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.40	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.55	12.25	11.71	13.46	16.30	16.11	0.00	0.00	7.71	0.00	0.00	7.61
Movement LOS	A	B	B	B	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.02	1.90	1.90	1.90	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.38	0.38	0.38	47.54	47.54	47.54	0.00	0.00	0.00	0.33	0.33	0.33
d_A, Approach Delay [s/veh]	9.55			16.10			0.00			0.18		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	5.24											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 902: Bodden Town Road at Bodden Town Bypass

Control Type:	Two-way stop	Delay (sec / veh):	14.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.051

Intersection Setup

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	46	19	12	126	175	146
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	46	19	12	126	175	146
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	5	3	34	47	39
Total Analysis Volume [veh/h]	49	20	13	134	186	155
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.05	0.00	0.00	0.00	0.11
d_M, Delay for Movement [s/veh]	9.58	14.83	0.00	0.00	0.00	7.79
Movement LOS	A	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.35	0.35	0.00	0.00	0.36	0.36
95th-Percentile Queue Length [ft/ln]	8.73	8.73	0.00	0.00	8.98	8.98
d_A, Approach Delay [s/veh]	11.10		0.00		3.54	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	3.54					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1000: Bodden Town Road at Long Fellow Drive

Control Type:	Two-way stop	Delay (sec / veh):	11.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.014

Intersection Setup

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	52	7	0	103	270	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	52	7	0	103	270	15
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	2	0	28	74	4
Total Analysis Volume [veh/h]	57	8	0	113	297	16
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.01	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	9.14	11.65	0.00	0.00	0.00	7.44
Movement LOS	A	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.24	0.24	0.00	0.00	0.03	0.03
95th-Percentile Queue Length [ft/ln]	6.01	6.01	0.00	0.00	0.81	0.81
d_A, Approach Delay [s/veh]	9.45		0.00		0.38	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.49					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1100: Frank Sound Road at Bodden Town Road

Control Type:	Two-way stop	Delay (sec / veh):	23.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.190

Intersection Setup

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Approach	Southbound		Eastbound		Southwestbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Base Volume Input [veh/h]	262	48	40	110	236	213
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	262	48	40	110	236	213
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	70	13	11	30	63	57
Total Analysis Volume [veh/h]	282	52	43	118	254	229
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.31	0.19	0.00	0.00	0.00	0.15
d_M, Delay for Movement [s/veh]	14.18	23.42	0.00	0.00	0.00	7.87
Movement LOS	B	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	2.80	2.80	0.00	0.00	0.55	0.55
95th-Percentile Queue Length [ft/ln]	70.03	70.03	0.00	0.00	13.65	13.65
d_A, Approach Delay [s/veh]	15.62		0.00		3.73	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	7.18					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1200: Frank Sound Road at Clifton Hunter High School

Control Type:	Roundabout	Delay (sec / veh):	6.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd		Clifton Hunter HS Entrance	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		20.00		20.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Frank Sound Rd		Clifton Hunter HS Entrance	
Base Volume Input [veh/h]	134	236	369	187	229	95
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	134	236	369	187	229	95
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	59	92	47	57	24
Total Analysis Volume [veh/h]	134	236	369	187	229	95
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	187		95		236	
Exiting Flow Rate [veh/h]	464		465		321	
Demand Flow Rate [veh/h]	134	236	369	187	229	95
Adjusted Demand Flow Rate [veh/h]	134	236	369	187	229	95

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	370	556	324
Capacity of Entry and Bypass Lanes [veh/h]	1141	1253	1085
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1141	1253	1085
X, volume / capacity	0.32	0.44	0.30

Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	1.42	2.33	1.26
95th-Percentile Queue Length [ft]	35.50	58.30	31.52
Approach Delay [s/veh]	6.29	7.37	6.22
Approach LOS	A	A	A
Intersection Delay [s/veh]	6.75		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 1300: Frank Sound Road at North Side Road/Old Robin Road

Control Type:	Two-way stop	Delay (sec / veh):	10.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Base Volume Input [veh/h]	100	32	8	98	42	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	100	32	8	98	42	2
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	9	2	28	12	1
Total Analysis Volume [veh/h]	112	36	9	110	47	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.02	0.00	0.00	0.05	0.00
d_M, Delay for Movement [s/veh]	0.00	7.49	0.00	0.00	9.03	10.52
Movement LOS	A	A	A	A	A	B
95th-Percentile Queue Length [veh/ln]	0.07	0.07	0.00	0.00	0.17	0.17
95th-Percentile Queue Length [ft/ln]	1.87	1.87	0.00	0.00	4.17	4.17
d_A, Approach Delay [s/veh]	1.82		0.00		9.09	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.26					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1400: East-West Arterial at Agricola Drive Connector

Control Type:	Roundabout	Delay (sec / veh):	14.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			50.00			50.00			
Grade [%]	0.00			0.00			0.00			0.00			
Crosswalk	Yes			Yes			Yes			Yes			

Volumes

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Base Volume Input [veh/h]	367	19	6	36	55	45	4	624	71	5	931	20	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	367	19	6	36	55	45	4	624	71	5	931	20	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	92	5	2	9	14	11	1	156	18	1	233	5	0
Total Analysis Volume [veh/h]	367	19	6	36	55	45	4	624	71	5	931	20	0
Pedestrian Volume [ped/h]	0			0			0			0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1			1			
Circulating Flow Rate [veh/h]	996			701			45			171			
Exiting Flow Rate [veh/h]	131			43			1343			666			
Demand Flow Rate [veh/h]	367	19	6	36	55	45	4	624	71	5	931	20	0
Adjusted Demand Flow Rate [veh/h]	367	19	6	36	55	45	4	624	71	5	931	20	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1380.00
B (coefficient)	0.00085	0.00085	0.00091	0.00091	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	392	136	628	71	956
Capacity of Entry and Bypass Lanes [veh/h]	609	783	1364	1364	1160
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	609	783	1364	1364	1160
X, volume / capacity	0.64	0.17	0.46	0.05	0.82

Movement, Approach, & Intersection Results

Lane LOS	C	A	A	A	C
95th-Percentile Queue Length [veh]	4.63	0.63	2.50	0.16	10.10
95th-Percentile Queue Length [ft]	115.73	15.65	62.39	4.12	252.53
Approach Delay [s/veh]	19.18	6.43	6.76		19.83
Approach LOS	C	A	A		C
Intersection Delay [s/veh]	14.70				
Intersection LOS	B				

Intersection Level Of Service Report
Intersection 1501: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	9.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name							East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name							East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	13	0	8	0	0	0	0	660	6	0	5	939	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	0	8	0	0	0	0	660	6	0	5	939	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	3	0	2	0	0	0	0	165	2	0	1	235	0	0
Total Analysis Volume [veh/h]	13	0	8	0	0	0	0	660	6	0	5	939	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1				
Circulating Flow Rate [veh/h]	939			674			8				6				
Exiting Flow Rate [veh/h]	11			0			952				668				
Demand Flow Rate [veh/h]	13	0	8	0	0	0	0	660	6	0	5	939	0	0	
Adjusted Demand Flow Rate [veh/h]	13	0	8	0	0	0	0	660	6	0	5	939	0	0	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	21	0	666	944
Capacity of Entry and Bypass Lanes [veh/h]	530	694	1369	1372
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	530	694	1369	1372
X, volume / capacity	0.04	0.00	0.49	0.69

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	B
95th-Percentile Queue Length [veh]	0.12	0.00	2.76	5.96
95th-Percentile Queue Length [ft]	3.09	0.00	68.91	148.97
Approach Delay [s/veh]	7.28	5.19	7.53	11.64
Approach LOS	A	A	A	B
Intersection Delay [s/veh]	9.90			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1502: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	8.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name			East-West Arterial			East-West Arterial		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	Thru	Right	U-turn	Left	Thru	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00			50.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	Yes		Yes			Yes		

Volumes

Name			East-West Arterial			East-West Arterial		
Base Volume Input [veh/h]	162	4	666	2	0	1	782	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	162	4	666	2	0	1	782	12
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	1	167	1	0	0	196	3
Total Analysis Volume [veh/h]	162	4	666	2	0	1	782	12
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1		1			1		
Circulating Flow Rate [veh/h]	794		16			2		
Exiting Flow Rate [veh/h]	3		944			682		
Demand Flow Rate [veh/h]	162	4	666	2	0	1	782	12
Adjusted Demand Flow Rate [veh/h]	162	4	666	2	0	1	782	12

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	166	668	795
Capacity of Entry and Bypass Lanes [veh/h]	614	1358	1378
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	614	1358	1378
X, volume / capacity	0.27	0.49	0.58

Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	1.09	2.81	3.89
95th-Percentile Queue Length [ft]	27.26	70.35	97.22
Approach Delay [s/veh]	9.37	7.65	9.01
Approach LOS	A	A	A
Intersection Delay [s/veh]	8.49		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 1600: East-West Arterial at Northward Rd

Control Type:	Two-way stop	Delay (sec / veh):	15.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.166

Intersection Setup

Name	Northward Rd		East-West Arterial		East-West Arterial	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		East-West Arterial		East-West Arterial	
Base Volume Input [veh/h]	71	0	682	0	7	724
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	71	0	682	0	7	724
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	0	171	0	2	181
Total Analysis Volume [veh/h]	71	0	682	0	7	724
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.17	0.00	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	15.10	0.00	0.00	0.00	0.00	0.00
Movement LOS	C		A		A	A
95th-Percentile Queue Length [veh/ln]	0.59	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	14.76	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	15.10		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.72					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1700: East-West Arterial at Lookout Rd

Control Type:	Roundabout	Delay (sec / veh):	8.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Lookout Rd			Lookout Rd			East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Lookout Rd			Lookout Rd			East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	68	0	5	0	0	0	0	617	23	42	5	677	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	68	0	5	0	0	0	0	617	23	42	5	677	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	17	0	1	0	0	0	0	154	6	11	1	169	0	0
Total Analysis Volume [veh/h]	68	0	5	0	0	0	0	617	23	42	5	677	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1				
Circulating Flow Rate [veh/h]	719			687			5				65				
Exiting Flow Rate [veh/h]	28			0			787				622				
Demand Flow Rate [veh/h]	68	0	5	0	0	0	0	617	23	42	5	677	0	0	
Adjusted Demand Flow Rate [veh/h]	68	0	5	0	0	0	0	617	23	42	5	677	0	0	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	73	0	682	682
Capacity of Entry and Bypass Lanes [veh/h]	663	685	1373	1292
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	663	685	1373	1292
X, volume / capacity	0.11	0.00	0.50	0.53

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.37	0.00	2.87	3.22
95th-Percentile Queue Length [ft]	9.24	0.00	71.65	80.52
Approach Delay [s/veh]	6.65	5.26	7.66	8.50
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	8.01			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1800: East-West Arterial at Longfellow Rd

Control Type:	Roundabout	Delay (sec / veh):	7.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Longfellow Rd			Longfellow Rd			East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Longfellow Rd			Longfellow Rd			East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	27	0	1	0	0	0	0	563	58	0	6	594	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	27	0	1	0	0	0	0	563	58	0	6	594	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	7	0	0	0	0	0	0	141	15	0	2	149	0	0
Total Analysis Volume [veh/h]	27	0	1	0	0	0	0	563	58	0	6	594	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1			
Circulating Flow Rate [veh/h]	594			622			1				58			
Exiting Flow Rate [veh/h]	64			0			621				564			
Demand Flow Rate [veh/h]	27	0	1	0	0	0	0	563	58	0	6	594	0	0
Adjusted Demand Flow Rate [veh/h]	27	0	1	0	0	0	0	563	58	0	6	594	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	28	0	621	600
Capacity of Entry and Bypass Lanes [veh/h]	753	732	1379	1301
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	753	732	1379	1301
X, volume / capacity	0.04	0.00	0.45	0.46

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.12	0.00	2.40	2.50
95th-Percentile Queue Length [ft]	2.89	0.00	59.96	62.44
Approach Delay [s/veh]	5.15	4.92	6.99	7.42
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	7.15			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1900: East West Arterial

Control Type:	Roundabout	Delay (sec / veh):	6.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name							East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			50.00				40.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name							East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	0	0	4	0	0	12	1	540	22	0	0	535	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	4	0	0	12	1	540	22	0	0	535	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	0	0	1	0	0	3	0	135	6	0	0	134	0	0
Total Analysis Volume [veh/h]	0	0	4	0	0	12	1	540	22	0	0	535	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1				
Circulating Flow Rate [veh/h]	547			566			4				34				
Exiting Flow Rate [veh/h]	22			1			547				544				
Demand Flow Rate [veh/h]	0	0	4	0	0	12	1	540	22	0	0	535	0	0	
Adjusted Demand Flow Rate [veh/h]	0	0	4	0	0	12	1	540	22	0	0	535	0	0	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	4	12	563	535
Capacity of Entry and Bypass Lanes [veh/h]	790	775	1375	1333
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	790	775	1375	1333
X, volume / capacity	0.01	0.02	0.41	0.40

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.02	0.05	2.04	1.97
95th-Percentile Queue Length [ft]	0.38	1.18	51.01	49.31
Approach Delay [s/veh]	4.61	4.80	6.47	6.51
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	6.46			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 2000: Frank Sound Road at East-West Arterial

Control Type:	Unknown	Delay (sec / veh):	?
Analysis Method:	?	Level Of Service:	?
Analysis Period:	15 minutes	Volume to Capacity (v/c):	?

Intersection Setup

Name	Frank Sound Rd	Frank Sound Rd
Approach	Northeastbound	Southwestbound
Lane Configuration		
Turning Movement	Thru	Thru
Crosswalk	Yes	Yes

Volumes

Name	Frank Sound Rd	Frank Sound Rd
Base Volume Input [veh/h]	138	167
Base Volume Adjustment Factor	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00
Growth Factor	1.0000	1.0000
In-Process Volume [veh/h]	0	0
Site-Generated Trips [veh/h]	0	0
Diverted Trips [veh/h]	0	0
Pass-by Trips [veh/h]	0	0
Existing Site Adjustment Volume [veh/h]	0	0
Other Volume [veh/h]	0	0
Left-Turn on Red Volume [veh/h]	0	0
Total Hourly Volume [veh/h]	138	167
Peak Hour Factor	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	42
Total Analysis Volume [veh/h]	138	167
Presence of On-Street Parking	No	No
On-Street Parking Maneuver Rate [/h]	0	0
Local Bus Stopping Rate [/h]	0	0
Pedestrian Volume [ped/h]	0	0

Intersection Level Of Service Report
Intersection 2100: Frank Sound Road at East-West Arterial

Control Type:	Roundabout	Delay (sec / veh):	7.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd		East-West Arterial		
Approach	Northbound		Southbound		Eastbound		
Lane Configuration							
Turning Movement	Left	Thru	Thru	Right	Left	Right	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		20.00		40.00		
Grade [%]	0.00		0.00		0.00		
Crosswalk	Yes		Yes		Yes		

Volumes

Name	Frank Sound Rd		Frank Sound Rd		East-West Arterial		
Base Volume Input [veh/h]	389	76	82	145	75	474	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	389	76	82	145	75	474	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	97	19	21	36	19	119	0
Total Analysis Volume [veh/h]	389	76	82	145	75	474	0
Pedestrian Volume [ped/h]	0		0		0		

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1		
Circulating Flow Rate [veh/h]	145		474		76		
Exiting Flow Rate [veh/h]	556		151		534		
Demand Flow Rate [veh/h]	389	76	82	145	75	474	0
Adjusted Demand Flow Rate [veh/h]	389	76	82	145	75	474	0

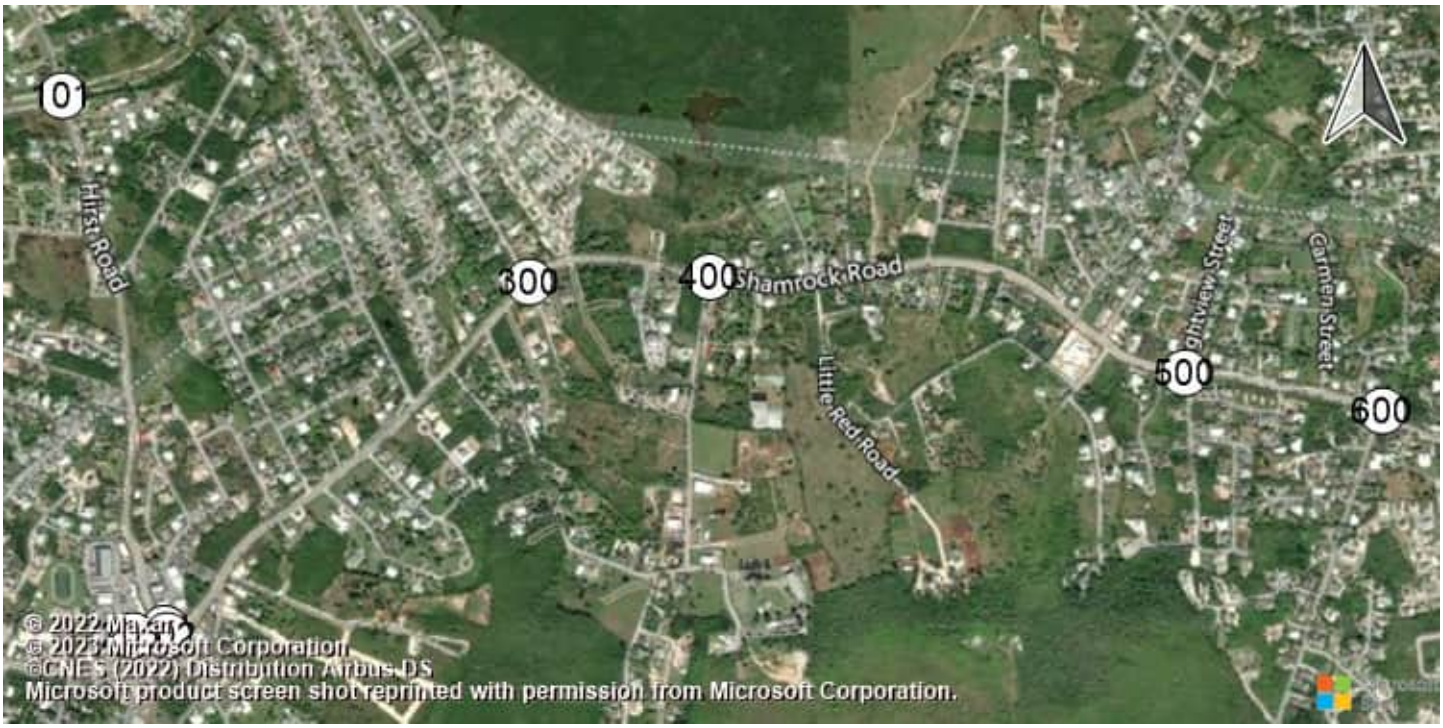
Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	465	227	549
Capacity of Entry and Bypass Lanes [veh/h]	1191	851	1278
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1191	851	1278
X, volume / capacity	0.39	0.27	0.43

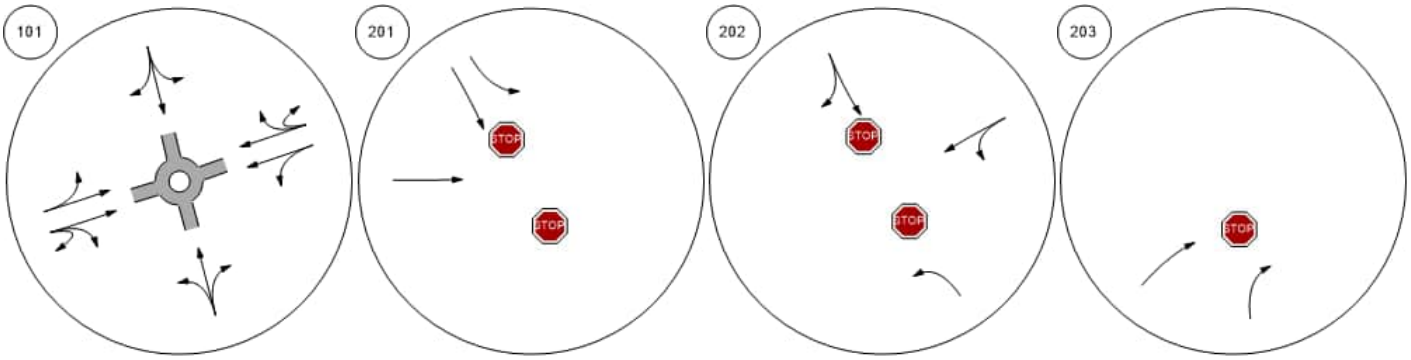
Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	1.88	1.08	2.21
95th-Percentile Queue Length [ft]	47.11	26.91	55.21
Approach Delay [s/veh]	6.90	7.10	7.08
Approach LOS	A	A	A
Intersection Delay [s/veh]	7.02		
Intersection LOS	A		

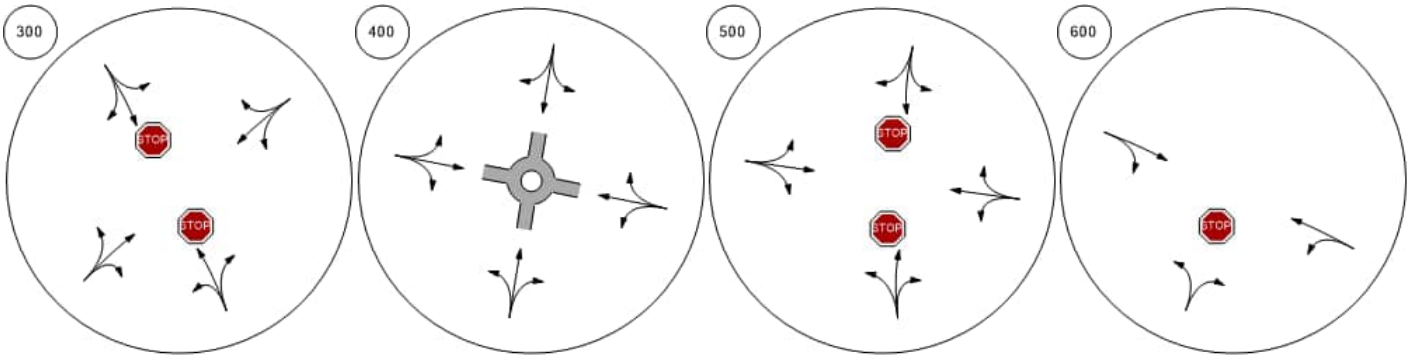
Lane Configuration and Traffic Control



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



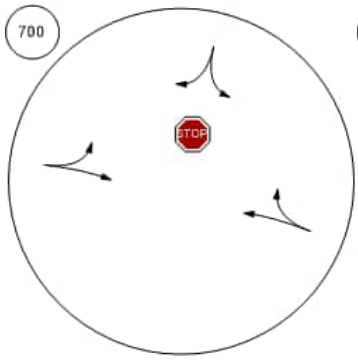
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



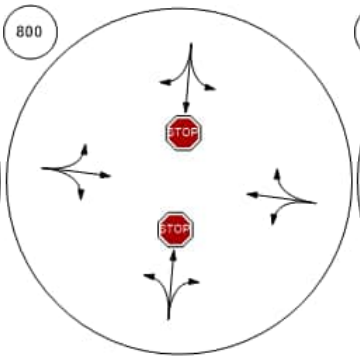
Lane Configuration and Traffic Control



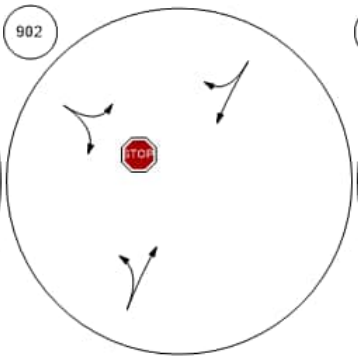
Shamrock Road at Northward



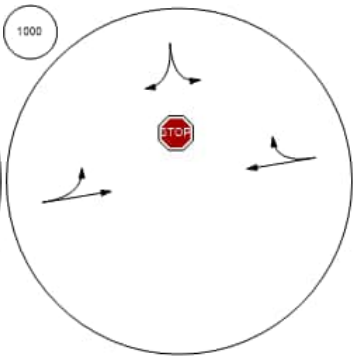
Shamrock Road at Condor R



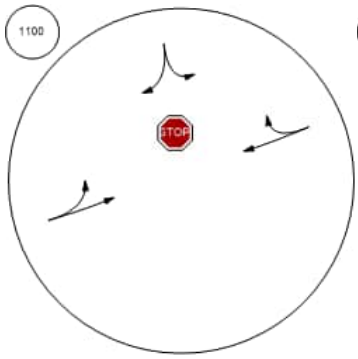
Bodden Town Road at Bodde



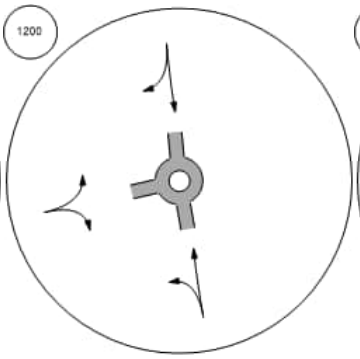
Bodden Town Road at Long



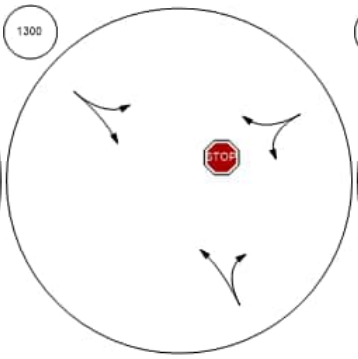
Frank Sound Road at Bodde



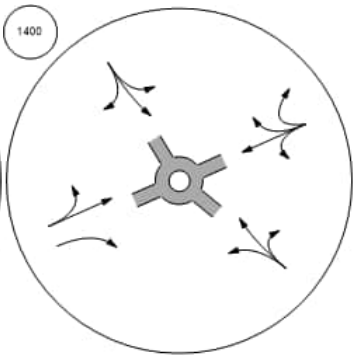
Frank Sound Road at Clifton



Frank Sound Road at North S



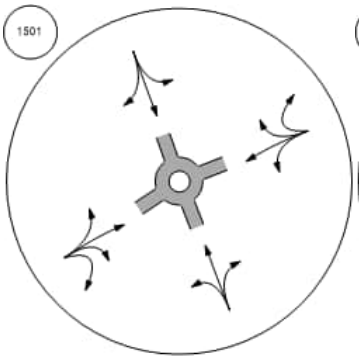
East-West Arterial at Agricola



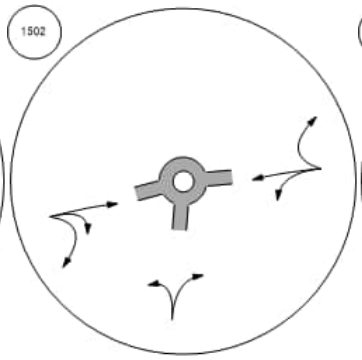
Lane Configuration and Traffic Control



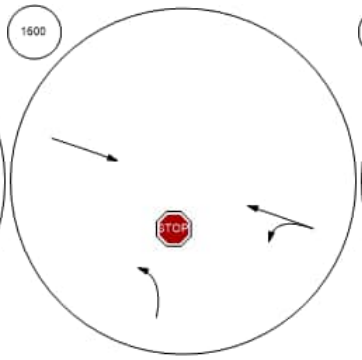
East-West Arterial at Will T C



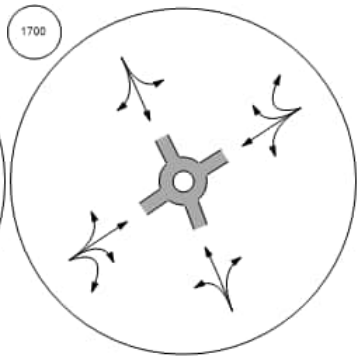
East-West Arterial at Will T C



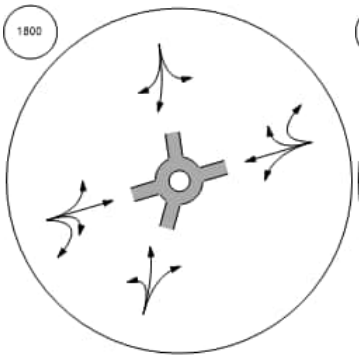
East-West Arterial at Northwa



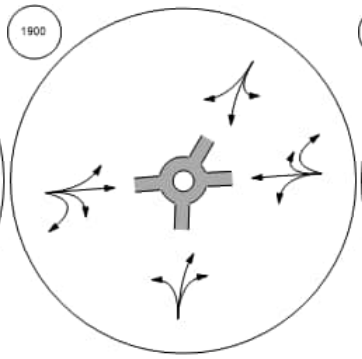
East-West Arterial at Lookout



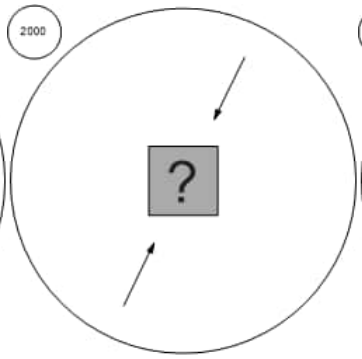
East-West Arterial at Longfell



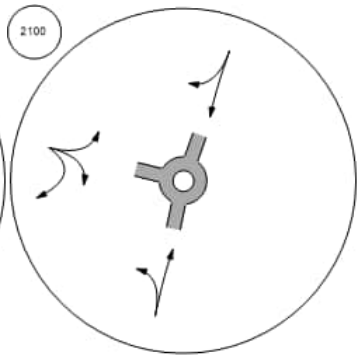
East West Arterial



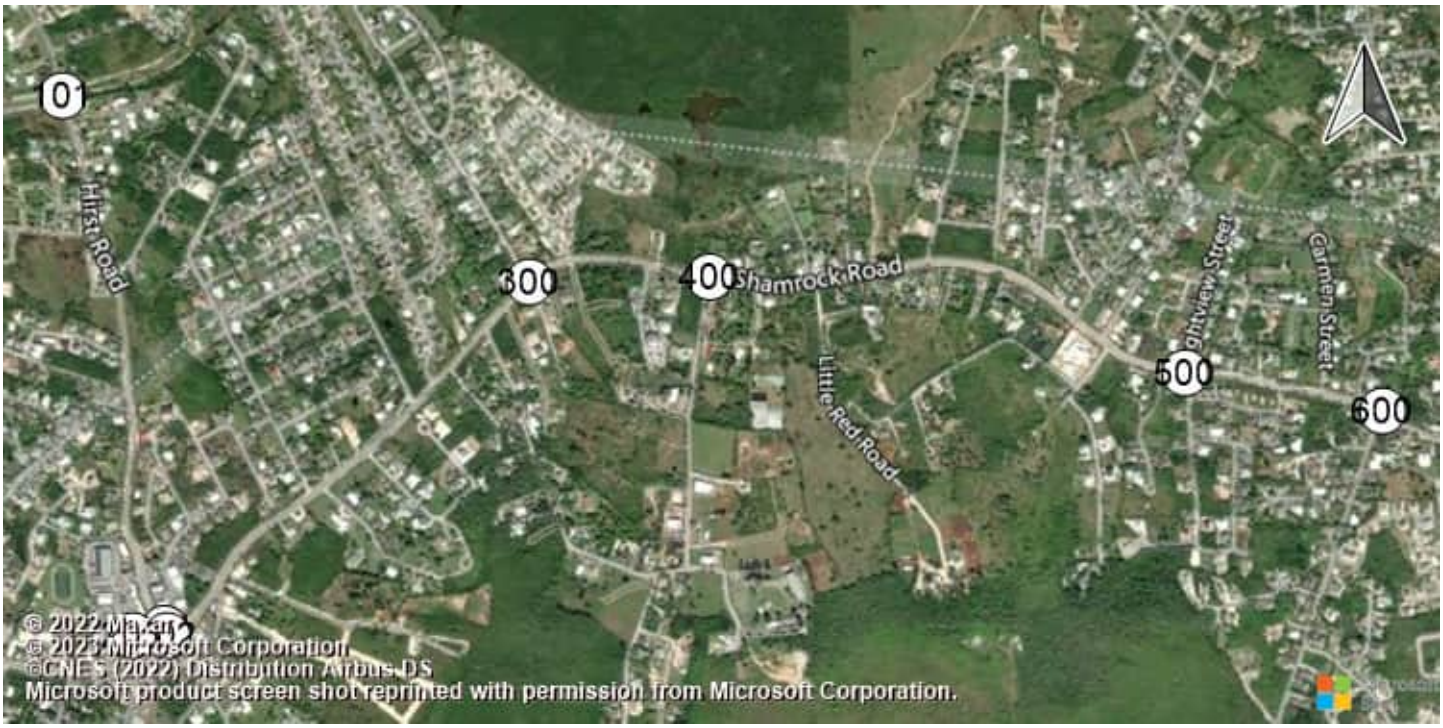
Frank Sound Road at East-W



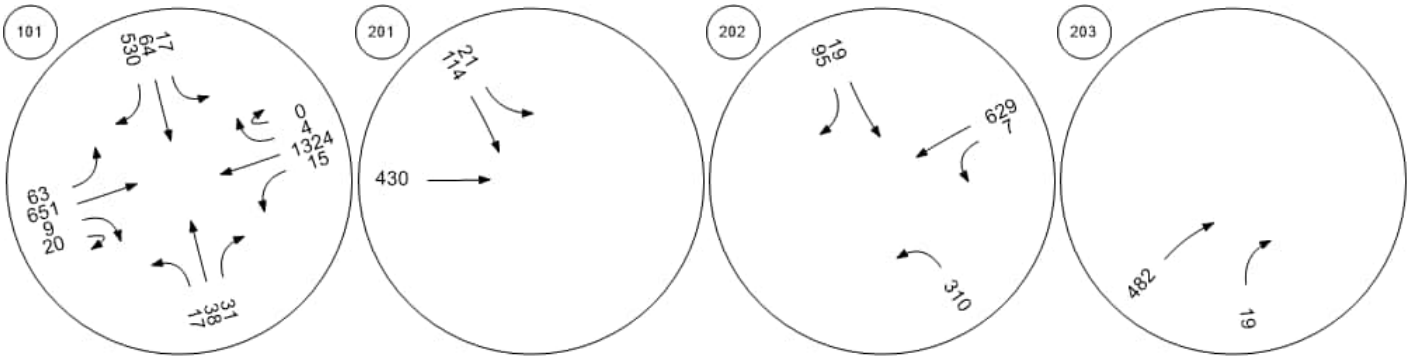
Frank Sound Road at East-W



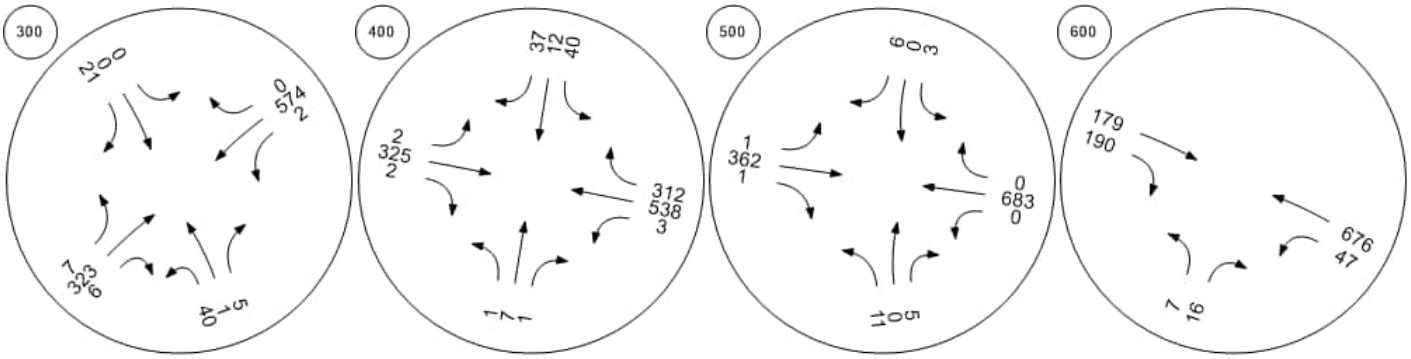
Traffic Volume - Base Volume



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



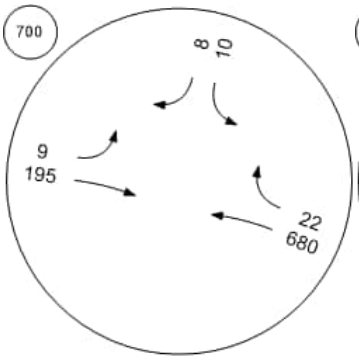
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



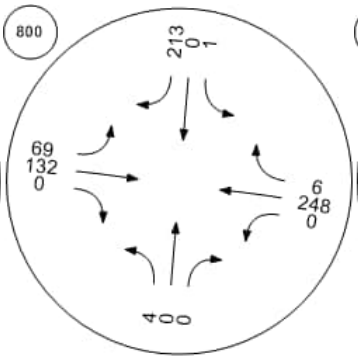
Traffic Volume - Base Volume



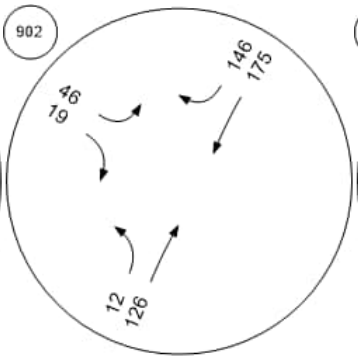
Shamrock Road at Northward



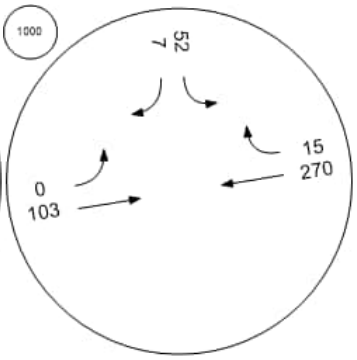
Shamrock Road at Condor R



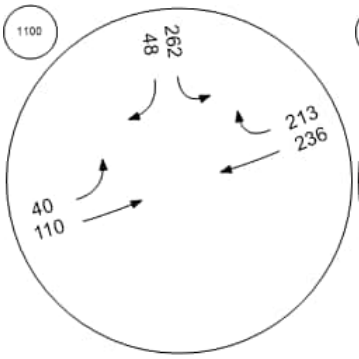
Bodden Town Road at Bodde



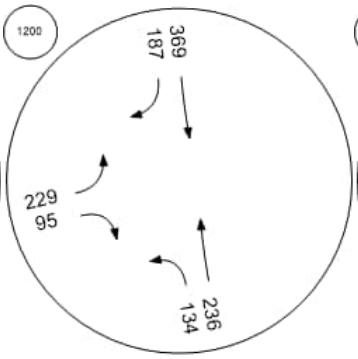
Bodden Town Road at Long



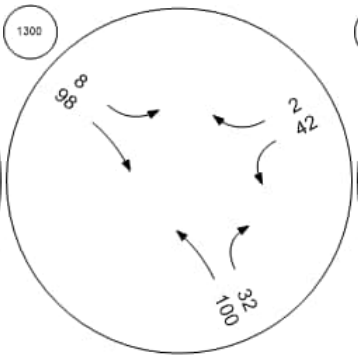
Frank Sound Road at Bodde



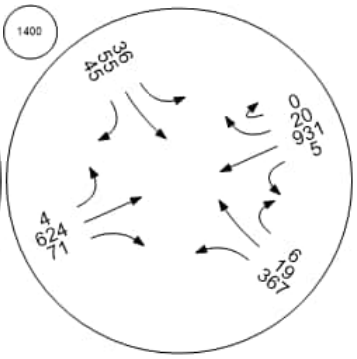
Frank Sound Road at Clifton



Frank Sound Road at North S



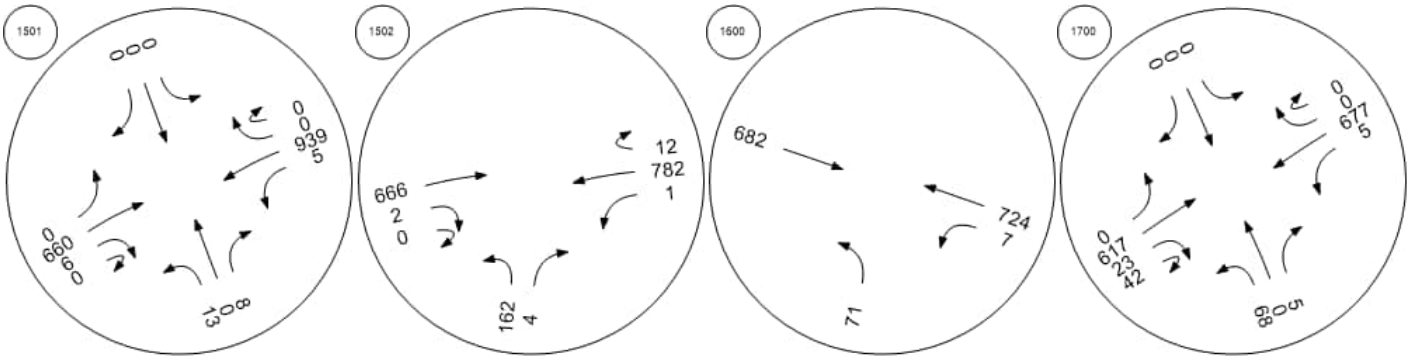
East-West Arterial at Agricola



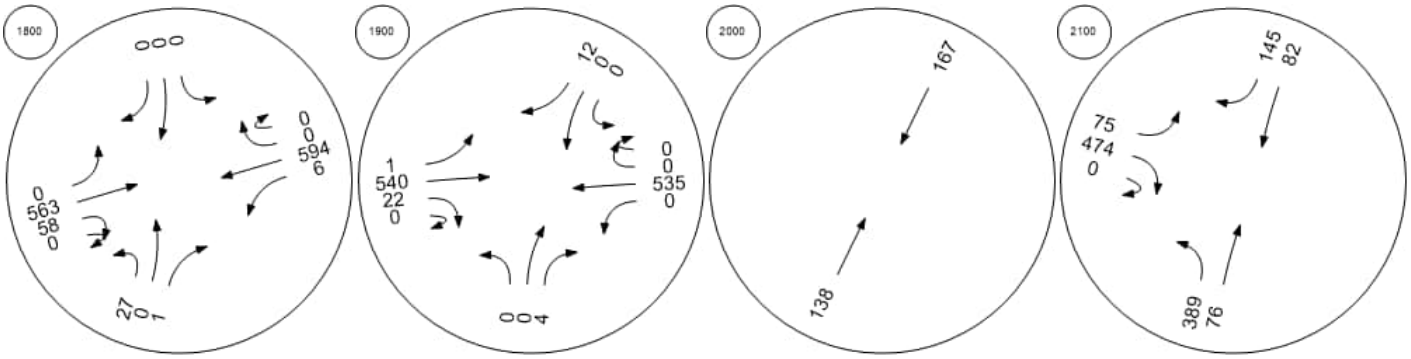
Traffic Volume - Base Volume



East-West Arterial at Will T C East-West Arterial at Will T C East-West Arterial at Northwa East-West Arterial at Lookout



East-West Arterial at Longfell East West Arterial Frank Sound Road at East-W Frank Sound Road at East-W



Intersection Level Of Service Report
Intersection 101: East-West Arterial Road at Hirst Road

Control Type:	Roundabout	Delay (sec / veh):	14.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name									East-West Arterial				East-West Arterial				
Approach	Northbound				Southbound				Eastbound				Westbound				
Lane Configuration																	
Turning Movement	Left	Left	Thru	Right	Left	Thru	Right	Right	Left	Thru	Right	U-tu	Left	Thr	Thr	Rig	U-t
Lane Width [ft]	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.	12.	12.	12.	12.
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100	100	100	100	100
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Speed [mph]	30.00				30.00				40.00				50.00				
Grade [%]	0.00				0.00				0.00				0.00				
Crosswalk	Yes				Yes				Yes				Yes				

Volumes

Name									East-West Arterial				East-West Arterial				
Base Volume Input [veh/h]	41	0	126	27	21	62	0	150	362	1428	57	4	49	581	0	12	0
Base Volume Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	41	0	126	27	21	62	0	150	362	1428	57	4	49	581	0	12	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Other Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Total 15-Minute Volume [veh/h]	10	0	32	7	5	16	0	38	91	357	14	1	12	145	0	3	0
Total Analysis Volume [veh/h]	41	0	126	27	21	62	0	150	362	1428	57	4	49	581	0	12	0
Pedestrian Volume [ped/h]	0				0				0				0				

Intersection Settings

Number of Conflicting Circulating Lanes	2				2				2				2			
Circulating Flow Rate [veh/h]	747				1516				165				273			
Exiting Flow Rate [veh/h]	168				500				776				1476			
Demand Flow Rate [veh/h]	41	0	126	27	21	62	0	150	362	1428	57	4	49	581	0	12	0
Adjusted Demand Flow Rate [veh/h]	41	0	126	27	21	62	0	150	362	1428	57	4	49	581	0	12	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1350.00	1420.00	1350.00
B (coefficient)	0.00085	0.00085	0.00085	0.00092	0.00085	0.00092
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	194	233	982	870	341	302
Capacity of Entry and Bypass Lanes [veh/h]	753	392	1235	1160	1126	1051
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	753	392	1235	1160	1126	1051
X, volume / capacity	0.26	0.60	0.79	0.75	0.30	0.29

Movement, Approach, & Intersection Results

Lane LOS	A	C	C	C	A	A
95th-Percentile Queue Length [veh]	1.03	3.72	9.04	7.47	1.28	1.19
95th-Percentile Queue Length [ft]	25.67	92.88	226.05	186.63	32.06	29.86
Approach Delay [s/veh]	7.73	24.82	16.33		6.16	
Approach LOS	A	C	C		A	
Intersection Delay [s/veh]	14.20					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 201: Shamrock Road at Hirst Rd (1)

Control Type:	Two-way stop	Delay (sec / veh):	20.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.500

Intersection Setup

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	0	0	0	13	209	0	0	505	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	13	209	0	0	505	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	3	56	0	0	136	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	14	225	0	0	543	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.03	0.50	0.00	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	11.80	20.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS				B	C			A				
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.08	2.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	1.98	68.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			20.23			0.00			0.00		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	6.18											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 202: Shamrock Road at Hirst Rd (2)

Control Type:	Two-way stop	Delay (sec / veh):	31.4
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.560

Intersection Setup

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	237	0	0	0	34	175	0	0	0	12	376	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	237	0	0	0	34	175	0	0	0	12	376	0
Peak Hour Factor	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	64	0	0	0	9	47	0	0	0	3	101	0
Total Analysis Volume [veh/h]	255	0	0	0	37	188	0	0	0	13	404	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.40	0.00	0.00	0.00	0.07	0.56	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	14.17	0.00	0.00	0.00	27.45	31.37	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	B				D	D				A	A	
95th-Percentile Queue Length [veh/ln]	1.89	0.00	0.00	0.00	4.09	4.09	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	47.15	0.00	0.00	0.00	102.23	102.23	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	14.17			30.73			0.00			0.00		
Approach LOS	B			D			A			A		
d_I, Intersection Delay [s/veh]	11.74											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 203: Shamrock Road atHirst Road Jughandle

Control Type:	Two-way stop	Delay (sec / veh):	14.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.081

Intersection Setup

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	0	30	674	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	30	674	0	0	0
Peak Hour Factor	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	8	181	0	0	0
Total Analysis Volume [veh/h]	0	32	725	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.08	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	14.92	0.00	0.00	0.00	0.00
Movement LOS		B	A			
95th-Percentile Queue Length [veh/ln]	0.00	0.26	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	6.57	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	14.92		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.63					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 300: Shamrock Road at Woodland Drive

Control Type:	Two-way stop	Delay (sec / veh):	19.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.174

Intersection Setup

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	12	1	3	11	1	49	10	321	29	5	404	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	1	3	11	1	49	10	321	29	5	404	0
Peak Hour Factor	0.9700	0.9700	1.0000	1.0000	0.9700	0.9700	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	1	3	0	13	3	80	7	1	101	0
Total Analysis Volume [veh/h]	12	1	3	11	1	51	10	321	30	5	404	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.01	0.02	0.00	0.17	0.00	0.00	0.03	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	10.78	16.80	17.50	12.62	19.14	19.93	0.00	0.00	8.18	0.00	0.00	7.90
Movement LOS	B	C	C	B	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.10	0.10	0.10	0.70	0.70	0.70	0.08	0.08	0.08	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	2.47	2.47	2.47	17.56	17.56	17.56	1.99	1.99	1.99	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.42			18.64			0.68			0.00		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	1.91											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 400: Shamrock Road at Agricola Drive

Control Type:	Roundabout	Delay (sec / veh):	6.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	1	0	0	335	18	4	4	328	3	9	405	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	0	335	18	4	4	328	3	9	405	49
Peak Hour Factor	1.0000	1.0000	0.9200	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9200	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	84	5	1	1	82	1	2	101	12
Total Analysis Volume [veh/h]	1	0	0	335	18	4	4	328	3	10	405	49
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1			
Circulating Flow Rate [veh/h]	458			331			49			25			
Exiting Flow Rate [veh/h]	31			53			410			663			
Demand Flow Rate [veh/h]	1	0	0	335	18	4	4	328	3	9	405	49	
Adjusted Demand Flow Rate [veh/h]	1	0	0	335	18	4	4	328	3	10	405	49	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	1	357	335	464
Capacity of Entry and Bypass Lanes [veh/h]	865	985	1313	1346
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	865	985	1313	1346
X, volume / capacity	0.00	0.36	0.26	0.34

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	1.67	1.02	1.56
95th-Percentile Queue Length [ft]	0.09	41.77	25.48	38.94
Approach Delay [s/veh]	4.17	7.53	4.96	5.80
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	6.09			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 500: Shamrock Road at Brightview Drive / Calla Lily Drive

Control Type:	Two-way stop	Delay (sec / veh):	23.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			20.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	2	0	0	0	0	1	13	572	21	53	357	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	0	0	0	0	1	13	572	21	53	357	25
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	0	0	0	3	143	5	13	89	6
Total Analysis Volume [veh/h]	2	0	0	0	0	1	13	572	21	53	357	25
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.02	0.00	0.00	0.03
d_M, Delay for Movement [s/veh]	10.40	21.95	23.34	12.03	22.50	23.50	0.00	0.00	8.16	0.00	0.00	8.69
Movement LOS	B	C	C	B	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.02	0.02	0.02	0.06	0.06	0.06	0.08	0.08	0.08
95th-Percentile Queue Length [ft/ln]	0.23	0.23	0.23	0.39	0.39	0.39	1.38	1.38	1.38	1.92	1.92	1.92
d_A, Approach Delay [s/veh]	10.40			23.50			0.28			0.50		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	0.41											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 600: Shamrock Road at Beach Bay Road

Control Type:	Two-way stop	Delay (sec / veh):	33.0
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.301

Intersection Setup

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	22	49	478	94	23	413
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	22	49	478	94	23	413
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	13	131	26	6	113
Total Analysis Volume [veh/h]	24	54	525	103	25	454
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.30	0.01	0.09	0.00	0.00
d_M, Delay for Movement [s/veh]	18.91	32.96	0.00	8.63	0.00	0.00
Movement LOS	C	D	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.44	1.44	0.31	0.31	0.00	0.00
95th-Percentile Queue Length [ft/ln]	36.00	36.00	7.78	7.78	0.00	0.00
d_A, Approach Delay [s/veh]	28.64		1.42		0.00	
Approach LOS	D		A		A	
d_I, Intersection Delay [s/veh]	2.64					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 700: Shamrock Road at Northward Road

Control Type:	Two-way stop	Delay (sec / veh):	19.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.114

Intersection Setup

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	26	32	14	424	442	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	26	32	14	424	442	17
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	8	4	109	114	4
Total Analysis Volume [veh/h]	27	33	14	437	456	18
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.11	0.00	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	12.58	19.16	0.00	0.00	0.00	8.27
Movement LOS	B	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.55	0.55	0.00	0.00	0.05	0.05
95th-Percentile Queue Length [ft/ln]	13.82	13.82	0.00	0.00	1.22	1.22
d_A, Approach Delay [s/veh]	16.20		0.00		0.31	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	1.14					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 800: Shamrock Road at Condor Road

Control Type:	Two-way stop	Delay (sec / veh):	15.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.195

Intersection Setup

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Base Volume Input [veh/h]	1	0	0	4	0	86	91	228	2	0	249	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	0	4	0	86	91	228	2	0	249	13
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	1	0	22	23	57	1	0	62	3
Total Analysis Volume [veh/h]	1	0	0	4	0	86	91	228	2	0	249	13
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	9.54	13.73	13.21	11.66	15.21	15.14	0.00	0.00	7.71	0.00	0.00	7.90
Movement LOS	A	B	B	B	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.74	0.74	0.74	0.00	0.00	0.00	0.03	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.09	0.09	0.09	18.45	18.45	18.45	0.11	0.11	0.11	0.79	0.79	0.79
d_A, Approach Delay [s/veh]	9.54			14.99			0.05			0.39		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	2.19											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 902: Bodden Town Road at Bodden Town Bypass

Control Type:	Two-way stop	Delay (sec / veh):	15.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.121

Intersection Setup

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	45	44	29	186	185	116
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	45	44	29	186	185	116
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	12	8	49	49	31
Total Analysis Volume [veh/h]	48	47	31	198	197	123
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.12	0.00	0.00	0.00	0.09
d_M, Delay for Movement [s/veh]	10.79	15.72	0.00	0.00	0.00	7.93
Movement LOS	B	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.64	0.64	0.00	0.00	0.30	0.30
95th-Percentile Queue Length [ft/ln]	16.12	16.12	0.00	0.00	7.50	7.50
d_A, Approach Delay [s/veh]	13.23		0.00		3.05	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	3.47					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1000: Bodden Town Road at Long Fellow Drive

Control Type:	Two-way stop	Delay (sec / veh):	11.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

Intersection Setup

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	0	6	3	143	268	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	6	3	143	268	0
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	1	39	74	0
Total Analysis Volume [veh/h]	0	7	3	157	295	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.11	11.42	0.00	0.00	0.00	7.51
Movement LOS	A	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.94	0.94	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.42		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.17					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1100: Frank Sound Road at Bodden Town Road

Control Type:	Two-way stop	Delay (sec / veh):	30.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.251

Intersection Setup

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Base Volume Input [veh/h]	408	62	55	75	206	243
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	408	62	55	75	206	243
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	110	17	15	20	55	65
Total Analysis Volume [veh/h]	439	67	59	81	222	261
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.46	0.25	0.00	0.00	0.00	0.17
d_M, Delay for Movement [s/veh]	20.42	30.11	0.00	0.00	0.00	7.84
Movement LOS	C	D	A	A	A	A
95th-Percentile Queue Length [veh/ln]	6.04	6.04	0.00	0.00	0.61	0.61
95th-Percentile Queue Length [ft/ln]	151.11	151.11	0.00	0.00	15.37	15.37
d_A, Approach Delay [s/veh]	21.70		0.00		4.24	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	11.54					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 1200: Frank Sound Road at Clifton Hunter High School

Control Type:	Roundabout	Delay (sec / veh):	8.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd		Clifton Hunter HS Entrance	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		20.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Frank Sound Rd		Clifton Hunter HS Entrance	
Base Volume Input [veh/h]	88	352	445	256	216	129
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	88	352	445	256	216	129
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	88	111	64	54	32
Total Analysis Volume [veh/h]	88	352	445	256	216	129
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	256		129		352	
Exiting Flow Rate [veh/h]	574		568		344	
Demand Flow Rate [veh/h]	88	352	445	256	216	129
Adjusted Demand Flow Rate [veh/h]	88	352	445	256	216	129

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	440	701	345
Capacity of Entry and Bypass Lanes [veh/h]	1063	1210	964
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1063	1210	964
X, volume / capacity	0.41	0.58	0.36

Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	2.06	3.89	1.64
95th-Percentile Queue Length [ft]	51.61	97.36	40.95
Approach Delay [s/veh]	7.83	9.89	7.59
Approach LOS	A	A	A
Intersection Delay [s/veh]	8.74		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 1300: Frank Sound Road at North Side Road/Old Robin Road

Control Type:	Two-way stop	Delay (sec / veh):	12.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.045

Intersection Setup

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Base Volume Input [veh/h]	169	36	33	145	69	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	169	36	33	145	69	22
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	47	10	9	41	19	6
Total Analysis Volume [veh/h]	190	40	37	163	78	25
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.03	0.00	0.00	0.09	0.05
d_M, Delay for Movement [s/veh]	0.00	7.68	0.00	0.00	9.90	12.27
Movement LOS	A	A	A	A	A	B
95th-Percentile Queue Length [veh/ln]	0.09	0.09	0.00	0.00	0.47	0.47
95th-Percentile Queue Length [ft/ln]	2.23	2.23	0.00	0.00	11.68	11.68
d_A, Approach Delay [s/veh]	1.34		0.00		10.47	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	2.60					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1400: East-West Arterial at Agricola Drive Connector

Control Type:	Roundabout	Delay (sec / veh):	15.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			50.00			50.00			
Grade [%]	0.00			0.00			0.00			0.00			
Crosswalk	Yes			Yes			Yes			Yes			

Volumes

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Base Volume Input [veh/h]	28	24	6	50	29	8	37	1052	388	7	606	49	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	28	24	6	50	29	8	37	1052	388	7	606	49	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	7	6	2	13	7	2	9	263	97	2	152	12	0
Total Analysis Volume [veh/h]	28	24	6	50	29	8	37	1052	388	7	606	49	0
Pedestrian Volume [ped/h]	0			0			0			0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1			1			
Circulating Flow Rate [veh/h]	663			1446			79			425			
Exiting Flow Rate [veh/h]	424			110			642			1108			
Demand Flow Rate [veh/h]	28	24	6	50	29	8	37	1052	388	7	606	49	0
Adjusted Demand Flow Rate [veh/h]	28	24	6	50	29	8	37	1052	388	7	606	49	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1380.00
B (coefficient)	0.00085	0.00085	0.00091	0.00091	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	58	87	1089	388	662
Capacity of Entry and Bypass Lanes [veh/h]	809	416	1322	1322	895
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	809	416	1322	1322	895
X, volume / capacity	0.07	0.21	0.82	0.29	0.74

Movement, Approach, & Intersection Results

Lane LOS	A	B	C	A	C
95th-Percentile Queue Length [veh]	0.23	0.78	10.36	1.23	6.90
95th-Percentile Queue Length [ft]	5.78	19.50	258.98	30.85	172.53
Approach Delay [s/veh]	5.16	11.99	14.69		18.24
Approach LOS	A	B	B		C
Intersection Delay [s/veh]	15.37				
Intersection LOS	C				

Intersection Level Of Service Report
Intersection 1501: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	13.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name							East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name							East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	0	0	5	0	0	0	0	1022	86	0	30	662	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	5	0	0	0	0	1022	86	0	30	662	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	0	0	1	0	0	0	0	256	22	0	8	166	0	0
Total Analysis Volume [veh/h]	0	0	5	0	0	0	0	1022	86	0	30	662	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1					
Circulating Flow Rate [veh/h]	662			1113			5				86					
Exiting Flow Rate [veh/h]	116			0			662				1027					
Demand Flow Rate [veh/h]	0	0	5	0	0	0	0	1022	86	0	30	662	0	0		
Adjusted Demand Flow Rate [veh/h]	0	0	5	0	0	0	0	1022	86	0	30	662	0	0		

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	5	0	1108	692
Capacity of Entry and Bypass Lanes [veh/h]	703	444	1373	1265
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	703	444	1373	1265
X, volume / capacity	0.01	0.00	0.81	0.55

Movement, Approach, & Intersection Results

Lane LOS	A	A	C	A
95th-Percentile Queue Length [veh]	0.02	0.00	9.70	3.46
95th-Percentile Queue Length [ft]	0.54	0.00	242.56	86.53
Approach Delay [s/veh]	5.20	8.12	16.50	8.97
Approach LOS	A	A	C	A
Intersection Delay [s/veh]	13.59			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1502: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	11.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name			East-West Arterial			East-West Arterial		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	Thru	Right	U-turn	Left	Thru	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00			50.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	Yes		Yes			Yes		

Volumes

Name			East-West Arterial			East-West Arterial		
Base Volume Input [veh/h]	15	1	998	29	0	5	677	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	1	998	29	0	5	677	18
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	0	250	7	0	1	169	5
Total Analysis Volume [veh/h]	15	1	998	29	0	5	677	18
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1		1			1		
Circulating Flow Rate [veh/h]	695		19			29		
Exiting Flow Rate [veh/h]	34		692			1017		
Demand Flow Rate [veh/h]	15	1	998	29	0	5	677	18
Adjusted Demand Flow Rate [veh/h]	15	1	998	29	0	5	677	18

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	16	1027	700
Capacity of Entry and Bypass Lanes [veh/h]	680	1354	1340
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	680	1354	1340
X, volume / capacity	0.02	0.76	0.52

Movement, Approach, & Intersection Results

Lane LOS	A	B	A
95th-Percentile Queue Length [veh]	0.07	7.91	3.16
95th-Percentile Queue Length [ft]	1.81	197.63	78.94
Approach Delay [s/veh]	5.55	14.26	8.20
Approach LOS	A	B	A
Intersection Delay [s/veh]	11.75		
Intersection LOS	B		

Intersection Level Of Service Report
Intersection 1600: East-West Arterial at Northward Rd

Control Type:	Two-way stop	Delay (sec / veh):	13.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.053

Intersection Setup

Name	Northward Rd		East-West Arterial		East-West Arterial	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		East-West Arterial		East-West Arterial	
Base Volume Input [veh/h]	24	0	1017	0	14	676
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	24	0	1017	0	14	676
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	0	254	0	4	169
Total Analysis Volume [veh/h]	24	0	1017	0	14	676
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.00	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	13.40	0.00	0.00	0.00	0.00	0.00
Movement LOS	B		A		A	A
95th-Percentile Queue Length [veh/ln]	0.17	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	4.19	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.40		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.19					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1700: East-West Arterial at Lookout Rd

Control Type:	Roundabout	Delay (sec / veh):	12.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Lookout Rd			Lookout Rd			East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Lookout Rd			Lookout Rd			East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	17	0	10	0	0	0	0	811	98	107	19	626	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	17	0	10	0	0	0	0	811	98	107	19	626	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	4	0	3	0	0	0	0	203	25	27	5	157	0	0
Total Analysis Volume [veh/h]	17	0	10	0	0	0	0	811	98	107	19	626	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1				
Circulating Flow Rate [veh/h]	733			1026			10				205				
Exiting Flow Rate [veh/h]	117			0			750				821				
Demand Flow Rate [veh/h]	17	0	10	0	0	0	0	811	98	107	19	626	0	0	
Adjusted Demand Flow Rate [veh/h]	17	0	10	0	0	0	0	811	98	107	19	626	0	0	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	27	0	1016	645
Capacity of Entry and Bypass Lanes [veh/h]	654	485	1366	1120
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	654	485	1366	1120
X, volume / capacity	0.04	0.00	0.74	0.58

Movement, Approach, & Intersection Results

Lane LOS	A	A	B	B
95th-Percentile Queue Length [veh]	0.13	0.00	7.44	3.83
95th-Percentile Queue Length [ft]	3.23	0.00	186.06	95.74
Approach Delay [s/veh]	5.95	7.43	13.56	10.37
Approach LOS	A	A	B	B
Intersection Delay [s/veh]	12.22			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1800: East-West Arterial at Longfellow Rd

Control Type:	Roundabout	Delay (sec / veh):	8.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Longfellow Rd			Longfellow Rd			East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Longfellow Rd			Longfellow Rd			East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	10	0	2	0	0	0	0	792	30	0	7	597	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	0	2	0	0	0	0	792	30	0	7	597	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	3	0	1	0	0	0	0	198	8	0	2	149	0	0
Total Analysis Volume [veh/h]	10	0	2	0	0	0	0	792	30	0	7	597	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1				
Circulating Flow Rate [veh/h]	597			824			2				30				
Exiting Flow Rate [veh/h]	37			0			607				794				
Demand Flow Rate [veh/h]	10	0	2	0	0	0	0	792	30	0	7	597	0	0	
Adjusted Demand Flow Rate [veh/h]	10	0	2	0	0	0	0	792	30	0	7	597	0	0	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	12	0	822	604
Capacity of Entry and Bypass Lanes [veh/h]	751	596	1378	1339
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	751	596	1378	1339
X, volume / capacity	0.02	0.00	0.60	0.45

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.05	0.00	4.19	2.40
95th-Percentile Queue Length [ft]	1.22	0.00	104.72	60.11
Approach Delay [s/veh]	4.95	6.05	9.39	7.14
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	8.41			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1900: East West Arterial

Control Type:	Roundabout	Delay (sec / veh):	8.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name							East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			50.00				40.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name							East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	0	0	7	0	0	3	9	715	70	0	0	553	3	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	7	0	0	3	9	715	70	0	0	553	3	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	0	0	2	0	0	1	2	179	18	0	0	138	1	0
Total Analysis Volume [veh/h]	0	0	7	0	0	3	9	715	70	0	0	553	3	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1			
Circulating Flow Rate [veh/h]	559			792			10				73			
Exiting Flow Rate [veh/h]	70			12			556				722			
Demand Flow Rate [veh/h]	0	0	7	0	0	3	9	715	70	0	0	553	3	0
Adjusted Demand Flow Rate [veh/h]	0	0	7	0	0	3	9	715	70	0	0	553	3	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	7	3	794	556
Capacity of Entry and Bypass Lanes [veh/h]	781	616	1366	1281
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	781	616	1366	1281
X, volume / capacity	0.01	0.00	0.58	0.43

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.03	0.01	3.95	2.25
95th-Percentile Queue Length [ft]	0.68	0.37	98.66	56.13
Approach Delay [s/veh]	4.70	5.90	9.13	7.12
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	8.28			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 2000: Frank Sound Road at East-West Arterial

Control Type:	Unknown	Delay (sec / veh):	?
Analysis Method:	?	Level Of Service:	?
Analysis Period:	15 minutes	Volume to Capacity (v/c):	?

Intersection Setup

Name	Frank Sound Rd	Frank Sound Rd
Approach	Northeastbound	Southwestbound
Lane Configuration		
Turning Movement	Thru	Thru
Crosswalk	Yes	Yes

Volumes

Name	Frank Sound Rd	Frank Sound Rd
Base Volume Input [veh/h]	237	234
Base Volume Adjustment Factor	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00
Growth Factor	1.0000	1.0000
In-Process Volume [veh/h]	0	0
Site-Generated Trips [veh/h]	0	0
Diverted Trips [veh/h]	0	0
Pass-by Trips [veh/h]	0	0
Existing Site Adjustment Volume [veh/h]	0	0
Other Volume [veh/h]	0	0
Left-Turn on Red Volume [veh/h]	0	0
Total Hourly Volume [veh/h]	237	234
Peak Hour Factor	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000
Total 15-Minute Volume [veh/h]	59	59
Total Analysis Volume [veh/h]	237	234
Presence of On-Street Parking	No	No
On-Street Parking Maneuver Rate [/h]	0	0
Local Bus Stopping Rate [/h]	0	0
Pedestrian Volume [ped/h]	0	0

Intersection Level Of Service Report
Intersection 2100: Frank Sound Road at East-West Arterial

Control Type:	Roundabout	Delay (sec / veh):	9.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd		East-West Arterial		
Approach	Northbound		Southbound		Eastbound		
Lane Configuration							
Turning Movement	Left	Thru	Thru	Right	Left	Right	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		40.00		
Grade [%]	0.00		0.00		0.00		
Crosswalk	Yes		Yes		Yes		

Volumes

Name	Frank Sound Rd		Frank Sound Rd		East-West Arterial		
Base Volume Input [veh/h]	445	123	144	120	166	556	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	445	123	144	120	166	556	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	111	31	36	30	42	139	0
Total Analysis Volume [veh/h]	445	123	144	120	166	556	0
Pedestrian Volume [ped/h]	0		0		0		

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1		
Circulating Flow Rate [veh/h]	120		556		123		
Exiting Flow Rate [veh/h]	700		289		565		
Demand Flow Rate [veh/h]	445	123	144	120	166	556	0
Adjusted Demand Flow Rate [veh/h]	445	123	144	120	166	556	0

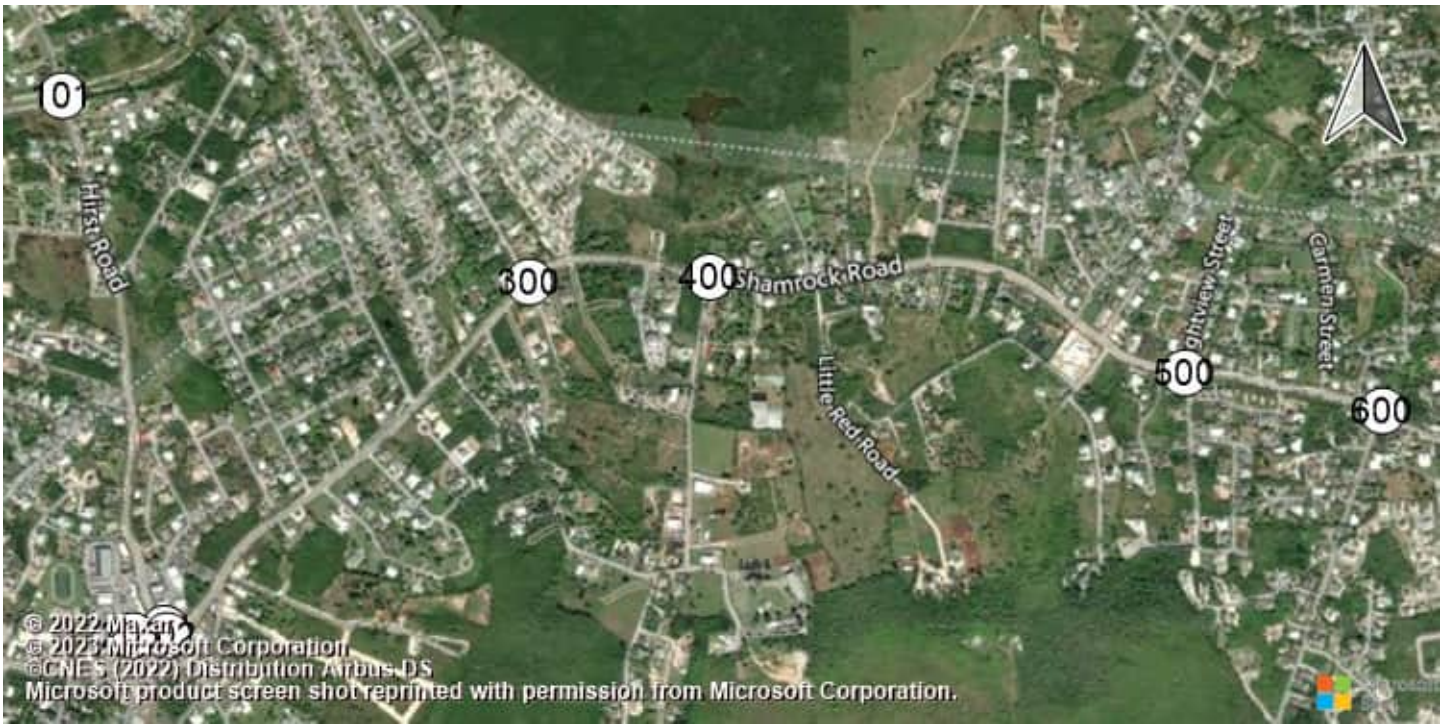
Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	568	264	722
Capacity of Entry and Bypass Lanes [veh/h]	1222	783	1218
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1222	783	1218
X, volume / capacity	0.47	0.34	0.59

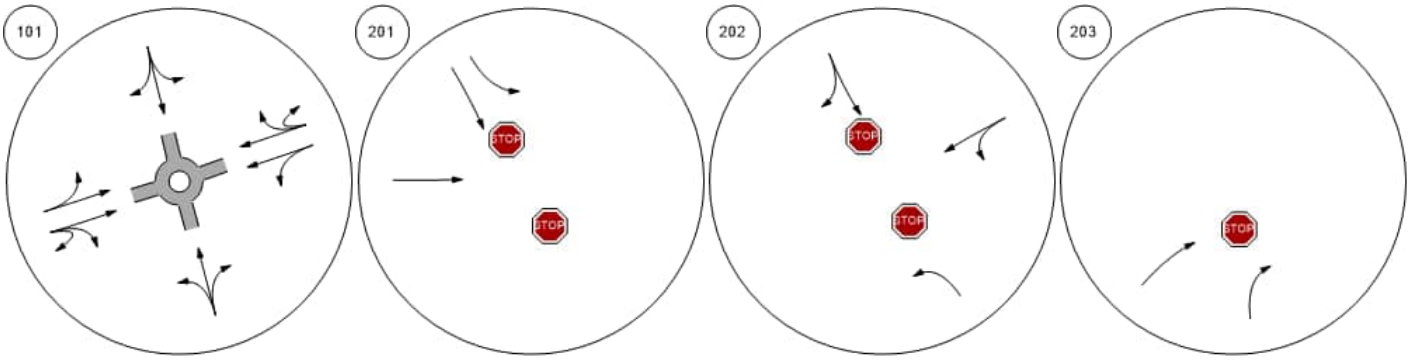
Movement, Approach, & Intersection Results

Lane LOS	A	A	B
95th-Percentile Queue Length [veh]	2.53	1.49	4.10
95th-Percentile Queue Length [ft]	63.27	37.32	102.54
Approach Delay [s/veh]	7.81	8.61	10.14
Approach LOS	A	A	B
Intersection Delay [s/veh]	9.03		
Intersection LOS	A		

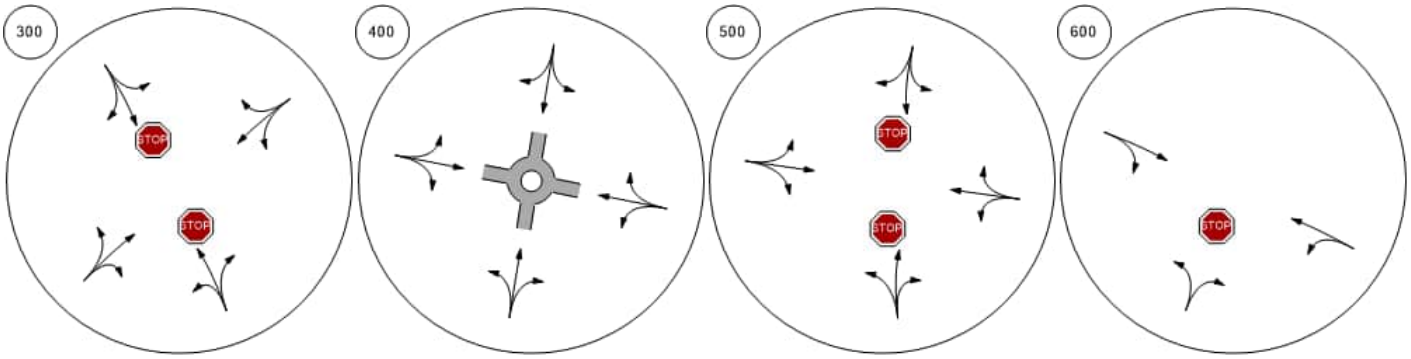
Lane Configuration and Traffic Control



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



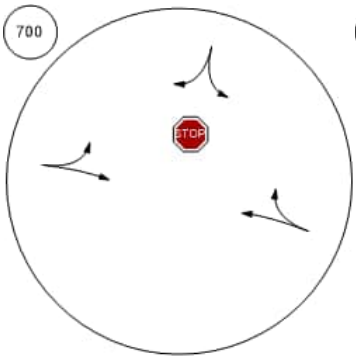
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



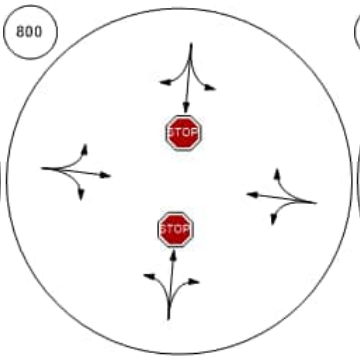
Lane Configuration and Traffic Control



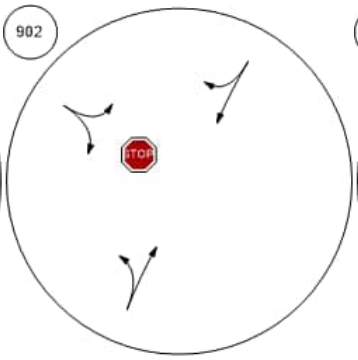
Shamrock Road at Northward



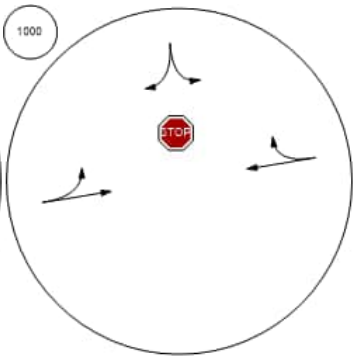
Shamrock Road at Condor R



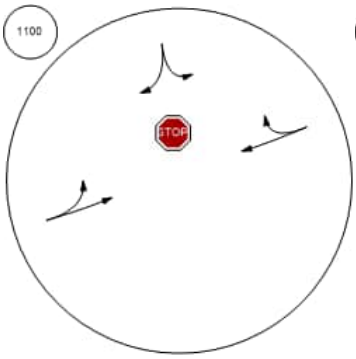
Bodden Town Road at Bodde



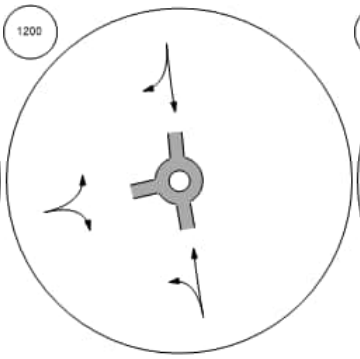
Bodden Town Road at Long



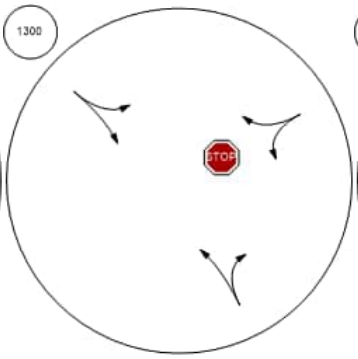
Frank Sound Road at Bodde



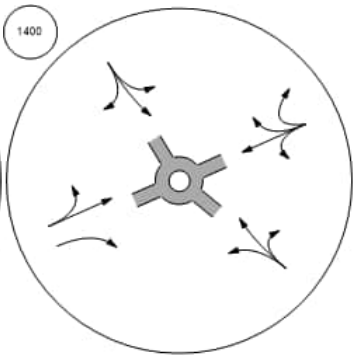
Frank Sound Road at Clifton



Frank Sound Road at North S



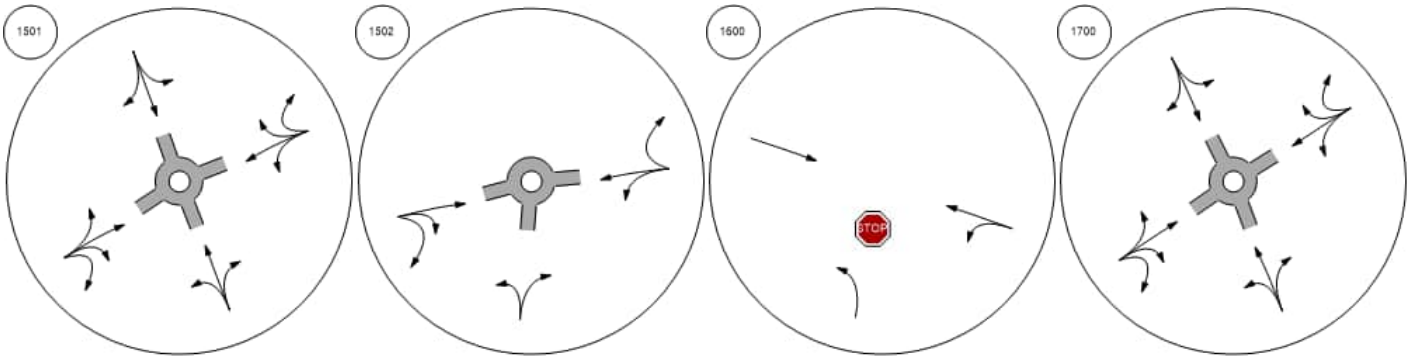
East-West Arterial at Agricola



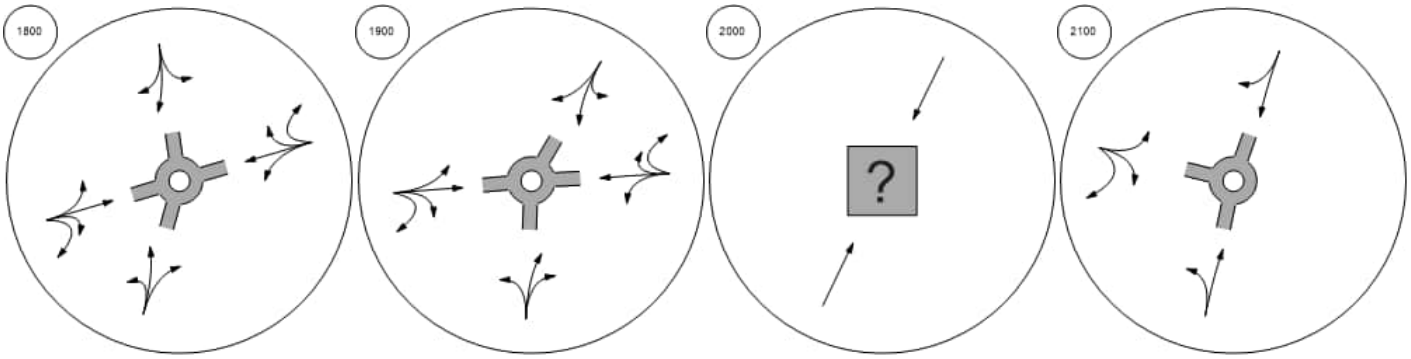
Lane Configuration and Traffic Control



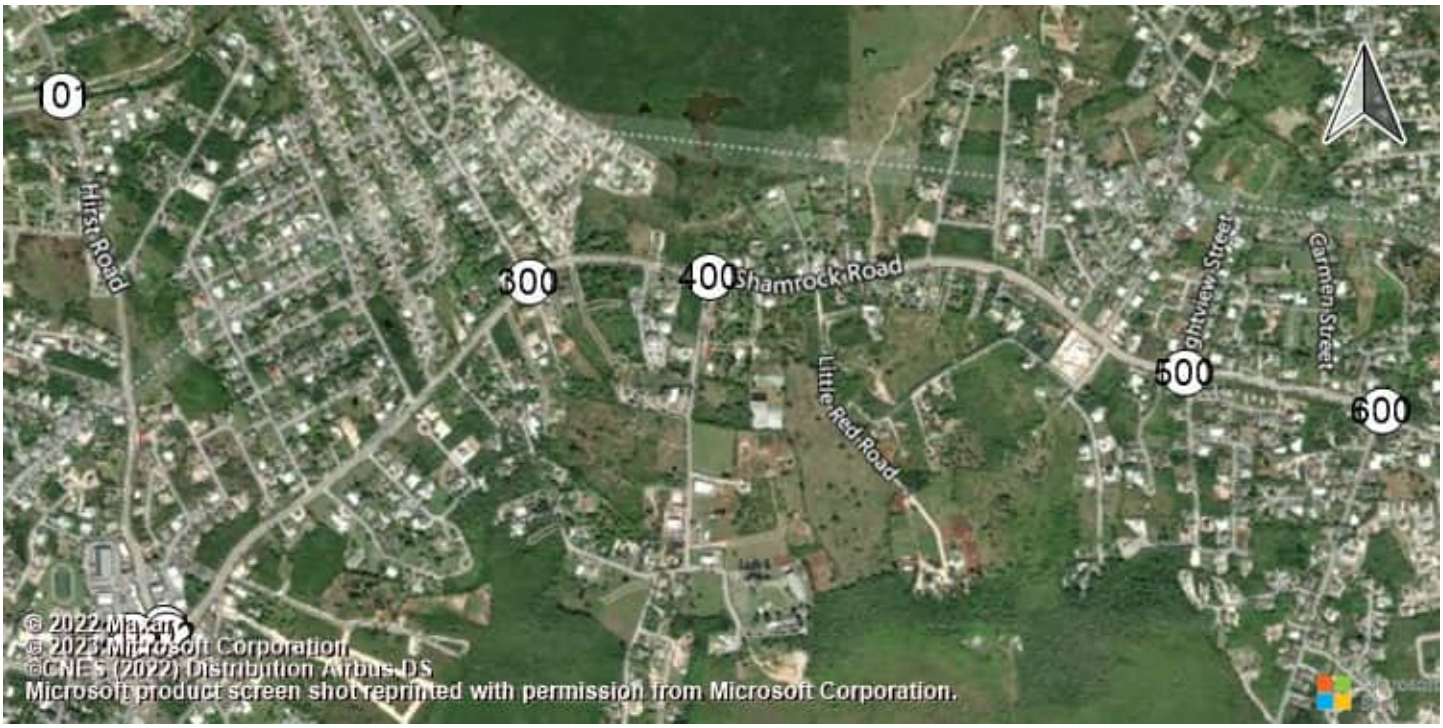
East-West Arterial at Will T C East-West Arterial at Will T C East-West Arterial at Northwa East-West Arterial at Lookout



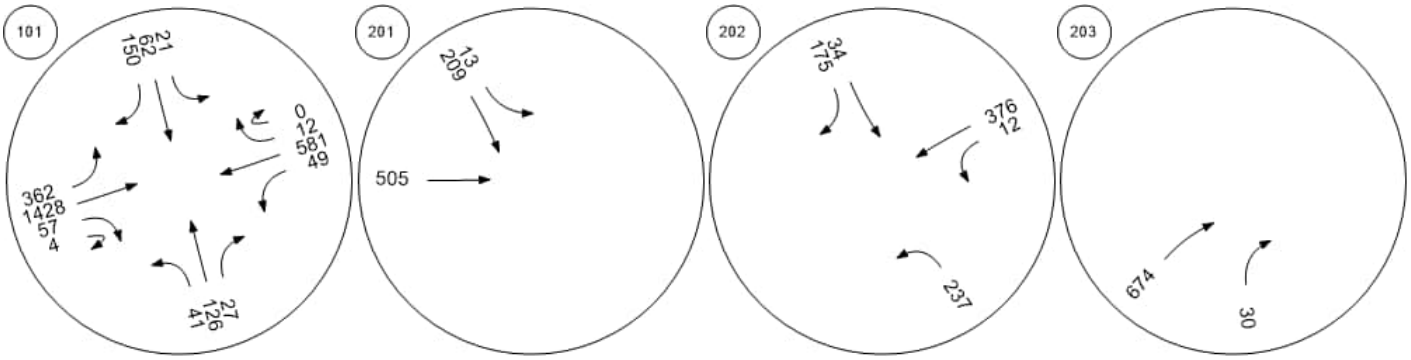
East-West Arterial at Longfell East West Arterial Frank Sound Road at East-W Frank Sound Road at East-W



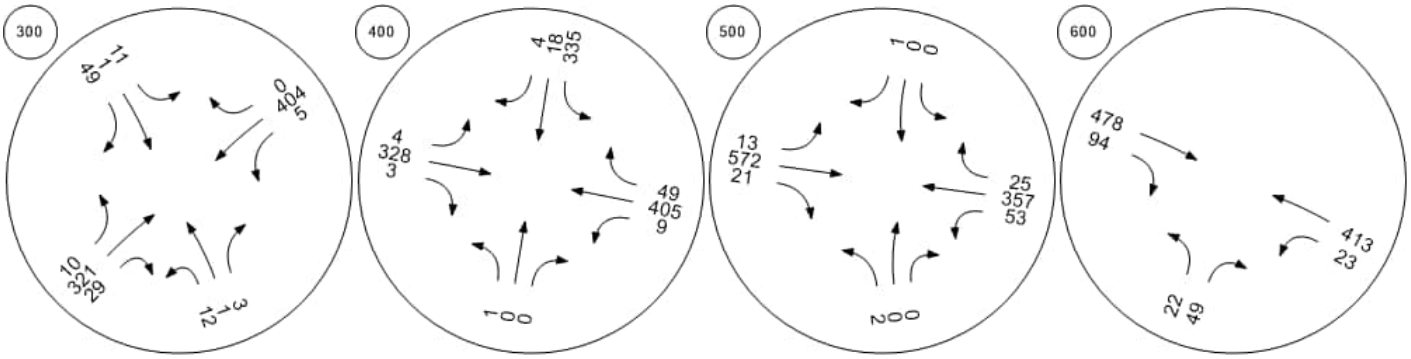
Traffic Volume - Base Volume



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



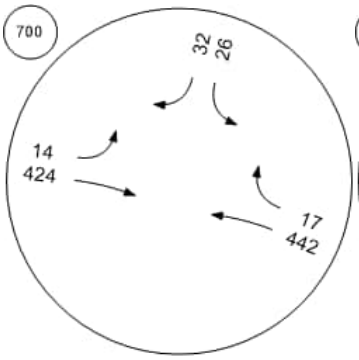
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



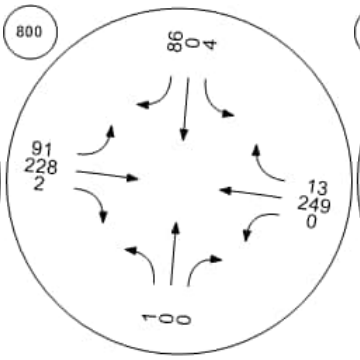
Traffic Volume - Base Volume



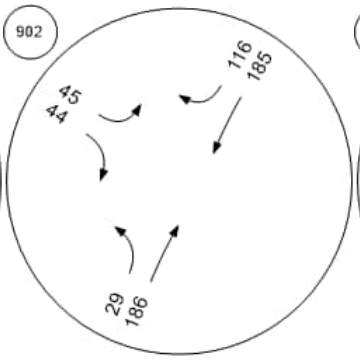
Shamrock Road at Northward



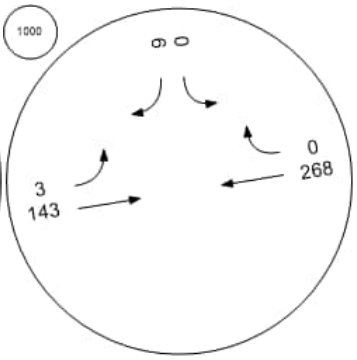
Shamrock Road at Condor R



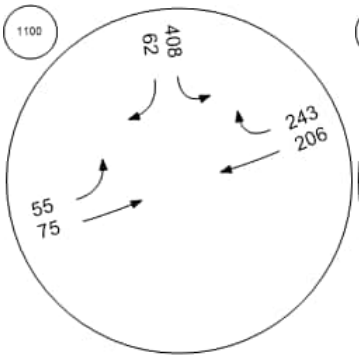
Bodden Town Road at Bodde



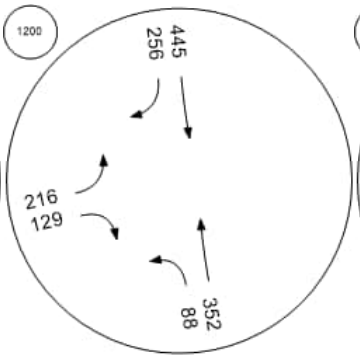
Bodden Town Road at Long



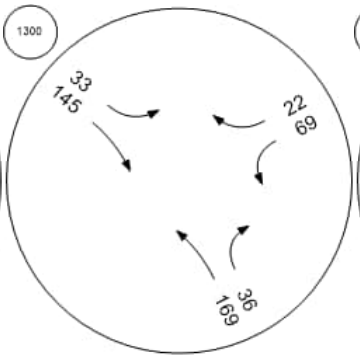
Frank Sound Road at Bodde



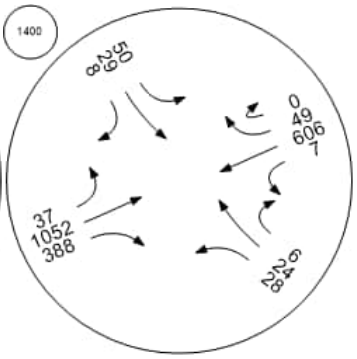
Frank Sound Road at Clifton



Frank Sound Road at North S



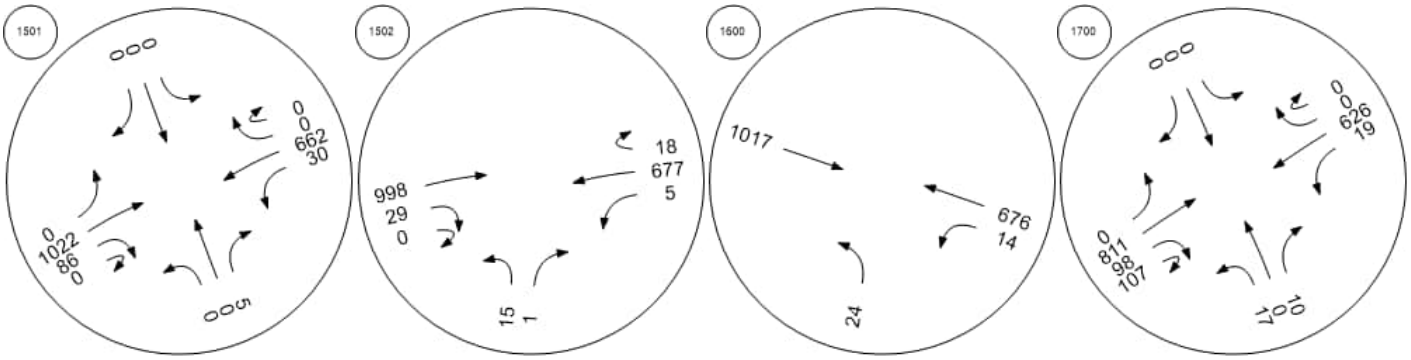
East-West Arterial at Agricola



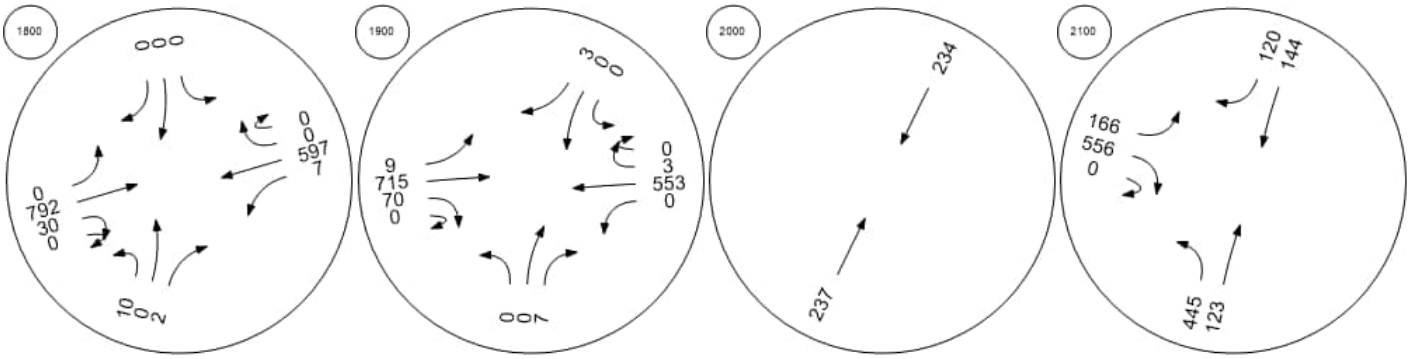
Traffic Volume - Base Volume



East-West Arterial at Will T C East-West Arterial at Will T C East-West Arterial at Northwa East-West Arterial at Lookout



East-West Arterial at Longfell East West Arterial Frank Sound Road at East-W Frank Sound Road at East-W



Intersection Level Of Service Report
Intersection 101: East-West Arterial Road at Hirst Road

Control Type:	Roundabout	Delay (sec / veh):	20.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes		

Intersection Setup

Name									East-West Arterial				East-West Arterial				
Approach	Northbound				Southbound				Eastbound				Westbound				
Lane Configuration																	
Turning Movement	Left	Left	Thru	Right	Left	Thru	Right	Right	Left	Thru	Right	U-tu	Left	Thr	Thr	Rig	U-t
Lane Width [ft]	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.	12.	12.	12.	12.
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100	100	100	100	100
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Speed [mph]	30.00				30.00				40.00				50.00				
Grade [%]	0.00				0.00				0.00				0.00				
Crosswalk	Yes				Yes				Yes				Yes				

Volumes

Name									East-West Arterial				East-West Arterial				
Base Volume Input [veh/h]	17	0	38	30	17	64	0	531	63	649	8	20	15	132	0	4	0
Base Volume Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	17	0	38	30	17	64	0	531	63	649	8	20	15	132	0	4	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Other Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Total 15-Minute Volume [veh/h]	4	0	10	8	4	16	0	133	16	162	2	5	4	331	0	1	0
Total Analysis Volume [veh/h]	17	0	38	30	17	64	0	531	63	649	8	20	15	132	0	4	0
Pedestrian Volume [ped/h]	0				0				0				0				

Intersection Settings

Number of Conflicting Circulating Lanes	2				2				2				2				
Circulating Flow Rate [veh/h]	1878				707				72				623				
Exiting Flow Rate [veh/h]	87				105				1891				696				
Demand Flow Rate [veh/h]	17	0	38	30	17	64	0	531	63	649	8	20	15	132	0	4	0
Adjusted Demand Flow Rate [veh/h]	17	0	38	30	17	64	0	531	63	649	8	20	15	132	0	4	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1350.00	1420.00	1350.00
B (coefficient)	0.00085	0.00085	0.00085	0.00092	0.00085	0.00092
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	85	612	393	348	712	631
Capacity of Entry and Bypass Lanes [veh/h]	288	779	1336	1264	837	762
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	288	779	1336	1264	837	762
X, volume / capacity	0.30	0.79	0.29	0.28	0.85	0.83

Movement, Approach, & Intersection Results

Lane LOS	C	C	A	A	D	D
95th-Percentile Queue Length [veh]	1.20	7.97	1.23	1.13	10.29	9.26
95th-Percentile Queue Length [ft]	30.02	199.27	30.85	28.21	257.35	231.46
Approach Delay [s/veh]	19.15	23.29	5.29		27.50	
Approach LOS	C	C	A		D	
Intersection Delay [s/veh]	20.41					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 201: Shamrock Road at Hirst Rd (1)

Control Type:	Two-way stop	Delay (sec / veh):	14.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.251

Intersection Setup

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	0	0	0	20	115	0	0	437	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	20	115	0	0	437	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	5	31	0	0	117	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	22	124	0	0	470	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.04	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	11.25	14.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS				B	B			A				
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.11	0.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	2.86	24.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			14.18			0.00			0.00		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	3.36											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 202: Shamrock Road at Hirst Rd (2)

Control Type:	Two-way stop	Delay (sec / veh):	209.8
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.088

Intersection Setup

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	312	0	0	0	19	96	0	0	0	7	632	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	312	0	0	0	19	96	0	0	0	7	632	0
Peak Hour Factor	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	84	0	0	0	5	26	0	0	0	2	170	0
Total Analysis Volume [veh/h]	335	0	0	0	20	103	0	0	0	8	680	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.74	0.00	0.00	0.00	0.05	1.09	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	32.47	0.00	0.00	0.00	181.50	209.84	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	D				F	F				A	A	
95th-Percentile Queue Length [veh/ln]	6.07	0.00	0.00	0.00	7.81	7.81	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	151.67	0.00	0.00	0.00	195.34	195.34	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	32.47			205.23			0.00			0.00		
Approach LOS	D			F			A			A		
d_I, Intersection Delay [s/veh]	31.52											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 203: Shamrock Road atHirst Road Jughandle

Control Type:	Two-way stop	Delay (sec / veh):	12.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.039

Intersection Setup

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	0	19	489	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	19	489	0	0	0
Peak Hour Factor	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	5	131	0	0	0
Total Analysis Volume [veh/h]	0	20	526	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.04	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	12.26	0.00	0.00	0.00	0.00
Movement LOS		B	A			
95th-Percentile Queue Length [veh/ln]	0.00	0.12	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	3.02	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.26		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.45					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 300: Shamrock Road at Woodland Drive

Control Type:	Two-way stop	Delay (sec / veh):	22.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.099

Intersection Setup

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	40	1	5	0	0	21	7	330	6	2	578	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	1	5	0	0	21	7	330	6	2	578	0
Peak Hour Factor	0.9700	0.9700	1.0000	1.0000	0.9700	0.9700	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	0	1	0	0	5	2	83	2	1	145	0
Total Analysis Volume [veh/h]	41	1	5	0	0	22	7	330	6	2	578	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.00	0.02	0.00	0.00	0.10	0.00	0.00	0.01	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	12.84	19.33	20.28	11.82	20.15	22.95	0.00	0.00	8.61	0.00	0.00	7.92
Movement LOS	B	C	C	B	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.34	0.34	0.34	0.32	0.32	0.32	0.02	0.02	0.02	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	8.53	8.53	8.53	8.12	8.12	8.12	0.45	0.45	0.45	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.77			22.95			0.15			0.00		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	1.21											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 400: Shamrock Road at Agricola Drive

Control Type:	Roundabout	Delay (sec / veh):	9.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	1	7	1	40	12	37	2	331	2	3	541	309
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	7	1	40	12	37	2	331	2	3	541	309
Peak Hour Factor	1.0000	1.0000	0.9200	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9200	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	0	10	3	9	1	83	1	1	135	77
Total Analysis Volume [veh/h]	1	7	1	40	12	37	2	331	2	3	541	309
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	887			334			317			51		
Exiting Flow Rate [veh/h]	17			318			579			372		
Demand Flow Rate [veh/h]	1	7	1	40	12	37	2	331	2	3	541	309
Adjusted Demand Flow Rate [veh/h]	1	7	1	40	12	37	2	331	2	3	541	309

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	9	89	335	853
Capacity of Entry and Bypass Lanes [veh/h]	559	982	999	1311
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	559	982	999	1311
X, volume / capacity	0.02	0.09	0.34	0.65

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	B
95th-Percentile Queue Length [veh]	0.05	0.30	1.49	5.14
95th-Percentile Queue Length [ft]	1.23	7.46	37.19	128.43
Approach Delay [s/veh]	6.63	4.49	7.09	10.97
Approach LOS	A	A	A	B
Intersection Delay [s/veh]	9.48			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 500: Shamrock Road at Brightview Drive / Calla Lily Drive

Control Type:	Two-way stop	Delay (sec / veh):	23.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.030

Intersection Setup

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			20.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	11	0	5	3	0	6	1	368	1	0	683	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	0	5	3	0	6	1	368	1	0	683	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	1	1	0	2	0	92	0	0	171	0
Total Analysis Volume [veh/h]	11	0	5	3	0	6	1	368	1	0	683	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.02	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	13.51	21.39	23.19	10.78	21.31	23.60	0.00	0.00	8.92	0.00	0.00	8.00
Movement LOS	B	C	C	B	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.15	0.15	0.15	0.11	0.11	0.11	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	3.83	3.83	3.83	2.68	2.68	2.68	0.08	0.08	0.08	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	16.54			19.32			0.02			0.00		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	0.42											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 600: Shamrock Road at Beach Bay Road

Control Type:	Two-way stop	Delay (sec / veh):	42.2
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.159

Intersection Setup

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	7	16	184	192	47	676
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	16	184	192	47	676
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	4	51	53	13	186
Total Analysis Volume [veh/h]	8	18	202	211	52	743
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.16	0.00	0.25	0.00	0.01
d_M, Delay for Movement [s/veh]	19.24	42.22	0.00	10.76	0.00	0.00
Movement LOS	C	E	A	B	A	A
95th-Percentile Queue Length [veh/ln]	0.63	0.63	1.00	1.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	15.71	15.71	25.02	25.02	0.00	0.00
d_A, Approach Delay [s/veh]	35.15		5.50		0.00	
Approach LOS	E		A		A	
d_I, Intersection Delay [s/veh]	2.58					
Intersection LOS	E					

Intersection Level Of Service Report
Intersection 700: Shamrock Road at Northward Road

Control Type:	Two-way stop	Delay (sec / veh):	18.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.025

Intersection Setup

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	13	7	9	200	681	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	7	9	200	681	22
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	2	2	52	176	6
Total Analysis Volume [veh/h]	13	7	9	206	702	23
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.03	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	9.62	18.18	0.00	0.00	0.00	7.68
Movement LOS	A	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.13	0.13	0.00	0.00	0.05	0.05
95th-Percentile Queue Length [ft/ln]	3.17	3.17	0.00	0.00	1.28	1.28
d_A, Approach Delay [s/veh]	12.62		0.00		0.24	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.45					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 800: Shamrock Road at Condor Road

Control Type:	Two-way stop	Delay (sec / veh):	16.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.400

Intersection Setup

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Base Volume Input [veh/h]	4	0	0	1	0	211	69	140	0	0	249	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	0	0	1	0	211	69	140	0	0	249	6
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	0	0	53	17	35	0	0	62	2
Total Analysis Volume [veh/h]	4	0	0	1	0	211	69	140	0	0	249	6
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.40	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.55	12.34	11.80	13.59	16.47	16.29	0.00	0.00	7.71	0.00	0.00	7.63
Movement LOS	A	B	B	B	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.02	1.91	1.91	1.91	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.38	0.38	0.38	47.83	47.83	47.83	0.00	0.00	0.00	0.33	0.33	0.33
d_A, Approach Delay [s/veh]	9.55			16.28			0.00			0.18		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	5.20											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 902: Bodden Town Road at Bodden Town Bypass

Control Type:	Two-way stop	Delay (sec / veh):	15.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.052

Intersection Setup

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	47	19	12	134	176	146
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	47	19	12	134	176	146
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	5	3	36	47	39
Total Analysis Volume [veh/h]	50	20	13	143	187	155
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.05	0.00	0.00	0.00	0.11
d_M, Delay for Movement [s/veh]	9.65	14.98	0.00	0.00	0.00	7.81
Movement LOS	A	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.36	0.36	0.00	0.00	0.36	0.36
95th-Percentile Queue Length [ft/ln]	8.96	8.96	0.00	0.00	9.05	9.05
d_A, Approach Delay [s/veh]	11.17		0.00		3.54	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	3.51					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1000: Bodden Town Road at Long Fellow Drive

Control Type:	Two-way stop	Delay (sec / veh):	11.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	0	4	0	107	273	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	4	0	107	273	0
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	0	29	75	0
Total Analysis Volume [veh/h]	0	4	0	118	300	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.87	11.09	0.00	0.00	0.00	7.43
Movement LOS	A	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.51	0.51	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.09		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.11					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1100: Frank Sound Road at Bodden Town Road

Control Type:	Two-way stop	Delay (sec / veh):	23.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.192

Intersection Setup

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Base Volume Input [veh/h]	315	50	40	60	218	234
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	315	50	40	60	218	234
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	85	13	11	16	59	63
Total Analysis Volume [veh/h]	339	54	43	65	234	252
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.35	0.19	0.00	0.00	0.00	0.16
d_M, Delay for Movement [s/veh]	14.31	23.45	0.00	0.00	0.00	7.77
Movement LOS	B	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	3.26	3.26	0.00	0.00	0.58	0.58
95th-Percentile Queue Length [ft/ln]	81.41	81.41	0.00	0.00	14.51	14.51
d_A, Approach Delay [s/veh]	15.56		0.00		4.03	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	8.18					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1200: Frank Sound Road at Clifton Hunter High School

Control Type:	Roundabout	Delay (sec / veh):	7.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd		Clifton Hunter HS Entrance	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		20.00		20.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Frank Sound Rd		Clifton Hunter HS Entrance	
Base Volume Input [veh/h]	133	255	421	187	228	95
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	133	255	421	187	228	95
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	64	105	47	57	24
Total Analysis Volume [veh/h]	133	255	421	187	228	95
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	187		95		255	
Exiting Flow Rate [veh/h]	516		483		320	
Demand Flow Rate [veh/h]	133	255	421	187	228	95
Adjusted Demand Flow Rate [veh/h]	133	255	421	187	228	95

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	388	608	323
Capacity of Entry and Bypass Lanes [veh/h]	1141	1253	1064
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1141	1253	1064
X, volume / capacity	0.34	0.49	0.30

Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	1.52	2.74	1.29
95th-Percentile Queue Length [ft]	38.06	68.42	32.25
Approach Delay [s/veh]	6.48	7.98	6.37
Approach LOS	A	A	A
Intersection Delay [s/veh]	7.14		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 1300: Frank Sound Road at North Side Road/Old Robin Road

Control Type:	Two-way stop	Delay (sec / veh):	10.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Base Volume Input [veh/h]	100	31	8	98	42	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	100	31	8	98	42	2
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	9	2	28	12	1
Total Analysis Volume [veh/h]	112	35	9	110	47	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.02	0.00	0.00	0.05	0.00
d_M, Delay for Movement [s/veh]	0.00	7.49	0.00	0.00	9.03	10.50
Movement LOS	A	A	A	A	A	B
95th-Percentile Queue Length [veh/ln]	0.07	0.07	0.00	0.00	0.17	0.17
95th-Percentile Queue Length [ft/ln]	1.81	1.81	0.00	0.00	4.17	4.17
d_A, Approach Delay [s/veh]	1.78		0.00		9.09	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.25					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1400: East-West Arterial at Agricola Drive Connector

Control Type:	Roundabout	Delay (sec / veh):	14.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			50.00			50.00			
Grade [%]	0.00			0.00			0.00			0.00			
Crosswalk	Yes			Yes			Yes			Yes			

Volumes

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Base Volume Input [veh/h]	363	19	6	36	55	45	4	622	71	4	933	20	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	363	19	6	36	55	45	4	622	71	4	933	20	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	91	5	2	9	14	11	1	156	18	1	233	5	0
Total Analysis Volume [veh/h]	363	19	6	36	55	45	4	622	71	4	933	20	0
Pedestrian Volume [ped/h]	0			0			0			0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1			1			
Circulating Flow Rate [veh/h]	998			699			45			171			
Exiting Flow Rate [veh/h]	130			43			1341			664			
Demand Flow Rate [veh/h]	363	19	6	36	55	45	4	622	71	4	933	20	0
Adjusted Demand Flow Rate [veh/h]	363	19	6	36	55	45	4	622	71	4	933	20	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1380.00
B (coefficient)	0.00085	0.00085	0.00091	0.00091	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	388	136	626	71	957
Capacity of Entry and Bypass Lanes [veh/h]	608	784	1364	1364	1160
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	608	784	1364	1364	1160
X, volume / capacity	0.64	0.17	0.46	0.05	0.83

Movement, Approach, & Intersection Results

Lane LOS	C	A	A	A	C
95th-Percentile Queue Length [veh]	4.54	0.62	2.48	0.16	10.14
95th-Percentile Queue Length [ft]	113.54	15.62	62.03	4.12	253.43
Approach Delay [s/veh]	18.96	6.42	6.74		19.90
Approach LOS	C	A	A		C
Intersection Delay [s/veh]	14.68				
Intersection LOS	B				

Intersection Level Of Service Report
Intersection 1501: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	9.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name							East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name							East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	13	0	7	0	0	0	0	658	6	0	4	941	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	0	7	0	0	0	0	658	6	0	4	941	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	3	0	2	0	0	0	0	165	2	0	1	235	0	0
Total Analysis Volume [veh/h]	13	0	7	0	0	0	0	658	6	0	4	941	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1				
Circulating Flow Rate [veh/h]	941			671			7				6				
Exiting Flow Rate [veh/h]	10			0			954				665				
Demand Flow Rate [veh/h]	13	0	7	0	0	0	0	658	6	0	4	941	0	0	
Adjusted Demand Flow Rate [veh/h]	13	0	7	0	0	0	0	658	6	0	4	941	0	0	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	20	0	664	945
Capacity of Entry and Bypass Lanes [veh/h]	529	697	1371	1372
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	529	697	1371	1372
X, volume / capacity	0.04	0.00	0.48	0.69

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	B
95th-Percentile Queue Length [veh]	0.12	0.00	2.74	5.98
95th-Percentile Queue Length [ft]	2.94	0.00	68.40	149.40
Approach Delay [s/veh]	7.27	5.17	7.50	11.66
Approach LOS	A	A	A	B
Intersection Delay [s/veh]	9.91			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1502: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	8.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name			East-West Arterial			East-West Arterial		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	Thru	Right	U-turn	Left	Thru	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00			50.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	Yes		Yes			Yes		

Volumes

Name			East-West Arterial			East-West Arterial		
Base Volume Input [veh/h]	162	4	663	2	0	1	783	9
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	162	4	663	2	0	1	783	9
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	1	166	1	0	0	196	2
Total Analysis Volume [veh/h]	162	4	663	2	0	1	783	9
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1		1			1		
Circulating Flow Rate [veh/h]	792		13			2		
Exiting Flow Rate [veh/h]	3		945			676		
Demand Flow Rate [veh/h]	162	4	663	2	0	1	783	9
Adjusted Demand Flow Rate [veh/h]	162	4	663	2	0	1	783	9

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	166	665	793
Capacity of Entry and Bypass Lanes [veh/h]	616	1362	1378
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	616	1362	1378
X, volume / capacity	0.27	0.49	0.58

Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	1.09	2.77	3.87
95th-Percentile Queue Length [ft]	27.19	69.37	96.69
Approach Delay [s/veh]	9.35	7.58	8.98
Approach LOS	A	A	A
Intersection Delay [s/veh]	8.44		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 1600: East-West Arterial at Northward Rd

Control Type:	Two-way stop	Delay (sec / veh):	15.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.166

Intersection Setup

Name	Northward Rd		East-West Arterial		East-West Arterial	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		East-West Arterial		East-West Arterial	
Base Volume Input [veh/h]	71	0	676	0	6	722
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	71	0	676	0	6	722
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	0	169	0	2	181
Total Analysis Volume [veh/h]	71	0	676	0	6	722
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.17	0.00	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	15.06	0.00	0.00	0.00	0.00	0.00
Movement LOS	C		A		A	A
95th-Percentile Queue Length [veh/ln]	0.59	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	14.70	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	15.06		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.73					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1700: East-West Arterial at Lookout Rd

Control Type:	Roundabout	Delay (sec / veh):	8.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Lookout Rd			Lookout Rd			East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Lookout Rd			Lookout Rd			East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	68	0	4	0	0	0	0	611	23	42	5	677	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	68	0	4	0	0	0	0	611	23	42	5	677	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	17	0	1	0	0	0	0	153	6	11	1	169	0	0
Total Analysis Volume [veh/h]	68	0	4	0	0	0	0	611	23	42	5	677	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1				
Circulating Flow Rate [veh/h]	719			680			4				65				
Exiting Flow Rate [veh/h]	28			0			787				615				
Demand Flow Rate [veh/h]	68	0	4	0	0	0	0	611	23	42	5	677	0	0	
Adjusted Demand Flow Rate [veh/h]	68	0	4	0	0	0	0	611	23	42	5	677	0	0	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	72	0	676	682
Capacity of Entry and Bypass Lanes [veh/h]	663	690	1375	1292
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	663	690	1375	1292
X, volume / capacity	0.11	0.00	0.49	0.53

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.36	0.00	2.81	3.22
95th-Percentile Queue Length [ft]	9.10	0.00	70.33	80.52
Approach Delay [s/veh]	6.64	5.22	7.59	8.50
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	7.98			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1800: East-West Arterial at Longfellow Rd

Control Type:	Roundabout	Delay (sec / veh):	6.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Longfellow Rd			Longfellow Rd			East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Longfellow Rd			Longfellow Rd			East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	10	0	0	0	0	0	0	614	0	0	0	611	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	0	0	0	0	0	0	614	0	0	0	611	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	3	0	0	0	0	0	0	154	0	0	0	153	0	0
Total Analysis Volume [veh/h]	10	0	0	0	0	0	0	614	0	0	0	611	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1			
Circulating Flow Rate [veh/h]	611			614			0				0			
Exiting Flow Rate [veh/h]	0			0			621				614			
Demand Flow Rate [veh/h]	10	0	0	0	0	0	0	614	0	0	0	611	0	0
Adjusted Demand Flow Rate [veh/h]	10	0	0	0	0	0	0	614	0	0	0	611	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	10	0	614	611
Capacity of Entry and Bypass Lanes [veh/h]	740	738	1380	1380
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	740	738	1380	1380
X, volume / capacity	0.01	0.00	0.44	0.44

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.04	0.00	2.35	2.33
95th-Percentile Queue Length [ft]	1.03	0.00	58.68	58.18
Approach Delay [s/veh]	5.00	4.88	6.91	6.88
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	6.88			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1900: East West Arterial

Control Type:	Roundabout	Delay (sec / veh):	6.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name							East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name							East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	48	0	5	0	0	12	1	591	22	0	0	550	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	48	0	5	0	0	12	1	591	22	0	0	550	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	12	0	1	0	0	3	0	148	6	0	0	138	0	0
Total Analysis Volume [veh/h]	48	0	5	0	0	12	1	591	22	0	0	550	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1			
Circulating Flow Rate [veh/h]	562			618			5				34			
Exiting Flow Rate [veh/h]	22			1			610				596			
Demand Flow Rate [veh/h]	48	0	5	0	0	12	1	591	22	0	0	550	0	0
Adjusted Demand Flow Rate [veh/h]	48	0	5	0	0	12	1	591	22	0	0	550	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	53	12	614	550
Capacity of Entry and Bypass Lanes [veh/h]	778	735	1373	1333
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	778	735	1373	1333
X, volume / capacity	0.07	0.02	0.45	0.41

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.22	0.05	2.37	2.06
95th-Percentile Queue Length [ft]	5.47	1.24	59.20	51.60
Approach Delay [s/veh]	5.31	5.06	6.96	6.65
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	6.73			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 2000: Frank Sound Road at East-West Arterial

Control Type:	Unknown	Delay (sec / veh):	?
Analysis Method:	?	Level Of Service:	?
Analysis Period:	15 minutes	Volume to Capacity (v/c):	?

Intersection Setup

Name	Frank Sound Rd	Frank Sound Rd
Approach	Northeastbound	Southwestbound
Lane Configuration		
Turning Movement	Thru	Thru
Crosswalk	Yes	Yes

Volumes

Name	Frank Sound Rd	Frank Sound Rd
Base Volume Input [veh/h]	138	167
Base Volume Adjustment Factor	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00
Growth Factor	1.0000	1.0000
In-Process Volume [veh/h]	0	0
Site-Generated Trips [veh/h]	0	0
Diverted Trips [veh/h]	0	0
Pass-by Trips [veh/h]	0	0
Existing Site Adjustment Volume [veh/h]	0	0
Other Volume [veh/h]	0	0
Left-Turn on Red Volume [veh/h]	0	0
Total Hourly Volume [veh/h]	138	167
Peak Hour Factor	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	42
Total Analysis Volume [veh/h]	138	167
Presence of On-Street Parking	No	No
On-Street Parking Maneuver Rate [/h]	0	0
Local Bus Stopping Rate [/h]	0	0
Pedestrian Volume [ped/h]	0	0

Intersection Level Of Service Report
Intersection 2100: Frank Sound Road at East-West Arterial

Control Type:	Roundabout	Delay (sec / veh):	7.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd		East-West Arterial		
Approach	Northbound		Southbound		Eastbound		
Lane Configuration							
Turning Movement	Left	Thru	Thru	Right	Left	Right	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		20.00		50.00		
Grade [%]	0.00		0.00		0.00		
Crosswalk	Yes		Yes		Yes		

Volumes

Name	Frank Sound Rd		Frank Sound Rd		East-West Arterial		
Base Volume Input [veh/h]	407	76	83	143	75	525	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	407	76	83	143	75	525	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	102	19	21	36	19	131	0
Total Analysis Volume [veh/h]	407	76	83	143	75	525	0
Pedestrian Volume [ped/h]	0		0		0		

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1		
Circulating Flow Rate [veh/h]	143		525		76		
Exiting Flow Rate [veh/h]	608		151		550		
Demand Flow Rate [veh/h]	407	76	83	143	75	525	0
Adjusted Demand Flow Rate [veh/h]	407	76	83	143	75	525	0

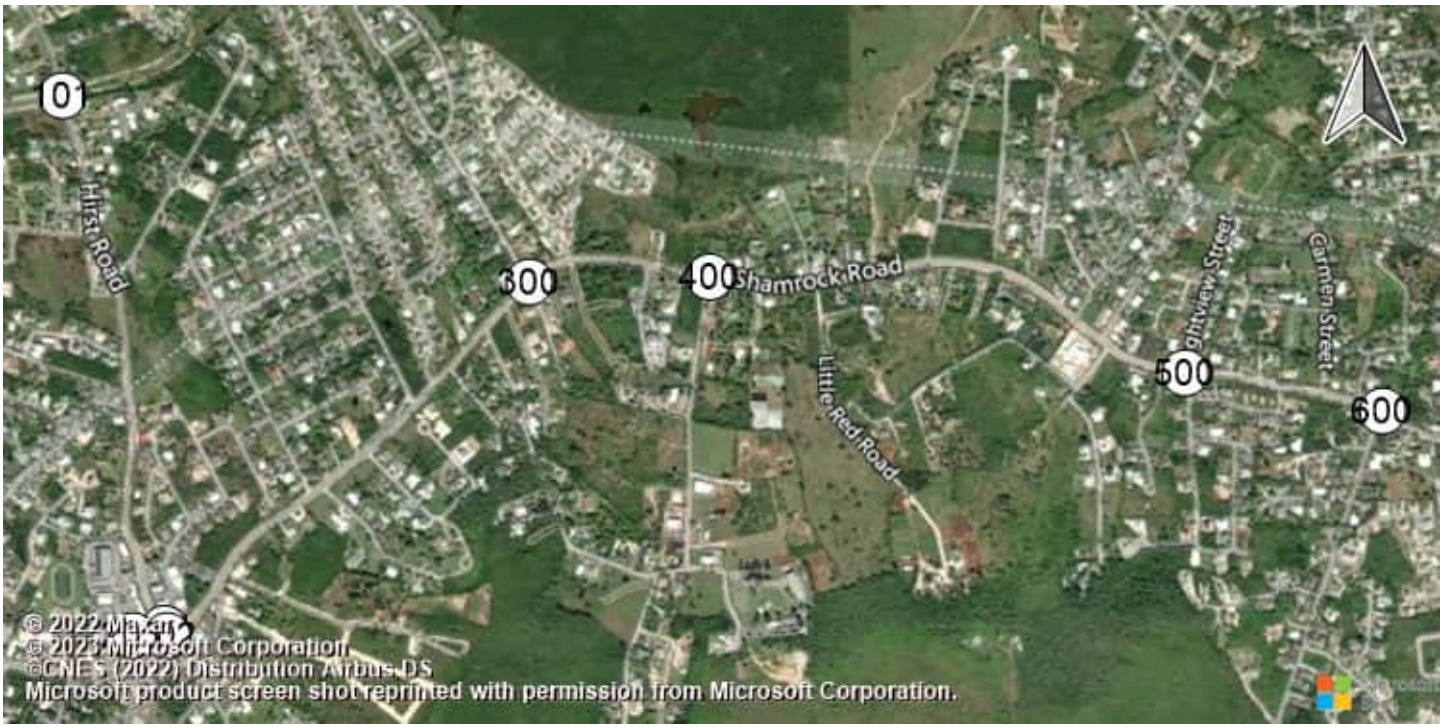
Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	483	226	600
Capacity of Entry and Bypass Lanes [veh/h]	1193	808	1278
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1193	808	1278
X, volume / capacity	0.40	0.28	0.47

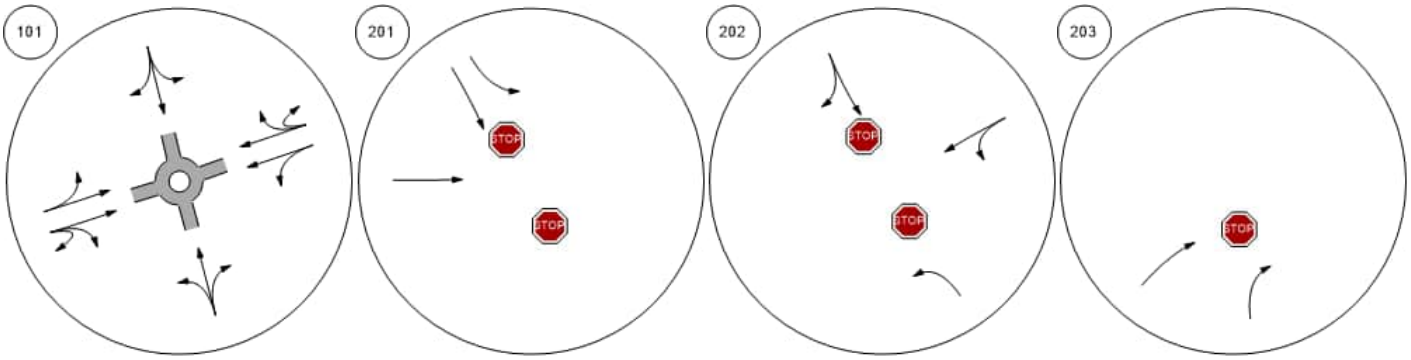
Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	2.00	1.15	2.58
95th-Percentile Queue Length [ft]	49.92	28.68	64.50
Approach Delay [s/veh]	7.08	7.58	7.64
Approach LOS	A	A	A
Intersection Delay [s/veh]	7.42		
Intersection LOS	A		

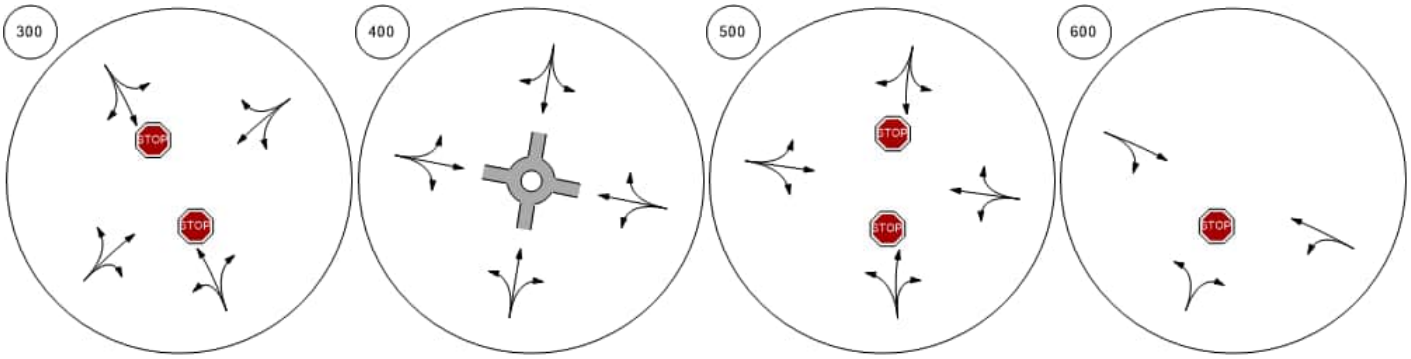
Lane Configuration and Traffic Control



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



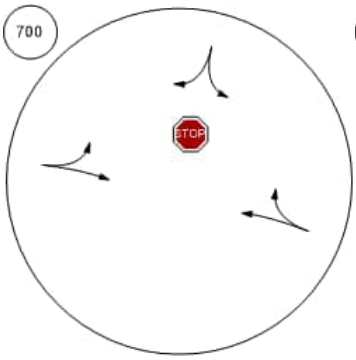
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



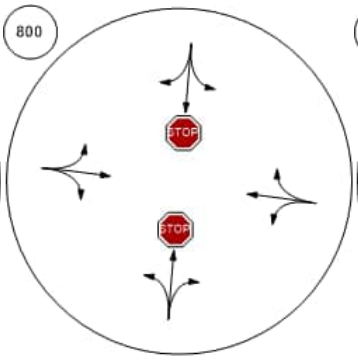
Lane Configuration and Traffic Control



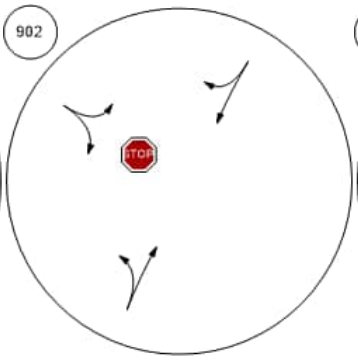
Shamrock Road at Northward



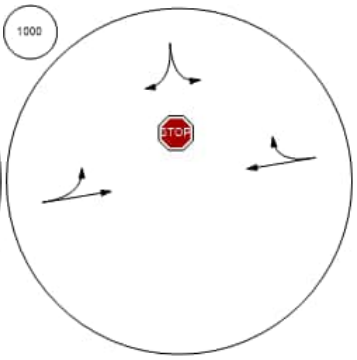
Shamrock Road at Condor R



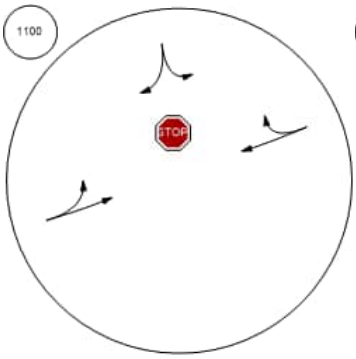
Bodden Town Road at Bodde



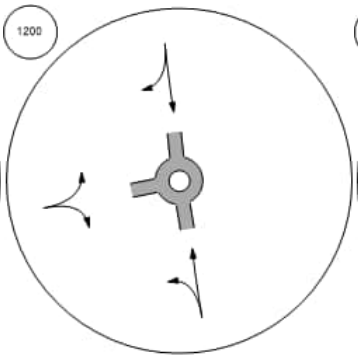
Bodden Town Road at Long



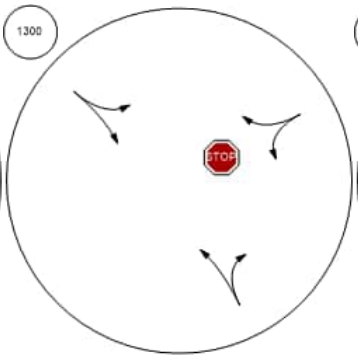
Frank Sound Road at Bodde



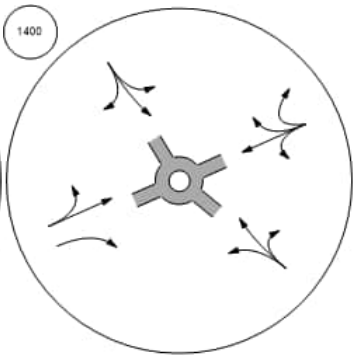
Frank Sound Road at Clifton



Frank Sound Road at North S



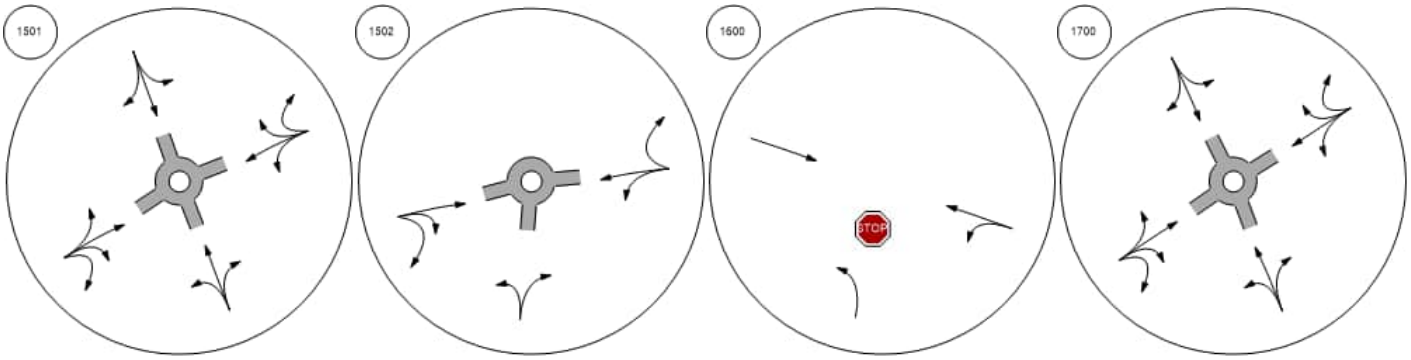
East-West Arterial at Agricola



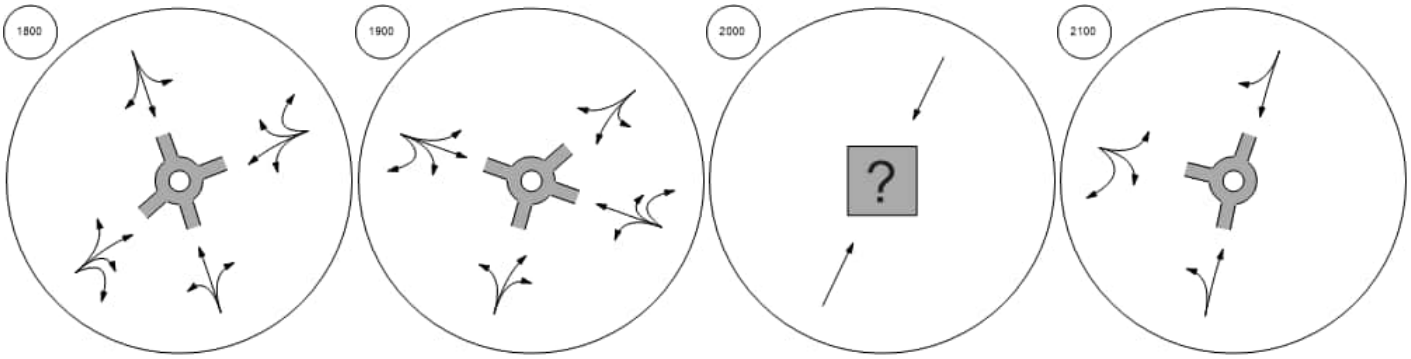
Lane Configuration and Traffic Control



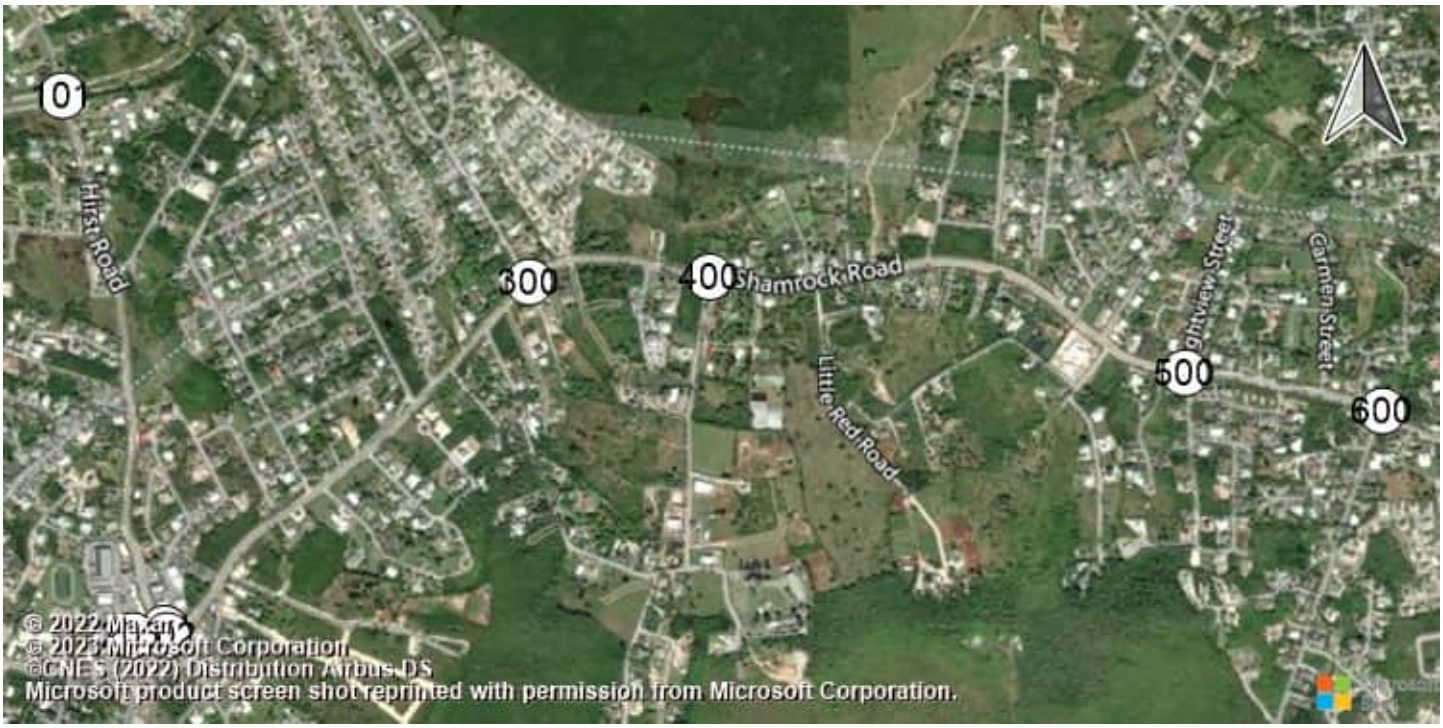
East-West Arterial at Will T C East-West Arterial at Will T C East-West Arterial at Northwa East-West Arterial at Lookout



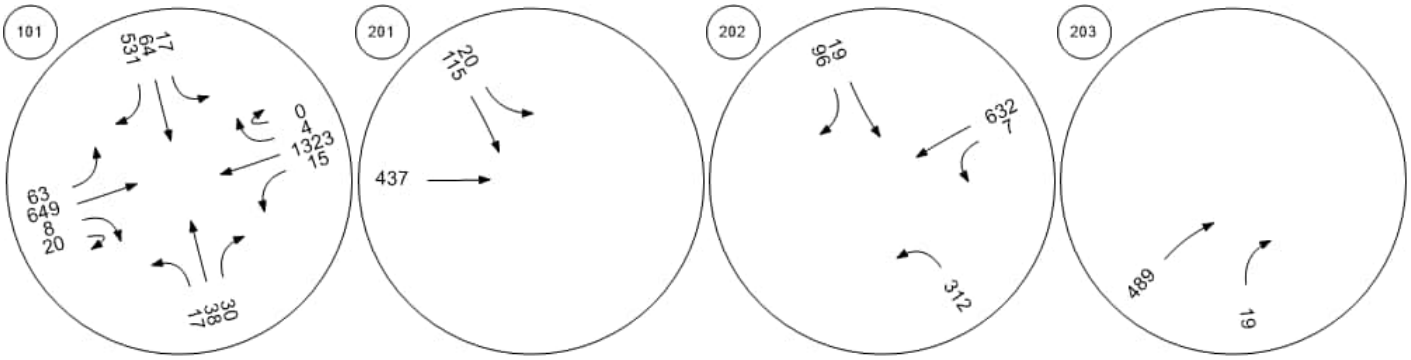
East-West Arterial at Longfell East West Arterial Frank Sound Road at East-W Frank Sound Road at East-W



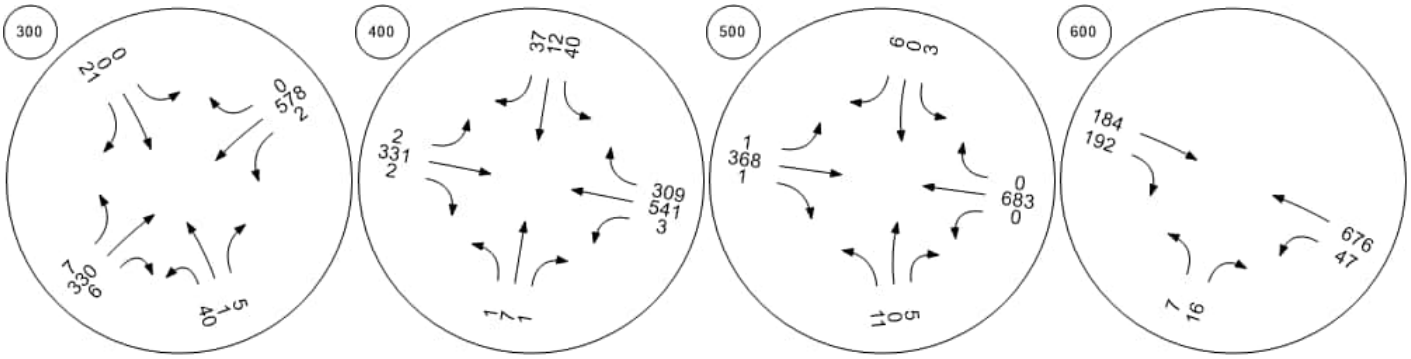
Traffic Volume - Base Volume



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



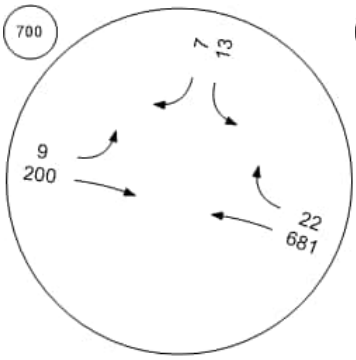
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



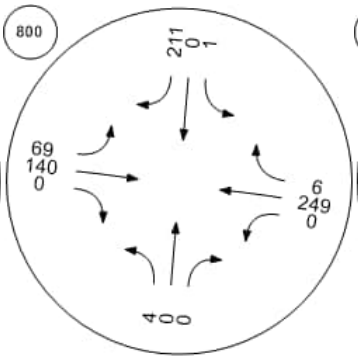
Traffic Volume - Base Volume



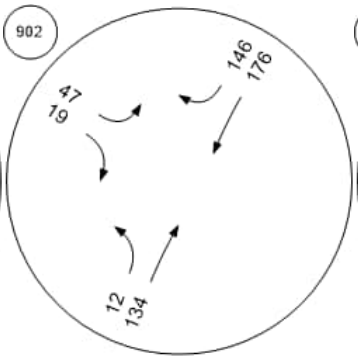
Shamrock Road at Northward



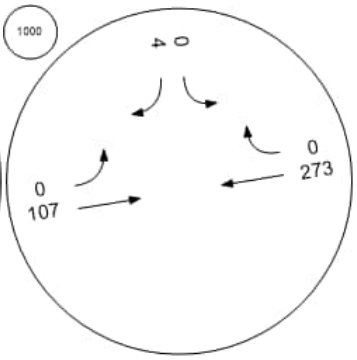
Shamrock Road at Condor R



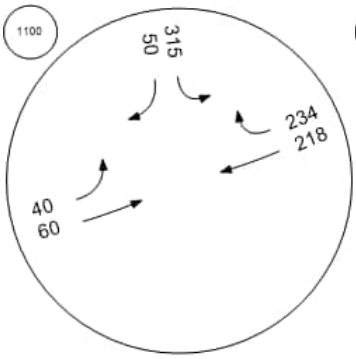
Bodden Town Road at Bodde



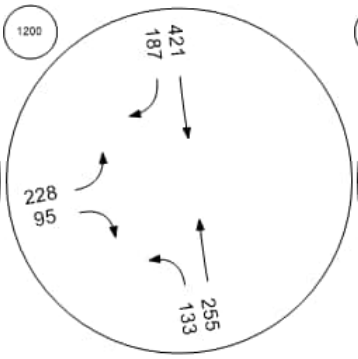
Bodden Town Road at Long



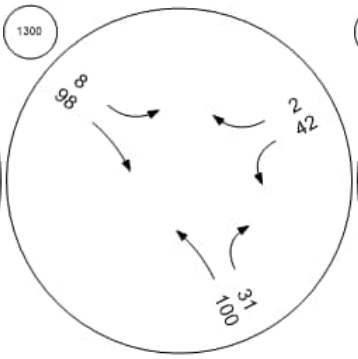
Frank Sound Road at Bodde



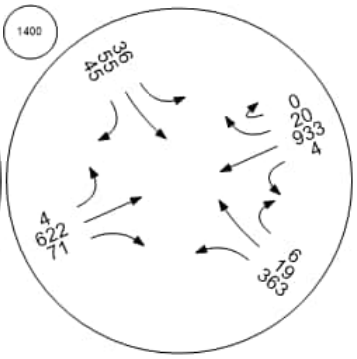
Frank Sound Road at Clifton



Frank Sound Road at North S



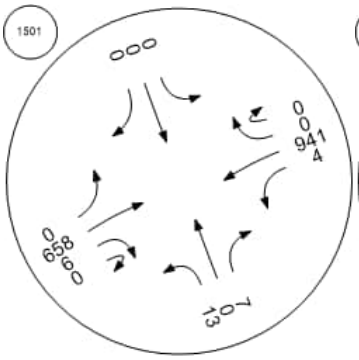
East-West Arterial at Agricola



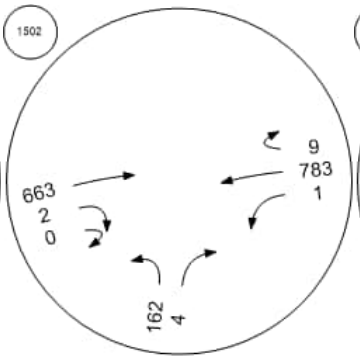
Traffic Volume - Base Volume



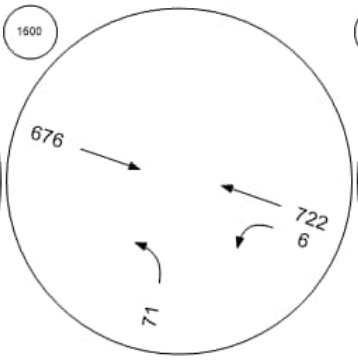
East-West Arterial at Will T C



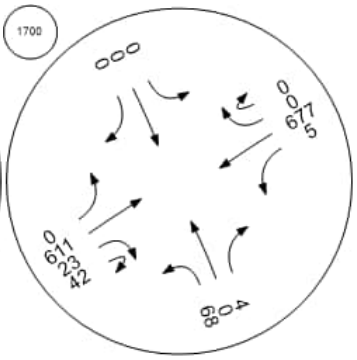
East-West Arterial at Will T C



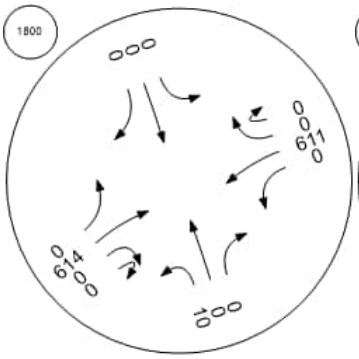
East-West Arterial at Northwa



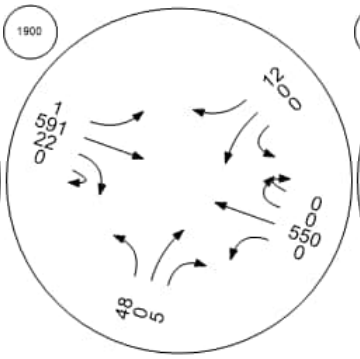
East-West Arterial at Lookout



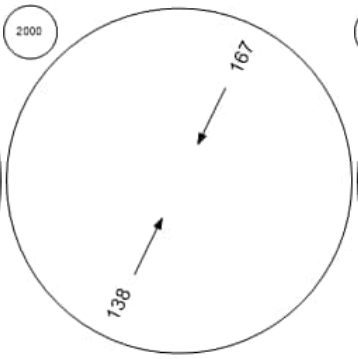
East-West Arterial at Longfell



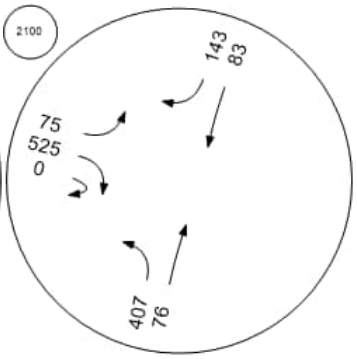
East West Arterial



Frank Sound Road at East-W



Frank Sound Road at East-W



Intersection Level Of Service Report
Intersection 101: East-West Arterial Road at Hirst Road

Control Type:	Roundabout	Delay (sec / veh):	14.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name									East-West Arterial				East-West Arterial				
Approach	Northbound				Southbound				Eastbound				Westbound				
Lane Configuration																	
Turning Movement	Left	Left	Thru	Right	Left	Thru	Right	Right	Left	Thru	Right	U-tu	Left	Thr	Thr	Rig	U-t
Lane Width [ft]	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.	12.	12.	12.	12.
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100	100	100	100	100
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Speed [mph]	30.00				30.00				40.00				50.00				
Grade [%]	0.00				0.00				0.00				0.00				
Crosswalk	Yes				Yes				Yes				Yes				

Volumes

Name									East-West Arterial				East-West Arterial				
Base Volume Input [veh/h]	39	0	125	26	21	62	0	150	362	1432	56	4	49	587	0	12	0
Base Volume Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	39	0	125	26	21	62	0	150	362	1432	56	4	49	587	0	12	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Other Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Total 15-Minute Volume [veh/h]	10	0	31	7	5	16	0	38	91	358	14	1	12	147	0	3	0
Total Analysis Volume [veh/h]	39	0	125	26	21	62	0	150	362	1432	56	4	49	587	0	12	0
Pedestrian Volume [ped/h]	0				0				0				0				

Intersection Settings

Number of Conflicting Circulating Lanes	2				2				2				2			
Circulating Flow Rate [veh/h]	753				1518				163				272			
Exiting Flow Rate [veh/h]	167				499				780				1479			
Demand Flow Rate [veh/h]	39	0	125	26	21	62	0	150	362	1432	56	4	49	587	0	12	0
Adjusted Demand Flow Rate [veh/h]	39	0	125	26	21	62	0	150	362	1432	56	4	49	587	0	12	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1350.00	1420.00	1350.00
B (coefficient)	0.00085	0.00085	0.00085	0.00092	0.00085	0.00092
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	190	233	983	872	344	305
Capacity of Entry and Bypass Lanes [veh/h]	749	391	1237	1163	1127	1052
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	749	391	1237	1163	1127	1052
X, volume / capacity	0.25	0.60	0.79	0.75	0.30	0.29

Movement, Approach, & Intersection Results

Lane LOS	A	C	C	C	A	A
95th-Percentile Queue Length [veh]	1.01	3.73	9.04	7.46	1.30	1.21
95th-Percentile Queue Length [ft]	25.14	93.16	226.06	186.55	32.45	30.20
Approach Delay [s/veh]	7.70	24.91	16.31		6.18	
Approach LOS	A	C	C		A	
Intersection Delay [s/veh]	14.19					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 201: Shamrock Road at Hirst Rd (1)

Control Type:	Two-way stop	Delay (sec / veh):	20.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.499

Intersection Setup

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	0	0	0	13	209	0	0	503	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	13	209	0	0	503	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	3	56	0	0	135	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	14	225	0	0	541	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.03	0.50	0.00	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	11.78	20.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS				B	C			A				
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.08	2.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	1.98	68.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			20.16			0.00			0.00		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	6.18											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 202: Shamrock Road at Hirst Rd (2)

Control Type:	Two-way stop	Delay (sec / veh):	30.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.554

Intersection Setup

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	237	0	0	0	34	175	0	0	0	13	371	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	237	0	0	0	34	175	0	0	0	13	371	0
Peak Hour Factor	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	64	0	0	0	9	47	0	0	0	3	100	0
Total Analysis Volume [veh/h]	255	0	0	0	37	188	0	0	0	14	399	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.39	0.00	0.00	0.00	0.07	0.55	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	14.08	0.00	0.00	0.00	26.91	30.76	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	B				D	D				A	A	
95th-Percentile Queue Length [veh/ln]	1.87	0.00	0.00	0.00	4.02	4.02	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	46.73	0.00	0.00	0.00	100.40	100.40	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	14.08			30.13			0.00			0.00		
Approach LOS	B			D			A			A		
d_I, Intersection Delay [s/veh]	11.61											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 203: Shamrock Road atHirst Road Jughandle

Control Type:	Two-way stop	Delay (sec / veh):	14.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.078

Intersection Setup

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	0	29	673	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	29	673	0	0	0
Peak Hour Factor	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	8	181	0	0	0
Total Analysis Volume [veh/h]	0	31	724	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.08	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	14.87	0.00	0.00	0.00	0.00
Movement LOS		B	A			
95th-Percentile Queue Length [veh/ln]	0.00	0.25	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	6.34	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	14.87		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.61					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 300: Shamrock Road at Woodland Drive

Control Type:	Two-way stop	Delay (sec / veh):	19.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.173

Intersection Setup

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	12	1	3	11	1	49	10	319	29	5	401	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	1	3	11	1	49	10	319	29	5	401	0
Peak Hour Factor	0.9700	0.9700	1.0000	1.0000	0.9700	0.9700	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	1	3	0	13	3	80	7	1	100	0
Total Analysis Volume [veh/h]	12	1	3	11	1	51	10	319	30	5	401	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.01	0.02	0.00	0.17	0.00	0.00	0.03	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	10.76	16.72	17.40	12.56	19.02	19.79	0.00	0.00	8.18	0.00	0.00	7.90
Movement LOS	B	C	C	B	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.10	0.10	0.10	0.70	0.70	0.70	0.08	0.08	0.08	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	2.46	2.46	2.46	17.40	17.40	17.40	1.98	1.98	1.98	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.38			18.52			0.68			0.00		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	1.91											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 400: Shamrock Road at Agricola Drive

Control Type:	Roundabout	Delay (sec / veh):	6.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	1	0	0	334	18	4	4	326	3	9	401	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	0	334	18	4	4	326	3	9	401	49
Peak Hour Factor	1.0000	1.0000	0.9200	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9200	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	84	5	1	1	82	1	2	100	12
Total Analysis Volume [veh/h]	1	0	0	334	18	4	4	326	3	10	401	49
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1			
Circulating Flow Rate [veh/h]	454			329			49			25			
Exiting Flow Rate [veh/h]	31			53			406			660			
Demand Flow Rate [veh/h]	1	0	0	334	18	4	4	326	3	9	401	49	
Adjusted Demand Flow Rate [veh/h]	1	0	0	334	18	4	4	326	3	10	401	49	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	1	356	333	460
Capacity of Entry and Bypass Lanes [veh/h]	869	987	1313	1346
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	869	987	1313	1346
X, volume / capacity	0.00	0.36	0.25	0.34

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	1.66	1.01	1.54
95th-Percentile Queue Length [ft]	0.09	41.47	25.28	38.44
Approach Delay [s/veh]	4.16	7.50	4.94	5.77
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	6.06			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 500: Shamrock Road at Brightview Drive / Calla Lily Drive

Control Type:	Two-way stop	Delay (sec / veh):	23.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			20.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	2	0	0	0	0	1	12	570	21	53	354	26
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	0	0	0	0	1	12	570	21	53	354	26
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	0	0	0	3	143	5	13	89	7
Total Analysis Volume [veh/h]	2	0	0	0	0	1	12	570	21	53	354	26
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.02	0.00	0.00	0.03
d_M, Delay for Movement [s/veh]	10.38	21.88	23.26	12.01	22.43	23.42	0.00	0.00	8.15	0.00	0.00	8.69
Movement LOS	B	C	C	B	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.02	0.02	0.02	0.06	0.06	0.06	0.08	0.08	0.08
95th-Percentile Queue Length [ft/ln]	0.22	0.22	0.22	0.38	0.38	0.38	1.38	1.38	1.38	2.00	2.00	2.00
d_A, Approach Delay [s/veh]	10.38			23.42			0.28			0.52		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	0.42											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 600: Shamrock Road at Beach Bay Road

Control Type:	Two-way stop	Delay (sec / veh):	32.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.299

Intersection Setup

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	22	49	476	94	24	411
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	22	49	476	94	24	411
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	13	131	26	7	113
Total Analysis Volume [veh/h]	24	54	523	103	26	452
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.30	0.01	0.09	0.00	0.00
d_M, Delay for Movement [s/veh]	18.80	32.76	0.00	8.63	0.00	0.00
Movement LOS	C	D	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.43	1.43	0.31	0.31	0.00	0.00
95th-Percentile Queue Length [ft/ln]	35.78	35.78	7.77	7.77	0.00	0.00
d_A, Approach Delay [s/veh]	28.47		1.42		0.00	
Approach LOS	D		A		A	
d_I, Intersection Delay [s/veh]	2.63					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 700: Shamrock Road at Northward Road

Control Type:	Two-way stop	Delay (sec / veh):	19.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.103

Intersection Setup

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	26	29	14	422	443	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	26	29	14	422	443	17
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	7	4	109	114	4
Total Analysis Volume [veh/h]	27	30	14	435	457	18
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.10	0.00	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	12.40	18.97	0.00	0.00	0.00	8.26
Movement LOS	B	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.51	0.51	0.00	0.00	0.05	0.05
95th-Percentile Queue Length [ft/ln]	12.74	12.74	0.00	0.00	1.22	1.22
d_A, Approach Delay [s/veh]	15.86		0.00		0.31	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	1.07					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 800: Shamrock Road at Condor Road

Control Type:	Two-way stop	Delay (sec / veh):	15.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.194

Intersection Setup

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Base Volume Input [veh/h]	1	0	0	4	0	86	91	225	2	0	250	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	0	4	0	86	91	225	2	0	250	13
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	1	0	22	23	56	1	0	63	3
Total Analysis Volume [veh/h]	1	0	0	4	0	86	91	225	2	0	250	13
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	9.54	13.71	13.19	11.63	15.17	15.10	0.00	0.00	7.72	0.00	0.00	7.90
Movement LOS	A	B	B	B	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.74	0.74	0.74	0.00	0.00	0.00	0.03	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.09	0.09	0.09	18.38	18.38	18.38	0.11	0.11	0.11	0.78	0.78	0.78
d_A, Approach Delay [s/veh]	9.54			14.95			0.05			0.39		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	2.19											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 902: Bodden Town Road at Bodden Town Bypass

Control Type:	Two-way stop	Delay (sec / veh):	15.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.122

Intersection Setup

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	45	44	29	183	185	118
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	45	44	29	183	185	118
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	12	8	49	49	31
Total Analysis Volume [veh/h]	48	47	31	195	197	126
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.12	0.00	0.00	0.00	0.09
d_M, Delay for Movement [s/veh]	10.79	15.79	0.00	0.00	0.00	7.93
Movement LOS	B	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.65	0.65	0.00	0.00	0.31	0.31
95th-Percentile Queue Length [ft/ln]	16.18	16.18	0.00	0.00	7.68	7.68
d_A, Approach Delay [s/veh]	13.27		0.00		3.09	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	3.51					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1000: Bodden Town Road at Long Fellow Drive

Control Type:	Two-way stop	Delay (sec / veh):	11.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	0	4	4	130	274	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	4	4	130	274	0
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	1	36	75	0
Total Analysis Volume [veh/h]	0	4	4	143	301	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.01	11.32	0.00	0.00	0.00	7.49
Movement LOS	A	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.53	0.53	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.32		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.10					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1100: Frank Sound Road at Bodden Town Road

Control Type:	Two-way stop	Delay (sec / veh):	29.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.247

Intersection Setup

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Base Volume Input [veh/h]	421	62	55	61	201	247
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	421	62	55	61	201	247
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	113	17	15	16	54	66
Total Analysis Volume [veh/h]	453	67	59	66	216	266
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.47	0.25	0.00	0.00	0.00	0.17
d_M, Delay for Movement [s/veh]	20.20	29.77	0.00	0.00	0.00	7.81
Movement LOS	C	D	A	A	A	A
95th-Percentile Queue Length [veh/ln]	6.12	6.12	0.00	0.00	0.62	0.62
95th-Percentile Queue Length [ft/ln]	152.88	152.88	0.00	0.00	15.49	15.49
d_A, Approach Delay [s/veh]	21.43		0.00		4.31	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	11.73					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 1200: Frank Sound Road at Clifton Hunter High School

Control Type:	Roundabout	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd		Clifton Hunter HS Entrance	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		20.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Frank Sound Rd		Clifton Hunter HS Entrance	
Base Volume Input [veh/h]	88	358	460	255	215	129
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	88	358	460	255	215	129
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	90	115	64	54	32
Total Analysis Volume [veh/h]	88	358	460	255	215	129
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	255		129		358	
Exiting Flow Rate [veh/h]	589		573		343	
Demand Flow Rate [veh/h]	88	358	460	255	215	129
Adjusted Demand Flow Rate [veh/h]	88	358	460	255	215	129

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	446	715	344
Capacity of Entry and Bypass Lanes [veh/h]	1064	1210	958
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1064	1210	958
X, volume / capacity	0.42	0.59	0.36

Movement, Approach, & Intersection Results

Lane LOS	A	B	A
95th-Percentile Queue Length [veh]	2.11	4.07	1.65
95th-Percentile Queue Length [ft]	52.69	101.68	41.15
Approach Delay [s/veh]	7.90	10.13	7.65
Approach LOS	A	B	A
Intersection Delay [s/veh]	8.90		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 1300: Frank Sound Road at North Side Road/Old Robin Road

Control Type:	Two-way stop	Delay (sec / veh):	12.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.045

Intersection Setup

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Base Volume Input [veh/h]	169	36	33	145	68	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	169	36	33	145	68	22
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	47	10	9	41	19	6
Total Analysis Volume [veh/h]	190	40	37	163	76	25
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.03	0.00	0.00	0.09	0.05
d_M, Delay for Movement [s/veh]	0.00	7.68	0.00	0.00	9.88	12.26
Movement LOS	A	A	A	A	A	B
95th-Percentile Queue Length [veh/ln]	0.09	0.09	0.00	0.00	0.46	0.46
95th-Percentile Queue Length [ft/ln]	2.23	2.23	0.00	0.00	11.45	11.45
d_A, Approach Delay [s/veh]	1.34		0.00		10.47	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	2.57					
Intersection LOS	B					

Intersection Level Of Service Report

Intersection 1400: East-West Arterial at Agricola Drive Connector

Control Type:	Roundabout	Delay (sec / veh):	15.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			50.00			50.00			
Grade [%]	0.00			0.00			0.00			0.00			
Crosswalk	Yes			Yes			Yes			Yes			

Volumes

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Base Volume Input [veh/h]	29	24	6	50	29	8	37	1056	387	7	611	49	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	29	24	6	50	29	8	37	1056	387	7	611	49	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	7	6	2	13	7	2	9	264	97	2	153	12	0
Total Analysis Volume [veh/h]	29	24	6	50	29	8	37	1056	387	7	611	49	0
Pedestrian Volume [ped/h]	0			0			0			0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1			1			
Circulating Flow Rate [veh/h]	668			1449			79			424			
Exiting Flow Rate [veh/h]	423			110			648			1112			
Demand Flow Rate [veh/h]	29	24	6	50	29	8	37	1056	387	7	611	49	0
Adjusted Demand Flow Rate [veh/h]	29	24	6	50	29	8	37	1056	387	7	611	49	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1380.00
B (coefficient)	0.00085	0.00085	0.00091	0.00091	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	59	87	1093	387	667
Capacity of Entry and Bypass Lanes [veh/h]	805	415	1322	1322	896
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	805	415	1322	1322	896
X, volume / capacity	0.07	0.21	0.83	0.29	0.74

Movement, Approach, & Intersection Results

Lane LOS	A	B	C	A	C
95th-Percentile Queue Length [veh]	0.24	0.78	10.49	1.23	7.03
95th-Percentile Queue Length [ft]	5.92	19.56	262.36	30.74	175.71
Approach Delay [s/veh]	5.19	12.03	14.85		18.48
Approach LOS	A	B	B		C
Intersection Delay [s/veh]	15.55				
Intersection LOS	C				

Intersection Level Of Service Report
Intersection 1501: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	13.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name							East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name							East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	0	0	5	0	0	0	0	1026	86	0	29	667	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	5	0	0	0	0	1026	86	0	29	667	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	0	0	1	0	0	0	0	257	22	0	7	167	0	0
Total Analysis Volume [veh/h]	0	0	5	0	0	0	0	1026	86	0	29	667	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1					
Circulating Flow Rate [veh/h]	667			1117			5				86					
Exiting Flow Rate [veh/h]	115			0			667				1031					
Demand Flow Rate [veh/h]	0	0	5	0	0	0	0	1026	86	0	29	667	0	0		
Adjusted Demand Flow Rate [veh/h]	0	0	5	0	0	0	0	1026	86	0	29	667	0	0		

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	5	0	1112	696
Capacity of Entry and Bypass Lanes [veh/h]	699	442	1373	1265
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	699	442	1373	1265
X, volume / capacity	0.01	0.00	0.81	0.55

Movement, Approach, & Intersection Results

Lane LOS	A	A	C	A
95th-Percentile Queue Length [veh]	0.02	0.00	9.82	3.50
95th-Percentile Queue Length [ft]	0.54	0.00	245.60	87.57
Approach Delay [s/veh]	5.22	8.15	16.67	9.03
Approach LOS	A	A	C	A
Intersection Delay [s/veh]	13.71			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1502: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	11.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name			East-West Arterial			East-West Arterial		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	Thru	Right	U-turn	Left	Thru	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00			50.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	Yes		Yes			Yes		

Volumes

Name			East-West Arterial			East-West Arterial		
Base Volume Input [veh/h]	15	1	1001	29	0	4	682	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	1	1001	29	0	4	682	18
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	0	250	7	0	1	171	5
Total Analysis Volume [veh/h]	15	1	1001	29	0	4	682	18
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1	
Circulating Flow Rate [veh/h]	700			19			29	
Exiting Flow Rate [veh/h]	33			697			1020	
Demand Flow Rate [veh/h]	15	1	1001	29	0	4	682	18
Adjusted Demand Flow Rate [veh/h]	15	1	1001	29	0	4	682	18

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	16	1030	704
Capacity of Entry and Bypass Lanes [veh/h]	676	1354	1340
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	676	1354	1340
X, volume / capacity	0.02	0.76	0.53

Movement, Approach, & Intersection Results

Lane LOS	A	B	A
95th-Percentile Queue Length [veh]	0.07	7.98	3.19
95th-Percentile Queue Length [ft]	1.82	199.44	79.84
Approach Delay [s/veh]	5.57	14.35	8.25
Approach LOS	A	B	A
Intersection Delay [s/veh]	11.82		
Intersection LOS	B		

Intersection Level Of Service Report
Intersection 1600: East-West Arterial at Northward Rd

Control Type:	Two-way stop	Delay (sec / veh):	13.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.053

Intersection Setup

Name	Northward Rd		East-West Arterial		East-West Arterial	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		East-West Arterial		East-West Arterial	
Base Volume Input [veh/h]	24	0	1020	0	11	680
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	24	0	1020	0	11	680
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	0	255	0	3	170
Total Analysis Volume [veh/h]	24	0	1020	0	11	680
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.00	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	13.43	0.00	0.00	0.00	0.00	0.00
Movement LOS	B		A		A	A
95th-Percentile Queue Length [veh/ln]	0.17	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	4.20	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.43		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.19					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1700: East-West Arterial at Lookout Rd

Control Type:	Roundabout	Delay (sec / veh):	12.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Lookout Rd			Lookout Rd			East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Lookout Rd			Lookout Rd			East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	17	0	10	0	0	0	0	816	97	107	17	627	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	17	0	10	0	0	0	0	816	97	107	17	627	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	4	0	3	0	0	0	0	204	24	27	4	157	0	0
Total Analysis Volume [veh/h]	17	0	10	0	0	0	0	816	97	107	17	627	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1				
Circulating Flow Rate [veh/h]	734			1030			10				204				
Exiting Flow Rate [veh/h]	114			0			751				826				
Demand Flow Rate [veh/h]	17	0	10	0	0	0	0	816	97	107	17	627	0	0	
Adjusted Demand Flow Rate [veh/h]	17	0	10	0	0	0	0	816	97	107	17	627	0	0	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	27	0	1020	644
Capacity of Entry and Bypass Lanes [veh/h]	653	483	1366	1121
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	653	483	1366	1121
X, volume / capacity	0.04	0.00	0.75	0.57

Movement, Approach, & Intersection Results

Lane LOS	A	A	B	B
95th-Percentile Queue Length [veh]	0.13	0.00	7.53	3.81
95th-Percentile Queue Length [ft]	3.23	0.00	188.31	95.22
Approach Delay [s/veh]	5.96	7.46	13.67	10.33
Approach LOS	A	A	B	B
Intersection Delay [s/veh]	12.28			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1800: East-West Arterial at Longfellow Rd

Control Type:	Roundabout	Delay (sec / veh):	8.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Longfellow Rd			Longfellow Rd			East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Longfellow Rd			Longfellow Rd			East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	8	0	0	0	0	0	0	806	20	0	0	597	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	0	0	0	0	0	0	806	20	0	0	597	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	2	0	0	0	0	0	0	202	5	0	0	149	0	0
Total Analysis Volume [veh/h]	8	0	0	0	0	0	0	806	20	0	0	597	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1				
Circulating Flow Rate [veh/h]	597			826			0				20				
Exiting Flow Rate [veh/h]	20			0			605				806				
Demand Flow Rate [veh/h]	8	0	0	0	0	0	0	806	20	0	0	597	0	0	
Adjusted Demand Flow Rate [veh/h]	8	0	0	0	0	0	0	806	20	0	0	597	0	0	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	8	0	826	597
Capacity of Entry and Bypass Lanes [veh/h]	751	595	1380	1353
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	751	595	1380	1353
X, volume / capacity	0.01	0.00	0.60	0.44

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.03	0.00	4.22	2.31
95th-Percentile Queue Length [ft]	0.81	0.00	105.41	57.87
Approach Delay [s/veh]	4.90	6.06	9.41	6.96
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	8.36			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1900: East West Arterial

Control Type:	Roundabout	Delay (sec / veh):	8.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name							East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name							East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	36	0	8	0	0	3	9	729	68	0	0	558	3	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	0	8	0	0	3	9	729	68	0	0	558	3	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	9	0	2	0	0	1	2	182	17	0	0	140	1	0
Total Analysis Volume [veh/h]	36	0	8	0	0	3	9	729	68	0	0	558	3	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1			
Circulating Flow Rate [veh/h]	564			805			11				71			
Exiting Flow Rate [veh/h]	68			12			597				737			
Demand Flow Rate [veh/h]	36	0	8	0	0	3	9	729	68	0	0	558	3	0
Adjusted Demand Flow Rate [veh/h]	36	0	8	0	0	3	9	729	68	0	0	558	3	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	44	3	806	561
Capacity of Entry and Bypass Lanes [veh/h]	777	608	1365	1284
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	777	608	1365	1284
X, volume / capacity	0.06	0.00	0.59	0.44

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.18	0.01	4.09	2.27
95th-Percentile Queue Length [ft]	4.50	0.37	102.23	56.80
Approach Delay [s/veh]	5.20	5.98	9.32	7.15
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	8.32			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 2000: Frank Sound Road at East-West Arterial

Control Type:	Unknown	Delay (sec / veh):	?
Analysis Method:	?	Level Of Service:	?
Analysis Period:	15 minutes	Volume to Capacity (v/c):	?

Intersection Setup

Name	Frank Sound Rd	Frank Sound Rd
Approach	Northeastbound	Southwestbound
Lane Configuration		
Turning Movement	Thru	Thru
Crosswalk	Yes	Yes

Volumes

Name	Frank Sound Rd	Frank Sound Rd
Base Volume Input [veh/h]	237	234
Base Volume Adjustment Factor	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00
Growth Factor	1.0000	1.0000
In-Process Volume [veh/h]	0	0
Site-Generated Trips [veh/h]	0	0
Diverted Trips [veh/h]	0	0
Pass-by Trips [veh/h]	0	0
Existing Site Adjustment Volume [veh/h]	0	0
Other Volume [veh/h]	0	0
Left-Turn on Red Volume [veh/h]	0	0
Total Hourly Volume [veh/h]	237	234
Peak Hour Factor	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000
Total 15-Minute Volume [veh/h]	59	59
Total Analysis Volume [veh/h]	237	234
Presence of On-Street Parking	No	No
On-Street Parking Maneuver Rate [/h]	0	0
Local Bus Stopping Rate [/h]	0	0
Pedestrian Volume [ped/h]	0	0

Intersection Level Of Service Report
Intersection 2100: Frank Sound Road at East-West Arterial

Control Type:	Roundabout	Delay (sec / veh):	9.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd		East-West Arterial		
Approach	Northbound		Southbound		Eastbound		
Lane Configuration							
Turning Movement	Left	Thru	Thru	Right	Left	Right	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		50.00		
Grade [%]	0.00		0.00		0.00		
Crosswalk	Yes		Yes		Yes		

Volumes

Name	Frank Sound Rd		Frank Sound Rd		East-West Arterial		
Base Volume Input [veh/h]	451	122	144	120	167	571	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	451	122	144	120	167	571	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	113	31	36	30	42	143	0
Total Analysis Volume [veh/h]	451	122	144	120	167	571	0
Pedestrian Volume [ped/h]	0		0		0		

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1		
Circulating Flow Rate [veh/h]	120		571		122		
Exiting Flow Rate [veh/h]	715		289		571		
Demand Flow Rate [veh/h]	451	122	144	120	167	571	0
Adjusted Demand Flow Rate [veh/h]	451	122	144	120	167	571	0

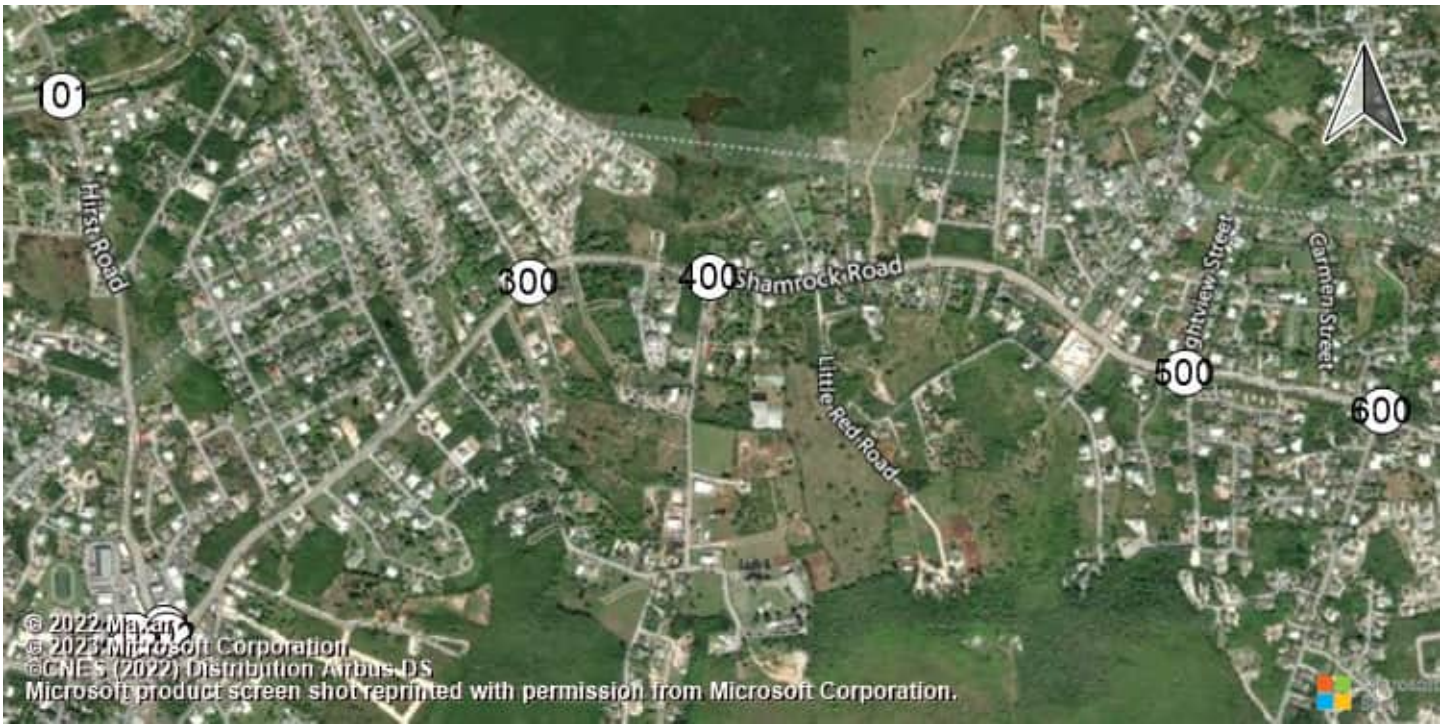
Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	573	264	738
Capacity of Entry and Bypass Lanes [veh/h]	1222	771	1219
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1222	771	1219
X, volume / capacity	0.47	0.34	0.61

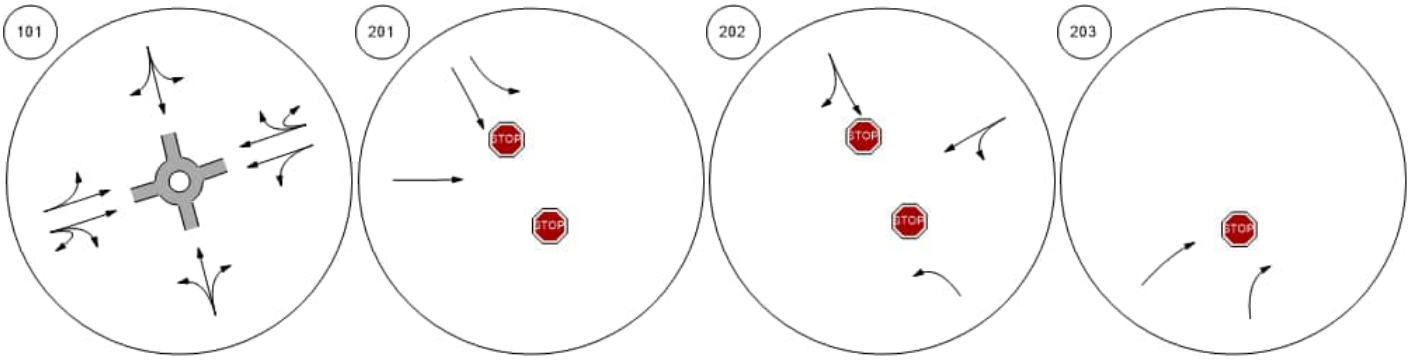
Movement, Approach, & Intersection Results

Lane LOS	A	A	B
95th-Percentile Queue Length [veh]	2.57	1.53	4.30
95th-Percentile Queue Length [ft]	64.28	38.15	107.49
Approach Delay [s/veh]	7.87	8.80	10.41
Approach LOS	A	A	B
Intersection Delay [s/veh]	9.22		
Intersection LOS	A		

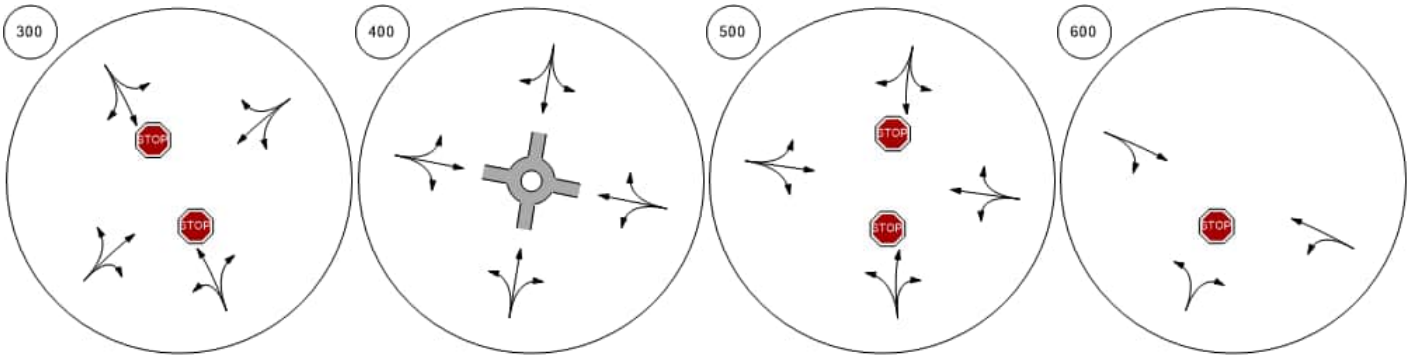
Lane Configuration and Traffic Control



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



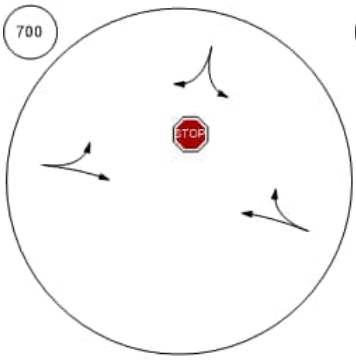
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



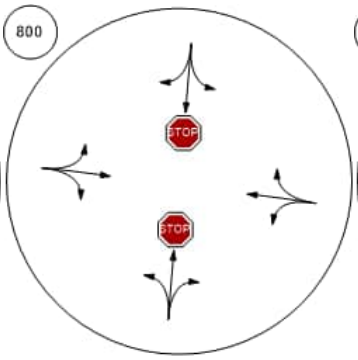
Lane Configuration and Traffic Control



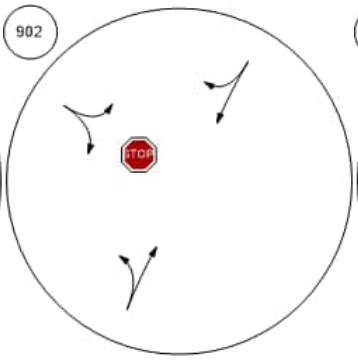
Shamrock Road at Northward



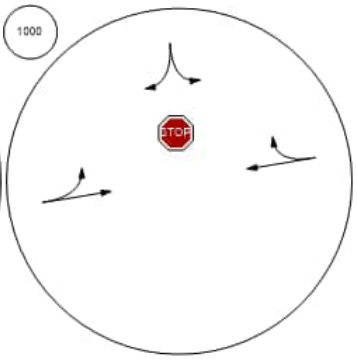
Shamrock Road at Condor R



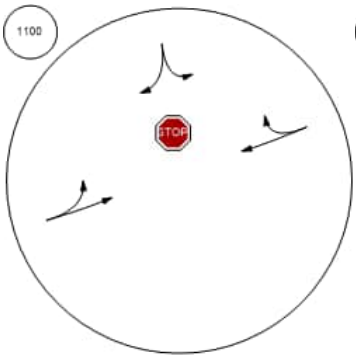
Bodden Town Road at Bodde



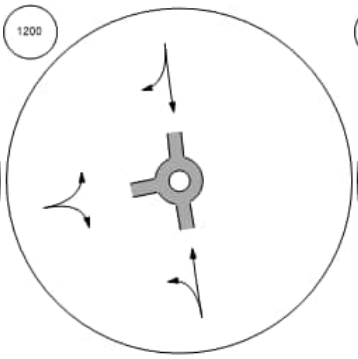
Bodden Town Road at Long



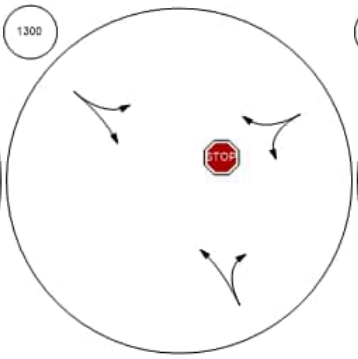
Frank Sound Road at Bodde



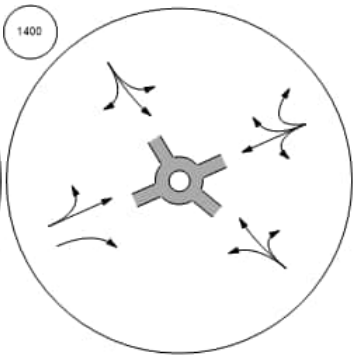
Frank Sound Road at Clifton



Frank Sound Road at North S



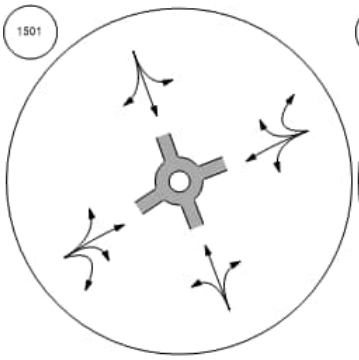
East-West Arterial at Agricola



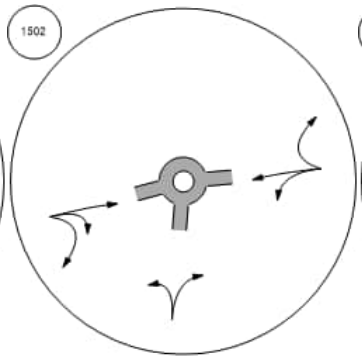
Lane Configuration and Traffic Control



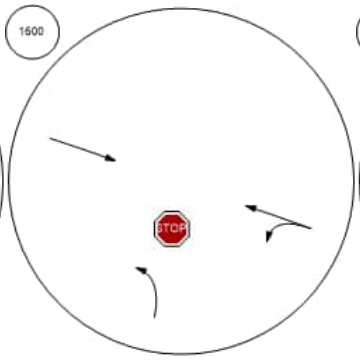
East-West Arterial at Will T C



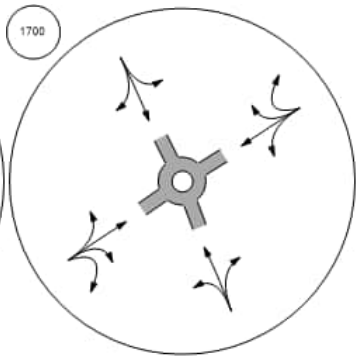
East-West Arterial at Will T C



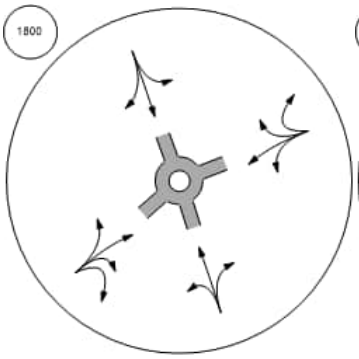
East-West Arterial at Northwa



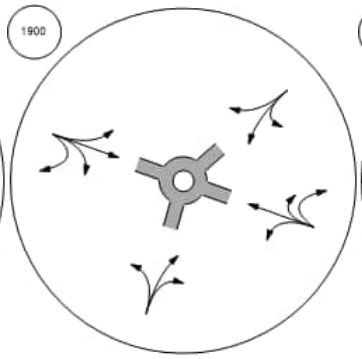
East-West Arterial at Lookout



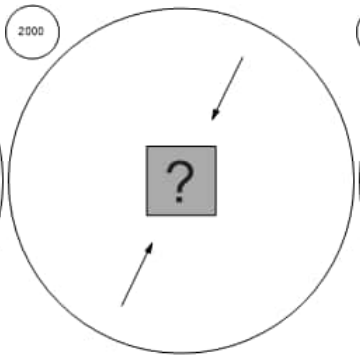
East-West Arterial at Longfell



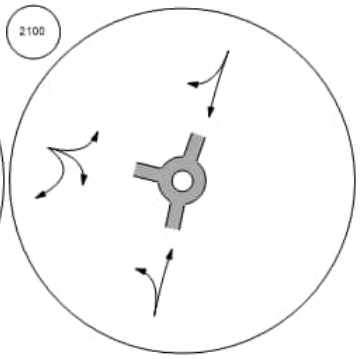
East West Arterial



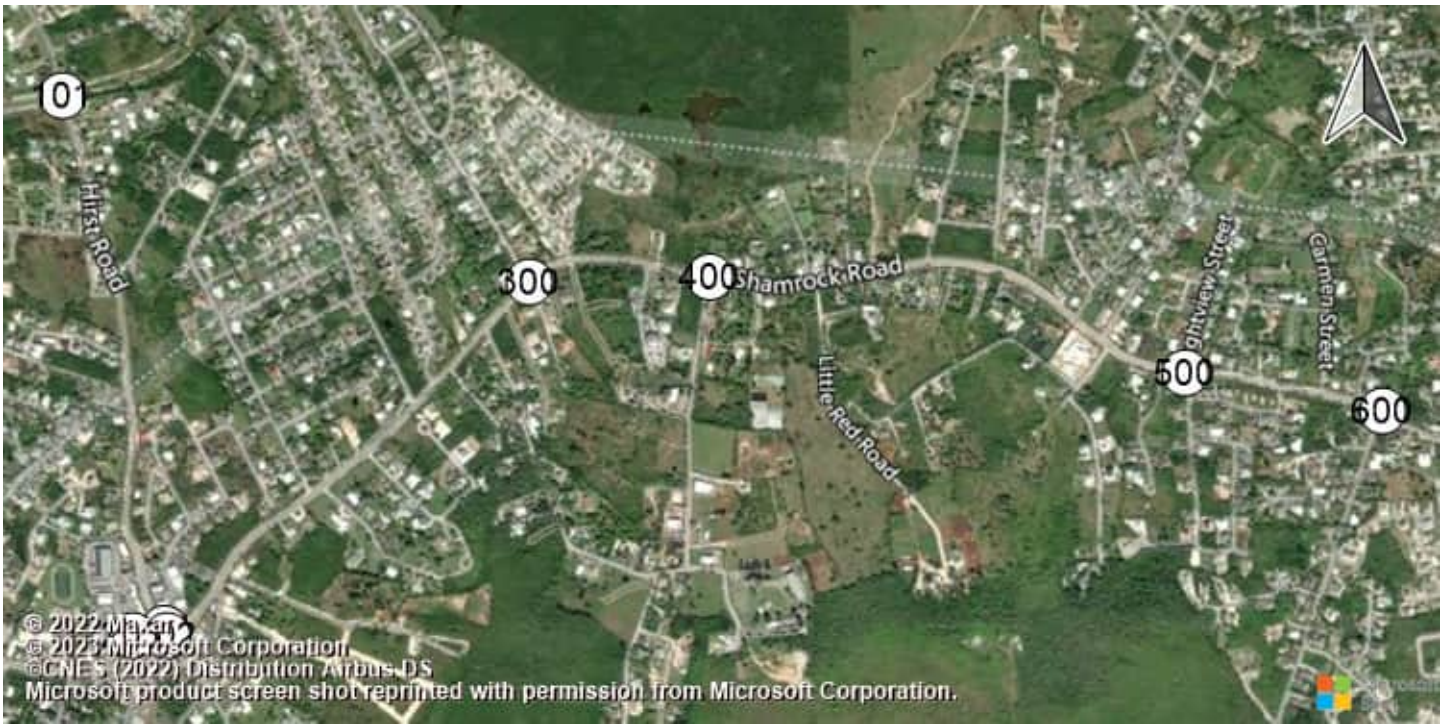
Frank Sound Road at East-W



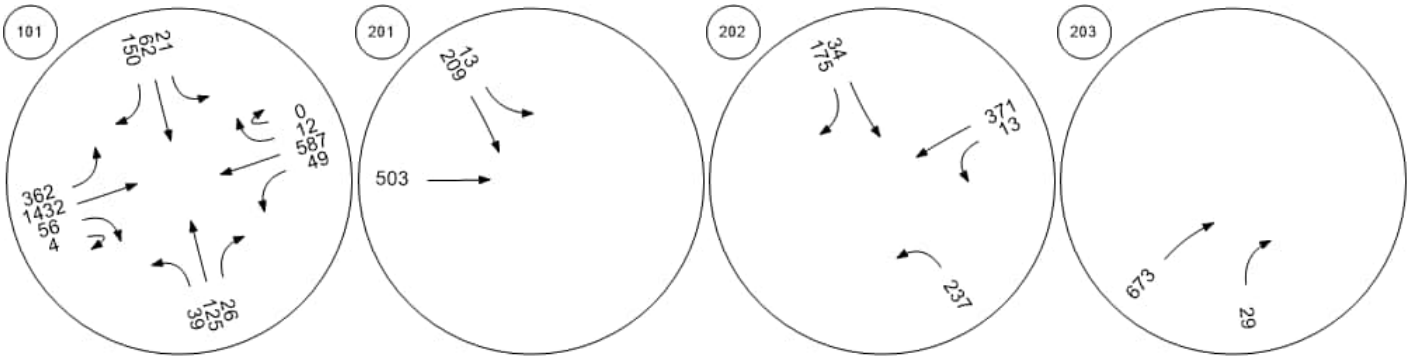
Frank Sound Road at East-W



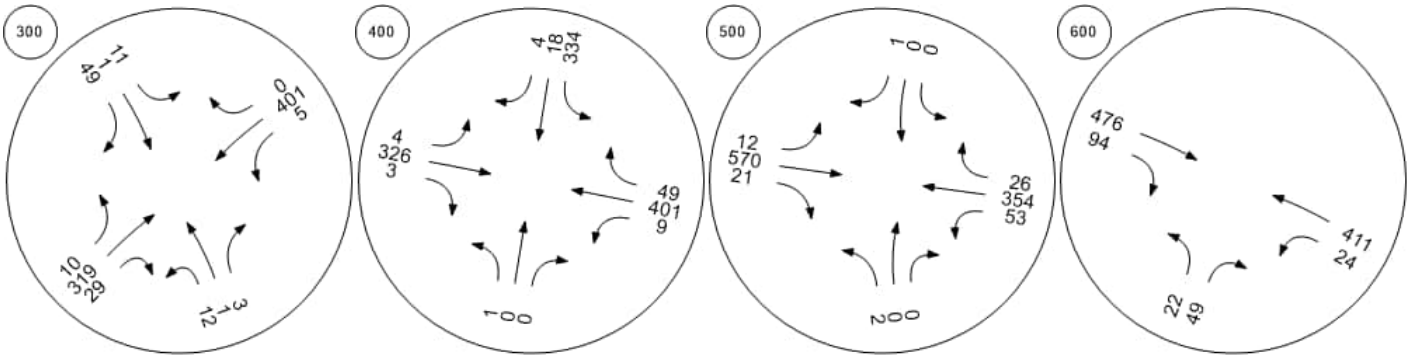
Traffic Volume - Base Volume



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



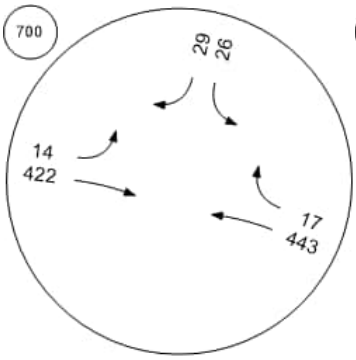
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



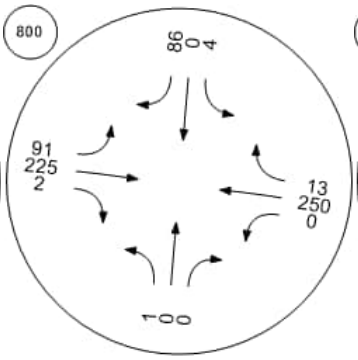
Traffic Volume - Base Volume



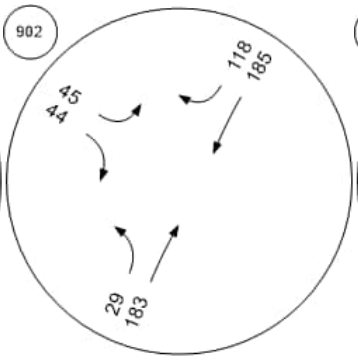
Shamrock Road at Northward



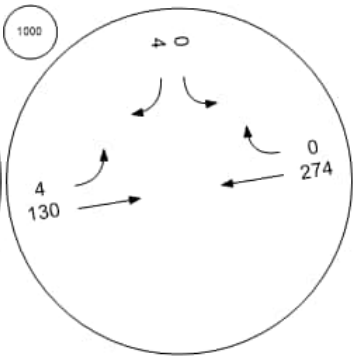
Shamrock Road at Condor R



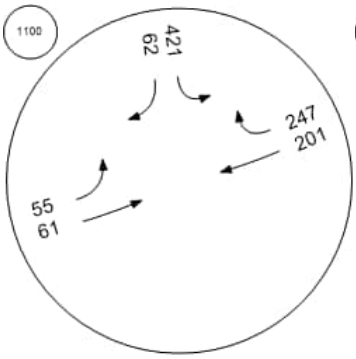
Bodden Town Road at Bodde



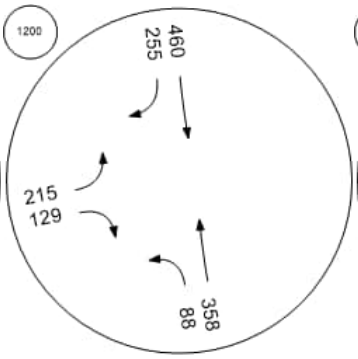
Bodden Town Road at Long



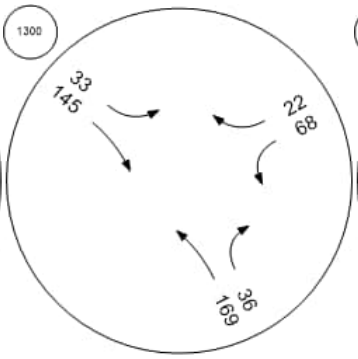
Frank Sound Road at Bodde



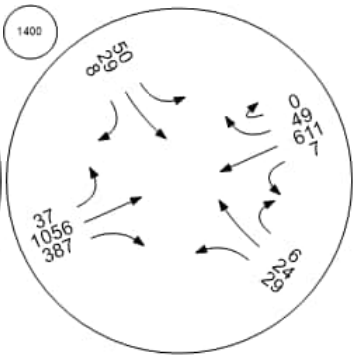
Frank Sound Road at Clifton



Frank Sound Road at North S



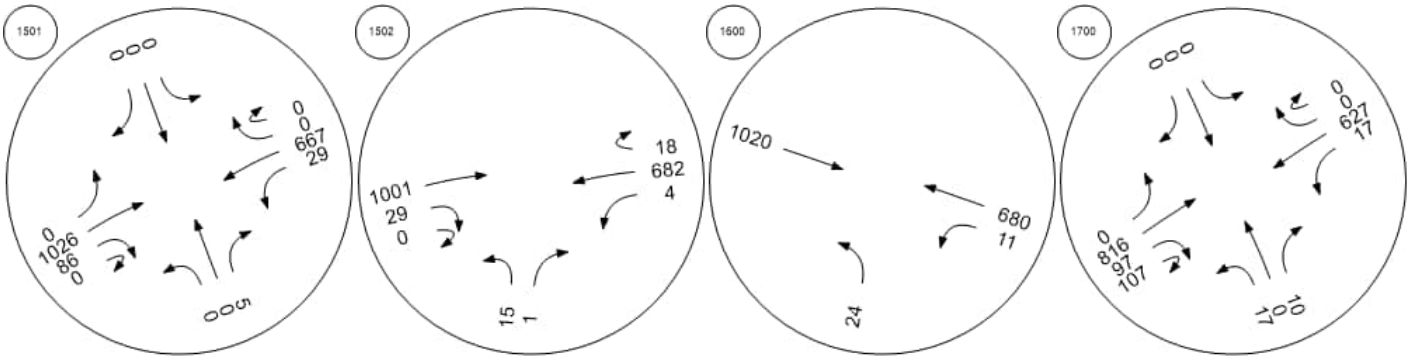
East-West Arterial at Agricola



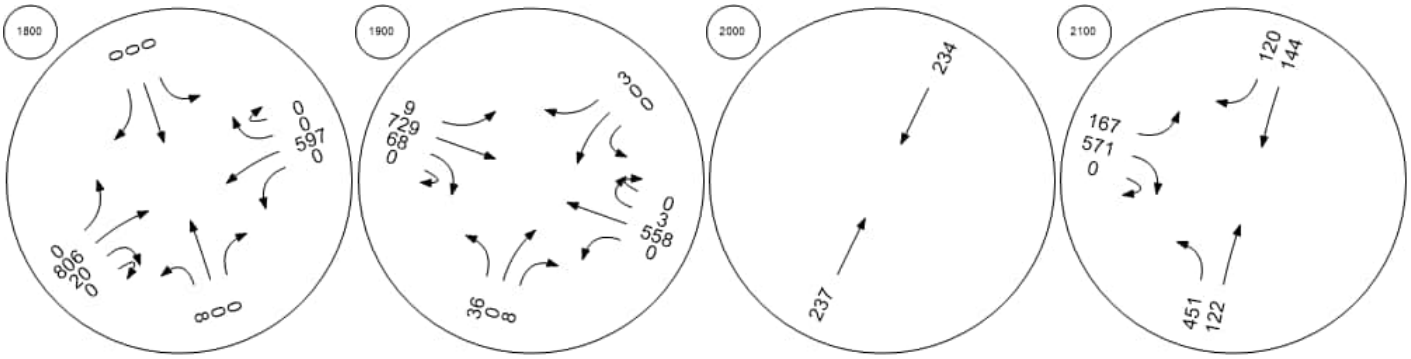
Traffic Volume - Base Volume



East-West Arterial at Will T C East-West Arterial at Will T C East-West Arterial at Northwa East-West Arterial at Lookout



East-West Arterial at Longfell East West Arterial Frank Sound Road at East-W Frank Sound Road at East-W



Intersection Level Of Service Report
Intersection 101: East-West Arterial Road at Hirst Road

Control Type:	Roundabout	Delay (sec / veh):	19.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes		

Intersection Setup

Name									East-West Arterial				East-West Arterial				
Approach	Northbound				Southbound				Eastbound				Westbound				
Lane Configuration																	
Turning Movement	Left	Left	Thru	Right	Left	Thru	Right	Right	Left	Thru	Right	U-tu	Left	Thr	Thr	Rig	U-t
Lane Width [ft]	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.	12.	12.	12.	12.
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100	100	100	100	100
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Speed [mph]	30.00				30.00				40.00				50.00				
Grade [%]	0.00				0.00				0.00				0.00				
Crosswalk	Yes				Yes				Yes				Yes				

Volumes

Name									East-West Arterial				East-West Arterial				
Base Volume Input [veh/h]	17	0	38	13	15	65	0	534	63	655	8	20	7	130	0	4	0
Base Volume Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	17	0	38	13	15	65	0	534	63	655	8	20	7	130	0	4	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Other Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Total 15-Minute Volume [veh/h]	4	0	10	3	4	16	0	134	16	164	2	5	2	326	0	1	0
Total Analysis Volume [veh/h]	17	0	38	13	15	65	0	534	63	655	8	20	7	130	0	4	0
Pedestrian Volume [ped/h]	0				0				0				0				

Intersection Settings

Number of Conflicting Circulating Lanes	2				2				2				2				
Circulating Flow Rate [veh/h]	1860				696				55				627				
Exiting Flow Rate [veh/h]	80				105				1873				683				
Demand Flow Rate [veh/h]	17	0	38	13	15	65	0	534	63	655	8	20	7	130	0	4	0
Adjusted Demand Flow Rate [veh/h]	17	0	38	13	15	65	0	534	63	655	8	20	7	130	0	4	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1350.00	1420.00	1350.00
B (coefficient)	0.00085	0.00085	0.00085	0.00092	0.00085	0.00092
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	68	614	396	351	696	618
Capacity of Entry and Bypass Lanes [veh/h]	293	786	1356	1284	834	759
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	293	786	1356	1284	834	759
X, volume / capacity	0.23	0.78	0.29	0.27	0.84	0.81

Movement, Approach, & Intersection Results

Lane LOS	C	C	A	A	D	D
95th-Percentile Queue Length [veh]	0.88	7.85	1.22	1.12	9.71	8.76
95th-Percentile Queue Length [ft]	22.05	196.23	30.58	27.92	242.63	219.09
Approach Delay [s/veh]	17.18	22.78	5.21		26.10	
Approach LOS	C	C	A		D	
Intersection Delay [s/veh]	19.45					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 201: Shamrock Road at Hirst Rd (1)

Control Type:	Two-way stop	Delay (sec / veh):	14.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.239

Intersection Setup

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	0	0	0	22	113	0	0	416	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	22	113	0	0	416	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	6	30	0	0	112	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	24	122	0	0	447	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.04	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	11.08	14.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS				B	B			A				
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.12	0.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	3.04	23.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			13.75			0.00			0.00		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	3.39											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 202: Shamrock Road at Hirst Rd (2)

Control Type:	Two-way stop	Delay (sec / veh):	199.1
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.059

Intersection Setup

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	317	0	0	0	19	94	0	0	0	7	622	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	317	0	0	0	19	94	0	0	0	7	622	0
Peak Hour Factor	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	85	0	0	0	5	25	0	0	0	2	167	0
Total Analysis Volume [veh/h]	341	0	0	0	20	101	0	0	0	8	669	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.74	0.00	0.00	0.00	0.05	1.06	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	32.31	0.00	0.00	0.00	170.93	199.14	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	D				F	F				A	A	
95th-Percentile Queue Length [veh/ln]	6.13	0.00	0.00	0.00	7.54	7.54	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	153.36	0.00	0.00	0.00	188.55	188.55	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	32.31			194.48			0.00			0.00		
Approach LOS	D			F			A			A		
d_I, Intersection Delay [s/veh]	30.33											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 203: Shamrock Road atHirst Road Jughandle

Control Type:	Two-way stop	Delay (sec / veh):	12.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.043

Intersection Setup

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	0	21	466	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	21	466	0	0	0
Peak Hour Factor	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	6	125	0	0	0
Total Analysis Volume [veh/h]	0	23	501	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.04	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	12.06	0.00	0.00	0.00	0.00
Movement LOS		B	A			
95th-Percentile Queue Length [veh/ln]	0.00	0.13	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	3.37	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.06		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.53					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 300: Shamrock Road at Woodland Drive

Control Type:	Two-way stop	Delay (sec / veh):	22.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.094

Intersection Setup

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	40	1	5	0	0	21	7	310	6	2	568	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	1	5	0	0	21	7	310	6	2	568	0
Peak Hour Factor	0.9700	0.9700	1.0000	1.0000	0.9700	0.9700	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	0	1	0	0	5	2	78	2	1	142	0
Total Analysis Volume [veh/h]	41	1	5	0	0	22	7	310	6	2	568	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.00	0.02	0.00	0.00	0.09	0.00	0.00	0.01	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	12.71	18.76	19.58	11.52	19.45	22.02	0.00	0.00	8.58	0.00	0.00	7.87
Movement LOS	B	C	C	B	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.33	0.33	0.33	0.31	0.31	0.31	0.02	0.02	0.02	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	8.34	8.34	8.34	7.71	7.71	7.71	0.45	0.45	0.45	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.57			22.02			0.16			0.00		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	1.22											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 400: Shamrock Road at Agricola Drive

Control Type:	Roundabout	Delay (sec / veh):	9.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	1	7	2	36	12	37	2	312	2	3	532	304
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	7	2	36	12	37	2	312	2	3	532	304
Peak Hour Factor	1.0000	1.0000	0.9200	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9200	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	1	9	3	9	1	78	1	1	133	76
Total Analysis Volume [veh/h]	1	7	2	36	12	37	2	312	2	3	532	304
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	873			316			313			51		
Exiting Flow Rate [veh/h]	17			313			570			350		
Demand Flow Rate [veh/h]	1	7	2	36	12	37	2	312	2	3	532	304
Adjusted Demand Flow Rate [veh/h]	1	7	2	36	12	37	2	312	2	3	532	304

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	10	85	316	839
Capacity of Entry and Bypass Lanes [veh/h]	567	1000	1003	1311
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	567	1000	1003	1311
X, volume / capacity	0.02	0.09	0.32	0.64

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	B
95th-Percentile Queue Length [veh]	0.05	0.28	1.36	4.93
95th-Percentile Queue Length [ft]	1.35	6.95	33.97	123.26
Approach Delay [s/veh]	6.56	4.36	6.81	10.70
Approach LOS	A	A	A	B
Intersection Delay [s/veh]	9.26			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 500: Shamrock Road at Brightview Drive / Calla Lily Drive

Control Type:	Two-way stop	Delay (sec / veh):	23.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.031

Intersection Setup

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			20.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	11	0	5	3	0	6	1	355	1	0	707	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	0	5	3	0	6	1	355	1	0	707	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	1	1	0	2	0	89	0	0	177	0
Total Analysis Volume [veh/h]	11	0	5	3	0	6	1	355	1	0	707	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.00	0.02	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	13.80	21.66	23.53	10.70	21.56	23.94	0.00	0.00	9.00	0.00	0.00	7.97
Movement LOS	B	C	C	B	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.16	0.16	0.16	0.11	0.11	0.11	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	3.93	3.93	3.93	2.71	2.71	2.71	0.08	0.08	0.08	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	16.84			19.53			0.03			0.00		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	0.42											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 600: Shamrock Road at Beach Bay Road

Control Type:	Two-way stop	Delay (sec / veh):	43.7
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.173

Intersection Setup

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	7	17	172	192	48	700
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	17	172	192	48	700
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	5	47	53	13	192
Total Analysis Volume [veh/h]	8	19	189	211	53	769
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.17	0.00	0.26	0.00	0.01
d_M, Delay for Movement [s/veh]	20.27	43.74	0.00	10.94	0.00	0.00
Movement LOS	C	E	A	B	A	A
95th-Percentile Queue Length [veh/ln]	0.68	0.68	1.03	1.03	0.00	0.00
95th-Percentile Queue Length [ft/ln]	17.11	17.11	25.79	25.79	0.00	0.00
d_A, Approach Delay [s/veh]	36.79		5.77		0.00	
Approach LOS	E		A		A	
d_I, Intersection Delay [s/veh]	2.64					
Intersection LOS	E					

Intersection Level Of Service Report
Intersection 700: Shamrock Road at Northward Road

Control Type:	Two-way stop	Delay (sec / veh):	18.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.015

Intersection Setup

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	15	4	9	189	710	19
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	4	9	189	710	19
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	1	2	49	183	5
Total Analysis Volume [veh/h]	15	4	9	195	732	20
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.01	0.00	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	9.46	18.26	0.00	0.00	0.00	7.65
Movement LOS	A	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.10	0.10	0.00	0.00	0.04	0.04
95th-Percentile Queue Length [ft/ln]	2.49	2.49	0.00	0.00	1.10	1.10
d_A, Approach Delay [s/veh]	11.31		0.00		0.20	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.38					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 800: Shamrock Road at Condor Road

Control Type:	Two-way stop	Delay (sec / veh):	16.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.340

Intersection Setup

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Base Volume Input [veh/h]	4	0	0	1	0	168	67	92	0	0	342	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	0	0	1	0	168	67	92	0	0	342	6
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	0	0	42	17	23	0	0	86	2
Total Analysis Volume [veh/h]	4	0	0	1	0	168	67	92	0	0	342	6
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.34	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	10.13	12.77	12.27	12.59	16.13	16.02	0.00	0.00	7.93	0.00	0.00	7.52
Movement LOS	B	B	B	B	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.02	1.50	1.50	1.50	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.43	0.43	0.43	37.51	37.51	37.51	0.00	0.00	0.00	0.32	0.32	0.32
d_A, Approach Delay [s/veh]	10.13			16.00			0.00			0.13		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	4.10											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 901: Lookout Road at Bodden Town Bypass

Control Type:	Roundabout	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name				Lookout Rd				An/Bo				An/Bo			
Approach	Northbound			Southbound				Eastbound				Westbound			
Lane Configuration															
Turning Movement	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			35.00				30.00				35.00			
Grade [%]	0.00			0.00				0.00				0.00			
Crosswalk	Yes			Yes				Yes				Yes			

Volumes

Name				Lookout Rd				An/Bo				An/Bo			
Base Volume Input [veh/h]	2	4	3	586	1	21	61	2	86	0	0	0	96	611	7
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	4	3	586	1	21	61	2	86	0	0	0	96	611	7
Peak Hour Factor	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	1	1	1	147	0	5	15	1	22	0	0	0	24	153	2
Total Analysis Volume [veh/h]	2	4	3	586	1	21	61	2	86	0	0	0	96	611	7
Pedestrian Volume [ped/h]	0			0				0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1				1				1			
Circulating Flow Rate [veh/h]	796			96				686				83			
Exiting Flow Rate [veh/h]	1			678				119				682			
Demand Flow Rate [veh/h]	2	4	3	586	1	21	61	2	86	0	0	0	96	611	7
Adjusted Demand Flow Rate [veh/h]	2	4	3	586	1	21	61	2	86	0	0	0	96	611	7

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	9	669	88	714
Capacity of Entry and Bypass Lanes [veh/h]	613	1252	686	1268
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	613	1252	686	1268
X, volume / capacity	0.01	0.53	0.13	0.56

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.04	3.30	0.44	3.67
95th-Percentile Queue Length [ft]	1.12	82.44	10.98	91.80
Approach Delay [s/veh]	6.04	8.81	6.67	9.25
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	8.87			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 902: Bodden Town Road at Bodden Town Bypass

Control Type:	Roundabout	Delay (sec / veh):	8.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Bodden Town Bypass			Bodden Town Rd			Bodden Town Rd		
Approach	Southbound			Eastbound			Westbound		
Lane Configuration									
Turning Movement	Left	Right	U-turn	Left	Thru	U-turn	Thru	Right	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Bodden Town Bypass			Bodden Town Rd			Bodden Town Rd		
Base Volume Input [veh/h]	686	16	0	16	84	0	282	699	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	686	16	0	16	84	0	282	699	5
Peak Hour Factor	0.9400	0.9400	1.0000	0.9400	0.9400	1.0000	0.9400	0.9400	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	182	4	0	4	22	0	75	186	1
Total Analysis Volume [veh/h]	730	17	0	17	89	0	300	744	5
Pedestrian Volume [ped/h]	0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			2		
Circulating Flow Rate [veh/h]	94			749			17		
Exiting Flow Rate [veh/h]	761			317			824		
Demand Flow Rate [veh/h]	686	16	0	16	84	0	282	699	5
Adjusted Demand Flow Rate [veh/h]	730	17	0	17	89	0	300	744	5

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1350.00
B (coefficient)	0.00085	0.00085	0.00085	0.00092
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	747	106	300	749
Capacity of Entry and Bypass Lanes [veh/h]	1311	752	1400	1330
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1311	752	1400	1330
X, volume / capacity	0.57	0.14	0.21	0.56

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	3.77	0.49	0.81	3.69
95th-Percentile Queue Length [ft]	94.30	12.25	20.34	92.16
Approach Delay [s/veh]	9.17	6.28	7.64	
Approach LOS	A	A	A	
Intersection Delay [s/veh]	8.17			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1000: Bodden Town Road at Long Fellow Drive

Control Type:	Roundabout	Delay (sec / veh):	5.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Longfellow Dr		Bodden Town Rd			Bodden Town Rd		
Approach	Southbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	Left	Thru	U-turn	Thru	Right	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		45.00			45.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	Yes		Yes			Yes		

Volumes

Name	Longfellow Dr		Bodden Town Rd			Bodden Town Rd		
Base Volume Input [veh/h]	0	14	1	698	0	867	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	14	1	698	0	867	0	0
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	1.0000	0.9100	0.9100	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	4	0	192	0	238	0	0
Total Analysis Volume [veh/h]	0	15	1	767	0	953	0	0
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	2		1			1		
Circulating Flow Rate [veh/h]	767		0			15		
Exiting Flow Rate [veh/h]	1		968			767		
Demand Flow Rate [veh/h]	0	14	1	698	0	867	0	0
Adjusted Demand Flow Rate [veh/h]	0	15	1	767	0	953	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	15	408	361	506	448
Capacity of Entry and Bypass Lanes [veh/h]	740	1420	1420	1401	1401
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	740	1420	1420	1401	1401
X, volume / capacity	0.02	0.29	0.25	0.36	0.32

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.06	1.19	1.01	1.67	1.39
95th-Percentile Queue Length [ft]	1.55	29.86	25.37	41.67	34.85
Approach Delay [s/veh]	5.07	4.84		5.61	
Approach LOS	A	A		A	
Intersection Delay [s/veh]	5.26				
Intersection LOS	A				

Intersection Level Of Service Report
Intersection 1100: Frank Sound Road at Bodden Town Road

Control Type:	Roundabout	Delay (sec / veh):	9.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Bodden Town Rd			Sea View Rd	
Approach	Southbound		Eastbound			Westbound	
Lane Configuration							
Turning Movement	Left	Right	Left	Thru	U-turn	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		45.00			50.00	
Grade [%]	0.00		0.00			0.00	
Crosswalk	Yes		Yes			Yes	

Volumes

Name	Frank Sound Rd		Bodden Town Rd			Sea View Rd	
Base Volume Input [veh/h]	108	499	398	273	0	318	141
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	108	499	398	273	0	318	141
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	1.0000	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	134	107	73	0	85	38
Total Analysis Volume [veh/h]	116	537	428	294	0	342	152
Pedestrian Volume [ped/h]	0		0			0	

Intersection Settings

Number of Conflicting Circulating Lanes	2		1			1	
Circulating Flow Rate [veh/h]	294		152			537	
Exiting Flow Rate [veh/h]	580		879			410	
Demand Flow Rate [veh/h]	108	499	398	273	0	318	141
Adjusted Demand Flow Rate [veh/h]	116	537	428	294	0	342	152

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1380.00
B (coefficient)	0.00085	0.00091	0.00091	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	653	428	294	494
Capacity of Entry and Bypass Lanes [veh/h]	1107	1237	1237	798
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1107	1237	1237	798
X, volume / capacity	0.59	0.35	0.24	0.62

Movement, Approach, & Intersection Results

Lane LOS	B	A	A	B
95th-Percentile Queue Length [veh]	4.04	1.56	0.93	4.37
95th-Percentile Queue Length [ft]	100.92	39.10	23.21	109.30
Approach Delay [s/veh]	10.79	5.70		14.65
Approach LOS	B	A		B
Intersection Delay [s/veh]	9.84			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1200: Frank Sound Road at Clifton Hunter High School

Control Type:	Two-way stop	Delay (sec / veh):	22.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.576

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd			
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		20.00		20.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Frank Sound Rd			
Base Volume Input [veh/h]	238	105	171	74	46	271
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	238	105	171	74	46	271
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	60	26	43	19	12	68
Total Analysis Volume [veh/h]	238	105	171	74	46	271
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.06	0.06	0.58
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	8.12	9.65	22.52
Movement LOS	A	A	A	A	A	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.19	0.19	0.18	3.56
95th-Percentile Queue Length [ft/ln]	0.00	0.00	4.81	4.81	4.45	89.10
d_A, Approach Delay [s/veh]	0.00		2.45		20.66	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	7.90					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1300: Frank Sound Road at North Side Road/Old Robin Road

Control Type:	Two-way stop	Delay (sec / veh):	10.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Base Volume Input [veh/h]	99	33	8	97	43	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	99	33	8	97	43	2
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	9	2	27	12	1
Total Analysis Volume [veh/h]	111	37	9	109	48	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.02	0.00	0.00	0.05	0.00
d_M, Delay for Movement [s/veh]	0.00	7.49	0.00	0.00	9.03	10.53
Movement LOS	A	A	A	A	A	B
95th-Percentile Queue Length [veh/ln]	0.08	0.08	0.00	0.00	0.17	0.17
95th-Percentile Queue Length [ft/ln]	1.92	1.92	0.00	0.00	4.25	4.25
d_A, Approach Delay [s/veh]	1.87		0.00		9.09	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.32					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1400: East-West Arterial at Agricola Drive Connector

Control Type:	Roundabout	Delay (sec / veh):	13.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			50.00			50.00			
Grade [%]	0.00			0.00			0.00			0.00			
Crosswalk	Yes			Yes			Yes			Yes			

Volumes

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Base Volume Input [veh/h]	348	28	2	35	51	46	4	612	68	1	920	11	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	348	28	2	35	51	46	4	612	68	1	920	11	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	87	7	1	9	13	12	1	153	17	0	230	3	0
Total Analysis Volume [veh/h]	348	28	2	35	51	46	4	612	68	1	920	11	0
Pedestrian Volume [ped/h]	0			0			0			0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1			1			
Circulating Flow Rate [veh/h]	977			682			41			165			
Exiting Flow Rate [veh/h]	120			43			1314			649			
Demand Flow Rate [veh/h]	348	28	2	35	51	46	4	612	68	1	920	11	0
Adjusted Demand Flow Rate [veh/h]	348	28	2	35	51	46	4	612	68	1	920	11	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1380.00
B (coefficient)	0.00085	0.00085	0.00091	0.00091	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	378	132	616	68	932
Capacity of Entry and Bypass Lanes [veh/h]	619	796	1368	1368	1167
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	619	796	1368	1368	1167
X, volume / capacity	0.61	0.17	0.45	0.05	0.80

Movement, Approach, & Intersection Results

Lane LOS	C	A	A	A	C
95th-Percentile Queue Length [veh]	4.14	0.59	2.40	0.16	9.11
95th-Percentile Queue Length [ft]	103.46	14.82	59.91	3.92	227.63
Approach Delay [s/veh]	17.57	6.26	6.62		18.04
Approach LOS	C	A	A		C
Intersection Delay [s/veh]	13.55				
Intersection LOS	B				

Intersection Level Of Service Report
Intersection 1501: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name							East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name							East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	40	0	1	0	0	0	0	643	6	0	0	889	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	0	1	0	0	0	0	643	6	0	0	889	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	10	0	0	0	0	0	0	161	2	0	0	222	0	0
Total Analysis Volume [veh/h]	40	0	1	0	0	0	0	643	6	0	0	889	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1			
Circulating Flow Rate [veh/h]	889			650			1				6			
Exiting Flow Rate [veh/h]	6			0			929				644			
Demand Flow Rate [veh/h]	40	0	1	0	0	0	0	643	6	0	0	889	0	0
Adjusted Demand Flow Rate [veh/h]	40	0	1	0	0	0	0	643	6	0	0	889	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	41	0	649	889
Capacity of Entry and Bypass Lanes [veh/h]	558	712	1379	1372
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	558	712	1379	1372
X, volume / capacity	0.07	0.00	0.47	0.65

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	B
95th-Percentile Queue Length [veh]	0.24	0.00	2.59	5.10
95th-Percentile Queue Length [ft]	5.93	0.00	64.87	127.40
Approach Delay [s/veh]	7.34	5.06	7.27	10.56
Approach LOS	A	A	A	B
Intersection Delay [s/veh]	9.12			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1502: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	7.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name			East-West Arterial			East-West Arterial		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	Thru	Right	U-turn	Left	Thru	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00			50.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	Yes		Yes			Yes		

Volumes

Name			East-West Arterial			East-West Arterial		
Base Volume Input [veh/h]	167	3	642	2	0	1	722	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	167	3	642	2	0	1	722	13
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	1	161	1	0	0	181	3
Total Analysis Volume [veh/h]	167	3	642	2	0	1	722	13
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1		1			1		
Circulating Flow Rate [veh/h]	735		16			2		
Exiting Flow Rate [veh/h]	3		889			658		
Demand Flow Rate [veh/h]	167	3	642	2	0	1	722	13
Adjusted Demand Flow Rate [veh/h]	167	3	642	2	0	1	722	13

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	170	644	736
Capacity of Entry and Bypass Lanes [veh/h]	653	1358	1378
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	653	1358	1378
X, volume / capacity	0.26	0.47	0.53

Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	1.04	2.63	3.31
95th-Percentile Queue Length [ft]	26.00	65.74	82.68
Approach Delay [s/veh]	8.76	7.39	8.24
Approach LOS	A	A	A
Intersection Delay [s/veh]	7.95		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 1600: East-West Arterial at Northward Rd

Control Type:	Two-way stop	Delay (sec / veh):	14.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.146

Intersection Setup

Name	Northward Rd		East-West Arterial		East-West Arterial	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		East-West Arterial		East-West Arterial	
Base Volume Input [veh/h]	67	0	659	0	6	668
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	67	0	659	0	6	668
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	0	165	0	2	167
Total Analysis Volume [veh/h]	67	0	659	0	6	668
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.15	0.00	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	14.16	0.00	0.00	0.00	0.00	0.00
Movement LOS	B		A		A	A
95th-Percentile Queue Length [veh/ln]	0.51	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	12.66	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	14.16		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.68					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1700: East-West Arterial at Lookout Rd

Control Type:	Roundabout	Delay (sec / veh):	7.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Lookout Rd		East-West Arterial			Lookout Rd		
Approach	Southbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	Left	Thru	U-turn	Thru	Right	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		35.00			35.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	Yes		Yes			Yes		

Volumes

Name	Lookout Rd		East-West Arterial			Lookout Rd		
Base Volume Input [veh/h]	0	0	0	600	59	689	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	600	59	689	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	150	15	172	0	0
Total Analysis Volume [veh/h]	0	0	0	600	59	689	0	0
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1		1			1		
Circulating Flow Rate [veh/h]	659		0			59		
Exiting Flow Rate [veh/h]	0		748			600		
Demand Flow Rate [veh/h]	0	0	0	600	59	689	0	0
Adjusted Demand Flow Rate [veh/h]	0	0	0	600	59	689	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	0	659	689
Capacity of Entry and Bypass Lanes [veh/h]	705	1380	1300
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	705	1380	1300
X, volume / capacity	0.00	0.48	0.53

Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	0.00	2.66	3.25
95th-Percentile Queue Length [ft]	0.00	66.58	81.20
Approach Delay [s/veh]	5.11	7.36	8.50
Approach LOS	A	A	A
Intersection Delay [s/veh]	7.94		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 2000: Frank Sound Road at East-West Arterial

Control Type:	Unknown	Delay (sec / veh):	?
Analysis Method:	?	Level Of Service:	?
Analysis Period:	15 minutes	Volume to Capacity (v/c):	?

Intersection Setup

Name	Frank Sound Rd	Frank Sound Rd
Approach	Northeastbound	Southwestbound
Lane Configuration		
Turning Movement	Thru	Thru
Crosswalk	Yes	Yes

Volumes

Name	Frank Sound Rd	Frank Sound Rd
Base Volume Input [veh/h]	139	169
Base Volume Adjustment Factor	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00
Growth Factor	1.0000	1.0000
In-Process Volume [veh/h]	0	0
Site-Generated Trips [veh/h]	0	0
Diverted Trips [veh/h]	0	0
Pass-by Trips [veh/h]	0	0
Existing Site Adjustment Volume [veh/h]	0	0
Other Volume [veh/h]	0	0
Left-Turn on Red Volume [veh/h]	0	0
Total Hourly Volume [veh/h]	139	169
Peak Hour Factor	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	42
Total Analysis Volume [veh/h]	139	169
Presence of On-Street Parking	No	No
On-Street Parking Maneuver Rate [/h]	0	0
Local Bus Stopping Rate [/h]	0	0
Pedestrian Volume [ped/h]	0	0

Intersection Level Of Service Report
Intersection 2100: Frank Sound Road at East-West Arterial

Control Type:	Unknown	Delay (sec / veh):	?
Analysis Method:	?	Level Of Service:	?
Analysis Period:	15 minutes	Volume to Capacity (v/c):	?

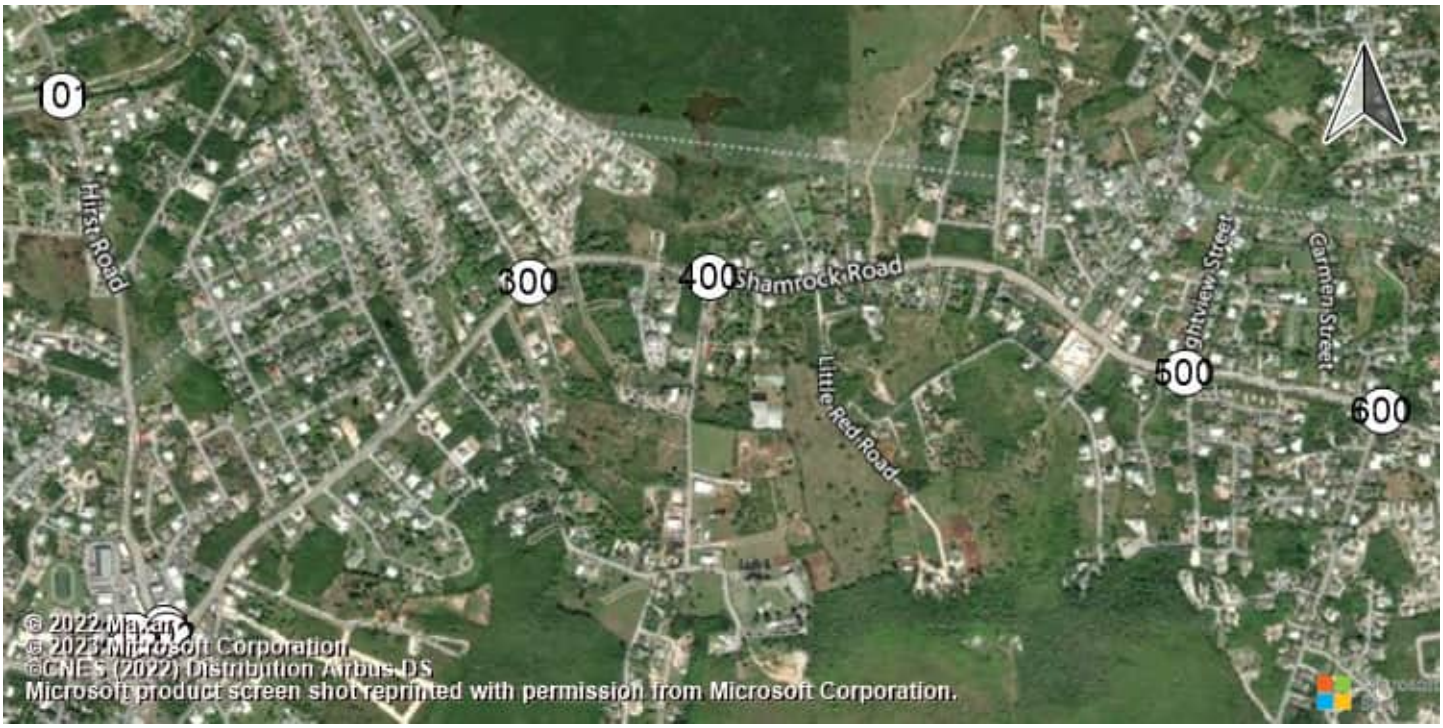
Intersection Setup

Name	Frank Sound Rd	Frank Sound Rd
Approach	Northbound	Southbound
Lane Configuration		
Turning Movement	Thru	Thru
Crosswalk	Yes	Yes

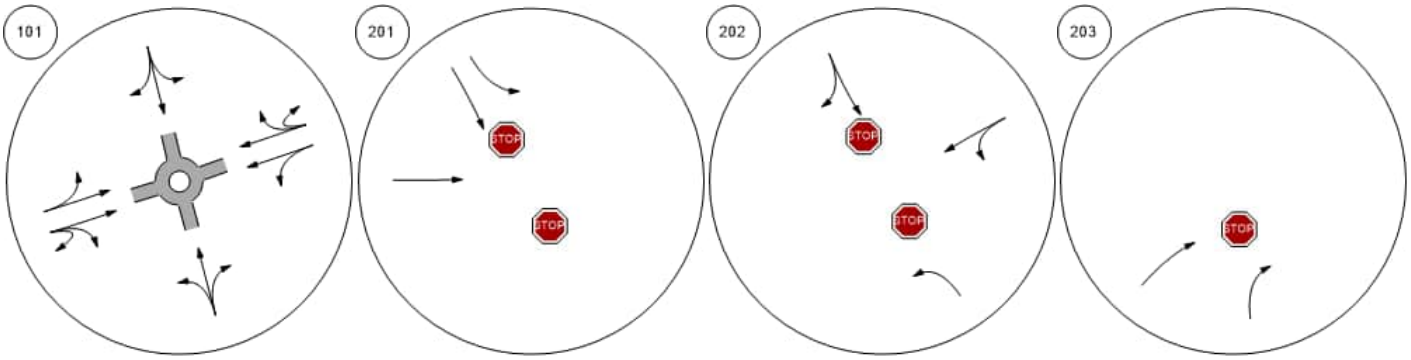
Volumes

Name	Frank Sound Rd	Frank Sound Rd
Base Volume Input [veh/h]	151	245
Base Volume Adjustment Factor	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00
Growth Factor	1.0000	1.0000
In-Process Volume [veh/h]	0	0
Site-Generated Trips [veh/h]	0	0
Diverted Trips [veh/h]	0	0
Pass-by Trips [veh/h]	0	0
Existing Site Adjustment Volume [veh/h]	0	0
Other Volume [veh/h]	0	0
Left-Turn on Red Volume [veh/h]	0	0
Total Hourly Volume [veh/h]	151	245
Peak Hour Factor	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	61
Total Analysis Volume [veh/h]	151	245
Presence of On-Street Parking	No	No
On-Street Parking Maneuver Rate [/h]	0	0
Local Bus Stopping Rate [/h]	0	0
Pedestrian Volume [ped/h]	0	0

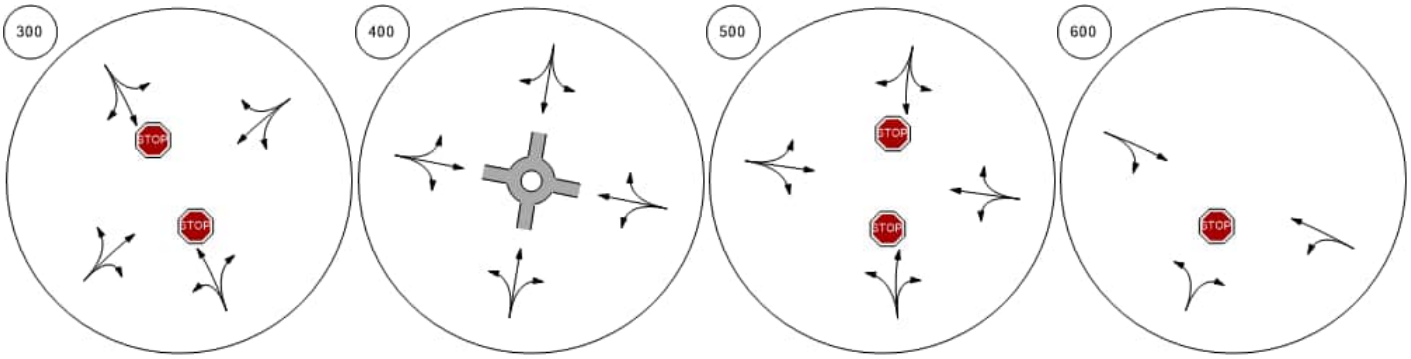
Lane Configuration and Traffic Control



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



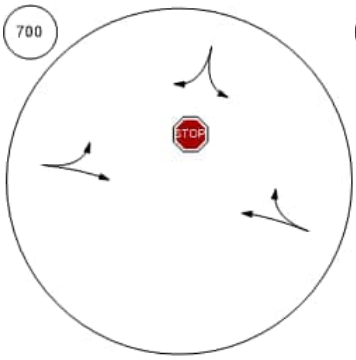
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



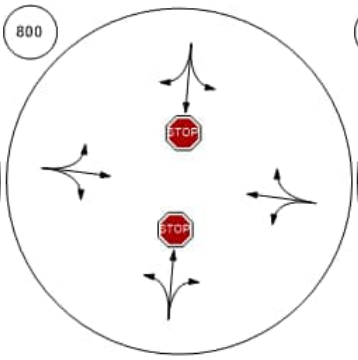
Lane Configuration and Traffic Control



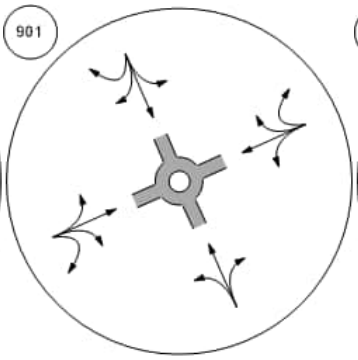
Shamrock Road at Northward



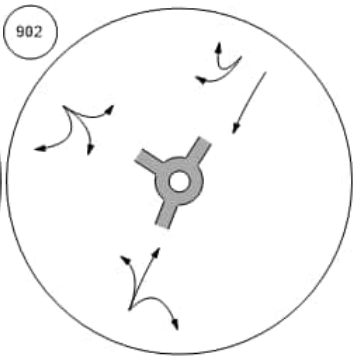
Shamrock Road at Condor R



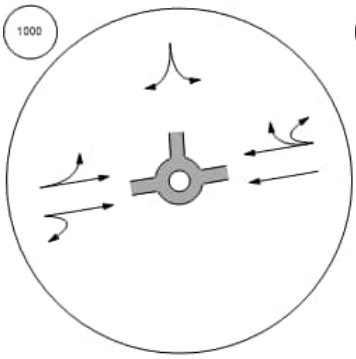
Lookout Road at Bodden To



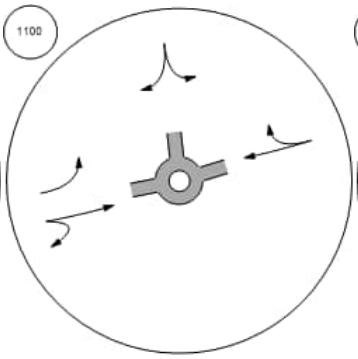
Bodden Town Road at Bodde



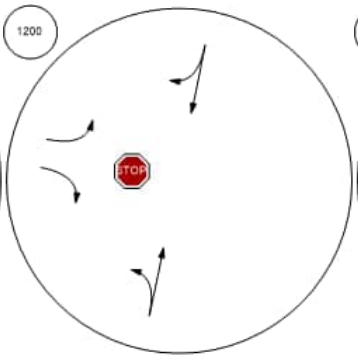
Bodden Town Road at Long



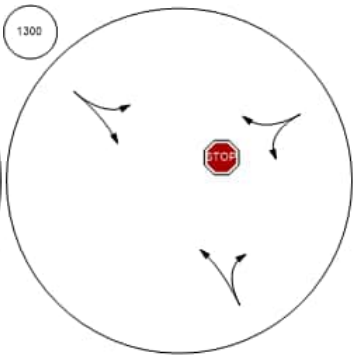
Frank Sound Road at Bodde



Frank Sound Road at Clifton



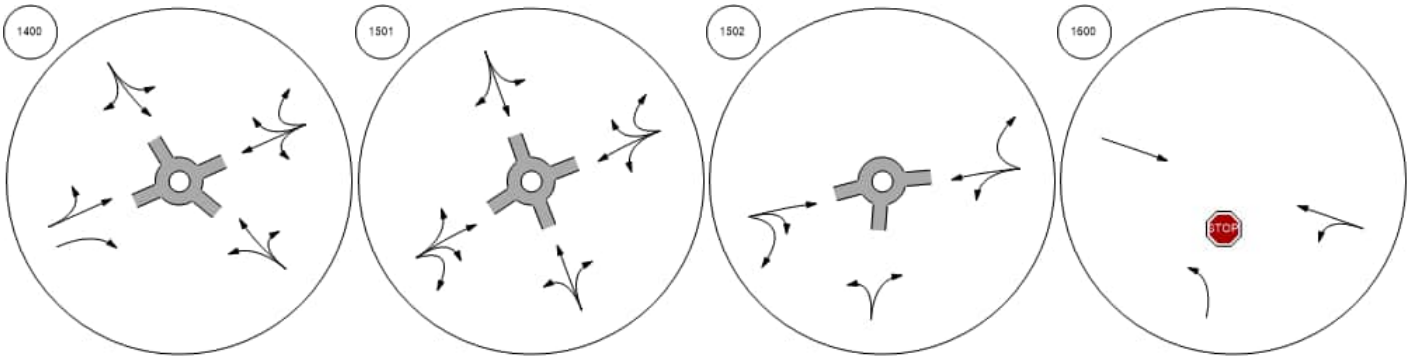
Frank Sound Road at North S



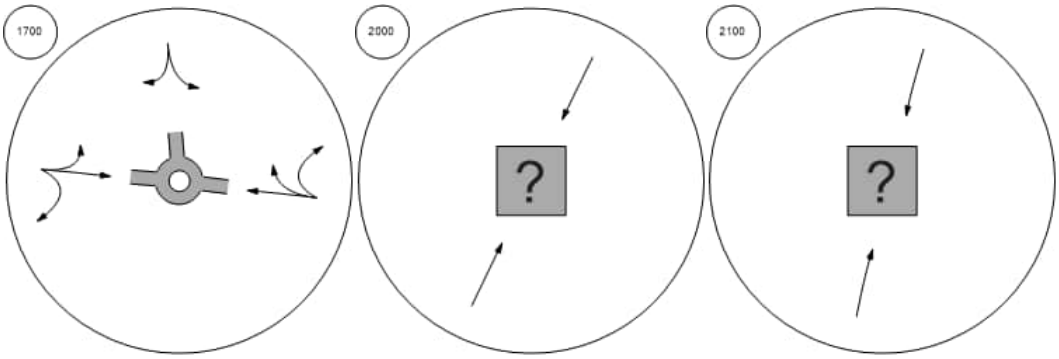
Lane Configuration and Traffic Control



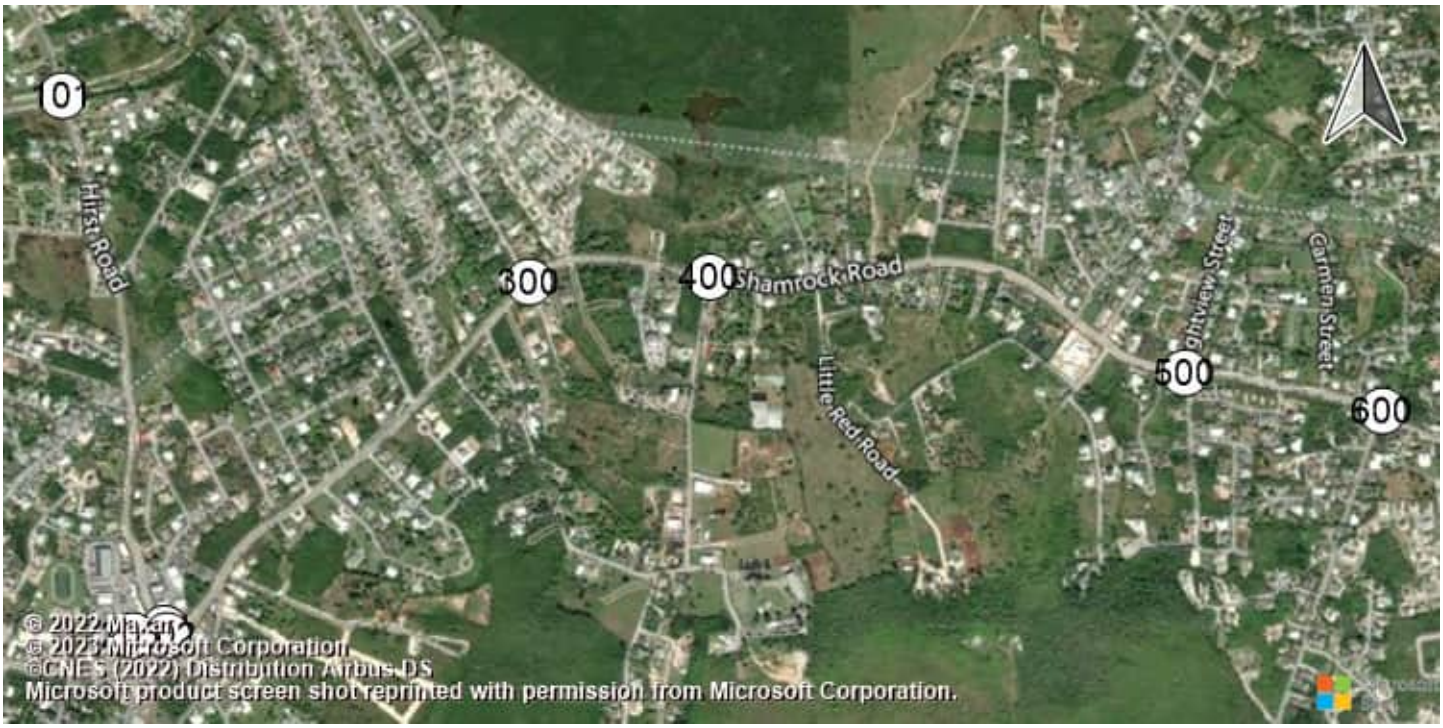
East-West Arterial at Agricola | East-West Arterial at Will T C | East-West Arterial at Will T C | East-West Arterial at Northwa



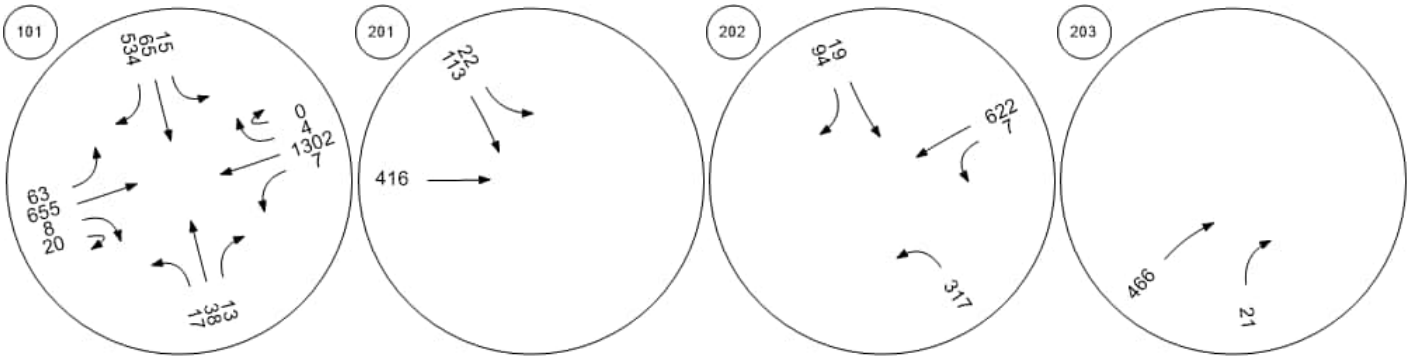
East-West Arterial at Lookout | Frank Sound Road at East-W | Frank Sound Road at East-W



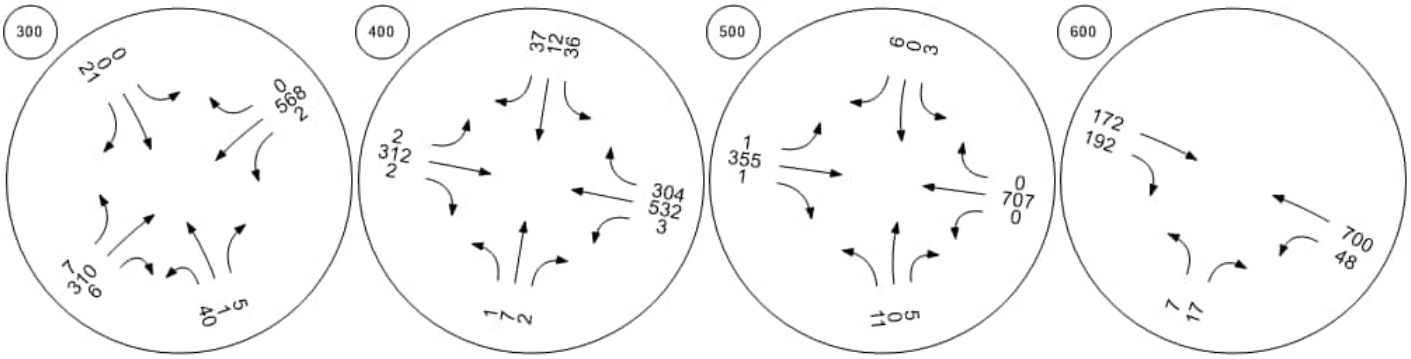
Traffic Volume - Base Volume



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



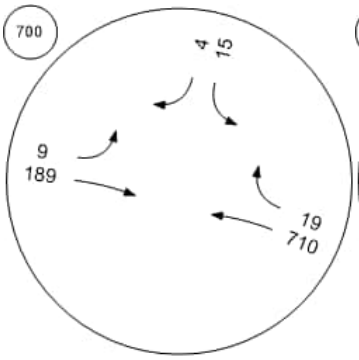
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



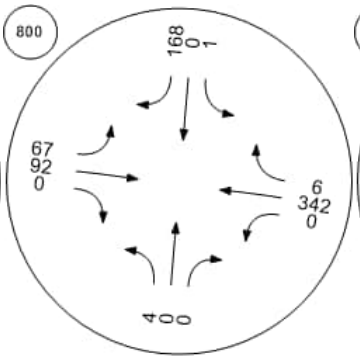
Traffic Volume - Base Volume



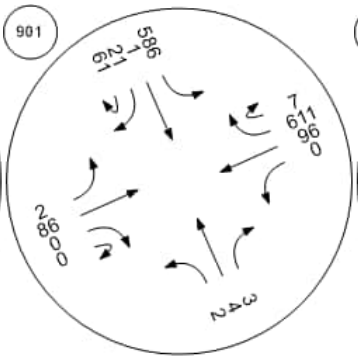
Shamrock Road at Northward



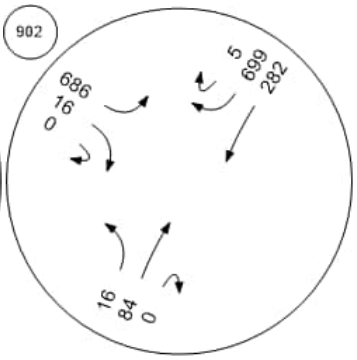
Shamrock Road at Condor R



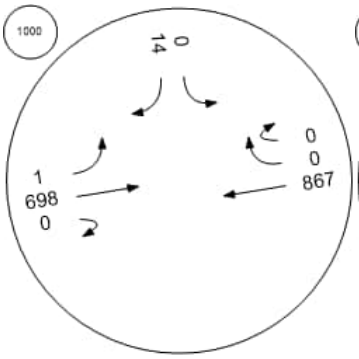
Lookout Road at Bodden To



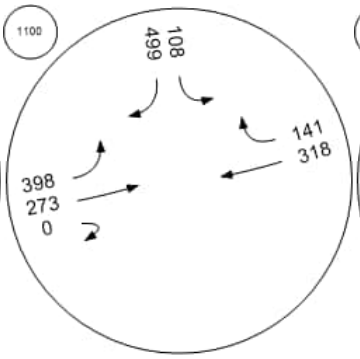
Bodden Town Road at Bodde



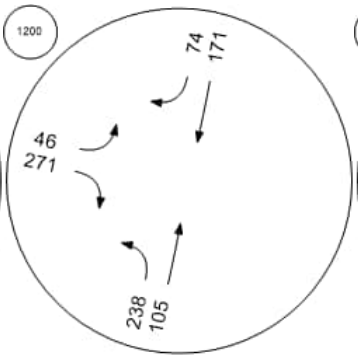
Bodden Town Road at Long



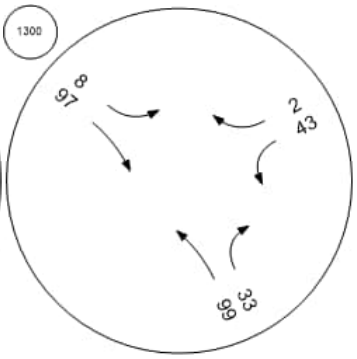
Frank Sound Road at Bodde



Frank Sound Road at Clifton



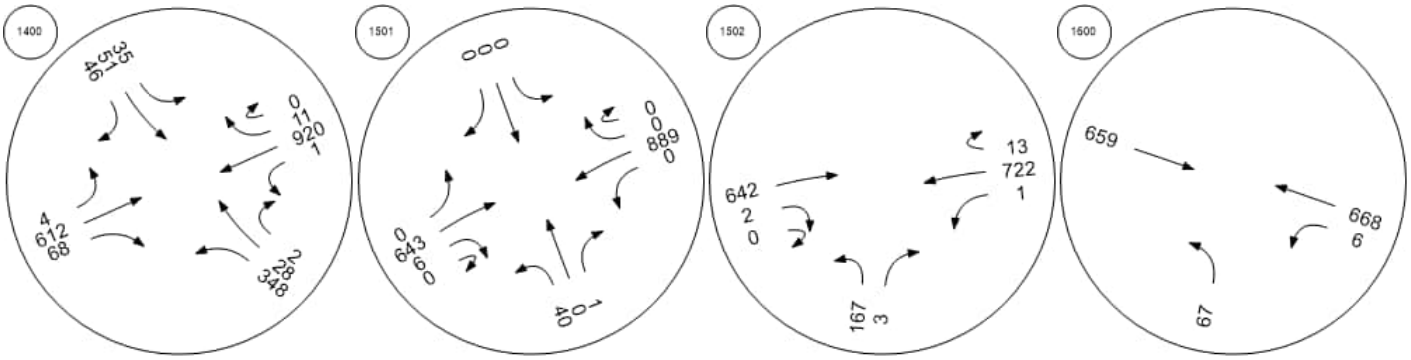
Frank Sound Road at North S



Traffic Volume - Base Volume



East-West Arterial at Agricola | East-West Arterial at Will T C | East-West Arterial at Will T C | East-West Arterial at Northwa


1400
1501
1502
1600
659
668
6
67
642
2
0
13
722
1
167
3
889
0
0
0

Intersection Level Of Service Report
Intersection 101: East-West Arterial Road at Hirst Road

Control Type:	Roundabout	Delay (sec / veh):	14.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name									East-West Arterial				East-West Arterial				
Approach	Northbound				Southbound				Eastbound				Westbound				
Lane Configuration																	
Turning Movement	Left	Left	Thru	Right	Left	Thru	Right	Right	Left	Thru	Right	U-tu	Left	Thr	Thr	Rig	U-t
Lane Width [ft]	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.	12.	12.	12.	12.
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100	100	100	100	100
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Speed [mph]	30.00				30.00				40.00				50.00				
Grade [%]	0.00				0.00				0.00				0.00				
Crosswalk	Yes				Yes				Yes				Yes				

Volumes

Name									East-West Arterial				East-West Arterial				
Base Volume Input [veh/h]	66	0	126	17	21	62	0	150	365	1431	57	4	31	521	0	11	0
Base Volume Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	66	0	126	17	21	62	0	150	365	1431	57	4	31	521	0	11	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Other Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Total 15-Minute Volume [veh/h]	17	0	32	4	5	16	0	38	91	358	14	1	8	130	0	3	0
Total Analysis Volume [veh/h]	66	0	126	17	21	62	0	150	365	1431	57	4	31	521	0	11	0
Pedestrian Volume [ped/h]	0				0				0				0				

Intersection Settings

Number of Conflicting Circulating Lanes	2				2				2				2				
Circulating Flow Rate [veh/h]	686				1509				154				273				
Exiting Flow Rate [veh/h]	150				502				741				1469				
Demand Flow Rate [veh/h]	66	0	126	17	21	62	0	150	365	1431	57	4	31	521	0	11	0
Adjusted Demand Flow Rate [veh/h]	66	0	126	17	21	62	0	150	365	1431	57	4	31	521	0	11	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1350.00	1420.00	1350.00
B (coefficient)	0.00085	0.00085	0.00085	0.00092	0.00085	0.00092
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	209	233	985	873	299	265
Capacity of Entry and Bypass Lanes [veh/h]	793	394	1246	1172	1126	1051
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	793	394	1246	1172	1126	1051
X, volume / capacity	0.26	0.59	0.79	0.74	0.27	0.25

Movement, Approach, & Intersection Results

Lane LOS	A	C	C	C	A	A
95th-Percentile Queue Length [veh]	1.06	3.68	8.88	7.32	1.07	1.00
95th-Percentile Queue Length [ft]	26.48	91.89	221.94	183.12	26.77	25.01
Approach Delay [s/veh]	7.48	24.51	15.97		5.75	
Approach LOS	A	C	C		A	
Intersection Delay [s/veh]	14.03					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 201: Shamrock Road at Hirst Rd (1)

Control Type:	Two-way stop	Delay (sec / veh):	19.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.470

Intersection Setup

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	0	0	0	16	203	0	0	483	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	16	203	0	0	483	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	4	55	0	0	130	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	17	218	0	0	519	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.03	0.47	0.00	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	11.62	19.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS				B	C			A				
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.09	2.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	2.34	61.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			18.88			0.00			0.00		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	5.88											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 202: Shamrock Road at Hirst Rd (2)

Control Type:	Two-way stop	Delay (sec / veh):	40.1
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.627

Intersection Setup

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	238	0	0	0	33	170	0	0	0	13	428	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	238	0	0	0	33	170	0	0	0	13	428	0
Peak Hour Factor	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	64	0	0	0	9	46	0	0	0	3	115	0
Total Analysis Volume [veh/h]	256	0	0	0	35	183	0	0	0	14	460	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.43	0.00	0.00	0.00	0.07	0.63	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	15.39	0.00	0.00	0.00	35.09	40.10	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	C				E	E				A	A	
95th-Percentile Queue Length [veh/ln]	2.13	0.00	0.00	0.00	4.89	4.89	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	53.18	0.00	0.00	0.00	122.36	122.36	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	15.39			39.30			0.00			0.00		
Approach LOS	C			E			A			A		
d_I, Intersection Delay [s/veh]	13.19											
Intersection LOS	E											

Intersection Level Of Service Report
Intersection 203: Shamrock Road atHirst Road Jughandle

Control Type:	Two-way stop	Delay (sec / veh):	14.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.090

Intersection Setup

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	0	34	650	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	34	650	0	0	0
Peak Hour Factor	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	9	175	0	0	0
Total Analysis Volume [veh/h]	0	37	699	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.09	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	14.67	0.00	0.00	0.00	0.00
Movement LOS		B	A			
95th-Percentile Queue Length [veh/ln]	0.00	0.30	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	7.41	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	14.67		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.74					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 300: Shamrock Road at Woodland Drive

Control Type:	Two-way stop	Delay (sec / veh):	19.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.054

Intersection Setup

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	12	1	3	14	1	14	10	301	29	5	494	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	1	3	14	1	14	10	301	29	5	494	0
Peak Hour Factor	0.9700	0.9700	1.0000	1.0000	0.9700	0.9700	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	1	4	0	4	3	75	7	1	124	0
Total Analysis Volume [veh/h]	12	1	3	14	1	14	10	301	30	5	494	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.01	0.02	0.00	0.05	0.00	0.00	0.03	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.53	18.02	19.08	10.65	18.46	19.56	0.00	0.00	8.44	0.00	0.00	7.86
Movement LOS	B	C	C	B	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.11	0.11	0.11	0.25	0.25	0.25	0.09	0.09	0.09	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	2.78	2.78	2.78	6.14	6.14	6.14	2.15	2.15	2.15	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.35			15.22			0.74			0.00		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	1.03											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 400: Shamrock Road at Agricola Drive

Control Type:	Roundabout	Delay (sec / veh):	6.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	1	0	0	393	18	3	4	312	3	9	494	51
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	0	393	18	3	4	312	3	9	494	51
Peak Hour Factor	1.0000	1.0000	0.9200	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9200	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	98	5	1	1	78	1	2	124	13
Total Analysis Volume [veh/h]	1	0	0	393	18	3	4	312	3	10	494	51
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	548			315			51			24		
Exiting Flow Rate [veh/h]	31			55			498			705		
Demand Flow Rate [veh/h]	1	0	0	393	18	3	4	312	3	9	494	51
Adjusted Demand Flow Rate [veh/h]	1	0	0	393	18	3	4	312	3	10	494	51

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	1	414	319	555
Capacity of Entry and Bypass Lanes [veh/h]	790	1001	1311	1347
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	790	1001	1311	1347
X, volume / capacity	0.00	0.41	0.24	0.41

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	2.06	0.96	2.06
95th-Percentile Queue Length [ft]	0.10	51.47	23.96	51.51
Approach Delay [s/veh]	4.57	8.18	4.85	6.60
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	6.67			
Intersection LOS	A			

Intersection Level Of Service Report

Intersection 500: Shamrock Road at Brightview Drive / Calla Lily Drive

Control Type:	Two-way stop	Delay (sec / veh):	29.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			20.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	2	0	0	0	0	1	11	619	22	52	484	27
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	0	0	0	0	1	11	619	22	52	484	27
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	0	0	0	3	155	6	13	121	7
Total Analysis Volume [veh/h]	2	0	0	0	0	1	11	619	22	52	484	27
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.02	0.00	0.00	0.03
d_M, Delay for Movement [s/veh]	11.37	26.90	29.55	12.54	27.68	29.82	0.00	0.00	8.53	0.00	0.00	8.85
Movement LOS	B	D	D	B	D	D	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.02	0.02	0.02	0.06	0.06	0.06	0.09	0.09	0.09
95th-Percentile Queue Length [ft/ln]	0.27	0.27	0.27	0.52	0.52	0.52	1.62	1.62	1.62	2.16	2.16	2.16
d_A, Approach Delay [s/veh]	11.37			29.82			0.29			0.42		
Approach LOS	B			D			A			A		
d_I, Intersection Delay [s/veh]	0.39											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 600: Shamrock Road at Beach Bay Road

Control Type:	Two-way stop	Delay (sec / veh):	48.3
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.405

Intersection Setup

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	22	49	525	94	24	542
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	22	49	525	94	24	542
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	13	144	26	7	149
Total Analysis Volume [veh/h]	24	54	577	103	26	596
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.41	0.01	0.11	0.00	0.01
d_M, Delay for Movement [s/veh]	28.48	48.27	0.00	9.16	0.00	0.00
Movement LOS	D	E	A	A	A	A
95th-Percentile Queue Length [veh/ln]	2.11	2.11	0.36	0.36	0.00	0.00
95th-Percentile Queue Length [ft/ln]	52.72	52.72	8.89	8.89	0.00	0.00
d_A, Approach Delay [s/veh]	42.18		1.39		0.00	
Approach LOS	E		A		A	
d_I, Intersection Delay [s/veh]	3.07					
Intersection LOS	E					

Intersection Level Of Service Report
Intersection 700: Shamrock Road at Northward Road

Control Type:	Two-way stop	Delay (sec / veh):	23.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.124

Intersection Setup

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	51	27	13	472	576	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	51	27	13	472	576	15
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	7	3	122	148	4
Total Analysis Volume [veh/h]	53	28	13	487	594	15
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.12	0.00	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	13.81	23.49	0.00	0.00	0.00	8.40
Movement LOS	B	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.80	0.80	0.00	0.00	0.04	0.04
95th-Percentile Queue Length [ft/ln]	20.11	20.11	0.00	0.00	1.06	1.06
d_A, Approach Delay [s/veh]	17.16		0.00		0.21	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	1.27					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 800: Shamrock Road at Condor Road

Control Type:	Two-way stop	Delay (sec / veh):	18.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.240

Intersection Setup

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Base Volume Input [veh/h]	1	0	0	4	0	84	91	289	2	0	342	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	0	4	0	84	91	289	2	0	342	12
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	1	0	21	23	72	1	0	86	3
Total Analysis Volume [veh/h]	1	0	0	4	0	84	91	289	2	0	342	12
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.00	0.24	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	10.11	15.67	15.38	13.31	18.30	18.56	0.00	0.00	7.94	0.00	0.00	8.06
Movement LOS	B	C	C	B	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.95	0.95	0.95	0.00	0.00	0.00	0.03	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.11	0.11	0.11	23.80	23.80	23.80	0.12	0.12	0.12	0.76	0.76	0.76
d_A, Approach Delay [s/veh]	10.11			18.32			0.04			0.27		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	2.10											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 901: Lookout Road at Bodden Town Bypass

Control Type:	Roundabout	Delay (sec / veh):	9.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name				Lookout Rd				An/Bo				An/Bo			
Approach	Northbound			Southbound				Eastbound				Westbound			
Lane Configuration															
Turning Movement	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			35.00				30.00				35.00			
Grade [%]	0.00			0.00				0.00				0.00			
Crosswalk	Yes			Yes				Yes				Yes			

Volumes

Name				Lookout Rd				An/Bo				An/Bo			
Base Volume Input [veh/h]	1	0	2	694	9	22	8	7	113	2	0	2	143	487	33
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	2	694	9	22	8	7	113	2	0	2	143	487	33
Peak Hour Factor	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	0	0	1	174	2	6	2	2	28	1	0	1	36	122	8
Total Analysis Volume [veh/h]	1	0	2	694	9	22	8	7	113	2	0	2	143	487	33
Pedestrian Volume [ped/h]	0			0				0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1				1				1			
Circulating Flow Rate [veh/h]	693			150				530				41			
Exiting Flow Rate [veh/h]	13			502				166				842			
Demand Flow Rate [veh/h]	1	0	2	694	9	22	8	7	113	2	0	2	143	487	33
Adjusted Demand Flow Rate [veh/h]	1	0	2	694	9	22	8	7	113	2	0	2	143	487	33

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	3	733	122	665
Capacity of Entry and Bypass Lanes [veh/h]	681	1185	804	1324
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	681	1185	804	1324
X, volume / capacity	0.00	0.62	0.15	0.50

Movement, Approach, & Intersection Results

Lane LOS	A	B	A	A
95th-Percentile Queue Length [veh]	0.01	4.51	0.53	2.93
95th-Percentile Queue Length [ft]	0.33	112.81	13.34	73.14
Approach Delay [s/veh]	5.33	10.94	6.04	7.95
Approach LOS	A	B	A	A
Intersection Delay [s/veh]	9.23			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 902: Bodden Town Road at Bodden Town Bypass

Control Type:	Roundabout	Delay (sec / veh):	11.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Bodden Town Bypass			Bodden Town Rd			Bodden Town Rd		
Approach	Southbound			Eastbound			Westbound		
Lane Configuration									
Turning Movement	Left	Right	U-turn	Left	Thru	U-turn	Thru	Right	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Bodden Town Bypass			Bodden Town Rd			Bodden Town Rd		
Base Volume Input [veh/h]	791	30	0	34	236	0	287	632	7
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	791	30	0	34	236	0	287	632	7
Peak Hour Factor	0.9400	0.9400	1.0000	0.9400	0.9400	1.0000	0.9400	0.9400	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	210	8	0	9	63	0	76	168	2
Total Analysis Volume [veh/h]	841	32	0	36	251	0	305	672	7
Pedestrian Volume [ped/h]	0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			2		
Circulating Flow Rate [veh/h]	258			679			32		
Exiting Flow Rate [veh/h]	708			337			1099		
Demand Flow Rate [veh/h]	791	30	0	34	236	0	287	632	7
Adjusted Demand Flow Rate [veh/h]	841	32	0	36	251	0	305	672	7

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1350.00
B (coefficient)	0.00085	0.00085	0.00085	0.00092
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	873	287	305	679
Capacity of Entry and Bypass Lanes [veh/h]	1141	798	1382	1311
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1141	798	1382	1311
X, volume / capacity	0.77	0.36	0.22	0.52

Movement, Approach, & Intersection Results

Lane LOS	C	A	A	A
95th-Percentile Queue Length [veh]	7.92	1.64	0.84	3.10
95th-Percentile Queue Length [ft]	197.97	41.12	21.11	77.55
Approach Delay [s/veh]	16.44	8.83	7.07	
Approach LOS	C	A	A	
Intersection Delay [s/veh]	11.12			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1000: Bodden Town Road at Long Fellow Drive

Control Type:	Roundabout	Delay (sec / veh):	5.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Longfellow Dr		Bodden Town Rd			Bodden Town Rd		
Approach	Southbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	Left	Thru	U-turn	Thru	Right	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		45.00			45.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	Yes		Yes			Yes		

Volumes

Name	Longfellow Dr		Bodden Town Rd			Bodden Town Rd		
Base Volume Input [veh/h]	0	12	24	915	0	848	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	12	24	915	0	848	0	0
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	1.0000	0.9100	0.9100	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	3	7	251	0	233	0	0
Total Analysis Volume [veh/h]	0	13	26	1005	0	932	0	0
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	2		1			1		
Circulating Flow Rate [veh/h]	1005		0			13		
Exiting Flow Rate [veh/h]	26		945			1005		
Demand Flow Rate [veh/h]	0	12	24	915	0	848	0	0
Adjusted Demand Flow Rate [veh/h]	0	13	26	1005	0	932	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	13	547	485	494	439
Capacity of Entry and Bypass Lanes [veh/h]	605	1420	1420	1404	1404
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	605	1420	1420	1404	1404
X, volume / capacity	0.02	0.38	0.34	0.35	0.31

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.07	1.85	1.53	1.61	1.35
95th-Percentile Queue Length [ft]	1.65	46.13	38.35	40.17	33.66
Approach Delay [s/veh]	6.20	5.81		5.51	
Approach LOS	A	A		A	
Intersection Delay [s/veh]	5.67				
Intersection LOS	A				

Intersection Level Of Service Report
Intersection 1100: Frank Sound Road at Bodden Town Road

Control Type:	Roundabout	Delay (sec / veh):	10.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Bodden Town Rd			Sea View Rd	
Approach	Southbound		Eastbound			Westbound	
Lane Configuration							
Turning Movement	Left	Right	Left	Thru	U-turn	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		45.00			50.00	
Grade [%]	0.00		0.00			0.00	
Crosswalk	Yes		Yes			Yes	

Volumes

Name	Frank Sound Rd		Bodden Town Rd			Sea View Rd	
Base Volume Input [veh/h]	143	467	477	361	0	342	118
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	143	467	477	361	0	342	118
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	1.0000	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	126	128	97	0	92	32
Total Analysis Volume [veh/h]	154	502	513	388	0	368	127
Pedestrian Volume [ped/h]	0		0			0	

Intersection Settings

Number of Conflicting Circulating Lanes	2		1			1	
Circulating Flow Rate [veh/h]	388		127			502	
Exiting Flow Rate [veh/h]	640		870			542	
Demand Flow Rate [veh/h]	143	467	477	361	0	342	118
Adjusted Demand Flow Rate [veh/h]	154	502	513	388	0	368	127

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1380.00
B (coefficient)	0.00085	0.00091	0.00091	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	656	513	388	495
Capacity of Entry and Bypass Lanes [veh/h]	1022	1266	1266	827
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1022	1266	1266	827
X, volume / capacity	0.64	0.41	0.31	0.60

Movement, Approach, & Intersection Results

Lane LOS	B	A	A	B
95th-Percentile Queue Length [veh]	4.87	2.00	1.31	4.07
95th-Percentile Queue Length [ft]	121.77	50.09	32.79	101.83
Approach Delay [s/veh]	12.84	6.30		13.62
Approach LOS	B	A		B
Intersection Delay [s/veh]	10.16			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1200: Frank Sound Road at Clifton Hunter High School

Control Type:	Two-way stop	Delay (sec / veh):	33.5
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.679

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd			
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		20.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Frank Sound Rd			
Base Volume Input [veh/h]	233	210	172	104	89	247
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	233	210	172	104	89	247
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	58	53	43	26	22	62
Total Analysis Volume [veh/h]	233	210	172	104	89	247
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.09	0.12	0.68
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	8.52	10.71	33.47
Movement LOS	A	A	A	A	B	D
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.30	0.30	0.42	4.78
95th-Percentile Queue Length [ft/ln]	0.00	0.00	7.60	7.60	10.53	119.57
d_A, Approach Delay [s/veh]	0.00		3.21		27.44	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	9.58					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 1300: Frank Sound Road at North Side Road/Old Robin Road

Control Type:	Two-way stop	Delay (sec / veh):	12.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.046

Intersection Setup

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Base Volume Input [veh/h]	168	37	33	144	80	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	168	37	33	144	80	22
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	47	10	9	40	22	6
Total Analysis Volume [veh/h]	189	42	37	162	90	25
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.03	0.00	0.00	0.10	0.05
d_M, Delay for Movement [s/veh]	0.00	7.68	0.00	0.00	9.97	12.38
Movement LOS	A	A	A	A	A	B
95th-Percentile Queue Length [veh/ln]	0.09	0.09	0.00	0.00	0.52	0.52
95th-Percentile Queue Length [ft/ln]	2.34	2.34	0.00	0.00	13.08	13.08
d_A, Approach Delay [s/veh]	1.40		0.00		10.49	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	2.81					
Intersection LOS	B					

Intersection Level Of Service Report

Intersection 1400: East-West Arterial at Agricola Drive Connector

Control Type:	Roundabout	Delay (sec / veh):	12.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			50.00			50.00			
Grade [%]	0.00			0.00			0.00			0.00			
Crosswalk	Yes			Yes			Yes			Yes			

Volumes

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Base Volume Input [veh/h]	62	23	2	53	27	8	37	984	449	3	493	48	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	62	23	2	53	27	8	37	984	449	3	493	48	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	16	6	1	13	7	2	9	246	112	1	123	12	0
Total Analysis Volume [veh/h]	62	23	2	53	27	8	37	984	449	3	493	48	0
Pedestrian Volume [ped/h]	0			0			0			0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1			1			
Circulating Flow Rate [veh/h]	549			1435			73			484			
Exiting Flow Rate [veh/h]	479			108			563			1039			
Demand Flow Rate [veh/h]	62	23	2	53	27	8	37	984	449	3	493	48	0
Adjusted Demand Flow Rate [veh/h]	62	23	2	53	27	8	37	984	449	3	493	48	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1380.00
B (coefficient)	0.00085	0.00085	0.00091	0.00091	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	87	88	1021	449	544
Capacity of Entry and Bypass Lanes [veh/h]	891	420	1329	1329	843
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	891	420	1329	1329	843
X, volume / capacity	0.10	0.21	0.77	0.34	0.65

Movement, Approach, & Intersection Results

Lane LOS	A	B	B	A	B
95th-Percentile Queue Length [veh]	0.32	0.78	8.20	1.51	4.84
95th-Percentile Queue Length [ft]	8.09	19.55	205.09	37.76	121.05
Approach Delay [s/veh]	4.97	11.90	12.10		14.95
Approach LOS	A	B	B		B
Intersection Delay [s/veh]	12.51				
Intersection LOS	B				

Intersection Level Of Service Report
Intersection 1501: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	11.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name							East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name							East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	1	0	1	0	0	0	0	953	86	0	4	541	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	1	0	0	0	0	953	86	0	4	541	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0	0	238	22	0	1	135	0	0
Total Analysis Volume [veh/h]	1	0	1	0	0	0	0	953	86	0	4	541	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1				
Circulating Flow Rate [veh/h]	541			1040			1				86				
Exiting Flow Rate [veh/h]	90			0			542				954				
Demand Flow Rate [veh/h]	1	0	1	0	0	0	0	953	86	0	4	541	0	0	
Adjusted Demand Flow Rate [veh/h]	1	0	1	0	0	0	0	953	86	0	4	541	0	0	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	2	0	1039	545
Capacity of Entry and Bypass Lanes [veh/h]	795	478	1379	1265
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	795	478	1379	1265
X, volume / capacity	0.00	0.00	0.75	0.43

Movement, Approach, & Intersection Results

Lane LOS	A	A	B	A
95th-Percentile Queue Length [veh]	0.01	0.00	7.76	2.22
95th-Percentile Queue Length [ft]	0.19	0.00	194.00	55.47
Approach Delay [s/veh]	4.55	7.54	13.86	7.14
Approach LOS	A	A	B	A
Intersection Delay [s/veh]	11.54			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1502: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	10.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name			East-West Arterial			East-West Arterial		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	Thru	Right	U-turn	Left	Thru	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00			50.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	Yes		Yes			Yes		

Volumes

Name			East-West Arterial			East-West Arterial		
Base Volume Input [veh/h]	15	1	924	30	0	1	530	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	1	924	30	0	1	530	22
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	0	231	8	0	0	133	6
Total Analysis Volume [veh/h]	15	1	924	30	0	1	530	22
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1		1			1		
Circulating Flow Rate [veh/h]	552		23			30		
Exiting Flow Rate [veh/h]	31		545			947		
Demand Flow Rate [veh/h]	15	1	924	30	0	1	530	22
Adjusted Demand Flow Rate [veh/h]	15	1	924	30	0	1	530	22

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	16	954	553
Capacity of Entry and Bypass Lanes [veh/h]	786	1349	1339
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	786	1349	1339
X, volume / capacity	0.02	0.71	0.41

Movement, Approach, & Intersection Results

Lane LOS	A	B	A
95th-Percentile Queue Length [veh]	0.06	6.43	2.07
95th-Percentile Queue Length [ft]	1.56	160.64	51.72
Approach Delay [s/veh]	4.78	12.39	6.64
Approach LOS	A	B	A
Intersection Delay [s/veh]	10.22		
Intersection LOS	B		

Intersection Level Of Service Report
Intersection 1600: East-West Arterial at Northward Rd

Control Type:	Two-way stop	Delay (sec / veh):	11.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.051

Intersection Setup

Name	Northward Rd		East-West Arterial		East-West Arterial	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		East-West Arterial		East-West Arterial	
Base Volume Input [veh/h]	28	0	947	0	21	525
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	28	0	947	0	21	525
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	0	237	0	5	131
Total Analysis Volume [veh/h]	28	0	947	0	21	525
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.00	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	11.91	0.00	0.00	0.00	0.00	0.00
Movement LOS	B		A		A	A
95th-Percentile Queue Length [veh/ln]	0.16	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	4.02	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.91		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.22					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1700: East-West Arterial at Lookout Rd

Control Type:	Roundabout	Delay (sec / veh):	10.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Lookout Rd		East-West Arterial			Lookout Rd		
Approach	Southbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	Left	Thru	U-turn	Thru	Right	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		35.00			35.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	Yes		Yes			Yes		

Volumes

Name	Lookout Rd		East-West Arterial			Lookout Rd		
Base Volume Input [veh/h]	0	0	0	797	150	498	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	797	150	498	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	199	38	125	0	0
Total Analysis Volume [veh/h]	0	0	0	797	150	498	0	0
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1		1			1		
Circulating Flow Rate [veh/h]	947		0			150		
Exiting Flow Rate [veh/h]	0		648			797		
Demand Flow Rate [veh/h]	0	0	0	797	150	498	0	0
Adjusted Demand Flow Rate [veh/h]	0	0	0	797	150	498	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	0	947	498
Capacity of Entry and Bypass Lanes [veh/h]	526	1380	1185
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	526	1380	1185
X, volume / capacity	0.00	0.69	0.42

Movement, Approach, & Intersection Results

Lane LOS	A	B	A
95th-Percentile Queue Length [veh]	0.00	5.91	2.12
95th-Percentile Queue Length [ft]	0.00	147.87	53.11
Approach Delay [s/veh]	6.85	11.53	7.33
Approach LOS	A	B	A
Intersection Delay [s/veh]	10.08		
Intersection LOS	B		

Intersection Level Of Service Report
Intersection 2000: Frank Sound Road at East-West Arterial

Control Type:	Unknown	Delay (sec / veh):	?
Analysis Method:	?	Level Of Service:	?
Analysis Period:	15 minutes	Volume to Capacity (v/c):	?

Intersection Setup

Name	Frank Sound Rd	Frank Sound Rd
Approach	Northeastbound	Southwestbound
Lane Configuration		
Turning Movement	Thru	Thru
Crosswalk	Yes	Yes

Volumes

Name	Frank Sound Rd	Frank Sound Rd
Base Volume Input [veh/h]	237	244
Base Volume Adjustment Factor	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00
Growth Factor	1.0000	1.0000
In-Process Volume [veh/h]	0	0
Site-Generated Trips [veh/h]	0	0
Diverted Trips [veh/h]	0	0
Pass-by Trips [veh/h]	0	0
Existing Site Adjustment Volume [veh/h]	0	0
Other Volume [veh/h]	0	0
Left-Turn on Red Volume [veh/h]	0	0
Total Hourly Volume [veh/h]	237	244
Peak Hour Factor	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000
Total 15-Minute Volume [veh/h]	59	61
Total Analysis Volume [veh/h]	237	244
Presence of On-Street Parking	No	No
On-Street Parking Maneuver Rate [/h]	0	0
Local Bus Stopping Rate [/h]	0	0
Pedestrian Volume [ped/h]	0	0

Intersection Level Of Service Report
Intersection 2100: Frank Sound Road at East-West Arterial

Control Type:	Unknown	Delay (sec / veh):	?
Analysis Method:	?	Level Of Service:	?
Analysis Period:	15 minutes	Volume to Capacity (v/c):	?

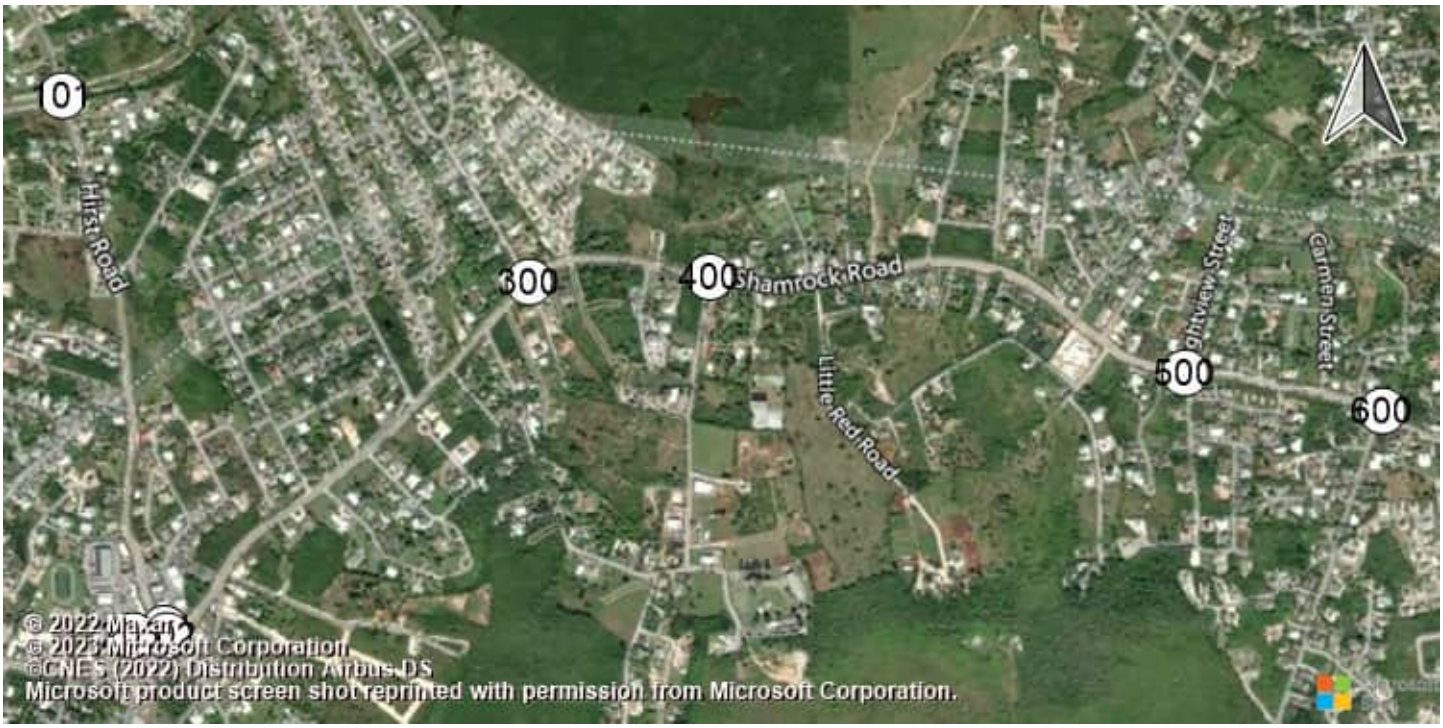
Intersection Setup

Name	Frank Sound Rd	Frank Sound Rd
Approach	Northbound	Southbound
Lane Configuration		
Turning Movement	Thru	Thru
Crosswalk	Yes	Yes

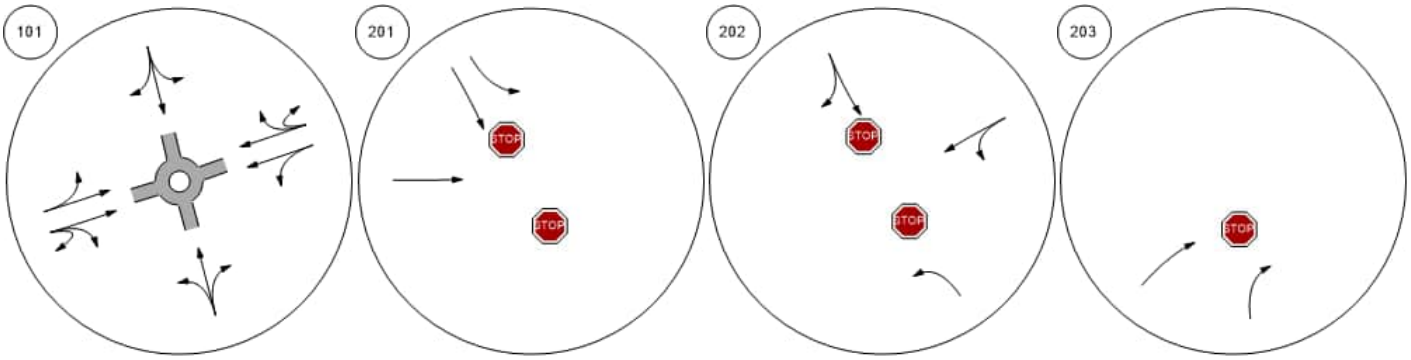
Volumes

Name	Frank Sound Rd	Frank Sound Rd
Base Volume Input [veh/h]	299	276
Base Volume Adjustment Factor	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00
Growth Factor	1.0000	1.0000
In-Process Volume [veh/h]	0	0
Site-Generated Trips [veh/h]	0	0
Diverted Trips [veh/h]	0	0
Pass-by Trips [veh/h]	0	0
Existing Site Adjustment Volume [veh/h]	0	0
Other Volume [veh/h]	0	0
Left-Turn on Red Volume [veh/h]	0	0
Total Hourly Volume [veh/h]	299	276
Peak Hour Factor	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000
Total 15-Minute Volume [veh/h]	75	69
Total Analysis Volume [veh/h]	299	276
Presence of On-Street Parking	No	No
On-Street Parking Maneuver Rate [/h]	0	0
Local Bus Stopping Rate [/h]	0	0
Pedestrian Volume [ped/h]	0	0

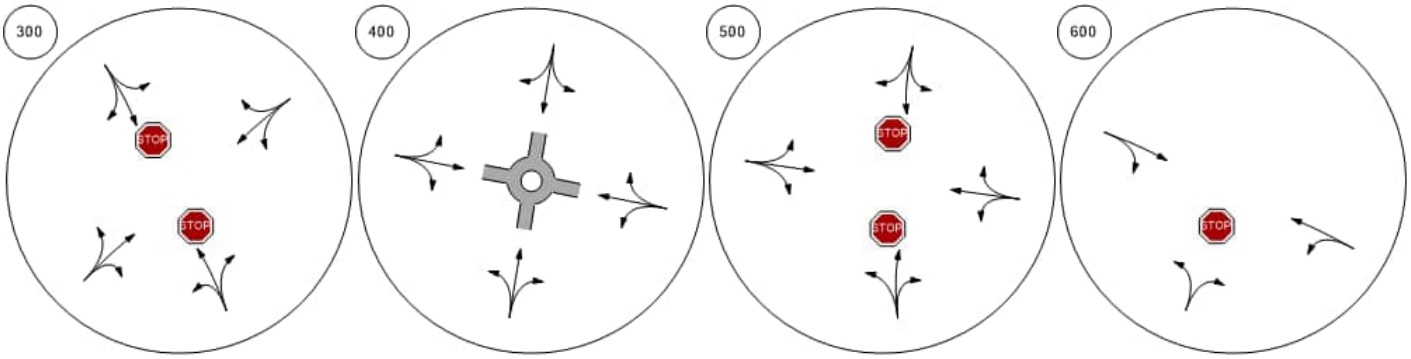
Lane Configuration and Traffic Control



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



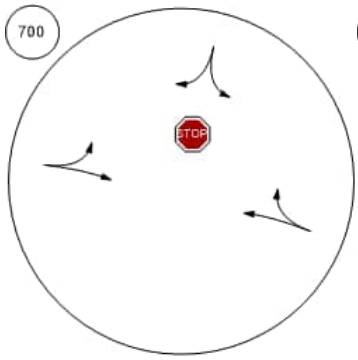
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



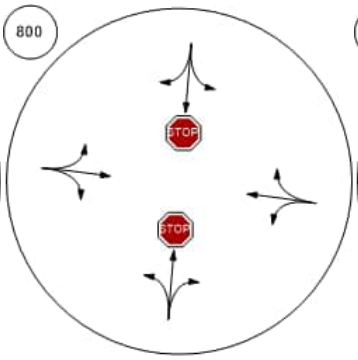
Lane Configuration and Traffic Control



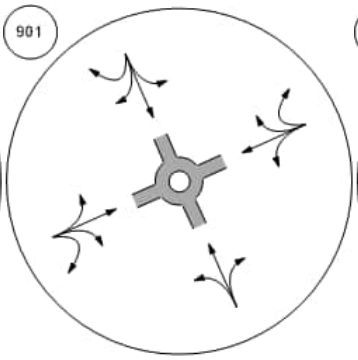
Shamrock Road at Northward



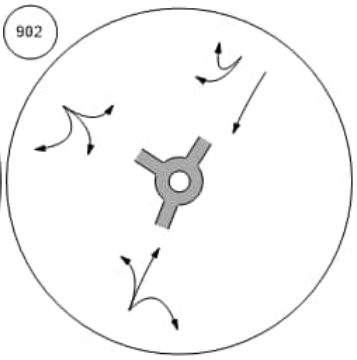
Shamrock Road at Condor R



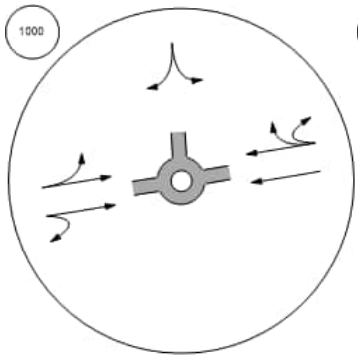
Lookout Road at Bodden To



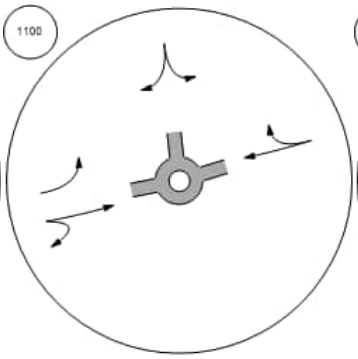
Bodden Town Road at Bodde



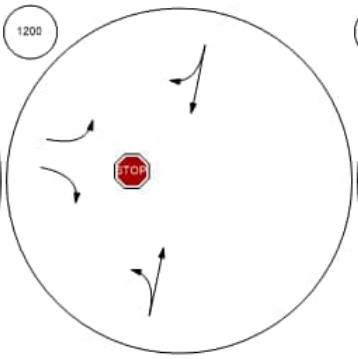
Bodden Town Road at Long



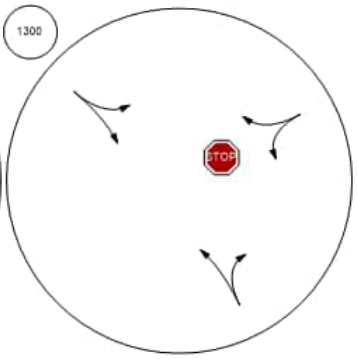
Frank Sound Road at Bodde



Frank Sound Road at Clifton



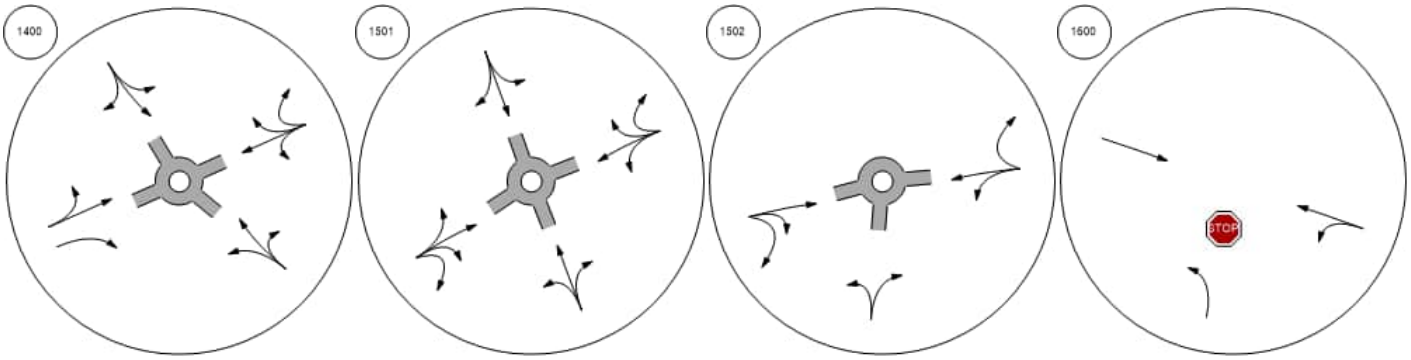
Frank Sound Road at North S



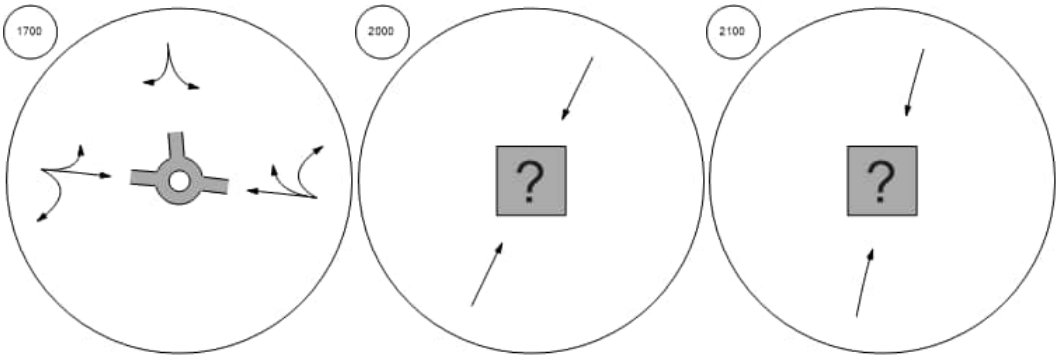
Lane Configuration and Traffic Control



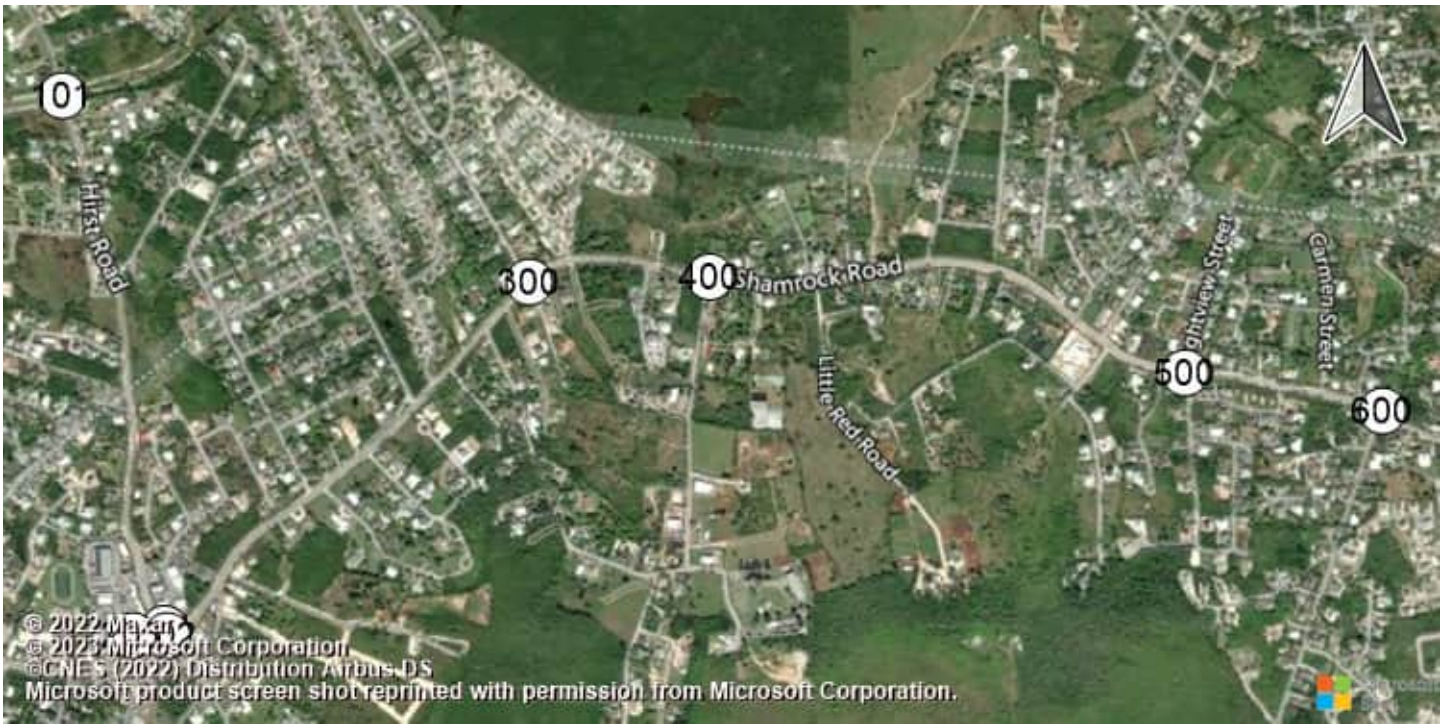
East-West Arterial at Agricola | East-West Arterial at Will T C | East-West Arterial at Will T C | East-West Arterial at Northwa



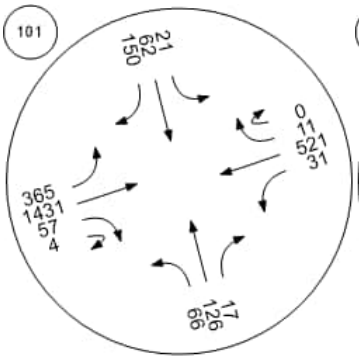
East-West Arterial at Lookout | Frank Sound Road at East-W | Frank Sound Road at East-W



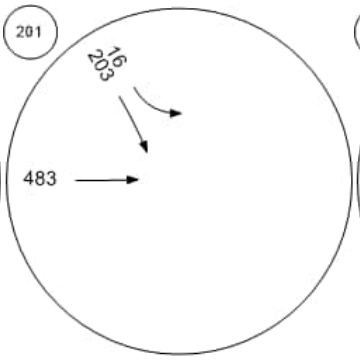
Traffic Volume - Base Volume



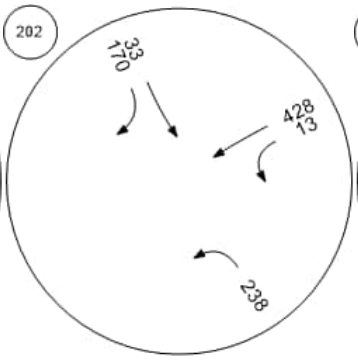
East-West Arterial Road at Hi



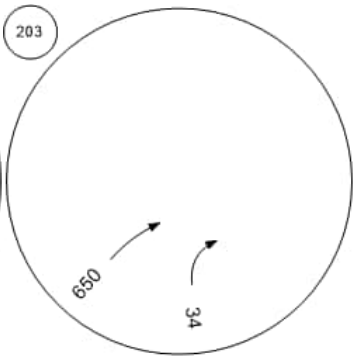
Shamrock Road at Hirst Rd (



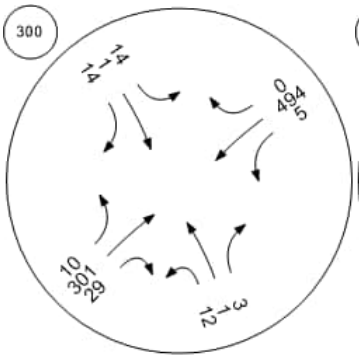
Shamrock Road at Hirst Rd (



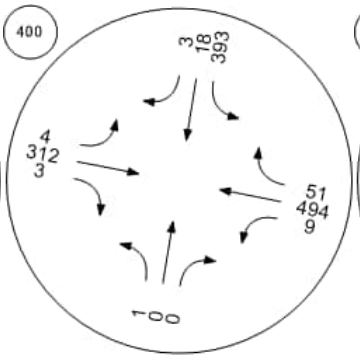
Shamrock Road atHirst Road



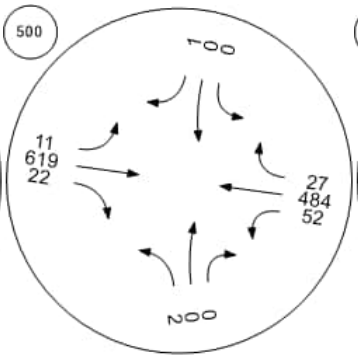
Shamrock Road at Woodland



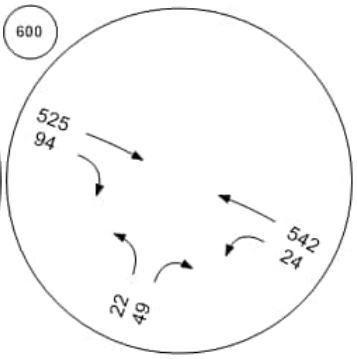
Shamrock Road at Agricola D



Shamrock Road at Brightview



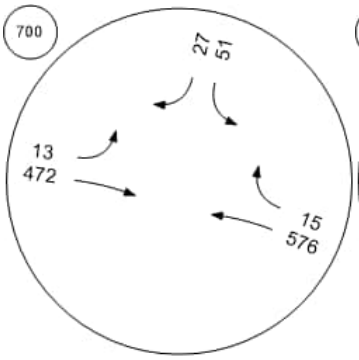
Shamrock Road at Beach Ba



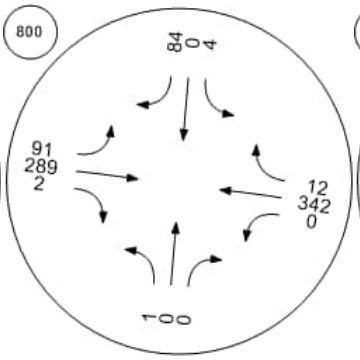
Traffic Volume - Base Volume



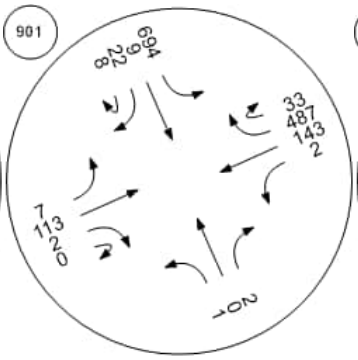
Shamrock Road at Northward



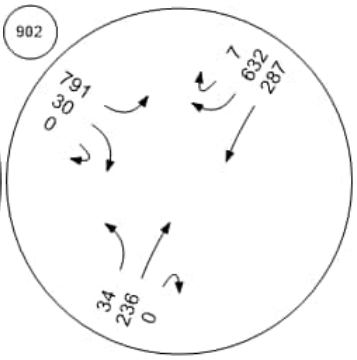
Shamrock Road at Condor R



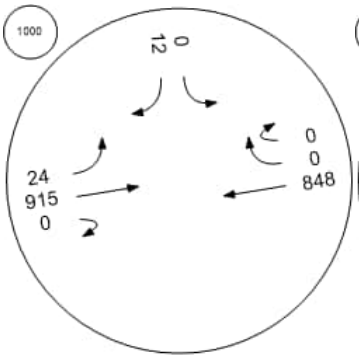
Lookout Road at Bodden To



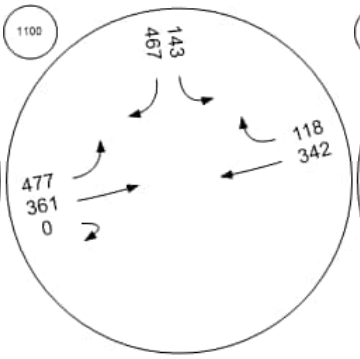
Bodden Town Road at Bodde



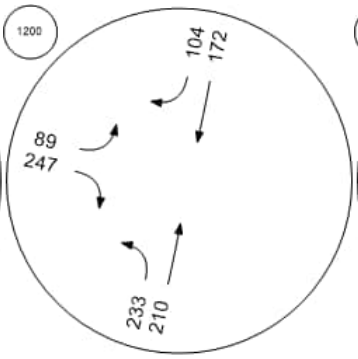
Bodden Town Road at Long



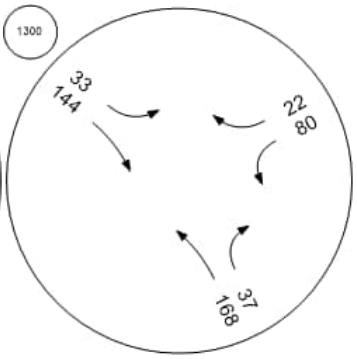
Frank Sound Road at Bodde



Frank Sound Road at Clifton



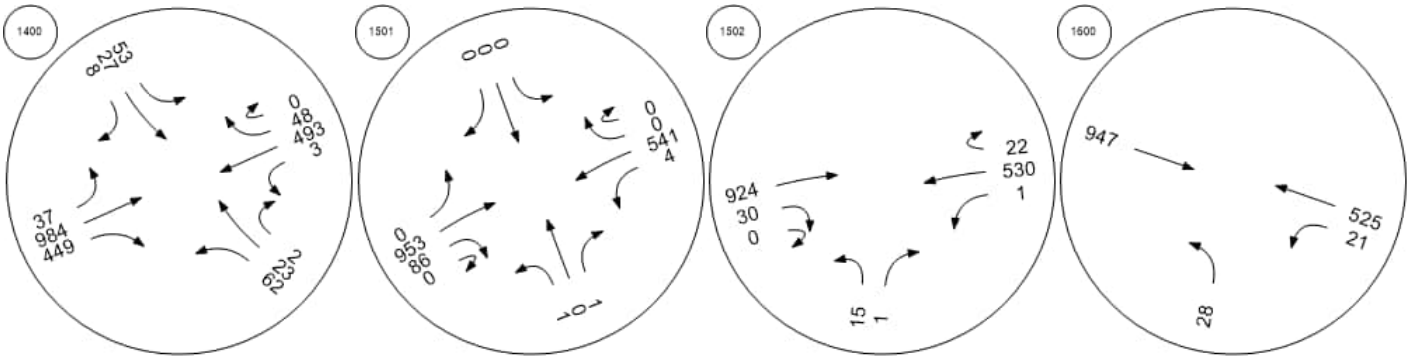
Frank Sound Road at North S



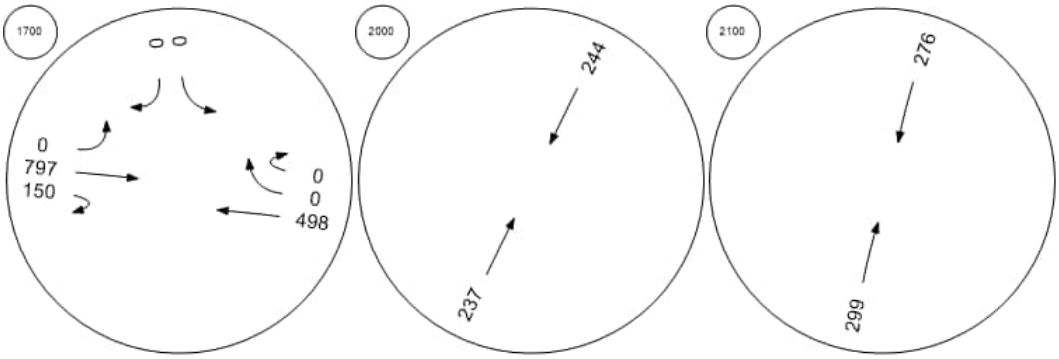
Traffic Volume - Base Volume



East-West Arterial at Agricola | East-West Arterial at Will T C | East-West Arterial at Will T C | East-West Arterial at Northwa



East-West Arterial at Lookout | Frank Sound Road at East-W | Frank Sound Road at East-W



Attachment D4

2046 Alternative VISTRO Reports

Intersection Level Of Service Report
Intersection 101: East-West Arterial Road at Hirst Road

Control Type:	Roundabout	Delay (sec / veh):	32.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes		

Intersection Setup

Name											East-West Arterial									
Approach	Northbound					Southbound					Eastbound					Westbound				
Lane Configuration																				
Turning Movement	Left	Left	Thru	Righ	Righ	Left	Left	Thru	Righ	Righ	Left	Thru	Thru	Righ	U-tu	Left	Thru	Thru	Righ	U-tu
Lane Width [ft]	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00					30.00					40.00					40.00				
Grade [%]	0.00					0.00					0.00					0.00				
Crosswalk	Yes					Yes					Yes					Yes				

Volumes

Name											East-West Arterial									
Base Volume Input [veh/h]	253	0	47	0	1	7	0	68	0	126	20	0	536	25	21	0	118	0	3	0
Base Volume Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	253	0	47	0	1	7	0	68	0	126	20	0	536	25	21	0	118	0	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	63	0	12	0	0	2	0	17	0	32	5	0	134	6	5	0	295	0	1	0
Total Analysis Volume [veh/h]	253	0	47	0	1	7	0	68	0	126	20	0	536	25	21	0	118	0	3	0
Pedestrian Volume [ped/h]	0					0					0					0				

Intersection Settings

Number of Conflicting Circulating Lanes	2					2					2					2				
Circulating Flow Rate [veh/h]	1331					583					51					240				
Exiting Flow Rate [veh/h]	93					70					1581					544				
Demand Flow Rate [veh/h]	253	0	47	0	1	7	0	68	0	126	20	0	536	25	21	0	118	0	3	0
Adjusted Demand Flow Rate [veh/h]	253	0	47	0	1	7	0	68	0	126	20	0	536	25	21	0	118	0	3	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1350.00	1420.00
B (coefficient)	0.00085	0.00085	0.00085	0.00092	0.00085
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	301	201	556	46	1184
Capacity of Entry and Bypass Lanes [veh/h]	459	866	1360	1289	1158
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	459	866	1360	1289	1158
X, volume / capacity	0.66	0.23	0.41	0.04	1.02

Movement, Approach, & Intersection Results

Lane LOS	C	A	A	A	F
95th-Percentile Queue Length [veh]	4.65	0.90	2.03	0.11	22.76
95th-Percentile Queue Length [ft]	116.20	22.46	50.85	2.78	569.04
Approach Delay [s/veh]	24.96	6.58	6.25		51.33
Approach LOS	C	A	A		F
Intersection Delay [s/veh]	32.07				
Intersection LOS	D				

Intersection Level Of Service Report
Intersection 201: Shamrock Road at Hirst Rd (1)

Control Type:	Two-way stop	Delay (sec / veh):	23.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.387

Intersection Setup

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	0	0	0	38	111	0	0	772	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	38	111	0	0	772	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	10	30	0	0	208	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	41	119	0	0	830	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop			Stop			Free			Free		
Flared Lane												
Storage Area [veh]	0			0			0			0		
Two-Stage Gap Acceptance				No								
Number of Storage Spaces in Median	0			0			0			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.11	0.39	0.00	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	15.84	23.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS				C	C			A				
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.37	1.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	9.18	43.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			21.81			0.00			0.00		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	3.53											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 202: Shamrock Road at Hirst Rd (2)

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.091

Intersection Setup

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	532	0	0	0	20	91	0	0	0	5	936	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	532	0	0	0	20	91	0	0	0	5	936	0
Peak Hour Factor	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	143	0	0	0	5	24	0	0	0	1	252	0
Total Analysis Volume [veh/h]	572	0	0	0	22	98	0	0	0	5	1006	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	1.94	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	465.55	0.00	0.00	0.00	10000.0	10000.0	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	F				F	F				A	A	
95th-Percentile Queue Length [veh/ln]	40.06	0.00	0.00	0.00	17.56	17.56	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1001.51	0.00	0.00	0.00	439.06	439.06	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	465.55			10000.00			0.00			0.00		
Approach LOS	F			F			A			A		
d_I, Intersection Delay [s/veh]	861.01											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 203: Shamrock Road atHirst Road Jughandle

Control Type:	Two-way stop	Delay (sec / veh):	24.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.449

Intersection Setup

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	0	135	812	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	135	812	0	0	0
Peak Hour Factor	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	36	218	0	0	0
Total Analysis Volume [veh/h]	0	145	873	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.45	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	24.89	0.00	0.00	0.00	0.00
Movement LOS		C	A			
95th-Percentile Queue Length [veh/ln]	0.00	2.22	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	55.48	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	24.89		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	3.54					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 300: Shamrock Road at Woodland Drive

Control Type:	Two-way stop	Delay (sec / veh):	52.8
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.181

Intersection Setup

Name	Woodland Dr			Woodland Dr			Shamrock Rd					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Woodland Dr			Woodland Dr			Shamrock Rd					
Base Volume Input [veh/h]	40	1	4	9	0	16	11	554	7	1	868	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	1	4	9	0	16	11	554	7	1	868	13
Peak Hour Factor	0.9700	0.9700	1.0000	1.0000	0.9700	0.9700	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	0	1	2	0	4	3	139	2	0	217	3
Total Analysis Volume [veh/h]	41	1	4	9	0	16	11	554	7	1	868	13
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.01	0.04	0.02	0.00	0.18	0.00	0.01	0.01	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	17.63	36.72	43.03	18.70	40.98	52.77	0.00	0.00	9.63	0.00	0.00	8.59
Movement LOS	C	E	E	C	E	F	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.57	0.57	0.57	0.70	0.70	0.70	0.03	0.03	0.03	0.04	0.04	0.04
95th-Percentile Queue Length [ft/ln]	14.36	14.36	14.36	17.58	17.58	17.58	0.68	0.68	0.68	0.97	0.97	0.97
d_A, Approach Delay [s/veh]	20.26			40.51			0.12			0.13		
Approach LOS	C			E			A			A		
d_I, Intersection Delay [s/veh]	1.39											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 400: Shamrock Road at Agricola Drive

Control Type:	Roundabout	Delay (sec / veh):	186.6
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	1	4	1	532	13	27	0	566	1	3	854	1121
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	4	1	532	13	27	0	566	1	3	854	1121
Peak Hour Factor	1.0000	1.0000	0.9200	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9200	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	0	133	3	7	0	142	0	1	214	280
Total Analysis Volume [veh/h]	1	4	1	532	13	27	0	566	1	3	854	1121
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	2002			568			1126			41		
Exiting Flow Rate [veh/h]	17			1125			882			1099		
Demand Flow Rate [veh/h]	1	4	1	532	13	27	0	566	1	3	854	1121
Adjusted Demand Flow Rate [veh/h]	1	4	1	532	13	27	0	566	1	3	854	1121

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	6	572	567	1978
Capacity of Entry and Bypass Lanes [veh/h]	180	774	438	1324
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	180	774	438	1324
X, volume / capacity	0.03	0.74	1.30	1.49

Movement, Approach, & Intersection Results

Lane LOS	C	C	F	F
95th-Percentile Queue Length [veh]	0.10	6.73	24.76	90.05
95th-Percentile Queue Length [ft]	2.59	168.24	619.03	2251.30
Approach Delay [s/veh]	20.97	20.36	175.79	238.20
Approach LOS	C	C	F	F
Intersection Delay [s/veh]	186.56			
Intersection LOS	F			

Intersection Level Of Service Report
Intersection 500: Shamrock Road at Brightview Drive / Calla Lily Drive

Control Type:	Two-way stop	Delay (sec / veh):	491.4
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.547

Intersection Setup

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			20.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	11	0	5	3	0	6	1	1105	1	0	1679	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	0	5	3	0	6	1	1105	1	0	1679	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	1	1	0	2	0	276	0	0	420	0
Total Analysis Volume [veh/h]	11	0	5	3	0	6	1	1105	1	0	1679	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.00	0.42	0.01	0.00	0.55	0.00	0.01	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	120.83	280.77	389.99	176.84	353.06	491.41	0.00	0.00	14.33	0.00	0.00	10.64
Movement LOS	F	F	F	F	F	F	A	A	B	A	A	B
95th-Percentile Queue Length [veh/ln]	1.67	1.67	1.67	1.45	1.45	1.45	0.01	0.01	0.01	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	41.68	41.68	41.68	36.16	36.16	36.16	0.19	0.19	0.19	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	204.94			386.55			0.01			0.00		
Approach LOS	F			F			A			A		
d_I, Intersection Delay [s/veh]	2.41											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 600: Shamrock Road at Beach Bay Road

Control Type:	Two-way stop	Delay (sec / veh):	1,458.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.634

Intersection Setup

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	3	2	1037	76	63	1676
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	2	1037	76	63	1676
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	285	21	17	460
Total Analysis Volume [veh/h]	3	2	1140	84	69	1842
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.63	0.01	0.27	0.00	0.02
d_M, Delay for Movement [s/veh]	357.07	1458.28	0.00	20.56	0.00	0.00
Movement LOS	F	F	A	C	A	A
95th-Percentile Queue Length [veh/ln]	1.22	1.22	1.05	1.05	0.00	0.00
95th-Percentile Queue Length [ft/ln]	30.56	30.56	26.35	26.35	0.00	0.00
d_A, Approach Delay [s/veh]	797.56		1.41		0.00	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	1.82					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 700: Shamrock Road at Northward Road

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.082

Intersection Setup

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	22	141	66	982	1563	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	22	141	66	982	1563	80
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	36	17	253	403	21
Total Analysis Volume [veh/h]	23	145	68	1012	1611	82
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.00	0.00	0.01	0.02	0.13
d_M, Delay for Movement [s/veh]	10000.00	10000.00	0.00	0.00	0.00	11.30
Movement LOS	F	F	A	A	A	B
95th-Percentile Queue Length [veh/ln]	23.66	23.66	0.00	0.00	0.43	0.43
95th-Percentile Queue Length [ft/ln]	591.56	591.56	0.00	0.00	10.70	10.70
d_A, Approach Delay [s/veh]	10000.00		0.00		0.55	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	571.55					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 800: Shamrock Road at Condor Road

Control Type:	Two-way stop	Delay (sec / veh):	152.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.665

Intersection Setup

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Base Volume Input [veh/h]	4	0	0	5	0	36	68	840	0	0	988	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	0	0	5	0	36	68	840	0	0	988	5
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	1	0	9	17	210	0	0	247	1
Total Analysis Volume [veh/h]	4	0	0	5	0	36	68	840	0	0	988	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.00	0.66	0.00	0.01	0.00	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	17.06	57.82	71.76	96.09	136.02	152.35	0.00	0.00	10.09	0.00	0.00	9.78
Movement LOS	C	F	F	F	F	F	A	A	B	A	A	A
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.04	2.89	2.89	2.89	0.00	0.00	0.00	0.02	0.02	0.02
95th-Percentile Queue Length [ft/ln]	1.00	1.00	1.00	72.32	72.32	72.32	0.00	0.00	0.00	0.50	0.50	0.50
d_A, Approach Delay [s/veh]	17.06			145.49			0.00			0.05		
Approach LOS	C			F			A			A		
d_I, Intersection Delay [s/veh]	3.13											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 902: Bodden Town Road at Bodden Town Bypass

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.532

Intersection Setup

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	171	17	10	837	1120	256
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	171	17	10	837	1120	256
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	45	5	3	223	298	68
Total Analysis Volume [veh/h]	182	18	11	890	1191	272
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.53	0.00	0.00	0.01	0.01	0.36
d_M, Delay for Movement [s/veh]	10000.00	10000.00	0.00	0.00	0.00	12.31
Movement LOS	F	F	A	A	A	B
95th-Percentile Queue Length [veh/ln]	27.71	27.71	0.00	0.00	1.62	1.62
95th-Percentile Queue Length [ft/ln]	692.67	692.67	0.00	0.00	40.51	40.51
d_A, Approach Delay [s/veh]	10000.00		0.00		2.29	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	781.34					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 1000: Bodden Town Road at Long Fellow Drive

Control Type:	Two-way stop	Delay (sec / veh):	157.7
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.406

Intersection Setup

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	0	14	1	932	1258	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	14	1	932	1258	0
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	4	0	256	346	0
Total Analysis Volume [veh/h]	0	15	1	1024	1382	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.41	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	72.75	157.73	0.00	0.00	0.00	10.25
Movement LOS	F	F	A	A	A	B
95th-Percentile Queue Length [veh/ln]	1.37	1.37	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	34.22	34.22	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	157.73		0.00		0.00	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	0.98					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 1100: Frank Sound Road at Bodden Town Road

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	26.750

Intersection Setup

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Base Volume Input [veh/h]	0	226	370	540	987	283
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	226	370	540	987	283
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	61	99	145	265	76
Total Analysis Volume [veh/h]	0	243	398	581	1061	304
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	26.75	0.00	0.01	0.01	0.30
d_M, Delay for Movement [s/veh]	10000.00	10000.00	0.00	0.00	0.00	10.14
Movement LOS	F	F	A	A	A	B
95th-Percentile Queue Length [veh/ln]	32.08	32.08	0.00	0.00	1.29	1.29
95th-Percentile Queue Length [ft/ln]	802.00	802.00	0.00	0.00	32.14	32.14
d_A, Approach Delay [s/veh]	10000.00		0.00		2.26	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	940.50					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 1200: Frank Sound Road at Clifton Hunter High School

Control Type:	Two-way stop	Delay (sec / veh):	144.9
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.757

Intersection Setup

Name	Frank Sound Rd			Frank Sound Rd			High School Access					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			20.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Frank Sound Rd			Frank Sound Rd			High School Access					
Base Volume Input [veh/h]	339	147	47	151	30	75	52	230	122	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	339	147	47	151	30	75	52	230	122	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	85	37	12	38	8	19	13	58	31	0	0	0
Total Analysis Volume [veh/h]	339	147	47	151	30	75	52	230	122	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.03	0.00	0.00	0.07	0.07	0.76	0.36	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.65	0.00	0.00	8.56	138.04	144.95	143.68	8.77	18.43	41.72
Movement LOS	A	A	A	A	A	A	F	F	F	A	C	E
95th-Percentile Queue Length [veh/ln]	0.10	0.10	0.10	0.22	0.22	0.22	16.91	16.91	16.91	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	2.59	2.59	2.59	5.55	5.55	5.55	422.66	422.66	422.66	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.67			2.51			143.68			22.97		
Approach LOS	A			A			F			C		
d_I, Intersection Delay [s/veh]	49.49											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 1300: Frank Sound Road at North Side Road/Old Robin Road

Control Type:	Two-way stop	Delay (sec / veh):	11.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Base Volume Input [veh/h]	122	54	8	114	34	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	122	54	8	114	34	2
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	15	2	32	10	1
Total Analysis Volume [veh/h]	137	61	9	128	38	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.04	0.00	0.00	0.04	0.00
d_M, Delay for Movement [s/veh]	0.00	7.57	0.00	0.00	9.09	11.30
Movement LOS	A	A	A	A	A	B
95th-Percentile Queue Length [veh/ln]	0.13	0.13	0.00	0.00	0.14	0.14
95th-Percentile Queue Length [ft/ln]	3.27	3.27	0.00	0.00	3.50	3.50
d_A, Approach Delay [s/veh]	2.33		0.00		9.20	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.21					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1400: East-West Arterial at Agricola Drive Connector

Control Type:	Roundabout	Delay (sec / veh):	16.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial		
Approach	Northbound			Southbound			Eastbound		
Lane Configuration									
Turning Movement	Left	Left	Thru	Thru	Right	Right	Left	Right	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial		
Base Volume Input [veh/h]	1184	0	31	74	0	0	0	543	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1184	0	31	74	0	0	0	543	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	296	0	8	19	0	0	0	136	0
Total Analysis Volume [veh/h]	1184	0	31	74	0	0	0	543	0
Pedestrian Volume [ped/h]	0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1		
Circulating Flow Rate [veh/h]	0			543			31		
Exiting Flow Rate [veh/h]	617			31			1184		
Demand Flow Rate [veh/h]	1184	0	31	74	0	0	0	543	0
Adjusted Demand Flow Rate [veh/h]	1184	0	31	74	0	0	0	543	0

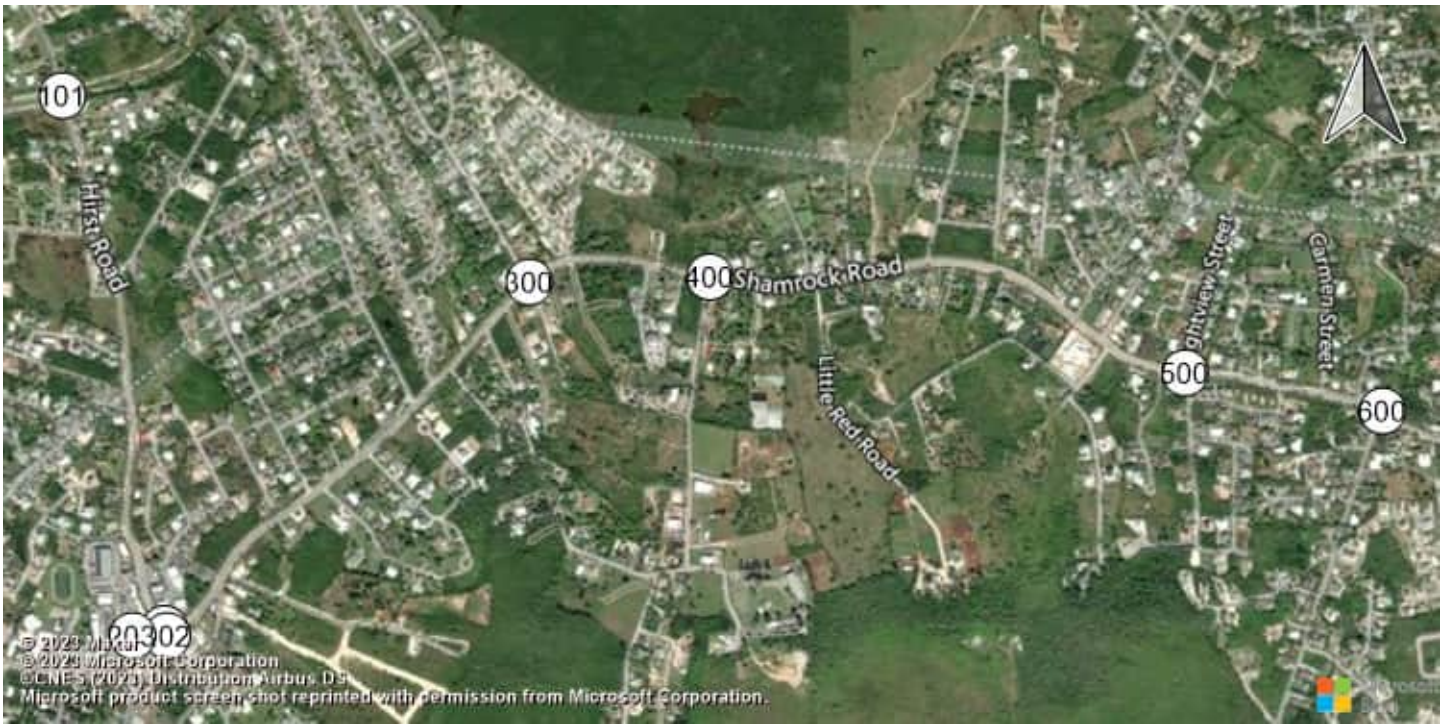
Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	1215	74	543
Capacity of Entry and Bypass Lanes [veh/h]	1380	794	1338
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1380	794	1338
X, volume / capacity	0.88	0.09	0.41

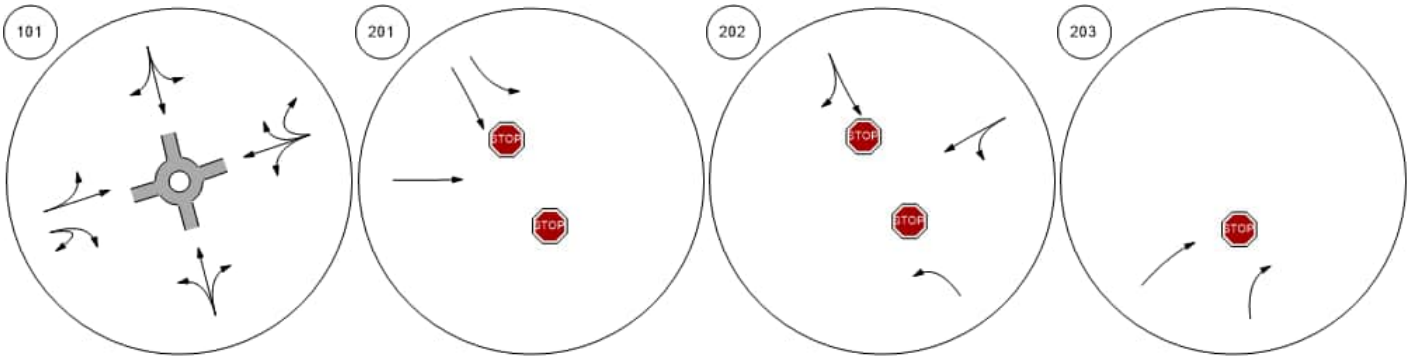
Movement, Approach, & Intersection Results

Lane LOS	C	A	A
95th-Percentile Queue Length [veh]	13.39	0.31	2.01
95th-Percentile Queue Length [ft]	334.84	7.69	50.27
Approach Delay [s/veh]	22.03	5.47	6.55
Approach LOS	C	A	A
Intersection Delay [s/veh]	16.77		
Intersection LOS	C		

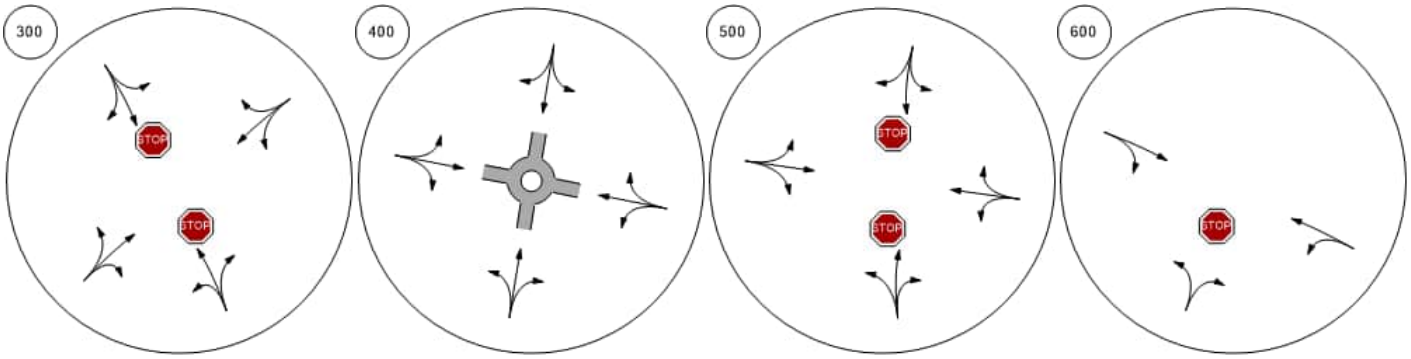
Lane Configuration and Traffic Control



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



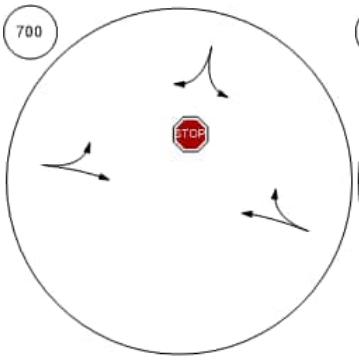
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



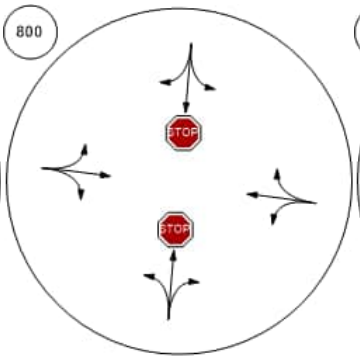
Lane Configuration and Traffic Control



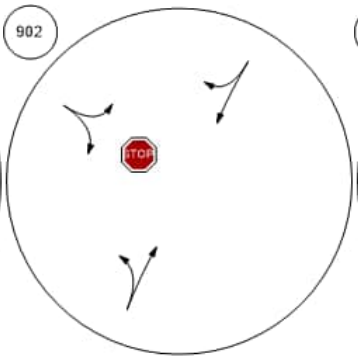
Shamrock Road at Northward



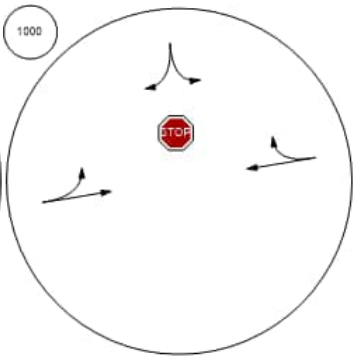
Shamrock Road at Condor R



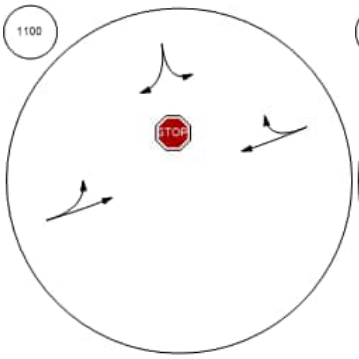
Bodden Town Road at Bodde



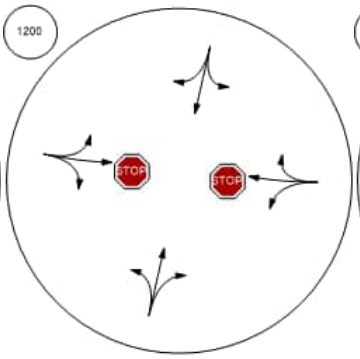
Bodden Town Road at Long



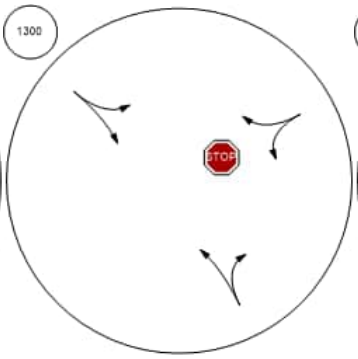
Frank Sound Road at Bodde



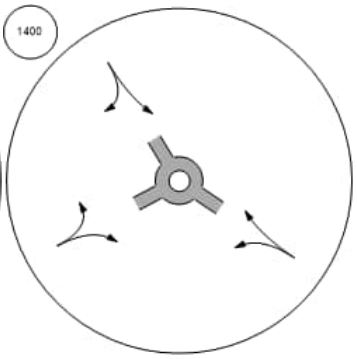
Frank Sound Road at Clifton



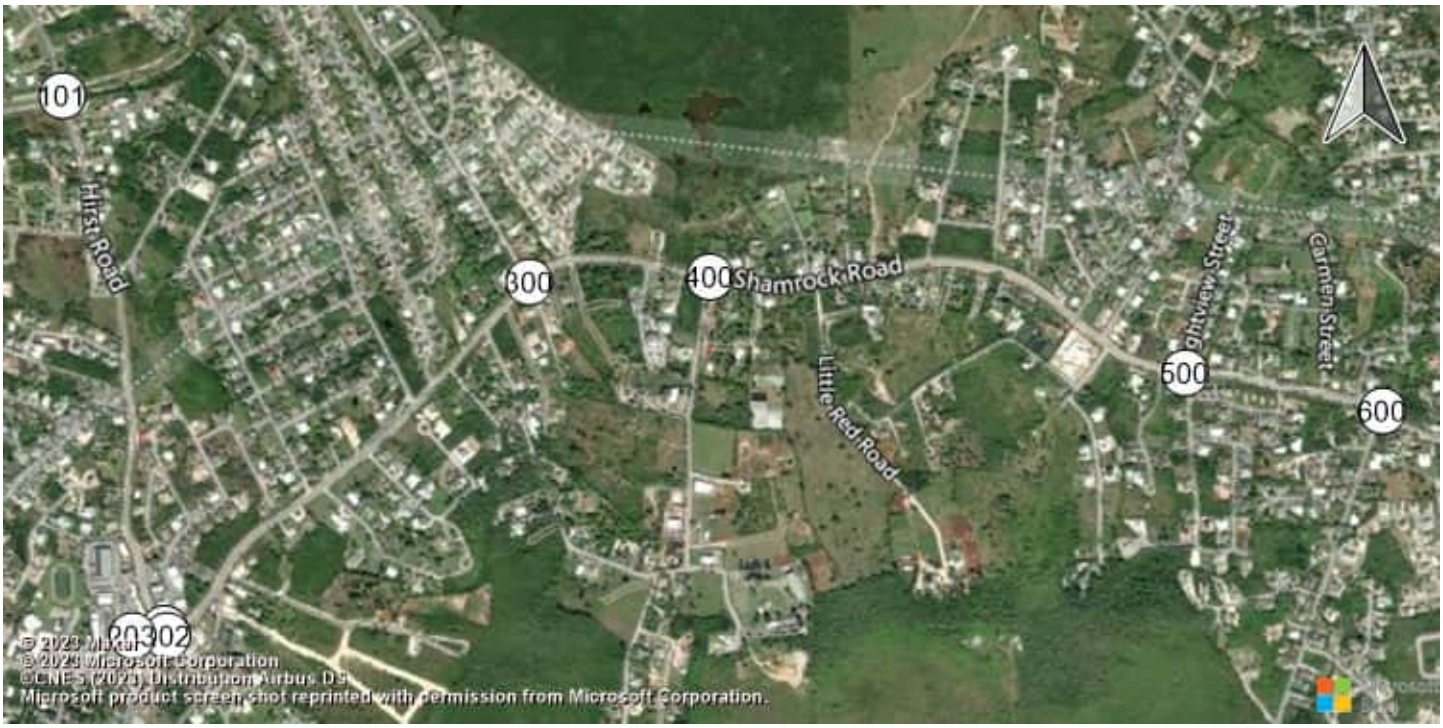
Frank Sound Road at North S



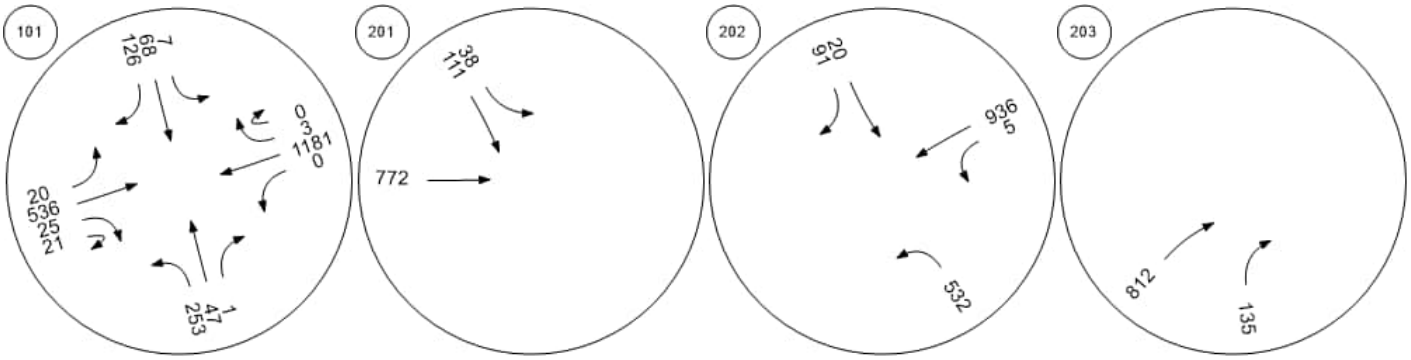
East-West Arterial at Agricola



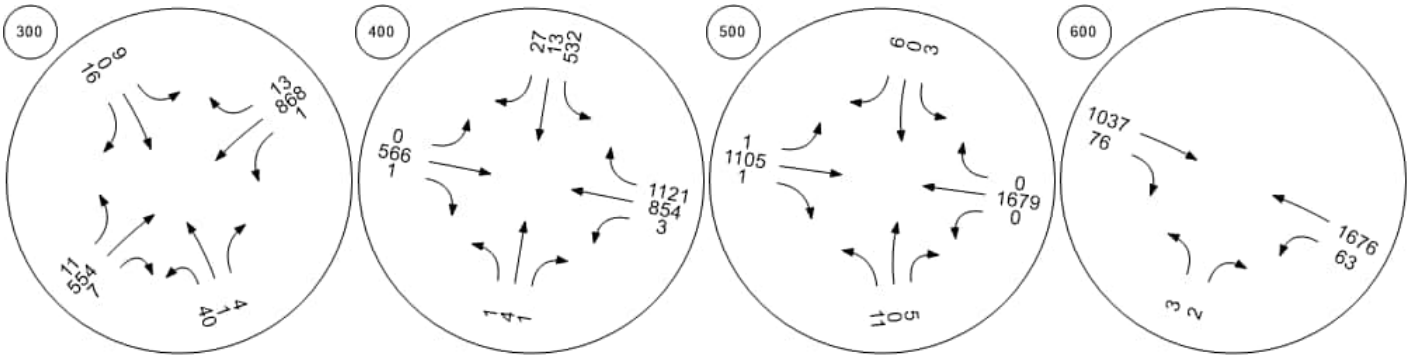
Traffic Volume - Base Volume



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



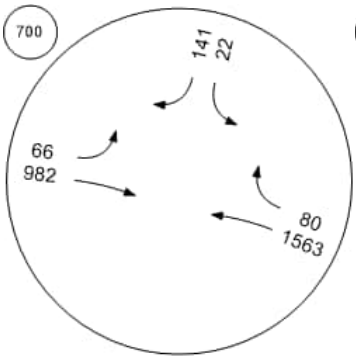
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



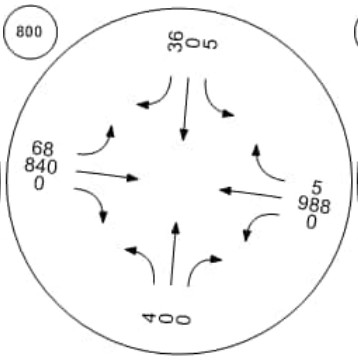
Traffic Volume - Base Volume



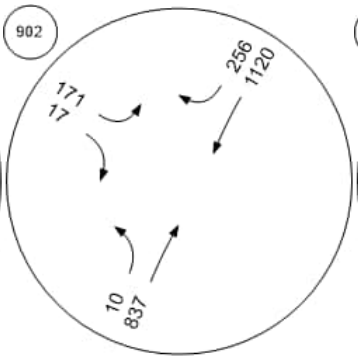
Shamrock Road at Northward



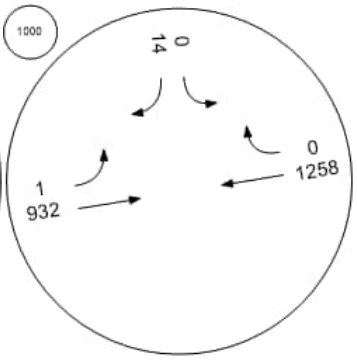
Shamrock Road at Condor R



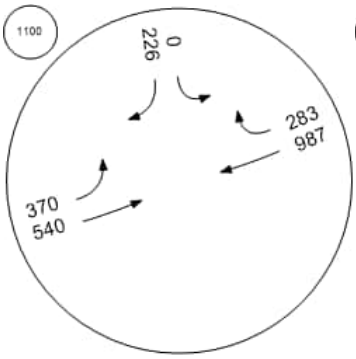
Bodden Town Road at Bodde



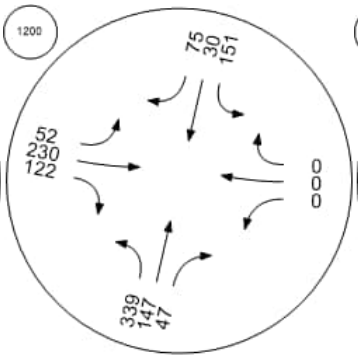
Bodden Town Road at Long



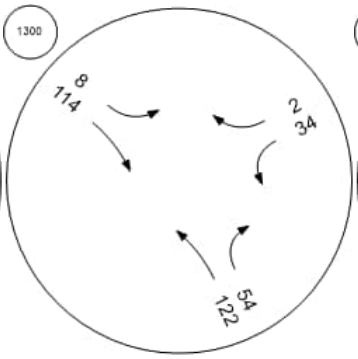
Frank Sound Road at Bodde



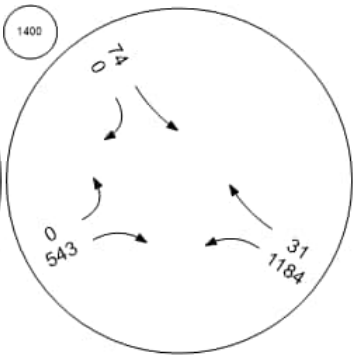
Frank Sound Road at Clifton



Frank Sound Road at North S



East-West Arterial at Agricola



Intersection Level Of Service Report
Intersection 101: East-West Arterial Road at Hirst Road

Control Type:	Roundabout	Delay (sec / veh):	9.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name											East-West Arterial									
Approach	Northbound					Southbound					Eastbound					Westbound				
Lane Configuration																				
Turning Movement	Left	Left	Thru	Righ	Righ	Left	Left	Thru	Righ	Righ	Left	Thru	Thru	Righ	U-tu	Left	Thru	Thru	Righ	U-tu
Lane Width [ft]	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00					30.00					40.00					40.00				
Grade [%]	0.00					0.00					0.00					0.00				
Crosswalk	Yes					Yes					Yes					Yes				

Volumes

Name											East-West Arterial									
Base Volume Input [veh/h]	188	0	134	0	5	17	0	74	0	21	97	0	704	623	4	20	142	0	7	0
Base Volume Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	188	0	134	0	5	17	0	74	0	21	97	0	704	623	4	20	142	0	7	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	47	0	34	0	1	4	0	19	0	5	24	0	176	156	1	5	36	0	2	0
Total Analysis Volume [veh/h]	188	0	134	0	5	17	0	74	0	21	97	0	704	623	4	20	142	0	7	0
Pedestrian Volume [ped/h]	0					0					0					0				

Intersection Settings

Number of Conflicting Circulating Lanes	2					2					2					2				
Circulating Flow Rate [veh/h]	174					1336					146					722				
Exiting Flow Rate [veh/h]	717					238					355					726				
Demand Flow Rate [veh/h]	188	0	134	0	5	17	0	74	0	21	97	0	704	623	4	20	142	0	7	0
Adjusted Demand Flow Rate [veh/h]	188	0	134	0	5	17	0	74	0	21	97	0	704	623	4	20	142	0	7	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1350.00	1420.00
B (coefficient)	0.00085	0.00085	0.00085	0.00092	0.00085
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	327	112	801	627	169
Capacity of Entry and Bypass Lanes [veh/h]	1225	457	1255	1181	769
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1225	457	1255	1181	769
X, volume / capacity	0.27	0.25	0.64	0.53	0.22

Movement, Approach, & Intersection Results

Lane LOS	A	B	B	A	A
95th-Percentile Queue Length [veh]	1.08	0.96	4.88	3.25	0.84
95th-Percentile Queue Length [ft]	27.06	23.88	122.02	81.18	20.90
Approach Delay [s/veh]	5.34	11.67	10.16		7.10
Approach LOS	A	B	B		A
Intersection Delay [s/veh]	9.22				
Intersection LOS	A				

Intersection Level Of Service Report
Intersection 201: Shamrock Road at Hirst Rd (1)

Control Type:	Two-way stop	Delay (sec / veh):	378.4
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.718

Intersection Setup

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	0	0	0	317	360	0	0	988	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	317	360	0	0	988	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	85	97	0	0	266	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	341	387	0	0	1062	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	1.24	1.72	0.00	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	174.96	378.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS				F	F			A				
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	16.24	25.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	406.03	645.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			283.11			0.00			0.00		
Approach LOS	A			F			A			A		
d_I, Intersection Delay [s/veh]	115.14											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 202: Shamrock Road at Hirst Rd (2)

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.596

Intersection Setup

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	253	0	0	0	300	60	0	0	0	11	1050	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	253	0	0	0	300	60	0	0	0	11	1050	0
Peak Hour Factor	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	68	0	0	0	81	16	0	0	0	3	282	0
Total Analysis Volume [veh/h]	272	0	0	0	323	65	0	0	0	12	1129	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	1.09	0.00	0.00	0.00	1.60	0.00	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	127.83	0.00	0.00	0.00	10000.0	10000.0	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	F				F	F				A	A	
95th-Percentile Queue Length [veh/ln]	11.67	0.00	0.00	0.00	51.33	51.33	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	291.81	0.00	0.00	0.00	1283.36	1283.36	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	127.83			10000.00			0.00			0.00		
Approach LOS	F			F			A			A		
d_I, Intersection Delay [s/veh]	2173.66											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 203: Shamrock Road atHirst Road Jughandle

Control Type:	Two-way stop	Delay (sec / veh):	28.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.225

Intersection Setup

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	0	42	1136	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	42	1136	0	0	0
Peak Hour Factor	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	11	305	0	0	0
Total Analysis Volume [veh/h]	0	45	1222	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.22	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	28.12	0.00	0.00	0.00	0.00
Movement LOS		D	A			
95th-Percentile Queue Length [veh/ln]	0.00	0.83	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	20.85	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	28.12		0.00		0.00	
Approach LOS	D		A		A	
d_I, Intersection Delay [s/veh]	1.00					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 300: Shamrock Road at Woodland Drive

Control Type:	Two-way stop	Delay (sec / veh):	294.6
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.570

Intersection Setup

Name	Woodland Dr			Woodland Dr			Shamrock Rd					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Woodland Dr			Woodland Dr			Shamrock Rd					
Base Volume Input [veh/h]	12	1	3	18	1	11	8	1202	29	5	1109	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	1	3	18	1	11	8	1202	29	5	1109	4
Peak Hour Factor	0.9700	0.9700	1.0000	1.0000	0.9700	0.9700	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	1	5	0	3	2	301	7	1	277	1
Total Analysis Volume [veh/h]	12	1	3	18	1	11	8	1202	30	5	1109	4
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.03	0.16	0.08	0.03	0.57	0.00	0.01	0.05	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	35.80	146.44	215.92	124.03	232.50	294.63	0.00	0.00	10.96	0.00	0.00	11.21
Movement LOS	E	F	F	F	F	F	A	A	B	A	A	B
95th-Percentile Queue Length [veh/ln]	0.85	0.85	0.85	2.60	2.60	2.60	0.15	0.15	0.15	0.02	0.02	0.02
95th-Percentile Queue Length [ft/ln]	21.21	21.21	21.21	64.96	64.96	64.96	3.72	3.72	3.72	0.52	0.52	0.52
d_A, Approach Delay [s/veh]	76.49			190.20			0.27			0.04		
Approach LOS	F			F			A			A		
d_I, Intersection Delay [s/veh]	3.04											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 400: Shamrock Road at Agricola Drive

Control Type:	Roundabout	Delay (sec / veh):	126.2
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	2	0	0	716	3	0	1	1214	9	9	1116	182
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	0	0	716	3	0	1	1214	9	9	1116	182
Peak Hour Factor	1.0000	1.0000	0.9200	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9200	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	179	1	0	0	304	2	2	279	46
Total Analysis Volume [veh/h]	2	0	0	716	3	0	1	1214	9	10	1116	182
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	1298			1223			182			12		
Exiting Flow Rate [veh/h]	22			183			1118			1930		
Demand Flow Rate [veh/h]	2	0	0	716	3	0	1	1214	9	9	1116	182
Adjusted Demand Flow Rate [veh/h]	2	0	0	716	3	0	1	1214	9	10	1116	182

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	2	719	1224	1308
Capacity of Entry and Bypass Lanes [veh/h]	368	397	1147	1364
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	368	397	1147	1364
X, volume / capacity	0.01	1.81	1.07	0.96

Movement, Approach, & Intersection Results

Lane LOS	A	F	F	D
95th-Percentile Queue Length [veh]	0.02	46.17	26.83	18.96
95th-Percentile Queue Length [ft]	0.41	1154.18	670.81	474.09
Approach Delay [s/veh]	9.89	399.57	65.16	33.30
Approach LOS	A	F	F	D
Intersection Delay [s/veh]	126.23			
Intersection LOS	F			

Intersection Level Of Service Report
Intersection 500: Shamrock Road at Brightview Drive / Calla Lily Drive

Control Type:	Two-way stop	Delay (sec / veh):	3,196.5
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.670

Intersection Setup

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			20.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	3	0	0	0	0	1	15	1709	21	53	1187	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	0	0	0	0	1	15	1709	21	53	1187	23
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	0	0	0	4	427	5	13	297	6
Total Analysis Volume [veh/h]	3	0	0	0	0	1	15	1709	21	53	1187	23
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.67	0.00	0.02	0.04	0.00	0.01	0.06
d_M, Delay for Movement [s/veh]	21.32	3811.09	2377.23	818.05	4703.14	3196.47	0.00	0.00	11.57	0.00	0.00	15.33
Movement LOS	C	F	F	F	F	F	A	A	B	A	A	C
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.04	0.58	0.58	0.58	0.11	0.11	0.11	0.20	0.20	0.20
95th-Percentile Queue Length [ft/ln]	1.02	1.02	1.02	14.56	14.56	14.56	2.87	2.87	2.87	4.93	4.93	4.93
d_A, Approach Delay [s/veh]	21.32			3196.47			0.14			0.28		
Approach LOS	C			F			A			A		
d_I, Intersection Delay [s/veh]	1.28											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 600: Shamrock Road at Beach Bay Road

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.140

Intersection Setup

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	23	7	1705	4	28	1240
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	23	7	1705	4	28	1240
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	2	468	1	8	341
Total Analysis Volume [veh/h]	25	8	1874	4	31	1363
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.00	0.02	0.01	0.00	0.01
d_M, Delay for Movement [s/veh]	10000.00	10000.00	0.00	12.30	0.00	0.00
Movement LOS	F	F	A	B	A	A
95th-Percentile Queue Length [veh/ln]	6.14	6.14	0.02	0.02	0.00	0.00
95th-Percentile Queue Length [ft/ln]	153.51	153.51	0.61	0.61	0.00	0.00
d_A, Approach Delay [s/veh]	10000.00		0.03		0.00	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	99.86					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 700: Shamrock Road at Northward Road

Control Type:	Two-way stop	Delay (sec / veh):	5,832.8
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	11.576

Intersection Setup

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	54	75	109	1514	1230	62
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	54	75	109	1514	1230	62
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	19	28	390	317	16
Total Analysis Volume [veh/h]	56	77	112	1561	1268	64
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.43	11.58	0.00	0.02	0.01	0.16
d_M, Delay for Movement [s/veh]	5319.49	5832.84	0.00	0.00	0.00	16.08
Movement LOS	F	F	A	A	A	C
95th-Percentile Queue Length [veh/ln]	18.01	18.01	0.00	0.00	0.58	0.58
95th-Percentile Queue Length [ft/ln]	450.25	450.25	0.00	0.00	14.57	14.57
d_A, Approach Delay [s/veh]	5616.69		0.00		0.77	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	238.38					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 800: Shamrock Road at Condor Road

Control Type:	Two-way stop	Delay (sec / veh):	37.8
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.430

Intersection Setup

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Base Volume Input [veh/h]	1	0	0	81	0	0	98	1292	2	0	986	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	0	81	0	0	98	1292	2	0	986	15
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	20	0	0	25	323	1	0	247	4
Total Analysis Volume [veh/h]	1	0	0	81	0	0	98	1292	2	0	986	15
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.43	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.03
d_M, Delay for Movement [s/veh]	16.91	122.19	293.34	37.84	127.71	172.92	0.00	0.00	10.09	0.00	0.00	12.44
Movement LOS	C	F	F	E	F	F	A	A	B	A	A	B
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	1.98	1.98	1.98	0.01	0.01	0.01	0.09	0.09	0.09
95th-Percentile Queue Length [ft/ln]	0.25	0.25	0.25	49.38	49.38	49.38	0.21	0.21	0.21	2.32	2.32	2.32
d_A, Approach Delay [s/veh]	16.91			37.84			0.01			0.19		
Approach LOS	C			E			A			A		
d_I, Intersection Delay [s/veh]	1.33											
Intersection LOS	E											

Intersection Level Of Service Report
Intersection 902: Bodden Town Road at Bodden Town Bypass

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.177

Intersection Setup

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	28	18	24	1322	932	221
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	28	18	24	1322	932	221
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	5	6	352	248	59
Total Analysis Volume [veh/h]	30	19	26	1406	991	235
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.18	0.00	0.00	0.01	0.01	0.49
d_M, Delay for Movement [s/veh]	10000.00	10000.00	0.00	0.00	0.00	19.44
Movement LOS	F	F	A	A	A	C
95th-Percentile Queue Length [veh/ln]	8.33	8.33	0.00	0.00	2.64	2.64
95th-Percentile Queue Length [ft/ln]	208.27	208.27	0.00	0.00	66.06	66.06
d_A, Approach Delay [s/veh]	10000.00		0.00		3.73	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	182.70					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 1000: Bodden Town Road at Long Fellow Drive

Control Type:	Two-way stop	Delay (sec / veh):	197.9
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.435

Intersection Setup

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	0	12	24	1234	1076	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	12	24	1234	1076	0
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	3	7	339	296	0
Total Analysis Volume [veh/h]	0	13	26	1356	1182	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.44	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	97.21	197.90	0.00	0.00	0.00	12.17
Movement LOS	F	F	A	A	A	B
95th-Percentile Queue Length [veh/ln]	1.39	1.39	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	34.82	34.82	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	197.90		0.00		0.00	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	1.00					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 1100: Frank Sound Road at Bodden Town Road

Control Type:	Two-way stop	Delay (sec / veh):	3,882.5
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	8.963

Intersection Setup

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Base Volume Input [veh/h]	0	212	473	693	834	176
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	212	473	693	834	176
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	57	127	186	224	47
Total Analysis Volume [veh/h]	0	228	509	745	897	189
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	8.96	0.01	0.01	0.01	0.22
d_M, Delay for Movement [s/veh]	3753.09	3882.52	0.00	0.00	0.00	10.27
Movement LOS	F	F	A	A	A	B
95th-Percentile Queue Length [veh/ln]	28.34	28.34	0.00	0.00	0.82	0.82
95th-Percentile Queue Length [ft/ln]	708.43	708.43	0.00	0.00	20.56	20.56
d_A, Approach Delay [s/veh]	3882.52		0.00		1.79	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	345.47					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 1200: Frank Sound Road at Clifton Hunter High School

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Frank Sound Rd			Frank Sound Rd			High School Access					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			20.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Frank Sound Rd			Frank Sound Rd			High School Access					
Base Volume Input [veh/h]	296	226	46	126	23	110	91	264	57	0	1	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	296	226	46	126	23	110	91	264	57	0	1	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	74	57	12	32	6	28	23	66	14	0	0	0
Total Analysis Volume [veh/h]	296	226	46	126	23	110	91	264	57	0	1	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.03	0.00	0.00	0.10	0.13	1.02	0.20	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.57	0.00	0.00	8.81	210.01	218.66	217.57	10000.0	10000.0	10000.0
Movement LOS	A	A	A	A	A	A	F	F	F	F	F	F
95th-Percentile Queue Length [veh/ln]	0.10	0.10	0.10	0.35	0.35	0.35	21.04	21.04	21.04	0.68	0.68	0.68
95th-Percentile Queue Length [ft/ln]	2.47	2.47	2.47	8.71	8.71	8.71	526.10	526.10	526.10	16.95	16.95	16.95
d_A, Approach Delay [s/veh]	0.61			3.74			216.60			10000.00		
Approach LOS	A			A			F			F		
d_I, Intersection Delay [s/veh]	81.09											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 1300: Frank Sound Road at North Side Road/Old Robin Road

Control Type:	Two-way stop	Delay (sec / veh):	12.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.050

Intersection Setup

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Base Volume Input [veh/h]	178	39	33	159	40	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	178	39	33	159	40	23
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	50	11	9	45	11	6
Total Analysis Volume [veh/h]	200	44	37	179	45	26
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.03	0.00	0.00	0.05	0.05
d_M, Delay for Movement [s/veh]	0.00	7.72	0.00	0.00	9.84	12.46
Movement LOS	A	A	A	A	A	B
95th-Percentile Queue Length [veh/ln]	0.10	0.10	0.00	0.00	0.34	0.34
95th-Percentile Queue Length [ft/ln]	2.50	2.50	0.00	0.00	8.54	8.54
d_A, Approach Delay [s/veh]	1.39		0.00		10.79	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	2.08					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1400: East-West Arterial at Agricola Drive Connector

Control Type:	Roundabout	Delay (sec / veh):	7.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial		
Approach	Northbound			Southbound			Eastbound		
Lane Configuration									
Turning Movement	Left	Left	Thru	Thru	Right	Right	Left	Right	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial		
Base Volume Input [veh/h]	167	0	60	66	0	2	0	726	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	167	0	60	66	0	2	0	726	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	0	15	17	0	1	0	182	0
Total Analysis Volume [veh/h]	167	0	60	66	0	2	0	726	0
Pedestrian Volume [ped/h]	0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1		
Circulating Flow Rate [veh/h]	2			726			60		
Exiting Flow Rate [veh/h]	792			60			169		
Demand Flow Rate [veh/h]	167	0	60	66	0	2	0	726	0
Adjusted Demand Flow Rate [veh/h]	167	0	60	66	0	2	0	726	0

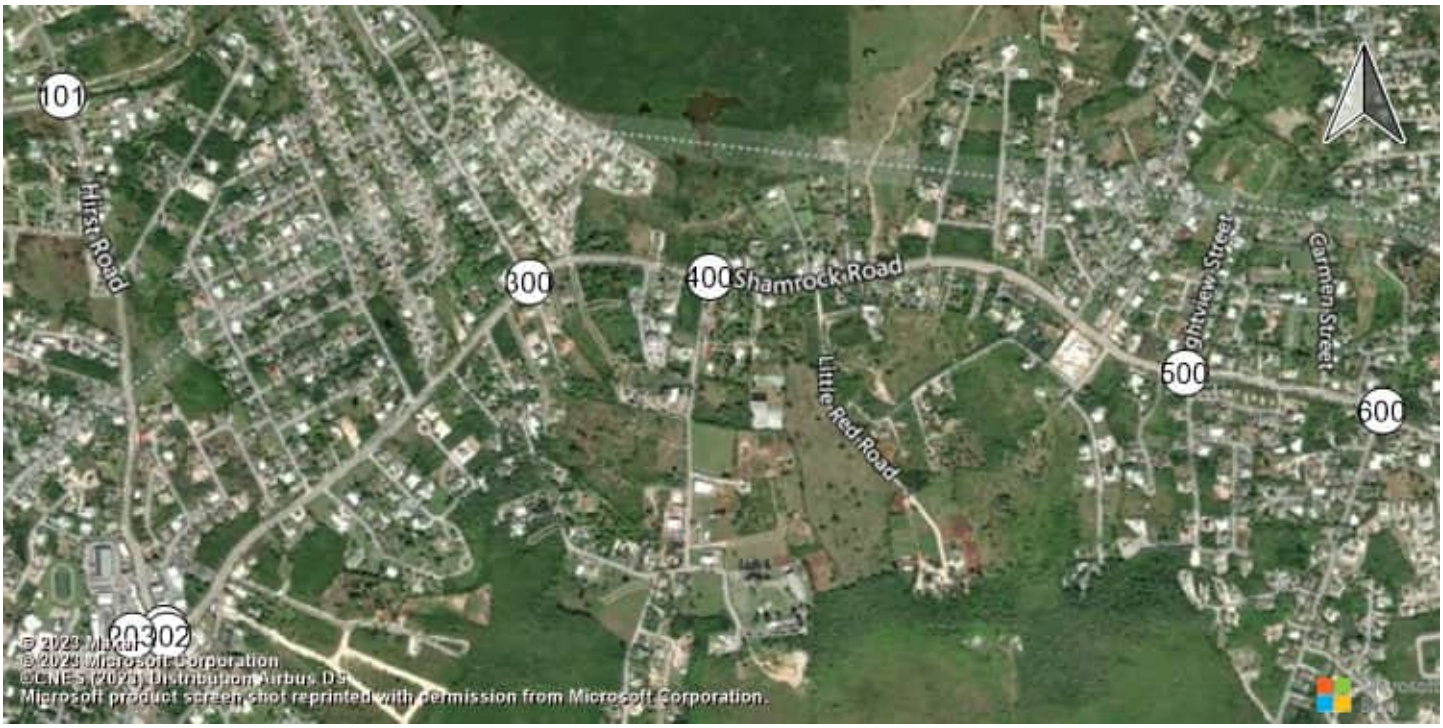
Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	227	68	726
Capacity of Entry and Bypass Lanes [veh/h]	1378	659	1299
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1378	659	1299
X, volume / capacity	0.16	0.10	0.56

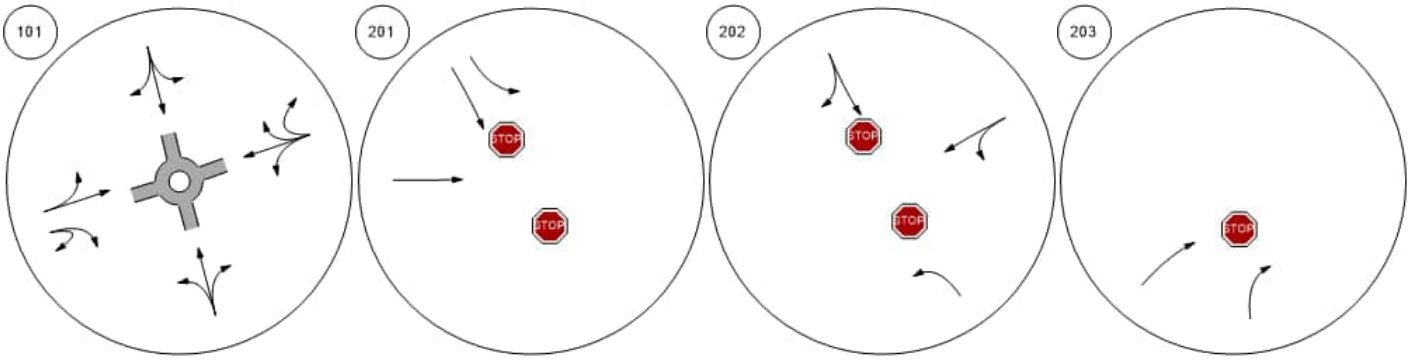
Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	0.59	0.34	3.62
95th-Percentile Queue Length [ft]	14.74	8.60	90.59
Approach Delay [s/veh]	3.95	6.62	9.03
Approach LOS	A	A	A
Intersection Delay [s/veh]	7.74		
Intersection LOS	A		

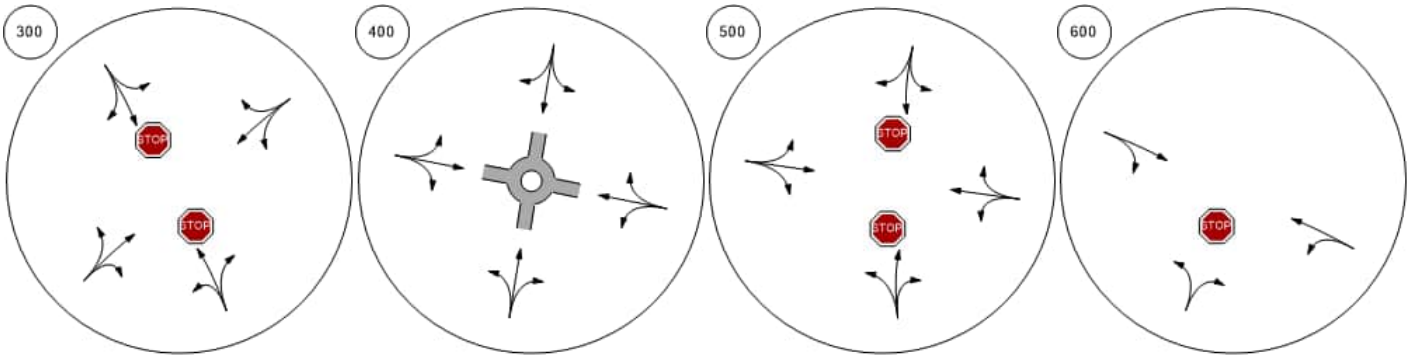
Lane Configuration and Traffic Control



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



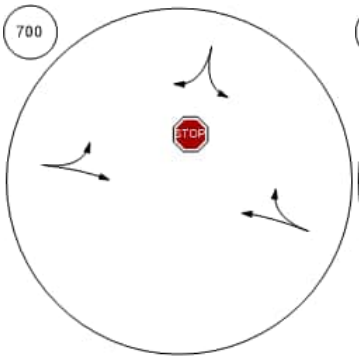
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



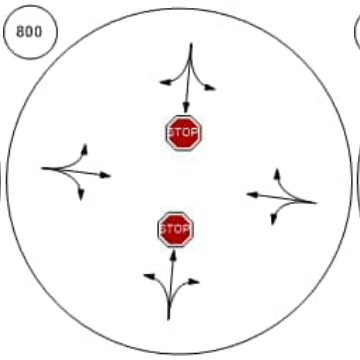
Lane Configuration and Traffic Control



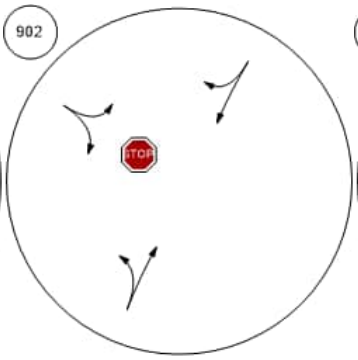
Shamrock Road at Northward



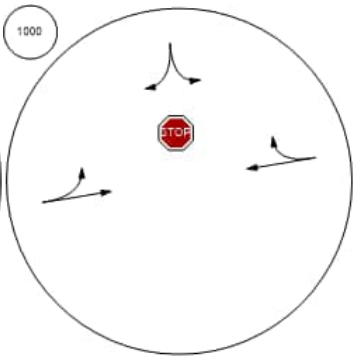
Shamrock Road at Condor R



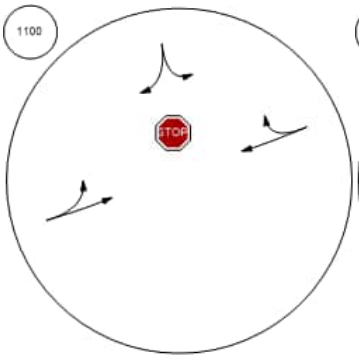
Bodden Town Road at Bodde



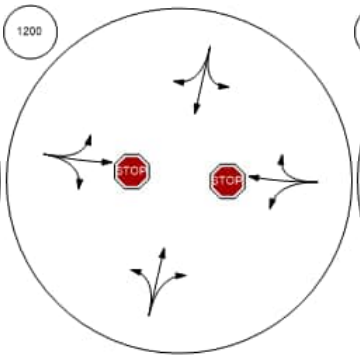
Bodden Town Road at Long



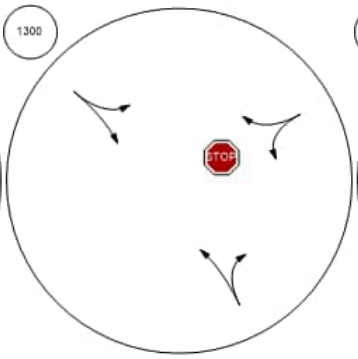
Frank Sound Road at Bodde



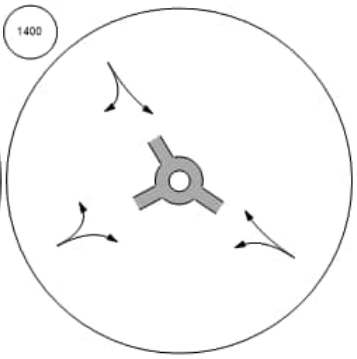
Frank Sound Road at Clifton



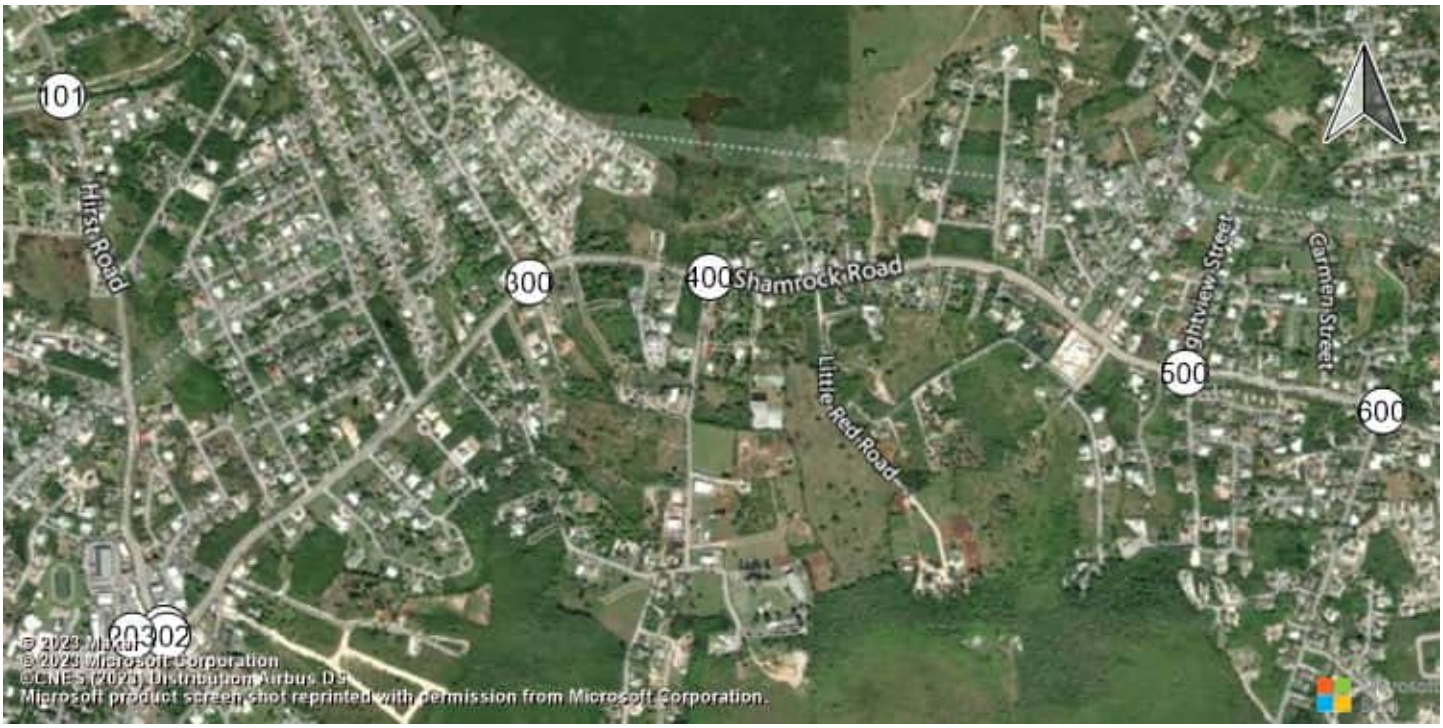
Frank Sound Road at North S



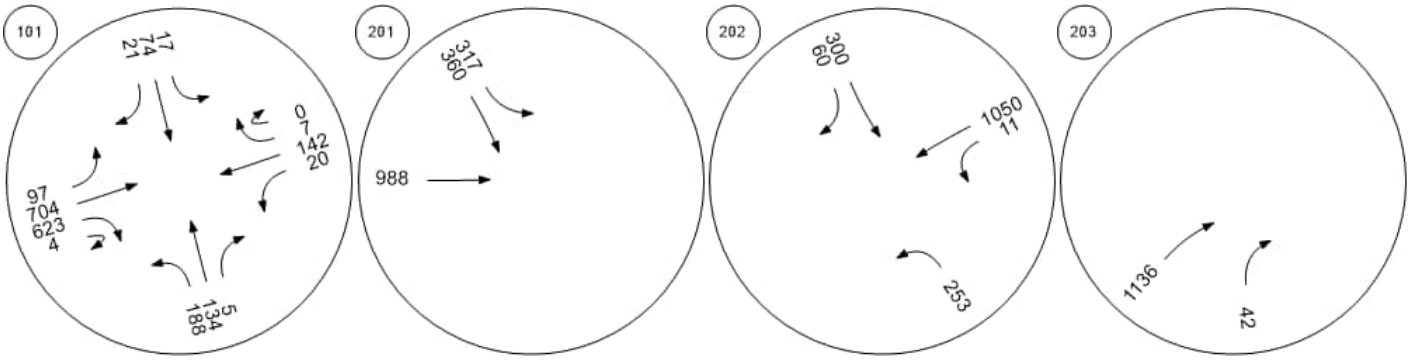
East-West Arterial at Agricola



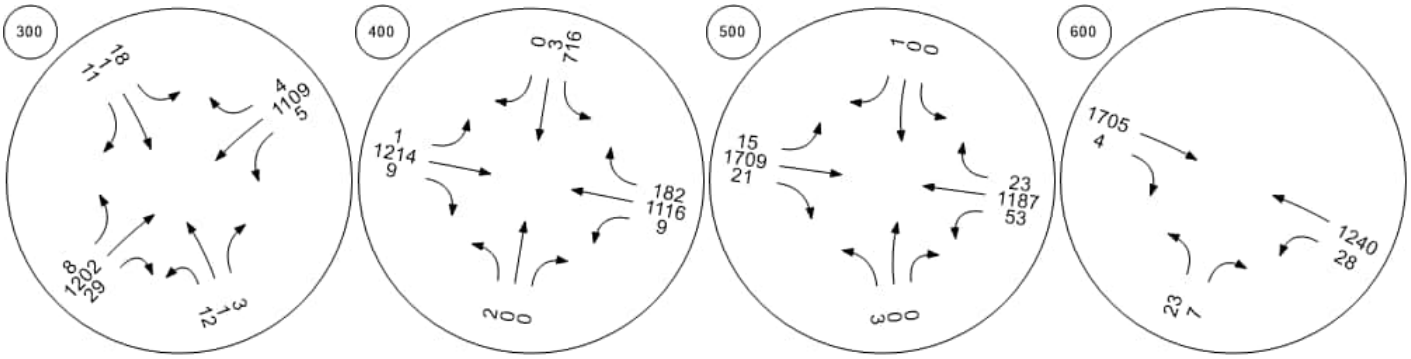
Traffic Volume - Base Volume



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



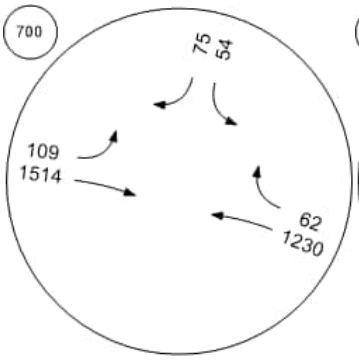
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



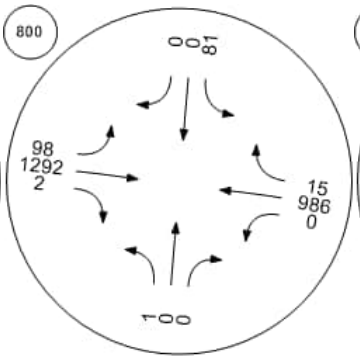
Traffic Volume - Base Volume



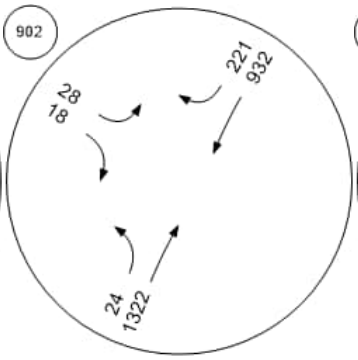
Shamrock Road at Northward



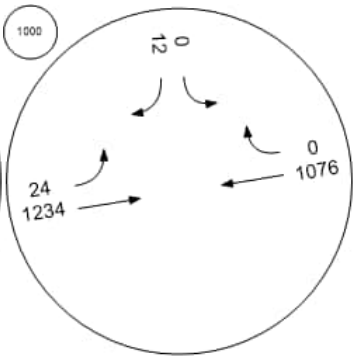
Shamrock Road at Condor R



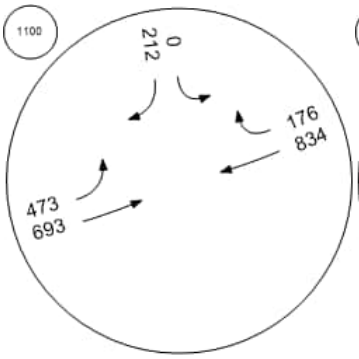
Bodden Town Road at Bodde



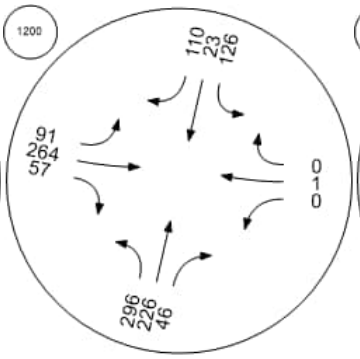
Bodden Town Road at Long



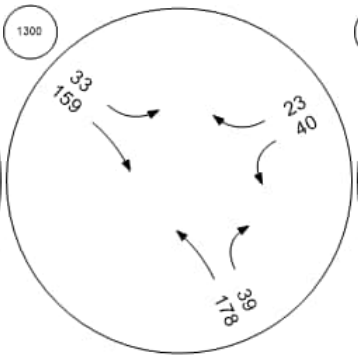
Frank Sound Road at Bodde



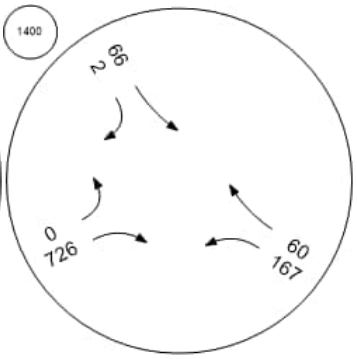
Frank Sound Road at Clifton



Frank Sound Road at North S



East-West Arterial at Agricola



Intersection Level Of Service Report
Intersection 101: East-West Arterial Road at Hirst Road

Control Type:	Roundabout	Delay (sec / veh):	11.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name									East-West Arterial				East-West Arterial				
Approach	Northbound				Southbound				Eastbound				Westbound				
Lane Configuration																	
Turning Movement	Left	Left	Thru	Right	Left	Thru	Right	Right	Left	Thru	Right	U-tu	Left	Thr	Thr	Rig	U-t
Lane Width [ft]	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.	12.	12.	12.	12.
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100	100	100	100	100
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Speed [mph]	30.00				30.00				40.00				50.00				
Grade [%]	0.00				0.00				0.00				0.00				
Crosswalk	Yes				Yes				Yes				Yes				

Volumes

Name									East-West Arterial				East-West Arterial				
Base Volume Input [veh/h]	15	0	39	22	15	61	0	35	17	898	9	20	30	173	0	39	0
Base Volume Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	0	39	22	15	61	0	35	17	898	9	20	30	173	0	39	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Other Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Total 15-Minute Volume [veh/h]	4	0	10	6	4	15	0	9	4	225	2	5	8	433	0	10	0
Total Analysis Volume [veh/h]	15	0	39	22	15	61	0	35	17	898	9	20	30	173	0	39	0
Pedestrian Volume [ped/h]	0				0				0				0				

Intersection Settings

Number of Conflicting Circulating Lanes	2				2				2				2				
Circulating Flow Rate [veh/h]	1824				949				100				125				
Exiting Flow Rate [veh/h]	100				95				1800				935				
Demand Flow Rate [veh/h]	15	0	39	22	15	61	0	35	17	898	9	20	30	173	0	39	0
Adjusted Demand Flow Rate [veh/h]	15	0	39	22	15	61	0	35	17	898	9	20	30	173	0	39	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1350.00	1420.00	1350.00
B (coefficient)	0.00085	0.00085	0.00085	0.00092	0.00085	0.00092
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	76	111	501	444	954	846
Capacity of Entry and Bypass Lanes [veh/h]	302	634	1305	1232	1277	1204
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	302	634	1305	1232	1277	1204
X, volume / capacity	0.25	0.18	0.38	0.36	0.75	0.70

Movement, Approach, & Intersection Results

Lane LOS	C	A	A	A	B	B
95th-Percentile Queue Length [veh]	0.98	0.63	1.83	1.66	7.47	6.22
95th-Percentile Queue Length [ft]	24.45	15.77	45.84	41.55	186.65	155.58
Approach Delay [s/veh]	17.19	7.76	6.37		13.82	
Approach LOS	C	A	A		B	
Intersection Delay [s/veh]	11.28					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 201: Shamrock Road at Hirst Rd (1)

Control Type:	Two-way stop	Delay (sec / veh):	15.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.286

Intersection Setup

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	0	0	0	21	125	0	0	475	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	21	125	0	0	475	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	6	34	0	0	128	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	23	134	0	0	511	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop			Stop			Free			Free			
Flared Lane													
Storage Area [veh]	0			0			0			0			
Two-Stage Gap Acceptance				No									
Number of Storage Spaces in Median	0			0			0			0			

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.04	0.29	0.00	0.00	0.01	0.00	0.00	0.00	0.00	
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	11.62	15.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Movement LOS				B	C			A					
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.13	1.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	3.17	29.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
d_A, Approach Delay [s/veh]	0.00			15.12			0.00			0.00			
Approach LOS	A			C			A			A			
d_I, Intersection Delay [s/veh]	3.55												
Intersection LOS	C												

Intersection Level Of Service Report
Intersection 202: Shamrock Road at Hirst Rd (2)

Control Type:	Two-way stop	Delay (sec / veh):	299.2
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.295

Intersection Setup

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	295	0	0	0	22	103	0	0	0	5	679	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	295	0	0	0	22	103	0	0	0	5	679	0
Peak Hour Factor	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	79	0	0	0	6	28	0	0	0	1	183	0
Total Analysis Volume [veh/h]	317	0	0	0	24	111	0	0	0	5	730	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.75	0.00	0.00	0.00	0.07	1.30	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	34.64	0.00	0.00	0.00	267.52	299.21	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	D				F	F				A	A	
95th-Percentile Queue Length [veh/ln]	6.10	0.00	0.00	0.00	9.71	9.71	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	152.41	0.00	0.00	0.00	242.84	242.84	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	34.64			293.58			0.00			0.00		
Approach LOS	D			F			A			A		
d_I, Intersection Delay [s/veh]	42.64											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 203: Shamrock Road atHirst Road Jughandle

Control Type:	Two-way stop	Delay (sec / veh):	12.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.047

Intersection Setup

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	0	21	528	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	21	528	0	0	0
Peak Hour Factor	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	6	142	0	0	0
Total Analysis Volume [veh/h]	0	23	568	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.05	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	12.75	0.00	0.00	0.00	0.00
Movement LOS		B	A			
95th-Percentile Queue Length [veh/ln]	0.00	0.15	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	3.70	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.75		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.50					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 300: Shamrock Road at Woodland Drive

Control Type:	Two-way stop	Delay (sec / veh):	25.7
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.117

Intersection Setup

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	39	1	6	0	0	22	8	364	6	2	620	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	39	1	6	0	0	22	8	364	6	2	620	0
Peak Hour Factor	0.9700	0.9700	1.0000	1.0000	0.9700	0.9700	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	0	2	0	0	6	2	91	2	1	155	0
Total Analysis Volume [veh/h]	40	1	6	0	0	23	8	364	6	2	620	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.00	0.03	0.00	0.00	0.12	0.00	0.00	0.01	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	13.42	21.00	22.30	12.68	22.25	25.68	0.00	0.00	8.74	0.00	0.00	8.01
Movement LOS	B	C	C	B	C	D	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.38	0.38	0.38	0.39	0.39	0.39	0.02	0.02	0.02	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	9.44	9.44	9.44	9.74	9.74	9.74	0.47	0.47	0.47	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	14.72			25.68			0.14			0.00		
Approach LOS	B			D			A			A		
d_I, Intersection Delay [s/veh]	1.25											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 400: Shamrock Road at Agricola Drive

Control Type:	Roundabout	Delay (sec / veh):	9.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	3	6	2	39	12	39	1	368	2	3	581	267
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	6	2	39	12	39	1	368	2	3	581	267
Peak Hour Factor	1.0000	1.0000	0.9200	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9200	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	1	10	3	10	0	92	1	1	145	67
Total Analysis Volume [veh/h]	3	6	2	39	12	39	1	368	2	3	581	267
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	887			372			275			53		
Exiting Flow Rate [veh/h]	17			274			623			409		
Demand Flow Rate [veh/h]	3	6	2	39	12	39	1	368	2	3	581	267
Adjusted Demand Flow Rate [veh/h]	3	6	2	39	12	39	1	368	2	3	581	267

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	11	90	371	851
Capacity of Entry and Bypass Lanes [veh/h]	559	945	1043	1308
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	559	945	1043	1308
X, volume / capacity	0.02	0.10	0.36	0.65

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	B
95th-Percentile Queue Length [veh]	0.06	0.32	1.63	5.13
95th-Percentile Queue Length [ft]	1.51	7.88	40.65	128.31
Approach Delay [s/veh]	6.67	4.69	7.13	10.99
Approach LOS	A	A	A	B
Intersection Delay [s/veh]	9.44			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 500: Shamrock Road at Brightview Drive / Calla Lily Drive

Control Type:	Two-way stop	Delay (sec / veh):	29.4
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.046

Intersection Setup

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			20.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	12	0	5	3	0	7	1	413	1	0	797	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	0	5	3	0	7	1	413	1	0	797	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	1	1	0	2	0	103	0	0	199	0
Total Analysis Volume [veh/h]	12	0	5	3	0	7	1	413	1	0	797	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.00	0.03	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	15.11	25.54	28.52	11.55	25.60	29.38	0.00	0.00	9.32	0.00	0.00	8.11
Movement LOS	C	D	D	B	D	D	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.20	0.20	0.20	0.16	0.16	0.16	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	4.95	4.95	4.95	3.94	3.94	3.94	0.09	0.09	0.09	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	19.06			24.03			0.02			0.00		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	0.46											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 600: Shamrock Road at Beach Bay Road

Control Type:	Two-way stop	Delay (sec / veh):	68.6
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.368

Intersection Setup

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	14	28	234	187	62	784
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	28	234	187	62	784
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	8	64	51	17	215
Total Analysis Volume [veh/h]	15	31	257	205	68	862
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.37	0.00	0.28	0.00	0.01
d_M, Delay for Movement [s/veh]	36.40	68.56	0.00	11.67	0.00	0.00
Movement LOS	E	F	A	B	A	A
95th-Percentile Queue Length [veh/ln]	1.73	1.73	1.12	1.12	0.00	0.00
95th-Percentile Queue Length [ft/ln]	43.31	43.31	28.07	28.07	0.00	0.00
d_A, Approach Delay [s/veh]	58.07		5.18		0.00	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	3.52					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 700: Shamrock Road at Northward Road

Control Type:	Two-way stop	Delay (sec / veh):	22.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.014

Intersection Setup

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	14	3	9	260	805	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	3	9	260	805	22
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	1	2	67	207	6
Total Analysis Volume [veh/h]	14	3	9	268	830	23
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.01	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	9.90	22.02	0.00	0.00	0.00	7.82
Movement LOS	A	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.10	0.10	0.00	0.00	0.05	0.05
95th-Percentile Queue Length [ft/ln]	2.49	2.49	0.00	0.00	1.35	1.35
d_A, Approach Delay [s/veh]	12.03		0.00		0.21	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.34					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 800: Shamrock Road at Condor Road

Control Type:	Two-way stop	Delay (sec / veh):	21.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.476

Intersection Setup

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Base Volume Input [veh/h]	4	0	0	1	0	201	72	196	0	0	338	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	0	0	1	0	201	72	196	0	0	338	6
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	0	0	50	18	49	0	0	85	2
Total Analysis Volume [veh/h]	4	0	0	1	0	201	72	196	0	0	338	6
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.48	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	10.11	13.91	13.51	16.98	21.02	21.08	0.00	0.00	7.92	0.00	0.00	7.77
Movement LOS	B	B	B	C	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.02	2.51	2.51	2.51	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.43	0.43	0.43	62.87	62.87	62.87	0.00	0.00	0.00	0.35	0.35	0.35
d_A, Approach Delay [s/veh]	10.11			21.06			0.00			0.14		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	5.31											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 902: Bodden Town Road at Bodden Town Bypass

Control Type:	Two-way stop	Delay (sec / veh):	19.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.079

Intersection Setup

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	71	20	12	190	267	183
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	71	20	12	190	267	183
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	5	3	51	71	49
Total Analysis Volume [veh/h]	76	21	13	202	284	195
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.08	0.00	0.00	0.00	0.14
d_M, Delay for Movement [s/veh]	10.59	19.87	0.00	0.00	0.00	8.07
Movement LOS	B	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.61	0.61	0.00	0.00	0.50	0.50
95th-Percentile Queue Length [ft/ln]	15.21	15.21	0.00	0.00	12.44	12.44
d_A, Approach Delay [s/veh]	12.60		0.00		3.29	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	3.53					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1000: Bodden Town Road at Long Fellow Drive

Control Type:	Two-way stop	Delay (sec / veh):	13.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	0	2	0	186	420	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	2	0	186	420	0
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	0	51	115	0
Total Analysis Volume [veh/h]	0	2	0	204	462	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.32	13.46	0.00	0.00	0.00	7.61
Movement LOS	A	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.35	0.35	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.46		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.04					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1100: Frank Sound Road at Bodden Town Road

Control Type:	Roundabout	Delay (sec / veh):	15.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Base Volume Input [veh/h]	621	58	59	120	356	651
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	621	58	59	120	356	651
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	167	16	16	32	96	175
Total Analysis Volume [veh/h]	668	62	63	129	383	700
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	129		700		62	
Exiting Flow Rate [veh/h]	763		445		797	
Demand Flow Rate [veh/h]	621	58	59	120	356	651
Adjusted Demand Flow Rate [veh/h]	668	62	63	129	383	700

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	730	192	1083
Capacity of Entry and Bypass Lanes [veh/h]	1210	676	1296
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1210	676	1296
X, volume / capacity	0.60	0.28	0.84

Movement, Approach, & Intersection Results

Lane LOS	B	A	C
95th-Percentile Queue Length [veh]	4.26	1.17	10.86
95th-Percentile Queue Length [ft]	106.53	29.20	271.40
Approach Delay [s/veh]	10.41	8.85	19.12
Approach LOS	B	A	C
Intersection Delay [s/veh]	14.97		
Intersection LOS	B		

Intersection Level Of Service Report
Intersection 1200: Frank Sound Road at Clifton Hunter High School

Control Type:	Roundabout	Delay (sec / veh):	7.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd		Clifton Hunter HS	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		20.00		20.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Frank Sound Rd		Clifton Hunter HS	
Base Volume Input [veh/h]	255	547	667	162	251	156
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	255	547	667	162	251	156
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	64	137	167	41	63	39
Total Analysis Volume [veh/h]	255	547	667	162	251	156
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	162		156		547	
Exiting Flow Rate [veh/h]	823		798		417	
Demand Flow Rate [veh/h]	255	547	667	162	251	156
Adjusted Demand Flow Rate [veh/h]	255	547	667	162	251	156

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00091	0.00091	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	255	547	667	162	251	156
Capacity of Entry and Bypass Lanes [veh/h]	1226	1226	1233	1233	864	864
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1226	1226	1233	1233	864	864
X, volume / capacity	0.21	0.45	0.54	0.13	0.29	0.18

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.78	2.35	3.38	0.45	1.21	0.66
95th-Percentile Queue Length [ft]	19.58	58.84	84.49	11.32	30.27	16.42
Approach Delay [s/veh]	6.64		8.04		6.81	
Approach LOS	A		A		A	
Intersection Delay [s/veh]	7.24					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1300: Frank Sound Road at North Side Road/Old Robin Road

Control Type:	Two-way stop	Delay (sec / veh):	11.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Base Volume Input [veh/h]	128	37	8	119	46	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	128	37	8	119	46	1
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	36	10	2	33	13	0
Total Analysis Volume [veh/h]	144	42	9	134	52	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.03	0.00	0.00	0.06	0.00
d_M, Delay for Movement [s/veh]	0.00	7.55	0.00	0.00	9.18	11.08
Movement LOS	A	A	A	A	A	B
95th-Percentile Queue Length [veh/ln]	0.09	0.09	0.00	0.00	0.19	0.19
95th-Percentile Queue Length [ft/ln]	2.23	2.23	0.00	0.00	4.65	4.65
d_A, Approach Delay [s/veh]	1.71		0.00		9.22	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.11					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1400: East-West Arterial at Agricola Drive Connector

Control Type:	Roundabout	Delay (sec / veh):	9.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			50.00			50.00			
Grade [%]	0.00			0.00			0.00			0.00			
Crosswalk	Yes			Yes			Yes			Yes			

Volumes

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Base Volume Input [veh/h]	339	1	5	31	53	5	4	858	73	8	1455	1	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	339	1	5	31	53	5	4	858	73	8	1455	1	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	85	0	1	8	13	1	1	215	18	2	364	0	0
Total Analysis Volume [veh/h]	339	1	5	31	53	5	4	858	73	8	1455	1	0
Pedestrian Volume [ped/h]	0			0			0			0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1			1			
Circulating Flow Rate [veh/h]	1461			936			7			131			
Exiting Flow Rate [veh/h]	134			6			1799			894			
Demand Flow Rate [veh/h]	339	1	5	31	53	5	4	858	73	8	1455	1	0
Adjusted Demand Flow Rate [veh/h]	339	1	5	31	53	5	4	858	73	8	1455	1	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1350.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00092	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	183	163	89	496	440	776	689
Capacity of Entry and Bypass Lanes [veh/h]	411	353	641	1411	1411	1261	1261
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	411	353	641	1411	1411	1261	1261
X, volume / capacity	0.45	0.46	0.14	0.35	0.31	0.62	0.55

Movement, Approach, & Intersection Results

Lane LOS	C	C	A	A	A	B	A
95th-Percentile Queue Length [veh]	2.24	2.33	0.48	1.60	1.34	4.47	3.44
95th-Percentile Queue Length [ft]	55.93	58.31	12.01	40.04	33.55	111.85	86.03
Approach Delay [s/veh]	19.33		7.22	5.48		9.72	
Approach LOS	C		A	A		A	
Intersection Delay [s/veh]	9.41						
Intersection LOS	A						

Intersection Level Of Service Report
Intersection 1501: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	6.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name							East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name							East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	30	0	5	0	0	0	0	888	6	0	0	1430	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	0	5	0	0	0	0	888	6	0	0	1430	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	8	0	1	0	0	0	0	222	2	0	0	358	0	0
Total Analysis Volume [veh/h]	30	0	5	0	0	0	0	888	6	0	0	1430	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1				1			
Circulating Flow Rate [veh/h]	1430			899			5				6			
Exiting Flow Rate [veh/h]	6			0			1460				893			
Demand Flow Rate [veh/h]	30	0	5	0	0	0	0	888	6	0	0	1430	0	0
Adjusted Demand Flow Rate [veh/h]	30	0	5	0	0	0	0	888	6	0	0	1430	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	35	0	474	421	758	673
Capacity of Entry and Bypass Lanes [veh/h]	422	662	1414	1414	1413	1413
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	422	662	1414	1414	1413	1413
X, volume / capacity	0.08	0.00	0.34	0.30	0.54	0.48

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.27	0.00	1.49	1.26	3.34	2.65
95th-Percentile Queue Length [ft]	6.76	0.00	37.34	31.41	83.46	66.21
Approach Delay [s/veh]	9.74	5.44	5.32		7.71	
Approach LOS	A	A	A		A	
Intersection Delay [s/veh]	6.83					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1502: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	7.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name			East-West Arterial			East-West Arterial		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	Thru	Right	U-turn	Left	Thru	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00			50.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	Yes		Yes			Yes		

Volumes

Name			East-West Arterial			East-West Arterial		
Base Volume Input [veh/h]	229	4	890	2	0	1	1201	7
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	229	4	890	2	0	1	1201	7
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	57	1	223	1	0	0	300	2
Total Analysis Volume [veh/h]	229	4	890	2	0	1	1201	7
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	2		1			1		
Circulating Flow Rate [veh/h]	1208		11			2		
Exiting Flow Rate [veh/h]	3		1430			901		
Demand Flow Rate [veh/h]	229	4	890	2	0	1	1201	7
Adjusted Demand Flow Rate [veh/h]	229	4	890	2	0	1	1201	7

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	233	473	420	641	569
Capacity of Entry and Bypass Lanes [veh/h]	509	1406	1406	1418	1418
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	509	1406	1406	1418	1418
X, volume / capacity	0.46	0.34	0.30	0.45	0.40

Movement, Approach, & Intersection Results

Lane LOS	C	A	A	A	A
95th-Percentile Queue Length [veh]	2.37	1.50	1.26	2.42	1.97
95th-Percentile Queue Length [ft]	59.33	37.52	31.55	60.38	49.27
Approach Delay [s/veh]	15.21	5.35		6.58	
Approach LOS	C	A		A	
Intersection Delay [s/veh]	6.97				
Intersection LOS	A				

Intersection Level Of Service Report
Intersection 1600: East-West Arterial at Northward Rd

Control Type:	Two-way stop	Delay (sec / veh):	14.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.208

Intersection Setup

Name	Northward Rd		East-West Arterial		East-West Arterial	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		East-West Arterial		East-West Arterial	
Base Volume Input [veh/h]	100	0	900	0	3	1108
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	100	0	900	0	3	1108
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	0	225	0	1	277
Total Analysis Volume [veh/h]	100	0	900	0	3	1108
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.21	0.00	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	14.46	0.00	0.00	0.00	0.00	0.00
Movement LOS	B		A		A	A
95th-Percentile Queue Length [veh/ln]	0.78	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	19.42	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	14.46		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.69					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1700: East-West Arterial at Lookout Rd

Control Type:	Roundabout	Delay (sec / veh):	7.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Lookout Rd			Lookout Rd			East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	200.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Lookout Rd			Lookout Rd			East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	131	0	3	0	0	0	0	815	31	54	2	993	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	131	0	3	0	0	0	0	815	31	54	2	993	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	33	0	1	0	0	0	0	204	8	14	1	248	0	0
Total Analysis Volume [veh/h]	131	0	3	0	0	0	0	815	31	54	2	993	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1				1			
Circulating Flow Rate [veh/h]	1047			903			3				85			
Exiting Flow Rate [veh/h]	33			0			1178				818			
Demand Flow Rate [veh/h]	131	0	3	0	0	0	0	815	31	54	2	993	0	0
Adjusted Demand Flow Rate [veh/h]	131	0	3	0	0	0	0	815	31	54	2	993	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	134	0	815	85	528	468
Capacity of Entry and Bypass Lanes [veh/h]	584	660	1417	1417	1315	1315
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	584	660	1417	1417	1315	1315
X, volume / capacity	0.23	0.00	0.58	0.06	0.40	0.36

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.88	0.00	3.87	0.19	1.97	1.63
95th-Percentile Queue Length [ft]	22.03	0.00	96.71	4.78	49.27	40.80
Approach Delay [s/veh]	9.15	5.46	8.26		6.31	
Approach LOS	A	A	A		A	
Intersection Delay [s/veh]	7.36					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1800: East-West Arterial at Longfellow Rd

Control Type:	Roundabout	Delay (sec / veh):	10.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Longfellow Rd			Longfellow Rd			East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Longfellow Rd			Longfellow Rd			East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	12	0	0	0	0	0	0	818	0	0	0	904	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	0	0	0	0	0	0	818	0	0	0	904	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	3	0	0	0	0	0	0	205	0	0	0	226	0	0
Total Analysis Volume [veh/h]	12	0	0	0	0	0	0	818	0	0	0	904	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1				
Circulating Flow Rate [veh/h]	904			818			0				0				
Exiting Flow Rate [veh/h]	0			0			916				818				
Demand Flow Rate [veh/h]	12	0	0	0	0	0	0	818	0	0	0	904	0	0	
Adjusted Demand Flow Rate [veh/h]	12	0	0	0	0	0	0	818	0	0	0	904	0	0	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	12	0	818	904
Capacity of Entry and Bypass Lanes [veh/h]	549	600	1380	1380
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	549	600	1380	1380
X, volume / capacity	0.02	0.00	0.59	0.66

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	B
95th-Percentile Queue Length [veh]	0.07	0.00	4.12	5.24
95th-Percentile Queue Length [ft]	1.67	0.00	103.11	130.92
Approach Delay [s/veh]	6.82	6.01	9.29	10.69
Approach LOS	A	A	A	B
Intersection Delay [s/veh]	10.00			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1900: East West Arterial North/South Spurs

Control Type:	Roundabout	Delay (sec / veh):	10.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	East-West Arterial			East-West Arterial			East-West Arterial		
Approach	Northbound			Eastbound			Westbound		
Lane Configuration									
Turning Movement	Left	Right	U-turn	Thru	Right	U-turn	Left	Thru	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			50.00			40.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	East-West Arterial			East-West Arterial			East-West Arterial		
Base Volume Input [veh/h]	772	0	1	80	737	0	0	133	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	772	0	1	80	737	0	0	133	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	193	0	0	20	184	0	0	33	0
Total Analysis Volume [veh/h]	772	0	1	80	737	0	0	133	0
Pedestrian Volume [ped/h]	0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1		
Circulating Flow Rate [veh/h]	133			1			738		
Exiting Flow Rate [veh/h]	738			905			80		
Demand Flow Rate [veh/h]	772	0	1	80	737	0	0	133	0
Adjusted Demand Flow Rate [veh/h]	772	0	1	80	737	0	0	133	0

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	773	817	133
Capacity of Entry and Bypass Lanes [veh/h]	1205	1379	651
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1205	1379	651
X, volume / capacity	0.64	0.59	0.20

Movement, Approach, & Intersection Results

Lane LOS	B	A	A
95th-Percentile Queue Length [veh]	4.92	4.12	0.76
95th-Percentile Queue Length [ft]	123.01	103.06	19.07
Approach Delay [s/veh]	11.38	9.30	7.98
Approach LOS	B	A	A
Intersection Delay [s/veh]	10.13		
Intersection LOS	B		

Intersection Level Of Service Report
Intersection 2000: Frank Sound Road at East-West Arterial

Control Type:	Roundabout	Delay (sec / veh):	3.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd		East-West Arterial		
Approach	Northbound		Southbound		Eastbound		
Lane Configuration							
Turning Movement	Left	Thru	Thru	Right	Left	Right	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		40.00		
Grade [%]	0.00		0.00		0.00		
Crosswalk	Yes		Yes		Yes		

Volumes

Name	Frank Sound Rd		Frank Sound Rd		East-West Arterial		
Base Volume Input [veh/h]	16	97	77	117	76	4	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	16	97	77	117	76	4	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	24	19	29	19	1	0
Total Analysis Volume [veh/h]	16	97	77	117	76	4	0
Pedestrian Volume [ped/h]	0		0		0		

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1		
Circulating Flow Rate [veh/h]	117		4		97		
Exiting Flow Rate [veh/h]	81		173		133		
Demand Flow Rate [veh/h]	16	97	77	117	76	4	0
Adjusted Demand Flow Rate [veh/h]	16	97	77	117	76	4	0

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	113	194	80
Capacity of Entry and Bypass Lanes [veh/h]	1225	1375	1250
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1225	1375	1250
X, volume / capacity	0.09	0.14	0.06

Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	0.30	0.49	0.20
95th-Percentile Queue Length [ft]	7.61	12.29	5.12
Approach Delay [s/veh]	3.70	3.76	3.40
Approach LOS	A	A	A
Intersection Delay [s/veh]	3.66		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 2100: Frank Sound Road at East-West Arterial

Control Type:	Roundabout	Delay (sec / veh):	10.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd			Frank Sound Rd			East-West Arterial							
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00				40.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Frank Sound Rd			Frank Sound Rd			East-West Arterial							
Base Volume Input [veh/h]	693	105	0	0	109	15	4	3	720	27	0	9	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	693	105	0	0	109	15	4	3	720	27	0	9	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	173	26	0	0	27	4	1	1	180	7	0	2	0	0
Total Analysis Volume [veh/h]	693	105	0	0	109	15	4	3	720	27	0	9	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1			
Circulating Flow Rate [veh/h]	51			750			105				871			
Exiting Flow Rate [veh/h]	829			109			744				3			
Demand Flow Rate [veh/h]	693	105	0	0	109	15	4	3	720	27	0	9	0	0
Adjusted Demand Flow Rate [veh/h]	693	105	0	0	109	15	4	3	720	27	0	9	0	0

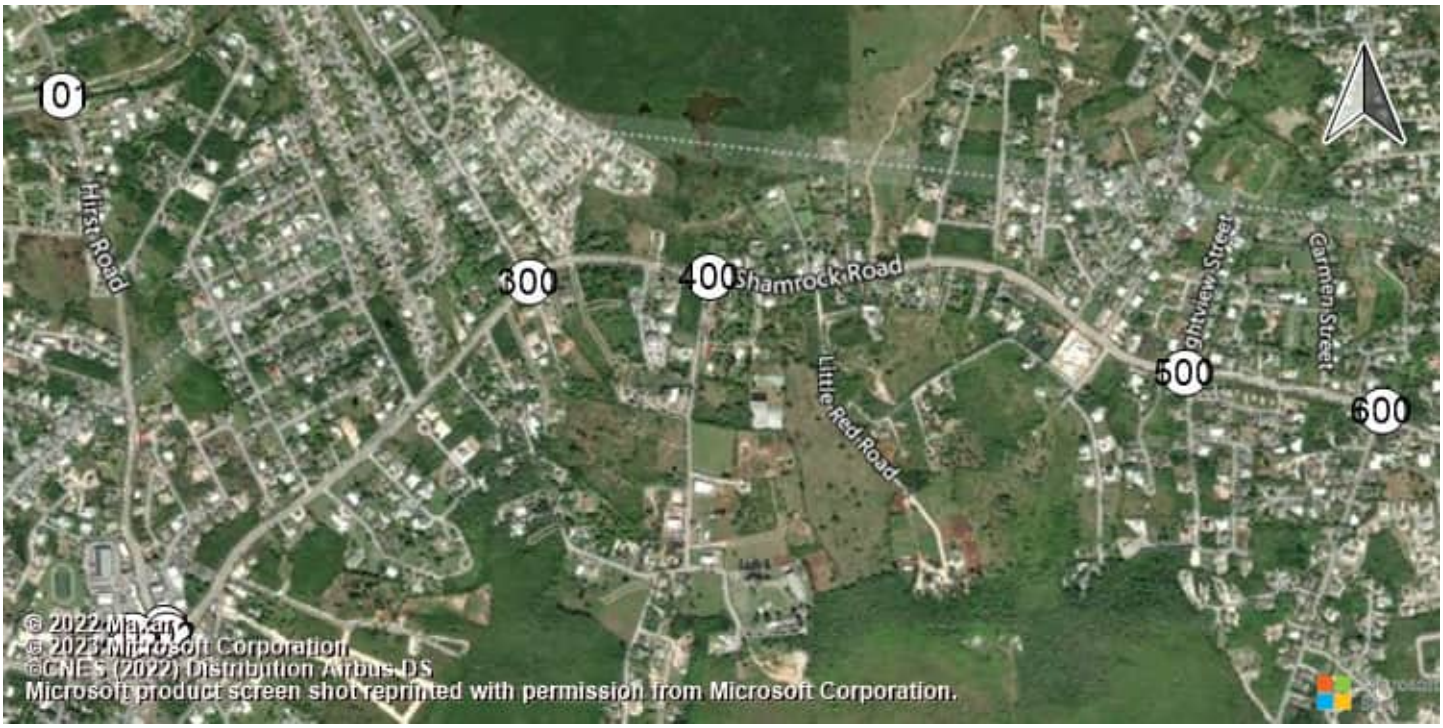
Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	798	124	754	9
Capacity of Entry and Bypass Lanes [veh/h]	1311	643	1240	568
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1311	643	1240	568
X, volume / capacity	0.61	0.19	0.61	0.02

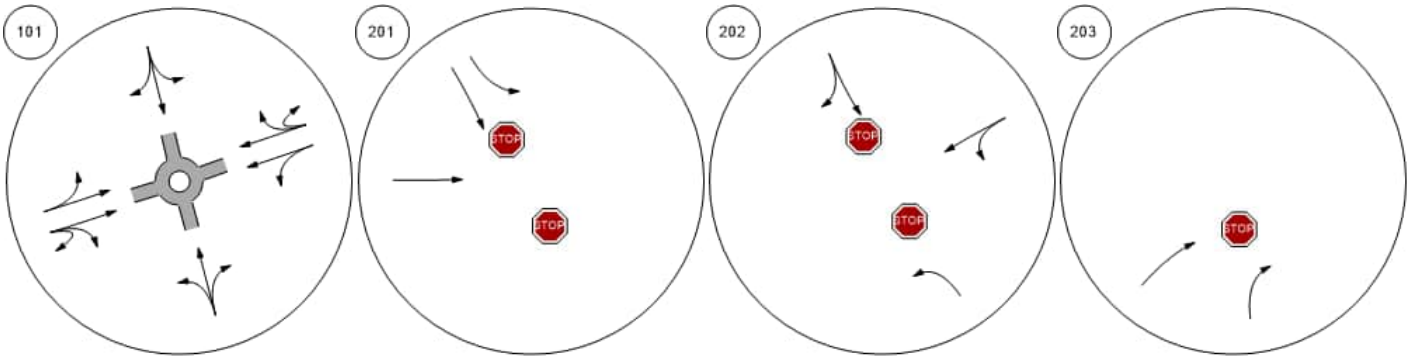
Movement, Approach, & Intersection Results

Lane LOS	A	A	B	A
95th-Percentile Queue Length [veh]	4.38	0.71	4.34	0.05
95th-Percentile Queue Length [ft]	109.40	17.75	108.62	1.21
Approach Delay [s/veh]	9.98	7.91	10.34	6.52
Approach LOS	A	A	B	A
Intersection Delay [s/veh]	9.97			
Intersection LOS	A			

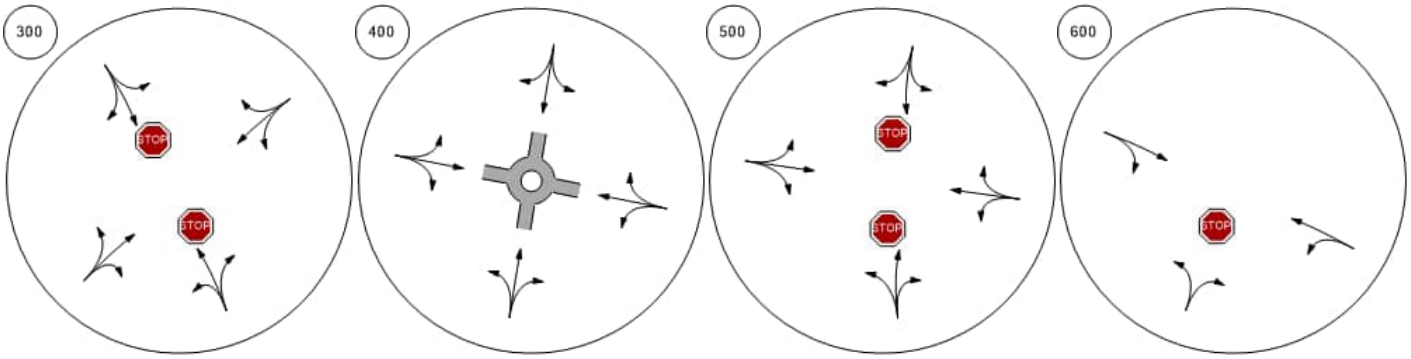
Lane Configuration and Traffic Control



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



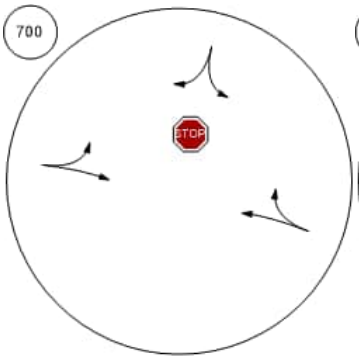
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



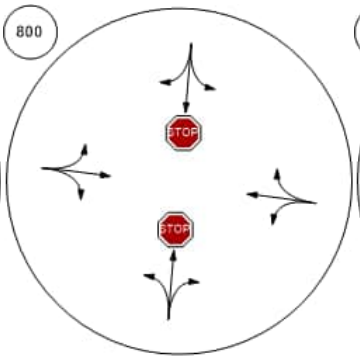
Lane Configuration and Traffic Control



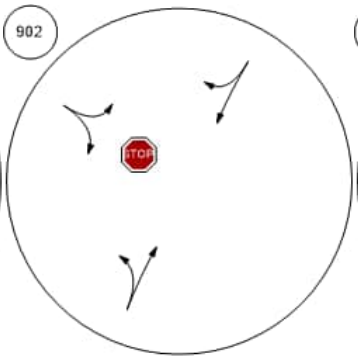
Shamrock Road at Northward



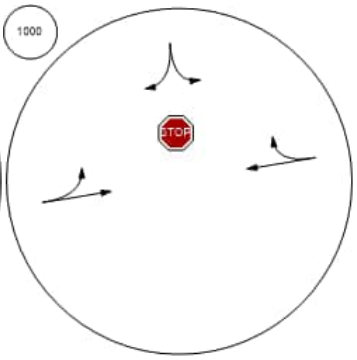
Shamrock Road at Condor R



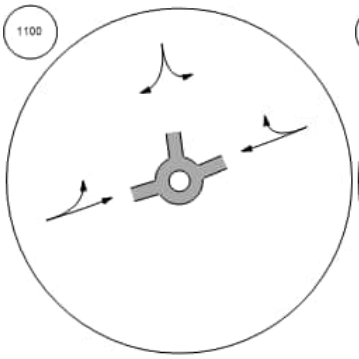
Bodden Town Road at Bodde



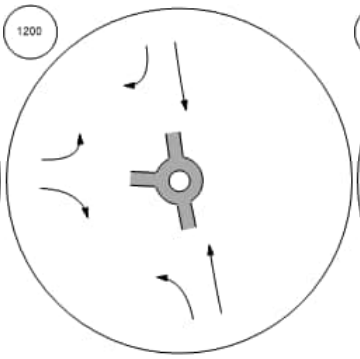
Bodden Town Road at Long



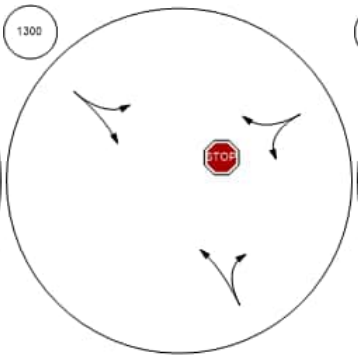
Frank Sound Road at Bodde



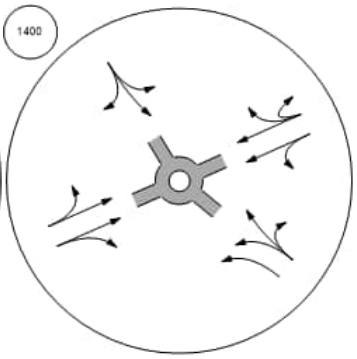
Frank Sound Road at Clifton



Frank Sound Road at North S



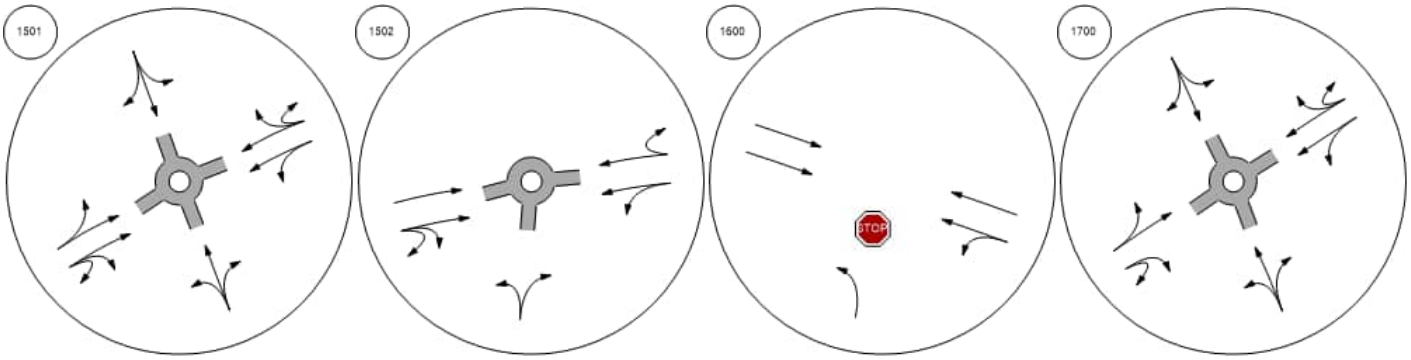
East-West Arterial at Agricola



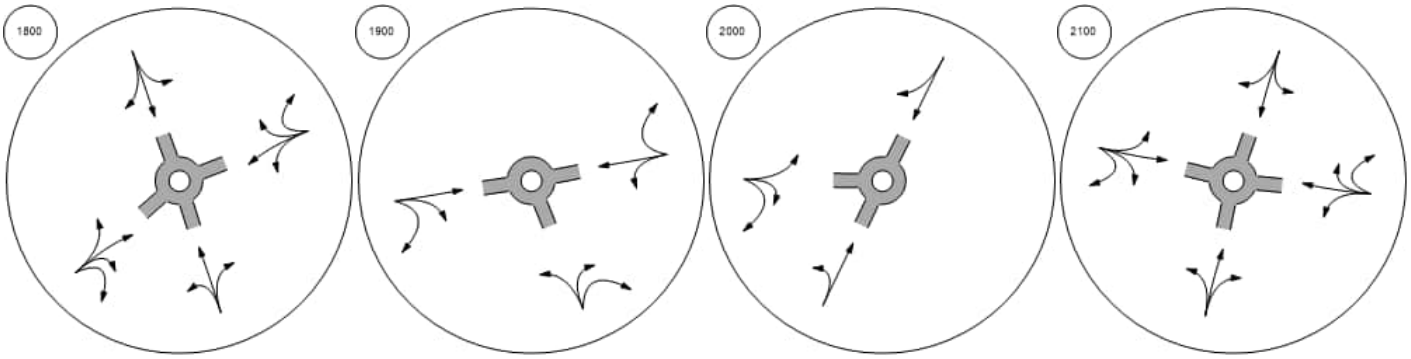
Lane Configuration and Traffic Control



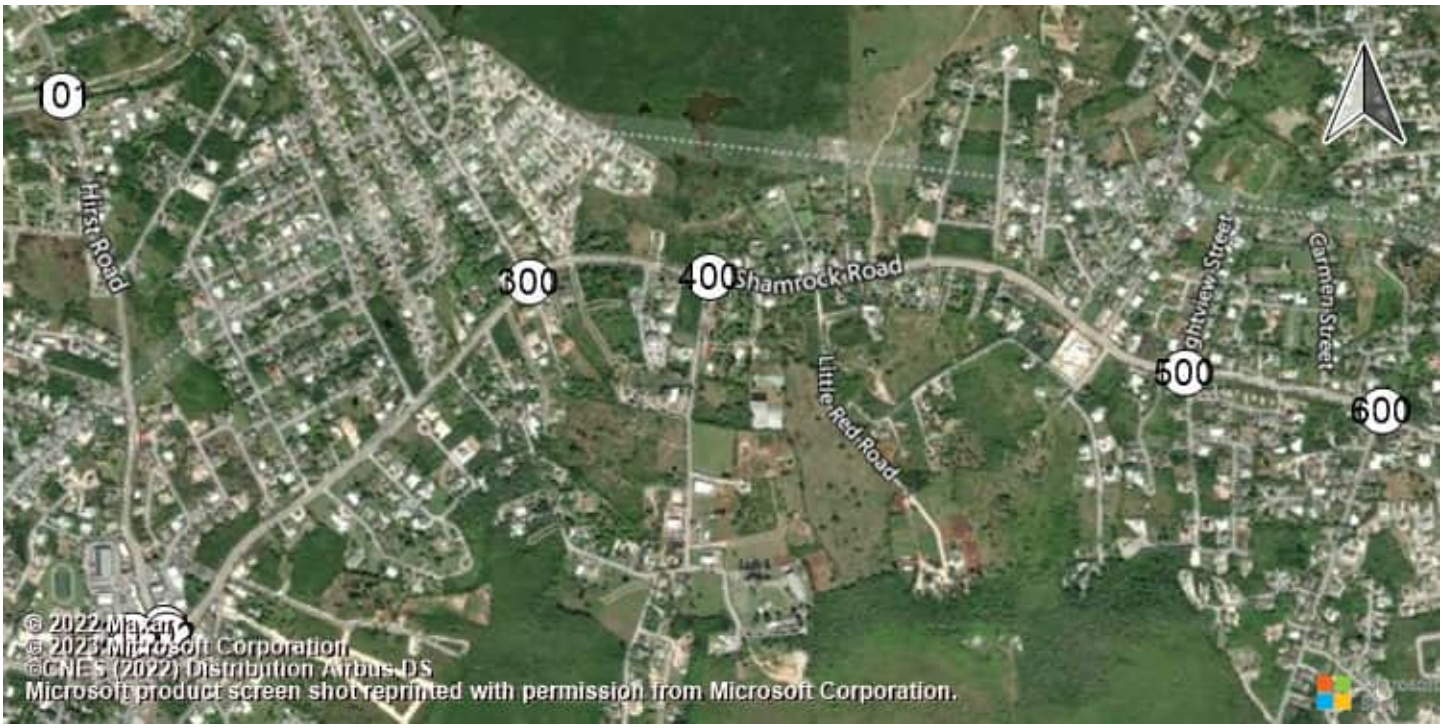
East-West Arterial at Will T C East-West Arterial at Will T C East-West Arterial at Northwa East-West Arterial at Lookout



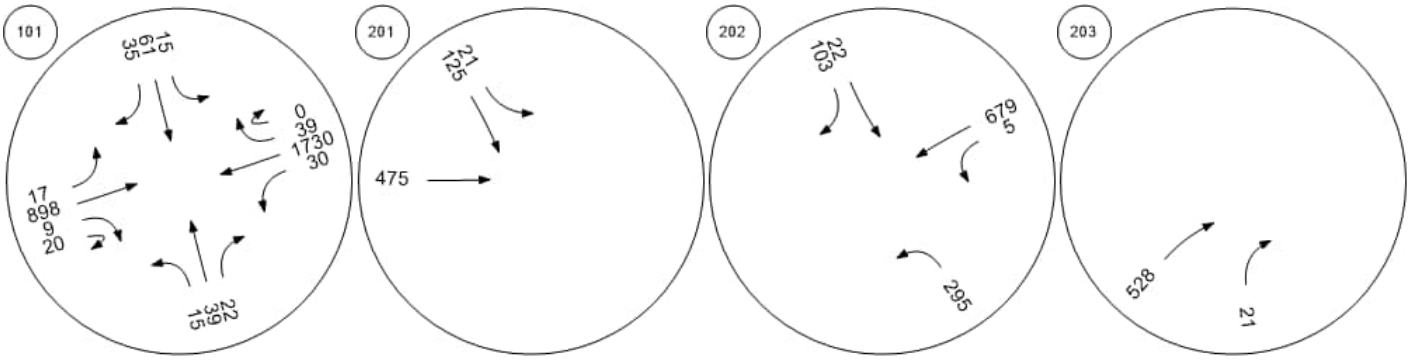
East-West Arterial at Longfell East West Arterial North/Sout Frank Sound Road at East-W Frank Sound Road at East-W



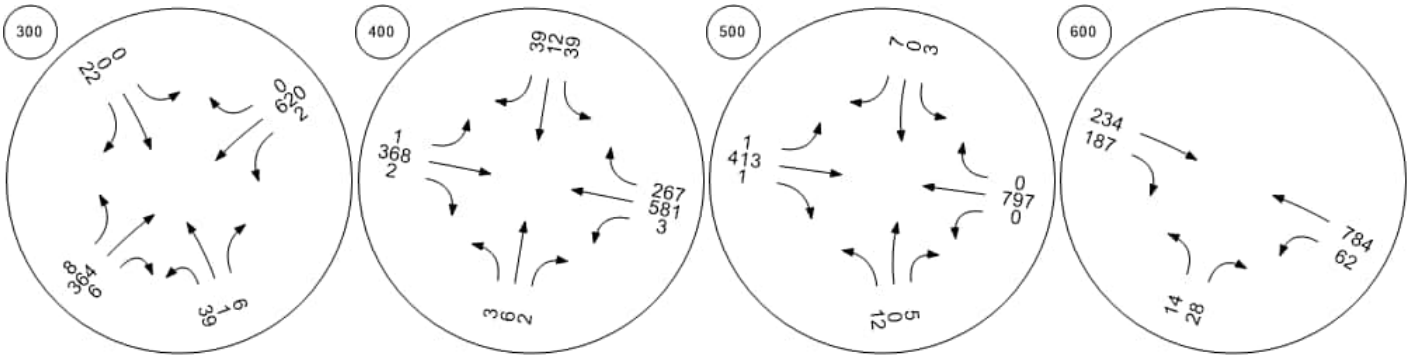
Traffic Volume - Base Volume



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



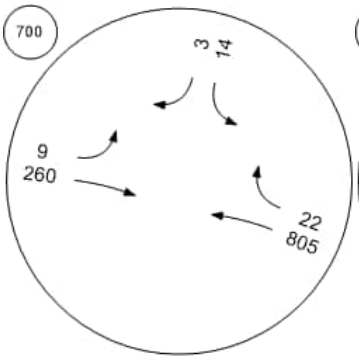
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



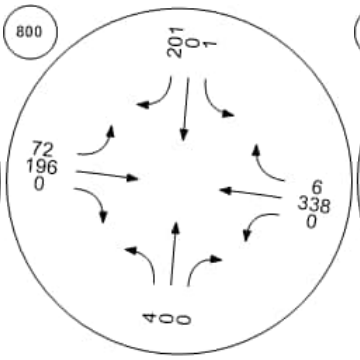
Traffic Volume - Base Volume



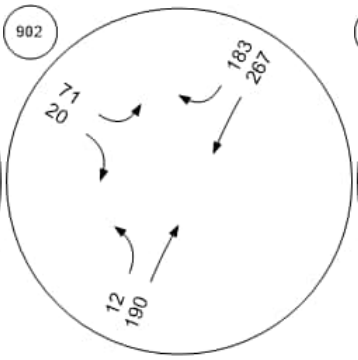
Shamrock Road at Northward



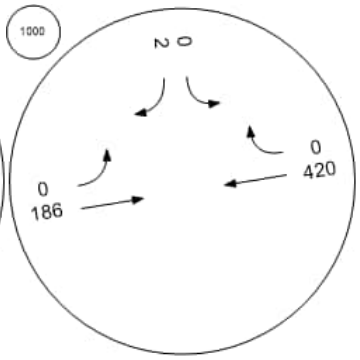
Shamrock Road at Condor R



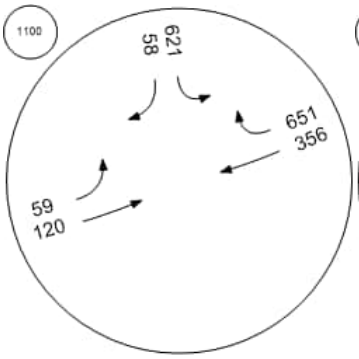
Bodden Town Road at Bodde



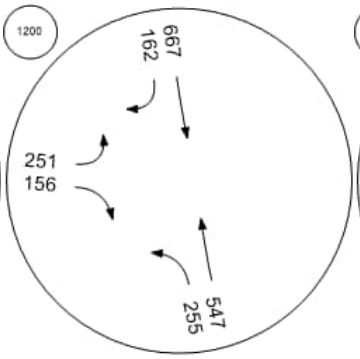
Bodden Town Road at Long



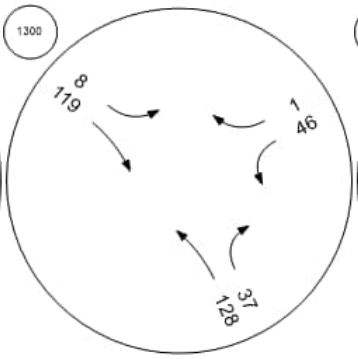
Frank Sound Road at Bodde



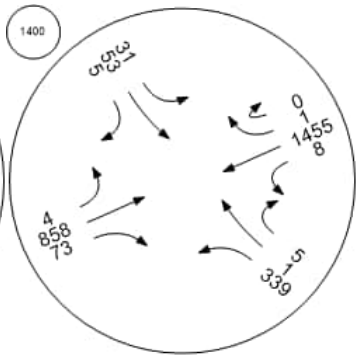
Frank Sound Road at Clifton



Frank Sound Road at North S



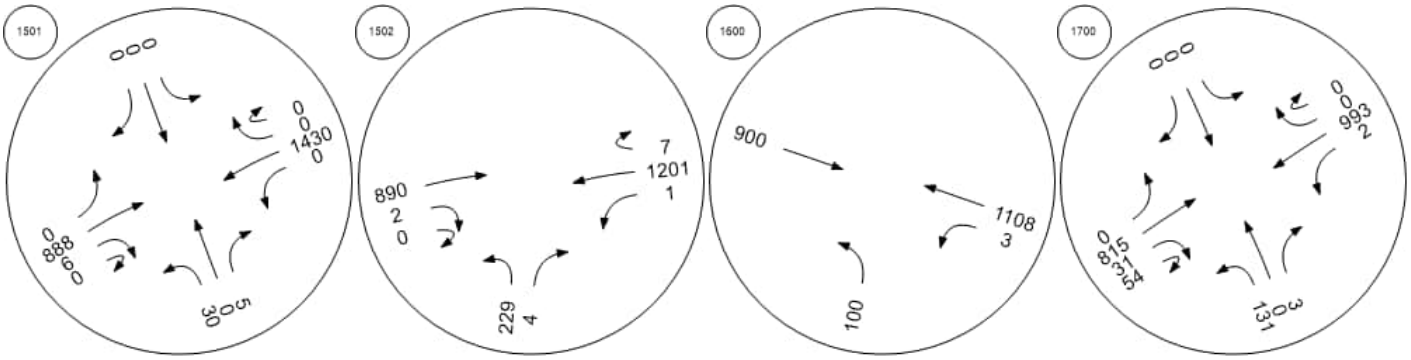
East-West Arterial at Agricola



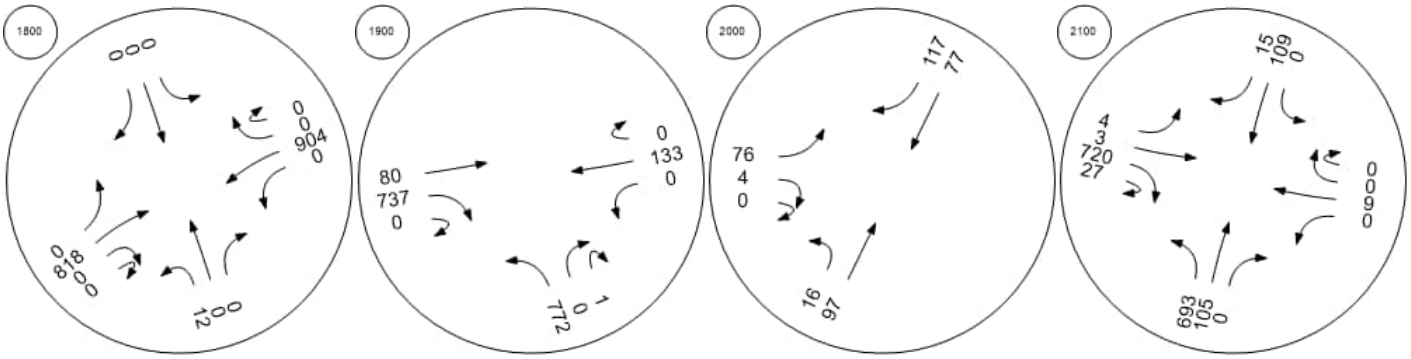
Traffic Volume - Base Volume



East-West Arterial at Will T C East-West Arterial at Will T C East-West Arterial at Northwa East-West Arterial at Lookout



East-West Arterial at Longfell East West Arterial North/Sout Frank Sound Road at East-W Frank Sound Road at East-W



Intersection Level Of Service Report
Intersection 101: East-West Arterial Road at Hirst Road

Control Type:	Roundabout	Delay (sec / veh):	13.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name									East-West Arterial				East-West Arterial				
Approach	Northbound				Southbound				Eastbound				Westbound				
Lane Configuration																	
Turning Movement	Left	Left	Thru	Right	Left	Thru	Right	Right	Left	Thru	Right	U-tu	Left	Thr	Thr	Rig	U-t
Lane Width [ft]	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.	12.	12.	12.	12.
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100	100	100	100	100
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Speed [mph]	30.00				30.00				40.00				50.00				
Grade [%]	0.00				0.00				0.00				0.00				
Crosswalk	Yes				Yes				Yes				Yes				

Volumes

Name									East-West Arterial				East-West Arterial				
Base Volume Input [veh/h]	58	0	123	28	22	61	0	20	83	1675	58	4	53	716	0	56	0
Base Volume Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	58	0	123	28	22	61	0	20	83	1675	58	4	53	716	0	56	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Other Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Total 15-Minute Volume [veh/h]	15	0	31	7	6	15	0	5	21	419	15	1	13	179	0	14	0
Total Analysis Volume [veh/h]	58	0	123	28	22	61	0	20	83	1675	58	4	53	716	0	56	0
Pedestrian Volume [ped/h]	0				0				0				0				

Intersection Settings

Number of Conflicting Circulating Lanes	2				2				2				2				
Circulating Flow Rate [veh/h]	796				1765				207				143				
Exiting Flow Rate [veh/h]	172				262				798				1725				
Demand Flow Rate [veh/h]	58	0	123	28	22	61	0	20	83	1675	58	4	53	716	0	56	0
Adjusted Demand Flow Rate [veh/h]	58	0	123	28	22	61	0	20	83	1675	58	4	53	716	0	56	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1350.00	1420.00	1350.00
B (coefficient)	0.00085	0.00085	0.00085	0.00092	0.00085	0.00092
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	209	103	965	856	438	388
Capacity of Entry and Bypass Lanes [veh/h]	722	317	1191	1116	1258	1184
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	722	317	1191	1116	1258	1184
X, volume / capacity	0.29	0.33	0.81	0.77	0.35	0.33

Movement, Approach, & Intersection Results

Lane LOS	A	C	C	C	A	A
95th-Percentile Queue Length [veh]	1.20	1.37	9.56	7.92	1.58	1.44
95th-Percentile Queue Length [ft]	30.00	34.37	238.95	198.08	39.38	36.02
Approach Delay [s/veh]	8.45	18.37	17.65		6.14	
Approach LOS	A	C	C		A	
Intersection Delay [s/veh]	13.81					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 201: Shamrock Road at Hirst Rd (1)

Control Type:	Two-way stop	Delay (sec / veh):	32.6
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.667

Intersection Setup

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	0	0	0	12	226	0	0	654	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	12	226	0	0	654	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	3	61	0	0	176	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	13	243	0	0	703	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.03	0.67	0.00	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	13.41	32.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS				B	D			A				
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.09	4.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	2.27	115.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			31.59			0.00			0.00		
Approach LOS	A			D			A			A		
d_I, Intersection Delay [s/veh]	8.43											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 202: Shamrock Road at Hirst Rd (2)

Control Type:	Two-way stop	Delay (sec / veh):	120.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.958

Intersection Setup

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	242	0	0	0	37	189	0	0	0	10	537	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	242	0	0	0	37	189	0	0	0	10	537	0
Peak Hour Factor	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	65	0	0	0	10	51	0	0	0	3	144	0
Total Analysis Volume [veh/h]	260	0	0	0	40	203	0	0	0	11	577	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.50	0.00	0.00	0.00	0.09	0.96	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	18.83	0.00	0.00	0.00	111.84	120.33	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	C				F	F				A	A	
95th-Percentile Queue Length [veh/ln]	2.80	0.00	0.00	0.00	10.32	10.32	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	69.97	0.00	0.00	0.00	258.10	258.10	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	18.83			118.93			0.00			0.00		
Approach LOS	C			F			A			A		
d_I, Intersection Delay [s/veh]	30.98											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 203: Shamrock Road atHirst Road Jughandle

Control Type:	Two-way stop	Delay (sec / veh):	17.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.103

Intersection Setup

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	0	31	821	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	31	821	0	0	0
Peak Hour Factor	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	8	221	0	0	0
Total Analysis Volume [veh/h]	0	33	883	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.10	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	17.59	0.00	0.00	0.00	0.00
Movement LOS		C	A			
95th-Percentile Queue Length [veh/ln]	0.00	0.34	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	8.57	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	17.59		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.63					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 300: Shamrock Road at Woodland Drive

Control Type:	Two-way stop	Delay (sec / veh):	33.2
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.293

Intersection Setup

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	12	1	4	0	1	51	10	465	29	5	561	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	1	4	0	1	51	10	465	29	5	561	0
Peak Hour Factor	0.9700	0.9700	1.0000	1.0000	0.9700	0.9700	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	1	0	0	13	3	116	7	1	140	0
Total Analysis Volume [veh/h]	12	1	4	0	1	53	10	465	30	5	561	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.02	0.00	0.00	0.29	0.00	0.00	0.03	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	12.34	23.03	24.83	19.26	30.67	33.18	0.00	0.00	8.65	0.00	0.00	8.28
Movement LOS	B	C	C	C	D	D	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.15	0.15	0.15	1.19	1.19	1.19	0.09	0.09	0.09	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	3.85	3.85	3.85	29.67	29.67	29.67	2.28	2.28	2.28	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	15.90			33.13			0.51			0.00		
Approach LOS	C			D			A			A		
d_I, Intersection Delay [s/veh]	2.03											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 400: Shamrock Road at Agricola Drive

Control Type:	Roundabout	Delay (sec / veh):	6.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	1	0	0	219	19	33	4	462	3	9	533	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	0	219	19	33	4	462	3	9	533	46
Peak Hour Factor	1.0000	1.0000	0.9200	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9200	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	55	5	8	1	116	1	2	133	12
Total Analysis Volume [veh/h]	1	0	0	219	19	33	4	462	3	10	533	46
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	612			465			46			55		
Exiting Flow Rate [veh/h]	32			50			567			681		
Demand Flow Rate [veh/h]	1	0	0	219	19	33	4	462	3	9	533	46
Adjusted Demand Flow Rate [veh/h]	1	0	0	219	19	33	4	462	3	10	533	46

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	1	271	469	589
Capacity of Entry and Bypass Lanes [veh/h]	740	859	1317	1305
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	740	859	1317	1305
X, volume / capacity	0.00	0.32	0.36	0.45

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	1.36	1.63	2.40
95th-Percentile Queue Length [ft]	0.10	33.95	40.86	60.11
Approach Delay [s/veh]	4.88	7.69	6.02	7.27
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	6.91			
Intersection LOS	A			

Intersection Level Of Service Report

Intersection 500: Shamrock Road at Brightview Drive / Calla Lily Drive

Control Type:	Two-way stop	Delay (sec / veh):	30.6
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			20.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	3	0	0	0	0	1	12	600	25	49	515	26
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	0	0	0	0	1	12	600	25	49	515	26
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	0	0	0	3	150	6	12	129	7
Total Analysis Volume [veh/h]	3	0	0	0	0	1	12	600	25	49	515	26
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.02	0.00	0.01	0.03
d_M, Delay for Movement [s/veh]	11.63	27.47	30.22	12.37	28.19	30.56	0.00	0.00	8.63	0.00	0.00	8.79
Movement LOS	B	D	D	B	D	D	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.02	0.02	0.02	0.02	0.08	0.08	0.08	0.08	0.08	0.08
95th-Percentile Queue Length [ft/ln]	0.41	0.41	0.41	0.53	0.53	0.53	1.89	1.89	1.89	2.05	2.05	2.05
d_A, Approach Delay [s/veh]	11.63			30.56			0.34			0.39		
Approach LOS	B			D			A			A		
d_I, Intersection Delay [s/veh]	0.41											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 600: Shamrock Road at Beach Bay Road

Control Type:	Two-way stop	Delay (sec / veh):	51.2
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.443

Intersection Setup

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	22	54	512	89	27	567
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	22	54	512	89	27	567
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	15	141	24	7	156
Total Analysis Volume [veh/h]	24	59	563	98	30	623
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.44	0.01	0.10	0.00	0.01
d_M, Delay for Movement [s/veh]	31.67	51.20	0.00	9.26	0.00	0.00
Movement LOS	D	F	A	A	A	A
95th-Percentile Queue Length [veh/ln]	2.38	2.38	0.35	0.35	0.00	0.00
95th-Percentile Queue Length [ft/ln]	59.59	59.59	8.67	8.67	0.00	0.00
d_A, Approach Delay [s/veh]	45.55		1.37		0.00	
Approach LOS	E		A		A	
d_I, Intersection Delay [s/veh]	3.36					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 700: Shamrock Road at Northward Road

Control Type:	Two-way stop	Delay (sec / veh):	24.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.142

Intersection Setup

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	30	30	13	462	601	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	30	13	462	601	17
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	8	3	119	155	4
Total Analysis Volume [veh/h]	31	31	13	476	620	18
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.14	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	13.82	24.14	0.00	0.00	0.00	8.38
Movement LOS	B	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.71	0.71	0.00	0.00	0.05	0.05
95th-Percentile Queue Length [ft/ln]	17.69	17.69	0.00	0.00	1.27	1.27
d_A, Approach Delay [s/veh]	18.98		0.00		0.24	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	1.12					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 800: Shamrock Road at Condor Road

Control Type:	Two-way stop	Delay (sec / veh):	18.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.256

Intersection Setup

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Base Volume Input [veh/h]	1	0	0	4	0	89	100	282	2	0	346	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	0	4	0	89	100	282	2	0	346	13
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	1	0	22	25	71	1	0	87	3
Total Analysis Volume [veh/h]	1	0	0	4	0	89	100	282	2	0	346	13
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.00	0.26	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	10.14	15.80	15.44	13.60	18.66	18.93	0.00	0.00	7.95	0.00	0.00	8.07
Movement LOS	B	C	C	B	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	1.03	1.03	1.03	0.00	0.00	0.00	0.03	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.11	0.11	0.11	25.80	25.80	25.80	0.12	0.12	0.12	0.83	0.83	0.83
d_A, Approach Delay [s/veh]	10.14			18.70			0.04			0.29		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	2.23											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 902: Bodden Town Road at Bodden Town Bypass

Control Type:	Two-way stop	Delay (sec / veh):	23.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.194

Intersection Setup

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	68	44	29	242	281	176
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	68	44	29	242	281	176
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	12	8	64	75	47
Total Analysis Volume [veh/h]	72	47	31	257	299	187
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.19	0.00	0.00	0.00	0.15
d_M, Delay for Movement [s/veh]	13.15	23.37	0.00	0.00	0.00	8.28
Movement LOS	B	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.17	1.17	0.00	0.00	0.51	0.51
95th-Percentile Queue Length [ft/ln]	29.37	29.37	0.00	0.00	12.72	12.72
d_A, Approach Delay [s/veh]	17.19		0.00		3.18	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	4.02					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1000: Bodden Town Road at Long Fellow Drive

Control Type:	Two-way stop	Delay (sec / veh):	14.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	0	3	4	212	429	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	3	4	212	429	0
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	1	58	118	0
Total Analysis Volume [veh/h]	0	3	4	233	471	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.52	13.95	0.00	0.00	0.00	7.68
Movement LOS	A	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.56	0.56	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.95		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.06					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1100: Frank Sound Road at Bodden Town Road

Control Type:	Roundabout	Delay (sec / veh):	13.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Base Volume Input [veh/h]	823	61	59	131	357	447
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	823	61	59	131	357	447
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	221	16	16	35	96	120
Total Analysis Volume [veh/h]	885	66	63	141	384	481
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	141		481		66	
Exiting Flow Rate [veh/h]	544		450		1026	
Demand Flow Rate [veh/h]	823	61	59	131	357	447
Adjusted Demand Flow Rate [veh/h]	885	66	63	141	384	481

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	951	204	865
Capacity of Entry and Bypass Lanes [veh/h]	1196	845	1291
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1196	845	1291
X, volume / capacity	0.80	0.24	0.67

Movement, Approach, & Intersection Results

Lane LOS	C	A	B
95th-Percentile Queue Length [veh]	9.02	0.94	5.53
95th-Percentile Queue Length [ft]	225.50	23.59	138.21
Approach Delay [s/veh]	17.52	6.82	11.62
Approach LOS	C	A	B
Intersection Delay [s/veh]	13.91		
Intersection LOS	B		

Intersection Level Of Service Report
Intersection 1200: Frank Sound Road at Clifton Hunter High School

Control Type:	Roundabout	Delay (sec / veh):	8.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd		Clifton Hunter HS	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		20.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Frank Sound Rd		Clifton Hunter HS	
Base Volume Input [veh/h]	140	509	754	271	201	216
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	140	509	754	271	201	216
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	127	189	68	50	54
Total Analysis Volume [veh/h]	140	509	754	271	201	216
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	271		216		509	
Exiting Flow Rate [veh/h]	970		710		411	
Demand Flow Rate [veh/h]	140	509	754	271	201	216
Adjusted Demand Flow Rate [veh/h]	140	509	754	271	201	216

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00091	0.00091	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	140	509	754	271	201	216
Capacity of Entry and Bypass Lanes [veh/h]	1110	1110	1167	1167	894	894
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1110	1110	1167	1167	894	894
X, volume / capacity	0.13	0.46	0.65	0.23	0.22	0.24

Movement, Approach, & Intersection Results

Lane LOS	A	A	B	A	A	A
95th-Percentile Queue Length [veh]	0.43	2.46	5.00	0.90	0.86	0.95
95th-Percentile Queue Length [ft]	10.79	61.54	124.95	22.51	21.55	23.65
Approach Delay [s/veh]	7.41		10.03		6.42	
Approach LOS	A		B		A	
Intersection Delay [s/veh]	8.50					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1300: Frank Sound Road at North Side Road/Old Robin Road

Control Type:	Two-way stop	Delay (sec / veh):	12.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.046

Intersection Setup

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Base Volume Input [veh/h]	184	39	32	164	74	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	184	39	32	164	74	21
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	52	11	9	46	21	6
Total Analysis Volume [veh/h]	207	44	36	184	83	24
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.03	0.00	0.00	0.10	0.05
d_M, Delay for Movement [s/veh]	0.00	7.73	0.00	0.00	10.09	12.79
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.10	0.10	0.00	0.00	0.50	0.50
95th-Percentile Queue Length [ft/ln]	2.50	2.50	0.00	0.00	12.62	12.62
d_A, Approach Delay [s/veh]	1.36		0.00		10.70	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	2.57					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1400: East-West Arterial at Agricola Drive Connector

Control Type:	Roundabout	Delay (sec / veh):	9.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			50.00			50.00			
Grade [%]	0.00			0.00			0.00			0.00			
Crosswalk	Yes			Yes			Yes			Yes			

Volumes

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Base Volume Input [veh/h]	46	3	9	51	29	2	9	1449	267	37	777	20	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	46	3	9	51	29	2	9	1449	267	37	777	20	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	12	1	2	13	7	1	2	362	67	9	194	5	0
Total Analysis Volume [veh/h]	46	3	9	51	29	2	9	1449	267	37	777	20	1
Pedestrian Volume [ped/h]	0			0			0			0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1			1			
Circulating Flow Rate [veh/h]	800			1726			33			298			
Exiting Flow Rate [veh/h]	333			32			825			1510			
Demand Flow Rate [veh/h]	46	3	9	51	29	2	9	1449	267	37	777	20	1
Adjusted Demand Flow Rate [veh/h]	46	3	9	51	29	2	9	1449	267	37	777	20	1

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1350.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00092	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	31	28	82	915	811	443	393
Capacity of Entry and Bypass Lanes [veh/h]	720	647	328	1378	1378	1083	1083
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	720	647	328	1378	1378	1083	1083
X, volume / capacity	0.04	0.04	0.25	0.66	0.59	0.41	0.36

Movement, Approach, & Intersection Results

Lane LOS	A	A	C	B	A	A	A
95th-Percentile Queue Length [veh]	0.13	0.13	0.97	5.41	4.06	2.02	1.67
95th-Percentile Queue Length [ft]	3.34	3.30	24.29	135.24	101.40	50.57	41.83
Approach Delay [s/veh]	5.71		15.88	10.12		7.35	
Approach LOS	A		C	B		A	
Intersection Delay [s/veh]	9.34						
Intersection LOS	A						

Intersection Level Of Service Report
Intersection 1501: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	7.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name							East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name							East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	1	0	3	0	0	0	0	1420	90	0	6	832	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	3	0	0	0	0	1420	90	0	6	832	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	0	0	1	0	0	0	0	355	23	0	2	208	0	0
Total Analysis Volume [veh/h]	1	0	3	0	0	0	0	1420	90	0	6	832	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1				1			
Circulating Flow Rate [veh/h]	832			1513			3				90			
Exiting Flow Rate [veh/h]	96			0			833				1423			
Demand Flow Rate [veh/h]	1	0	3	0	0	0	0	1420	90	0	6	832	0	0
Adjusted Demand Flow Rate [veh/h]	1	0	3	0	0	0	0	1420	90	0	6	832	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	4	0	801	710	445	394
Capacity of Entry and Bypass Lanes [veh/h]	701	393	1417	1417	1309	1309
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	701	393	1417	1417	1309	1309
X, volume / capacity	0.01	0.00	0.57	0.50	0.34	0.30

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.02	0.00	3.72	2.92	1.52	1.28
95th-Percentile Queue Length [ft]	0.43	0.00	92.97	72.94	38.01	31.94
Approach Delay [s/veh]	5.20	9.17	8.13		5.66	
Approach LOS	A	A	A		A	
Intersection Delay [s/veh]	7.24					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1502: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	6.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name			East-West Arterial			East-West Arterial		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	Thru	Right	U-turn	Left	Thru	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00			50.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	Yes		Yes			Yes		

Volumes

Name			East-West Arterial			East-West Arterial		
Base Volume Input [veh/h]	15	1	1393	30	0	1	822	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	1	1393	30	0	1	822	17
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	0	348	8	0	0	206	4
Total Analysis Volume [veh/h]	15	1	1393	30	0	1	822	17
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	2		1			1		
Circulating Flow Rate [veh/h]	839		18			30		
Exiting Flow Rate [veh/h]	31		837			1411		
Demand Flow Rate [veh/h]	15	1	1393	30	0	1	822	17
Adjusted Demand Flow Rate [veh/h]	15	1	1393	30	0	1	822	17

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	16	755	669	446	395
Capacity of Entry and Bypass Lanes [veh/h]	696	1397	1397	1382	1382
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	696	1397	1397	1382	1382
X, volume / capacity	0.02	0.54	0.48	0.32	0.29

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.07	3.38	2.68	1.41	1.19
95th-Percentile Queue Length [ft]	1.76	84.45	66.92	35.23	29.71
Approach Delay [s/veh]	5.41	7.81		5.27	
Approach LOS	A	A		A	
Intersection Delay [s/veh]	6.86				
Intersection LOS	A				

Intersection Level Of Service Report
Intersection 1600: East-West Arterial at Northward Rd

Control Type:	Two-way stop	Delay (sec / veh):	11.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.044

Intersection Setup

Name	Northward Rd		East-West Arterial		East-West Arterial	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		East-West Arterial		East-West Arterial	
Base Volume Input [veh/h]	26	0	1411	0	12	815
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	26	0	1411	0	12	815
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	0	353	0	3	204
Total Analysis Volume [veh/h]	26	0	1411	0	12	815
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.00	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	11.35	0.00	0.00	0.00	0.00	0.00
Movement LOS	B		A		A	A
95th-Percentile Queue Length [veh/ln]	0.14	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	3.43	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.35		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.13					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1700: East-West Arterial at Lookout Rd

Control Type:	Roundabout	Delay (sec / veh):	10.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Lookout Rd			Lookout Rd			East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	200.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Lookout Rd			Lookout Rd			East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	28	0	4	0	0	0	0	1112	177	122	17	753	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	28	0	4	0	0	0	0	1112	177	122	17	753	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	7	0	1	0	0	0	0	278	44	31	4	188	0	0
Total Analysis Volume [veh/h]	28	0	4	0	0	0	0	1112	177	122	17	753	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1				1			
Circulating Flow Rate [veh/h]	875			1415			4				299			
Exiting Flow Rate [veh/h]	194			0			903				1116			
Demand Flow Rate [veh/h]	28	0	4	0	0	0	0	1112	177	122	17	753	0	0
Adjusted Demand Flow Rate [veh/h]	28	0	4	0	0	0	0	1112	177	122	17	753	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	32	0	1112	299	409	362
Capacity of Entry and Bypass Lanes [veh/h]	675	427	1415	1415	1082	1082
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	675	427	1415	1415	1082	1082
X, volume / capacity	0.05	0.00	0.79	0.21	0.38	0.33

Movement, Approach, & Intersection Results

Lane LOS	A	A	C	A	A	A
95th-Percentile Queue Length [veh]	0.15	0.00	8.92	0.80	1.78	1.48
95th-Percentile Queue Length [ft]	3.73	0.00	222.90	19.98	44.50	37.09
Approach Delay [s/veh]	5.84	8.44	12.77		6.96	
Approach LOS	A	A	B		A	
Intersection Delay [s/veh]	10.65					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1800: East-West Arterial at Longfellow Rd

Control Type:	Roundabout	Delay (sec / veh):	13.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Longfellow Rd			Longfellow Rd			East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Longfellow Rd			Longfellow Rd			East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	8	0	0	0	0	0	0	1096	21	0	0	720	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	0	0	0	0	0	0	1096	21	0	0	720	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	2	0	0	0	0	0	0	274	5	0	0	180	0	0
Total Analysis Volume [veh/h]	8	0	0	0	0	0	0	1096	21	0	0	720	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1					
Circulating Flow Rate [veh/h]	720			1117			0				21					
Exiting Flow Rate [veh/h]	21			0			728				1096					
Demand Flow Rate [veh/h]	8	0	0	0	0	0	0	1096	21	0	0	720	0	0		
Adjusted Demand Flow Rate [veh/h]	8	0	0	0	0	0	0	1096	21	0	0	720	0	0		

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	8	0	1117	720
Capacity of Entry and Bypass Lanes [veh/h]	663	442	1380	1351
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	663	442	1380	1351
X, volume / capacity	0.01	0.00	0.81	0.53

Movement, Approach, & Intersection Results

Lane LOS	A	A	C	A
95th-Percentile Queue Length [veh]	0.04	0.00	9.81	3.29
95th-Percentile Queue Length [ft]	0.92	0.00	245.31	82.19
Approach Delay [s/veh]	5.56	8.15	16.59	8.33
Approach LOS	A	A	C	A
Intersection Delay [s/veh]	13.32			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1900: East West Arterial North/South Spurs

Control Type:	Roundabout	Delay (sec / veh):	13.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	East-West Arterial			East-West Arterial			East-West Arterial		
Approach	Northbound			Eastbound			Westbound		
Lane Configuration									
Turning Movement	Left	Right	U-turn	Thru	Right	U-turn	Left	Thru	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			50.00			40.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	East-West Arterial			East-West Arterial			East-West Arterial		
Base Volume Input [veh/h]	598	2	5	163	932	0	1	122	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	598	2	5	163	932	0	1	122	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	150	1	1	41	233	0	0	31	0
Total Analysis Volume [veh/h]	598	2	5	163	932	0	1	122	0
Pedestrian Volume [ped/h]	0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1		
Circulating Flow Rate [veh/h]	122			7			937		
Exiting Flow Rate [veh/h]	938			720			165		
Demand Flow Rate [veh/h]	598	2	5	163	932	0	1	122	0
Adjusted Demand Flow Rate [veh/h]	598	2	5	163	932	0	1	122	0

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	605	1095	123
Capacity of Entry and Bypass Lanes [veh/h]	1219	1371	531
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1219	1371	531
X, volume / capacity	0.50	0.80	0.23

Movement, Approach, & Intersection Results

Lane LOS	A	C	A
95th-Percentile Queue Length [veh]	2.85	9.38	0.89
95th-Percentile Queue Length [ft]	71.31	234.50	22.24
Approach Delay [s/veh]	8.31	16.09	9.98
Approach LOS	A	C	A
Intersection Delay [s/veh]	13.10		
Intersection LOS	B		

Intersection Level Of Service Report
Intersection 2000: Frank Sound Road at East-West Arterial

Control Type:	Roundabout	Delay (sec / veh):	4.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd		East-West Arterial		
Approach	Northbound		Southbound		Eastbound		
Lane Configuration							
Turning Movement	Left	Thru	Thru	Right	Left	Right	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		40.00		
Grade [%]	0.00		0.00		0.00		
Crosswalk	Yes		Yes		Yes		

Volumes

Name	Frank Sound Rd		Frank Sound Rd		East-West Arterial		
Base Volume Input [veh/h]	7	117	146	115	141	24	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	117	146	115	141	24	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	29	37	29	35	6	0
Total Analysis Volume [veh/h]	7	117	146	115	141	24	0
Pedestrian Volume [ped/h]	0		0		0		

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1		
Circulating Flow Rate [veh/h]	115		24		117		
Exiting Flow Rate [veh/h]	170		258		122		
Demand Flow Rate [veh/h]	7	117	146	115	141	24	0
Adjusted Demand Flow Rate [veh/h]	7	117	146	115	141	24	0

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	124	261	165
Capacity of Entry and Bypass Lanes [veh/h]	1228	1347	1225
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1228	1347	1225
X, volume / capacity	0.10	0.19	0.13

Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	0.34	0.72	0.47
95th-Percentile Queue Length [ft]	8.41	17.94	11.64
Approach Delay [s/veh]	3.77	4.28	4.07
Approach LOS	A	A	A
Intersection Delay [s/veh]	4.10		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 2100: Frank Sound Road at East-West Arterial

Control Type:	Roundabout	Delay (sec / veh):	13.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd			Frank Sound Rd			East-West Arterial							
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00			50.00			40.00				40.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Frank Sound Rd			Frank Sound Rd			East-West Arterial							
Base Volume Input [veh/h]	568	142	0	0	160	12	6	0	865	59	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	568	142	0	0	160	12	6	0	865	59	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	142	36	0	0	40	3	2	0	216	15	0	0	0	0
Total Analysis Volume [veh/h]	568	142	0	0	160	12	6	0	865	59	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1				
Circulating Flow Rate [veh/h]	71			924			142				1096				
Exiting Flow Rate [veh/h]	1025			148			639				0				
Demand Flow Rate [veh/h]	568	142	0	0	160	12	6	0	865	59	0	0	0	0	
Adjusted Demand Flow Rate [veh/h]	568	142	0	0	160	12	6	0	865	59	0	0	0	0	

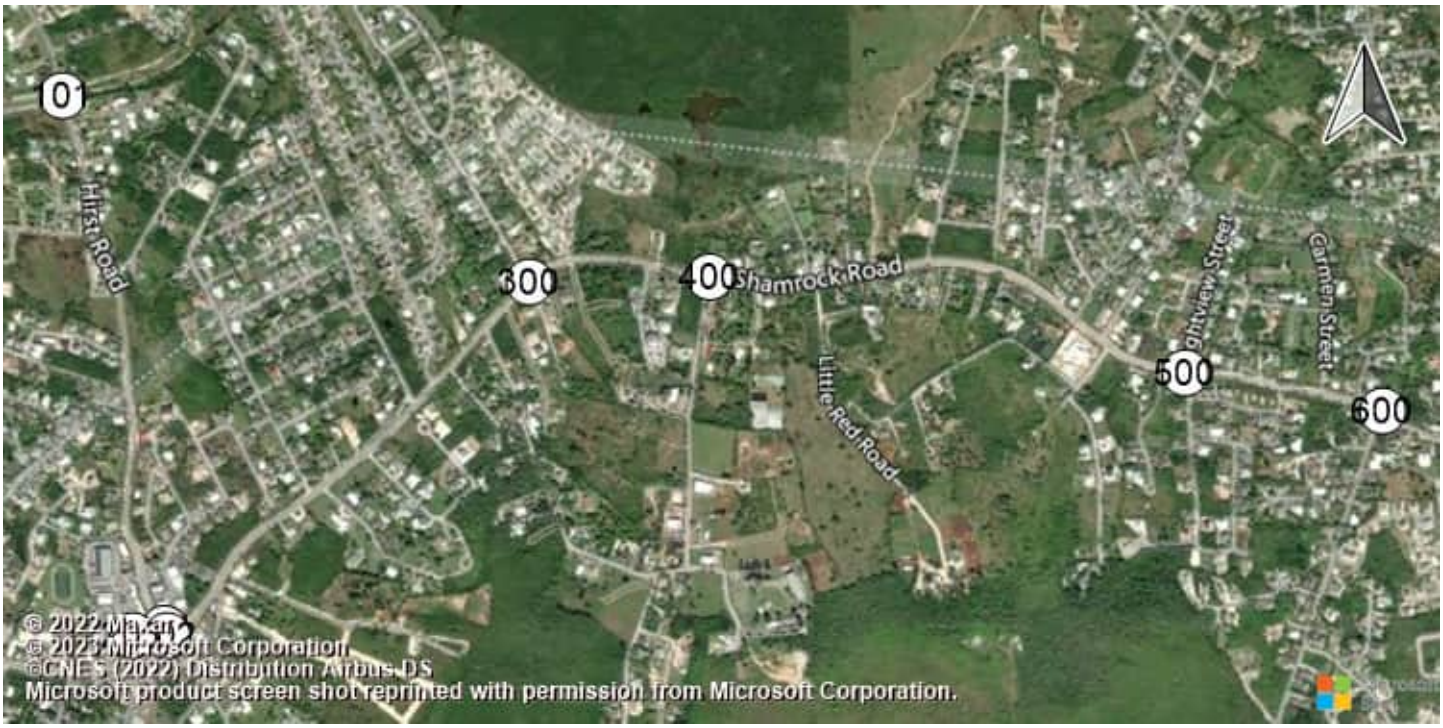
Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	710	172	930	0
Capacity of Entry and Bypass Lanes [veh/h]	1284	538	1194	452
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1284	538	1194	452
X, volume / capacity	0.55	0.32	0.78	0.00

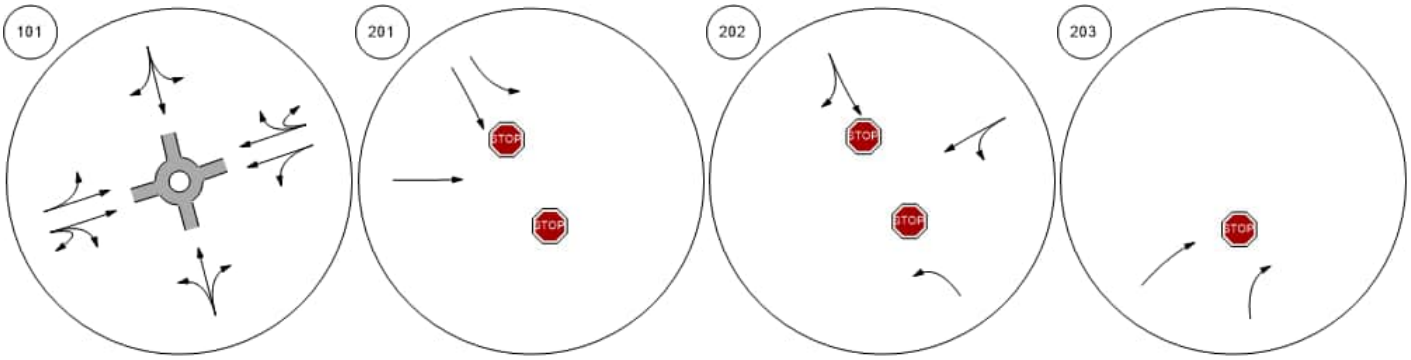
Movement, Approach, & Intersection Results

Lane LOS	A	B	C	A
95th-Percentile Queue Length [veh]	3.54	1.37	8.42	0.00
95th-Percentile Queue Length [ft]	88.47	34.25	210.54	0.00
Approach Delay [s/veh]	8.98	11.41	16.59	7.98
Approach LOS	A	B	C	A
Intersection Delay [s/veh]	13.12			
Intersection LOS	B			

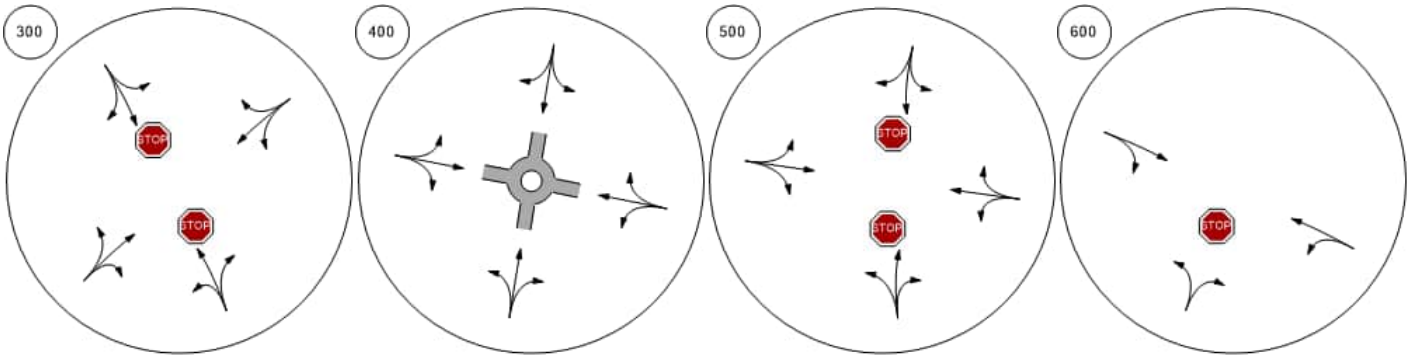
Lane Configuration and Traffic Control



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



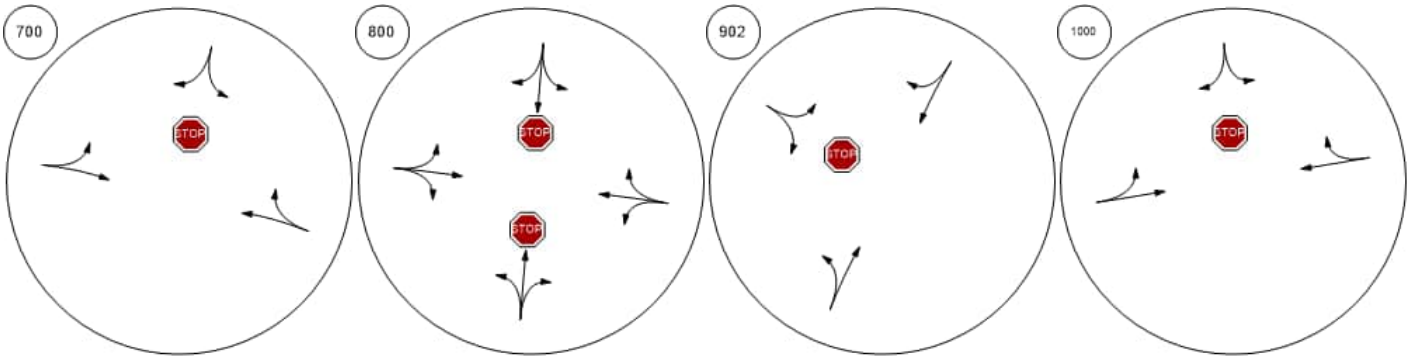
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



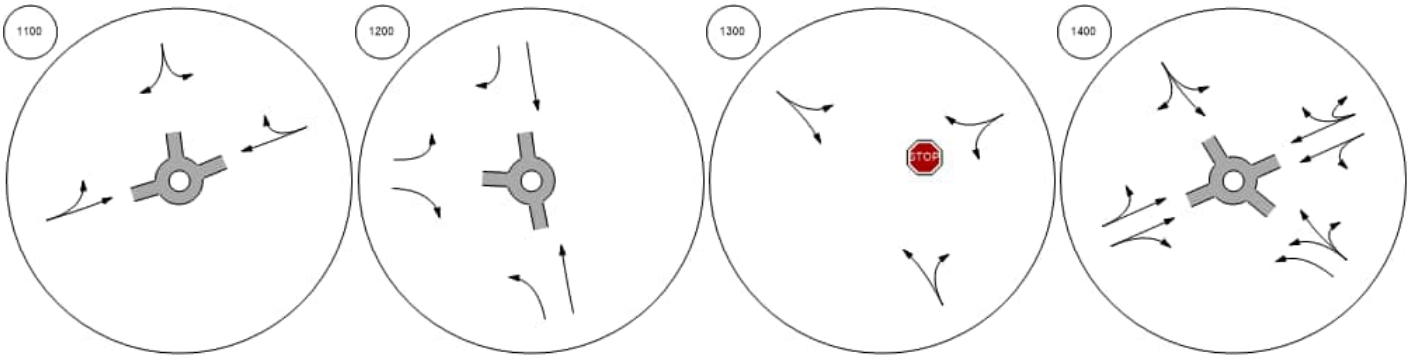
Lane Configuration and Traffic Control



Shamrock Road at Northward | Shamrock Road at Condor R | Bodden Town Road at Bodde | Bodden Town Road at Long



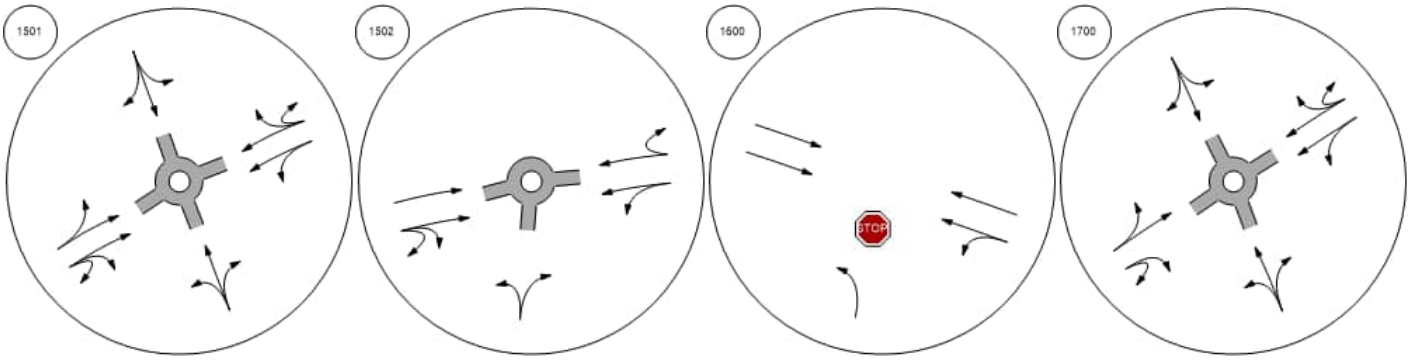
Frank Sound Road at Bodde | Frank Sound Road at Clifton | Frank Sound Road at North S | East-West Arterial at Agricola



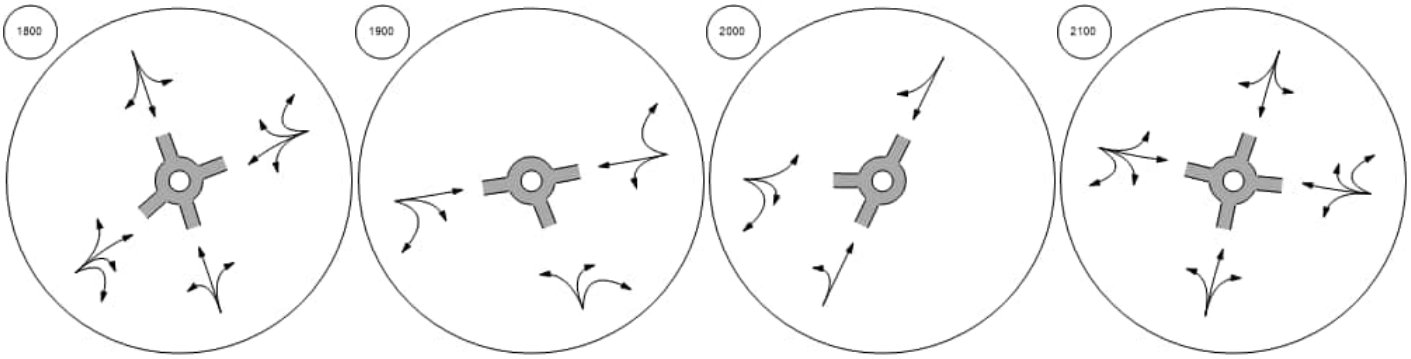
Lane Configuration and Traffic Control



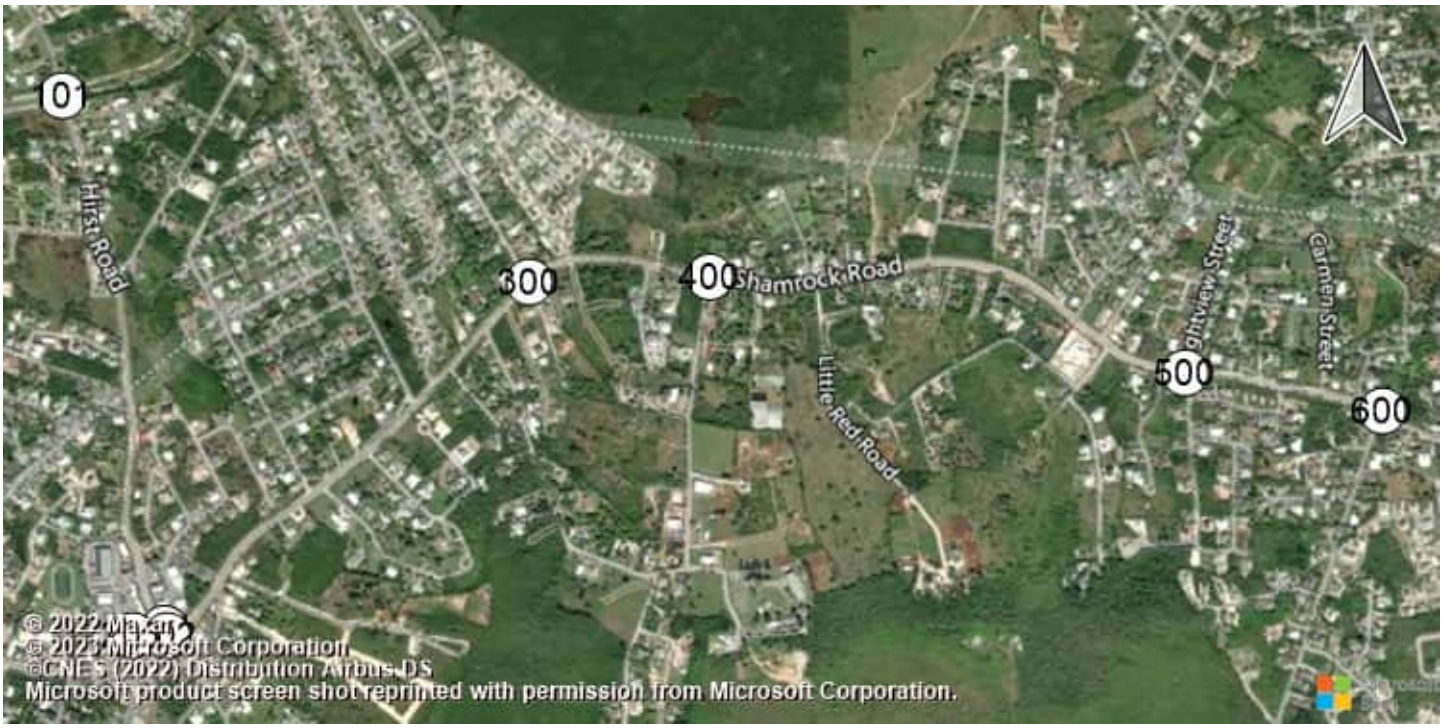
East-West Arterial at Will T C East-West Arterial at Will T C East-West Arterial at Northwa East-West Arterial at Lookout



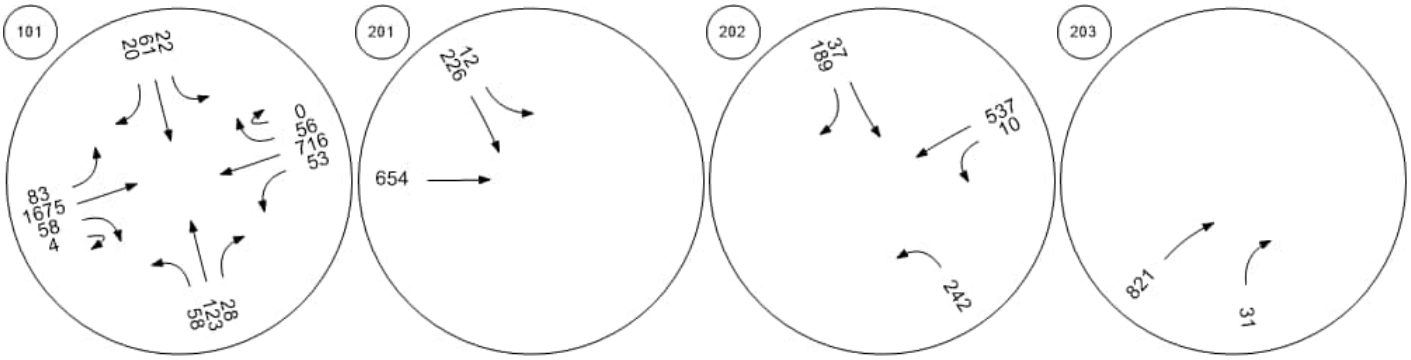
East-West Arterial at Longfell East West Arterial North/Sout Frank Sound Road at East-W Frank Sound Road at East-W



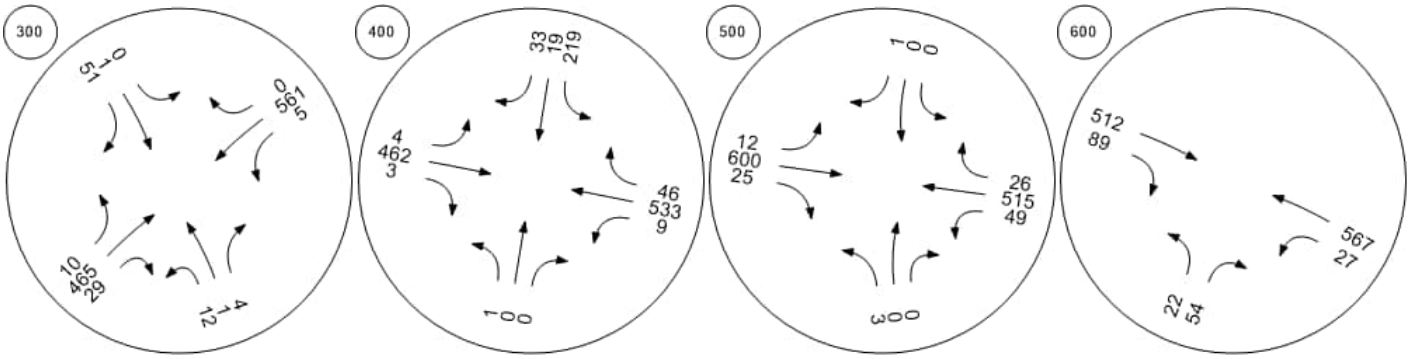
Traffic Volume - Base Volume



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



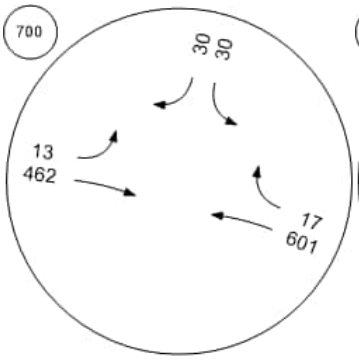
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



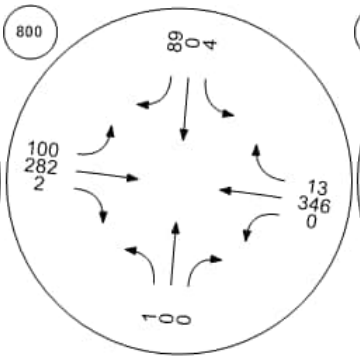
Traffic Volume - Base Volume



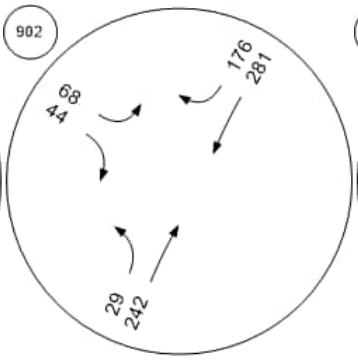
Shamrock Road at Northward



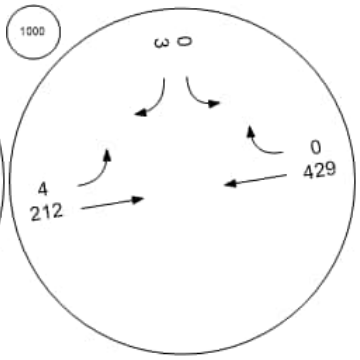
Shamrock Road at Condor R



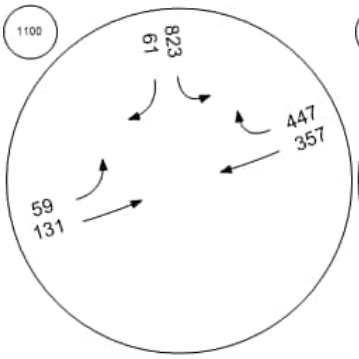
Bodden Town Road at Bodde



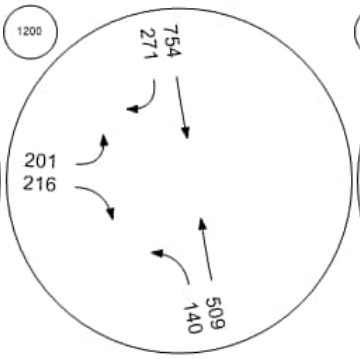
Bodden Town Road at Long



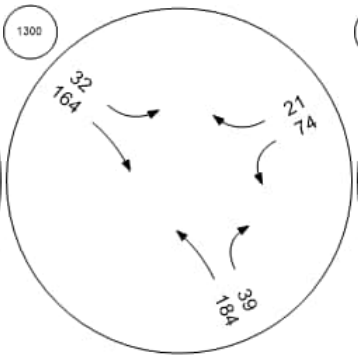
Frank Sound Road at Bodde



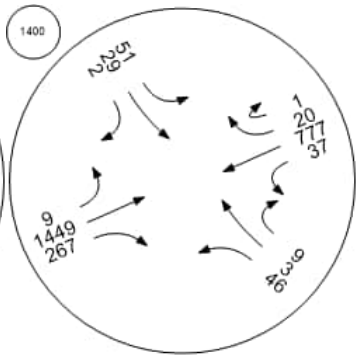
Frank Sound Road at Clifton



Frank Sound Road at North S



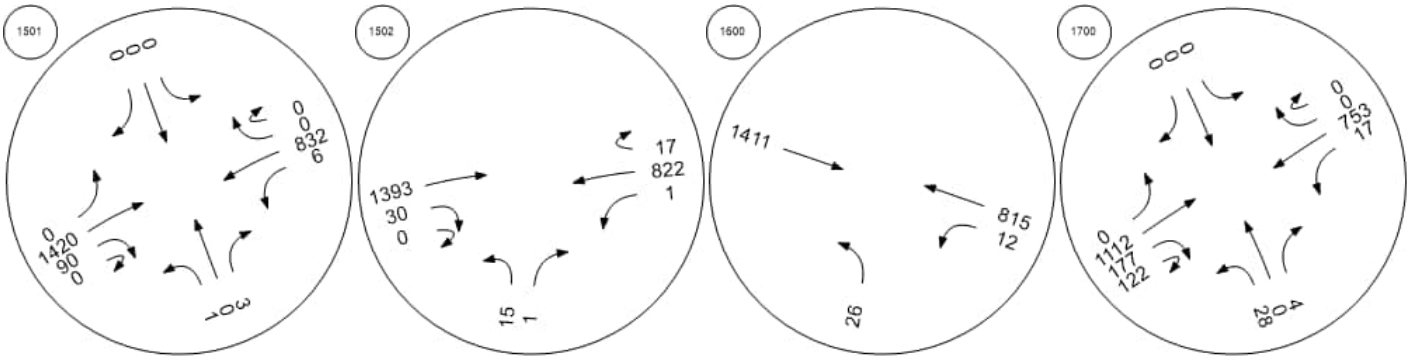
East-West Arterial at Agricola



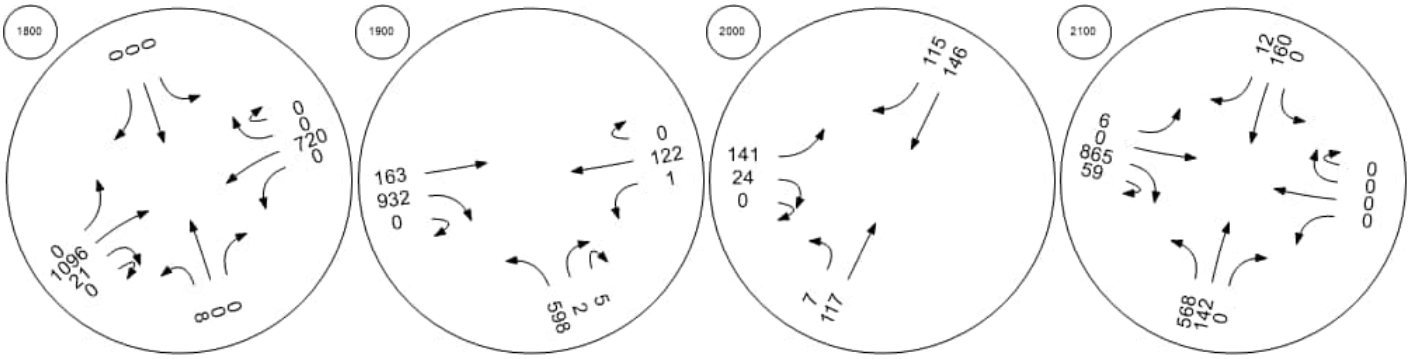
Traffic Volume - Base Volume



East-West Arterial at Will T C East-West Arterial at Will T C East-West Arterial at Northwa East-West Arterial at Lookout



East-West Arterial at Longfell East West Arterial North/Sout Frank Sound Road at East-W Frank Sound Road at East-W



Intersection Level Of Service Report
Intersection 101: East-West Arterial Road at Hirst Road

Control Type:	Roundabout	Delay (sec / veh):	12.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name									East-West Arterial				East-West Arterial				
Approach	Northbound				Southbound				Eastbound				Westbound				
Lane Configuration																	
Turning Movement	Left	Left	Thru	Right	Left	Thru	Right	Right	Left	Thru	Right	U-tu	Left	Thr	Thr	Rig	U-t
Lane Width [ft]	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.	12.	12.	12.	12.
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100	100	100	100	100
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Speed [mph]	30.00				30.00				40.00				50.00				
Grade [%]	0.00				0.00				0.00				0.00				
Crosswalk	Yes				Yes				Yes				Yes				

Volumes

Name									East-West Arterial				East-West Arterial				
Base Volume Input [veh/h]	13	0	39	37	15	64	0	34	17	924	9	20	18	178	0	39	0
Base Volume Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	0	39	37	15	64	0	34	17	924	9	20	18	178	0	39	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Other Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Total 15-Minute Volume [veh/h]	3	0	10	9	4	16	0	9	4	231	2	5	5	447	0	10	0
Total Analysis Volume [veh/h]	13	0	39	37	15	64	0	34	17	924	9	20	18	178	0	39	0
Pedestrian Volume [ped/h]	0				0				0				0				

Intersection Settings

Number of Conflicting Circulating Lanes	2				2				2				2				
Circulating Flow Rate [veh/h]	1881				990				115				127				
Exiting Flow Rate [veh/h]	91				95				1855				976				
Demand Flow Rate [veh/h]	13	0	39	37	15	64	0	34	17	924	9	20	18	178	0	39	0
Adjusted Demand Flow Rate [veh/h]	13	0	39	37	15	64	0	34	17	924	9	20	18	178	0	39	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1350.00	1420.00	1350.00
B (coefficient)	0.00085	0.00085	0.00085	0.00092	0.00085	0.00092
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	89	113	515	456	978	868
Capacity of Entry and Bypass Lanes [veh/h]	288	613	1288	1215	1275	1202
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	288	613	1288	1215	1275	1202
X, volume / capacity	0.31	0.18	0.40	0.38	0.77	0.72

Movement, Approach, & Intersection Results

Lane LOS	C	A	A	A	C	B
95th-Percentile Queue Length [veh]	1.28	0.67	1.95	1.77	8.11	6.71
95th-Percentile Queue Length [ft]	32.05	16.80	48.85	44.25	202.75	167.76
Approach Delay [s/veh]	19.63	8.13	6.62		14.65	
Approach LOS	C	A	A		B	
Intersection Delay [s/veh]	11.97					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 201: Shamrock Road at Hirst Rd (1)

Control Type:	Two-way stop	Delay (sec / veh):	15.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.267

Intersection Setup

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	0	0	0	22	120	0	0	453	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	22	120	0	0	453	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	6	32	0	0	122	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	24	129	0	0	487	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.04	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	11.42	15.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS				B	C			A				
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.13	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	3.20	26.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			14.55			0.00			0.00		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	3.48											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 202: Shamrock Road at Hirst Rd (2)

Control Type:	Two-way stop	Delay (sec / veh):	199.6
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.070

Intersection Setup

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	296	0	0	0	20	100	0	0	0	7	646	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	296	0	0	0	20	100	0	0	0	7	646	0
Peak Hour Factor	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	80	0	0	0	5	27	0	0	0	2	174	0
Total Analysis Volume [veh/h]	318	0	0	0	22	108	0	0	0	8	695	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.72	0.00	0.00	0.00	0.06	1.07	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	31.17	0.00	0.00	0.00	173.76	199.55	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	D				F	F				A	A	
95th-Percentile Queue Length [veh/ln]	5.61	0.00	0.00	0.00	7.98	7.98	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	140.16	0.00	0.00	0.00	199.55	199.55	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	31.17			195.19			0.00			0.00		
Approach LOS	D			F			A			A		
d_I, Intersection Delay [s/veh]	30.66											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 203: Shamrock Road atHirst Road Jughandle

Control Type:	Two-way stop	Delay (sec / veh):	12.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.046

Intersection Setup

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	0	21	505	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	21	505	0	0	0
Peak Hour Factor	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	6	136	0	0	0
Total Analysis Volume [veh/h]	0	23	543	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.05	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	12.48	0.00	0.00	0.00	0.00
Movement LOS		B	A			
95th-Percentile Queue Length [veh/ln]	0.00	0.14	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	3.58	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.48		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.51					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 300: Shamrock Road at Woodland Drive

Control Type:	Two-way stop	Delay (sec / veh):	23.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.108

Intersection Setup

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	40	1	5	0	0	22	8	343	6	2	589	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	1	5	0	0	22	8	343	6	2	589	0
Peak Hour Factor	0.9700	0.9700	1.0000	1.0000	0.9700	0.9700	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	0	1	0	0	6	2	86	2	1	147	0
Total Analysis Volume [veh/h]	41	1	5	0	0	23	8	343	6	2	589	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.00	0.02	0.00	0.00	0.11	0.00	0.00	0.01	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	12.98	19.83	20.88	12.16	20.86	23.85	0.00	0.00	8.64	0.00	0.00	7.95
Movement LOS	B	C	C	B	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.35	0.35	0.35	0.36	0.36	0.36	0.02	0.02	0.02	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	8.72	8.72	8.72	8.90	8.90	8.90	0.46	0.46	0.46	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.96			23.85			0.15			0.00		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	1.23											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 400: Shamrock Road at Agricola Drive

Control Type:	Roundabout	Delay (sec / veh):	8.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	2	7	2	40	13	40	1	346	2	3	548	222
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	7	2	40	13	40	1	346	2	3	548	222
Peak Hour Factor	1.0000	1.0000	0.9200	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9200	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	1	10	3	10	0	87	1	1	137	56
Total Analysis Volume [veh/h]	2	7	2	40	13	40	1	346	2	3	548	222
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	810			350			231			55		
Exiting Flow Rate [veh/h]	18			230			590			388		
Demand Flow Rate [veh/h]	2	7	2	40	13	40	1	346	2	3	548	222
Adjusted Demand Flow Rate [veh/h]	2	7	2	40	13	40	1	346	2	3	548	222

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	11	93	349	773
Capacity of Entry and Bypass Lanes [veh/h]	605	966	1091	1305
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	605	966	1091	1305
X, volume / capacity	0.02	0.10	0.32	0.59

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.06	0.32	1.39	4.11
95th-Percentile Queue Length [ft]	1.39	7.97	34.79	102.69
Approach Delay [s/veh]	6.16	4.61	6.45	9.65
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	8.32			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 500: Shamrock Road at Brightview Drive / Calla Lily Drive

Control Type:	Two-way stop	Delay (sec / veh):	25.2
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.038

Intersection Setup

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			20.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	12	0	5	3	0	7	1	390	1	0	708	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	0	5	3	0	7	1	390	1	0	708	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	1	1	0	2	0	98	0	0	177	0
Total Analysis Volume [veh/h]	12	0	5	3	0	7	1	390	1	0	708	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.00	0.03	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	13.86	22.52	24.63	11.12	22.54	25.25	0.00	0.00	9.00	0.00	0.00	8.05
Movement LOS	B	C	C	B	C	D	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.17	0.17	0.17	0.13	0.13	0.13	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	4.24	4.24	4.24	3.32	3.32	3.32	0.08	0.08	0.08	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	17.03			21.01			0.02			0.00		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	0.45											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 600: Shamrock Road at Beach Bay Road

Control Type:	Two-way stop	Delay (sec / veh):	52.6
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.305

Intersection Setup

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	13	29	210	187	62	696
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	29	210	187	62	696
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	8	58	51	17	191
Total Analysis Volume [veh/h]	14	32	231	205	68	765
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.31	0.00	0.25	0.00	0.01
d_M, Delay for Movement [s/veh]	27.52	52.62	0.00	10.96	0.00	0.00
Movement LOS	D	F	A	B	A	A
95th-Percentile Queue Length [veh/ln]	1.38	1.38	1.01	1.01	0.00	0.00
95th-Percentile Queue Length [ft/ln]	34.57	34.57	25.14	25.14	0.00	0.00
d_A, Approach Delay [s/veh]	44.98		5.15		0.00	
Approach LOS	E		A		A	
d_I, Intersection Delay [s/veh]	3.28					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 700: Shamrock Road at Northward Road

Control Type:	Two-way stop	Delay (sec / veh):	19.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

Intersection Setup

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	10	3	9	238	718	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	3	9	238	718	22
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	1	2	61	185	6
Total Analysis Volume [veh/h]	10	3	9	245	740	23
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	9.70	19.50	0.00	0.00	0.00	7.77
Movement LOS	A	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.08	0.08	0.00	0.00	0.05	0.05
95th-Percentile Queue Length [ft/ln]	1.88	1.88	0.00	0.00	1.33	1.33
d_A, Approach Delay [s/veh]	11.96		0.00		0.23	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.32					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 800: Shamrock Road at Condor Road

Control Type:	Two-way stop	Delay (sec / veh):	18.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.458

Intersection Setup

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Base Volume Input [veh/h]	4	0	0	1	0	225	74	167	0	0	267	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	0	0	1	0	225	74	167	0	0	267	6
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	0	0	56	19	42	0	0	67	2
Total Analysis Volume [veh/h]	4	0	0	1	0	225	74	167	0	0	267	6
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.46	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.66	12.83	12.31	15.34	18.51	18.39	0.00	0.00	7.75	0.00	0.00	7.70
Movement LOS	A	B	B	C	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.02	2.38	2.38	2.38	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.39	0.39	0.39	59.46	59.46	59.46	0.00	0.00	0.00	0.34	0.34	0.34
d_A, Approach Delay [s/veh]	9.66			18.38			0.00			0.17		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	5.70											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 902: Bodden Town Road at Bodden Town Bypass

Control Type:	Two-way stop	Delay (sec / veh):	16.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.062

Intersection Setup

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	67	20	12	162	195	160
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	67	20	12	162	195	160
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	5	3	43	52	43
Total Analysis Volume [veh/h]	71	21	13	172	207	170
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.06	0.00	0.00	0.00	0.12
d_M, Delay for Movement [s/veh]	10.08	16.50	0.00	0.00	0.00	7.92
Movement LOS	B	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.50	0.50	0.00	0.00	0.41	0.41
95th-Percentile Queue Length [ft/ln]	12.45	12.45	0.00	0.00	10.32	10.32
d_A, Approach Delay [s/veh]	11.54		0.00		3.57	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	3.68					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1000: Bodden Town Road at Long Fellow Drive

Control Type:	Two-way stop	Delay (sec / veh):	16.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.021

Intersection Setup

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	0	6	2	157	320	116
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	6	2	157	320	116
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	1	43	88	32
Total Analysis Volume [veh/h]	0	7	2	173	352	127
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.02	0.00	0.00	0.00	0.09
d_M, Delay for Movement [s/veh]	9.36	16.29	0.00	0.00	0.00	7.80
Movement LOS	A	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.07	0.07	0.00	0.00	0.30	0.30
95th-Percentile Queue Length [ft/ln]	1.64	1.64	0.00	0.00	7.39	7.39
d_A, Approach Delay [s/veh]	16.29		0.00		2.07	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	1.67					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1100: Frank Sound Road at Bodden Town Road

Control Type:	Roundabout	Delay (sec / veh):	14.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Base Volume Input [veh/h]	634	57	41	110	380	628
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	634	57	41	110	380	628
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	170	15	11	30	102	169
Total Analysis Volume [veh/h]	682	61	44	118	409	675
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	118		675		61	
Exiting Flow Rate [veh/h]	719		470		800	
Demand Flow Rate [veh/h]	634	57	41	110	380	628
Adjusted Demand Flow Rate [veh/h]	682	61	44	118	409	675

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	743	162	1084
Capacity of Entry and Bypass Lanes [veh/h]	1224	694	1297
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1224	694	1297
X, volume / capacity	0.61	0.23	0.84

Movement, Approach, & Intersection Results

Lane LOS	B	A	C
95th-Percentile Queue Length [veh]	4.33	0.90	10.85
95th-Percentile Queue Length [ft]	108.18	22.57	271.37
Approach Delay [s/veh]	10.42	7.94	19.10
Approach LOS	B	A	C
Intersection Delay [s/veh]	14.95		
Intersection LOS	B		

Intersection Level Of Service Report
Intersection 1200: Frank Sound Road at Clifton Hunter High School

Control Type:	Roundabout	Delay (sec / veh):	7.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd		Clifton Hunter HS	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		20.00		20.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Frank Sound Rd		Clifton Hunter HS	
Base Volume Input [veh/h]	244	532	699	173	258	150
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	244	532	699	173	258	150
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	61	133	175	43	65	38
Total Analysis Volume [veh/h]	244	532	699	173	258	150
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	173		150		532	
Exiting Flow Rate [veh/h]	849		790		417	
Demand Flow Rate [veh/h]	244	532	699	173	258	150
Adjusted Demand Flow Rate [veh/h]	244	532	699	173	258	150

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00091	0.00091	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	244	532	699	173	258	150
Capacity of Entry and Bypass Lanes [veh/h]	1214	1214	1239	1239	876	876
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1214	1214	1239	1239	876	876
X, volume / capacity	0.20	0.44	0.56	0.14	0.29	0.17

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.75	2.28	3.68	0.49	1.23	0.62
95th-Percentile Queue Length [ft]	18.77	57.05	92.09	12.13	30.86	15.41
Approach Delay [s/veh]	6.60		8.36		6.76	
Approach LOS	A		A		A	
Intersection Delay [s/veh]	7.38					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1300: Frank Sound Road at North Side Road/Old Robin Road

Control Type:	Two-way stop	Delay (sec / veh):	11.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Base Volume Input [veh/h]	126	37	8	117	46	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	126	37	8	117	46	1
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	10	2	33	13	0
Total Analysis Volume [veh/h]	142	42	9	131	52	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.03	0.00	0.00	0.06	0.00
d_M, Delay for Movement [s/veh]	0.00	7.55	0.00	0.00	9.16	11.04
Movement LOS	A	A	A	A	A	B
95th-Percentile Queue Length [veh/ln]	0.09	0.09	0.00	0.00	0.19	0.19
95th-Percentile Queue Length [ft/ln]	2.23	2.23	0.00	0.00	4.63	4.63
d_A, Approach Delay [s/veh]	1.72		0.00		9.20	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.13					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1400: East-West Arterial at Agricola Drive Connector

Control Type:	Roundabout	Delay (sec / veh):	9.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			50.00			50.00			
Grade [%]	0.00			0.00			0.00			0.00			
Crosswalk	Yes			Yes			Yes			Yes			

Volumes

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Base Volume Input [veh/h]	293	1	6	31	53	0	4	897	75	9	1552	1	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	293	1	6	31	53	0	4	897	75	9	1552	1	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	73	0	2	8	13	0	1	224	19	2	388	0	0
Total Analysis Volume [veh/h]	293	1	6	31	53	0	4	897	75	9	1552	1	0
Pedestrian Volume [ped/h]	0			0			0			0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1			1			
Circulating Flow Rate [veh/h]	1553			978			8			128			
Exiting Flow Rate [veh/h]	137			6			1845			934			
Demand Flow Rate [veh/h]	293	1	6	31	53	0	4	897	75	9	1552	1	0
Adjusted Demand Flow Rate [veh/h]	293	1	6	31	53	0	4	897	75	9	1552	1	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1350.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00092	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	160	141	84	518	459	828	735
Capacity of Entry and Bypass Lanes [veh/h]	380	324	619	1410	1410	1264	1264
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	380	324	619	1410	1410	1264	1264
X, volume / capacity	0.42	0.44	0.14	0.37	0.33	0.66	0.58

Movement, Approach, & Intersection Results

Lane LOS	C	C	A	A	A	B	A
95th-Percentile Queue Length [veh]	2.02	2.12	0.47	1.71	1.43	5.20	3.92
95th-Percentile Queue Length [ft]	50.43	53.02	11.71	42.82	35.75	130.00	98.12
Approach Delay [s/veh]	19.85		7.41	5.65		10.54	
Approach LOS	C		A	A		B	
Intersection Delay [s/veh]	9.77						
Intersection LOS	A						

Intersection Level Of Service Report
Intersection 1501: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	7.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name							East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name							East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	29	0	7	0	0	0	0	928	6	0	0	1529	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	29	0	7	0	0	0	0	928	6	0	0	1529	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	7	0	2	0	0	0	0	232	2	0	0	382	0	0
Total Analysis Volume [veh/h]	29	0	7	0	0	0	0	928	6	0	0	1529	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1				1					
Circulating Flow Rate [veh/h]	1529			941			7				6					
Exiting Flow Rate [veh/h]	6			0			1558				935					
Demand Flow Rate [veh/h]	29	0	7	0	0	0	0	928	6	0	0	1529	0	0		
Adjusted Demand Flow Rate [veh/h]	29	0	7	0	0	0	0	928	6	0	0	1529	0	0		

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	36	0	496	439	811	719
Capacity of Entry and Bypass Lanes [veh/h]	388	639	1411	1411	1413	1413
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	388	639	1411	1411	1413	1413
X, volume / capacity	0.09	0.00	0.35	0.31	0.57	0.51

Movement, Approach, & Intersection Results

Lane LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.31	0.00	1.60	1.34	3.84	3.00
95th-Percentile Queue Length [ft]	7.64	0.00	39.97	33.50	96.07	75.10
Approach Delay [s/veh]	10.72	5.64	5.48		8.28	
Approach LOS	B	A	A		A	
Intersection Delay [s/veh]	7.27					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1502: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	7.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name			East-West Arterial			East-West Arterial		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	Thru	Right	U-turn	Left	Thru	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00			50.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	Yes		Yes			Yes		

Volumes

Name			East-West Arterial			East-West Arterial		
Base Volume Input [veh/h]	224	4	932	2	0	1	1305	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	224	4	932	2	0	1	1305	12
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	56	1	233	1	0	0	326	3
Total Analysis Volume [veh/h]	224	4	932	2	0	1	1305	12
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	2		1			1		
Circulating Flow Rate [veh/h]	1317		16			2		
Exiting Flow Rate [veh/h]	3		1529			948		
Demand Flow Rate [veh/h]	224	4	932	2	0	1	1305	12
Adjusted Demand Flow Rate [veh/h]	224	4	932	2	0	1	1305	12

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	228	496	439	699	620
Capacity of Entry and Bypass Lanes [veh/h]	464	1400	1400	1418	1418
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	464	1400	1400	1418	1418
X, volume / capacity	0.49	0.35	0.31	0.49	0.44

Movement, Approach, & Intersection Results

Lane LOS	C	A	A	A	A
95th-Percentile Queue Length [veh]	2.66	1.62	1.36	2.83	2.28
95th-Percentile Queue Length [ft]	66.57	40.47	33.89	70.66	56.92
Approach Delay [s/veh]	17.51	5.54		7.09	
Approach LOS	C	A		A	
Intersection Delay [s/veh]	7.46				
Intersection LOS	A				

Intersection Level Of Service Report
Intersection 1600: East-West Arterial at Northward Rd

Control Type:	Two-way stop	Delay (sec / veh):	15.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.216

Intersection Setup

Name	Northward Rd		East-West Arterial		East-West Arterial	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		East-West Arterial		East-West Arterial	
Base Volume Input [veh/h]	95	0	949	0	3	1223
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	95	0	949	0	3	1223
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	0	237	0	1	306
Total Analysis Volume [veh/h]	95	0	949	0	3	1223
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.22	0.00	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	15.41	0.00	0.00	0.00	0.00	0.00
Movement LOS	C		A		A	A
95th-Percentile Queue Length [veh/ln]	0.81	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	20.25	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	15.41		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.64					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1700: East-West Arterial at Lookout Rd

Control Type:	Roundabout	Delay (sec / veh):	8.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Lookout Rd			Lookout Rd			East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	200.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Lookout Rd			Lookout Rd			East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	127	0	6	0	0	0	0	865	31	53	2	1108	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	127	0	6	0	0	0	0	865	31	53	2	1108	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	32	0	2	0	0	0	0	216	8	13	1	277	0	0
Total Analysis Volume [veh/h]	127	0	6	0	0	0	0	865	31	53	2	1108	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1				1			
Circulating Flow Rate [veh/h]	1161			955			6				84			
Exiting Flow Rate [veh/h]	33			0			1288				871			
Demand Flow Rate [veh/h]	127	0	6	0	0	0	0	865	31	53	2	1108	0	0
Adjusted Demand Flow Rate [veh/h]	127	0	6	0	0	0	0	865	31	53	2	1108	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	133	0	865	84	589	522
Capacity of Entry and Bypass Lanes [veh/h]	530	631	1413	1413	1316	1316
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	530	631	1413	1413	1316	1316
X, volume / capacity	0.25	0.00	0.61	0.06	0.45	0.40

Movement, Approach, & Intersection Results

Lane LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.99	0.00	4.45	0.19	2.37	1.93
95th-Percentile Queue Length [ft]	24.68	0.00	111.30	4.74	59.14	48.35
Approach Delay [s/veh]	10.33	5.71	8.97		6.86	
Approach LOS	B	A	A		A	
Intersection Delay [s/veh]	7.98					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1800: East-West Arterial at Longfellow Rd

Control Type:	Roundabout	Delay (sec / veh):	10.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Longfellow Rd			Longfellow Rd			East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Longfellow Rd			Longfellow Rd			East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	129	0	2	0	0	0	0	865	6	0	5	905	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	129	0	2	0	0	0	0	865	6	0	5	905	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	32	0	1	0	0	0	0	216	2	0	1	226	0	0
Total Analysis Volume [veh/h]	129	0	2	0	0	0	0	865	6	0	5	905	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1				
Circulating Flow Rate [veh/h]	905			873			2				6				
Exiting Flow Rate [veh/h]	11			0			1034				867				
Demand Flow Rate [veh/h]	129	0	2	0	0	0	0	865	6	0	5	905	0	0	
Adjusted Demand Flow Rate [veh/h]	129	0	2	0	0	0	0	865	6	0	5	905	0	0	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	131	0	871	910
Capacity of Entry and Bypass Lanes [veh/h]	549	567	1378	1372
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	549	567	1378	1372
X, volume / capacity	0.24	0.00	0.63	0.66

Movement, Approach, & Intersection Results

Lane LOS	A	A	B	B
95th-Percentile Queue Length [veh]	0.93	0.00	4.80	5.41
95th-Percentile Queue Length [ft]	23.14	0.00	119.96	135.19
Approach Delay [s/veh]	9.81	6.36	10.16	10.95
Approach LOS	A	A	B	B
Intersection Delay [s/veh]	10.51			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1900: East West Arterial

Control Type:	Roundabout	Delay (sec / veh):	10.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name							East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name							East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	0	0	6	0	0	12	1	843	22	0	0	844	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	6	0	0	12	1	843	22	0	0	844	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	0	0	2	0	0	3	0	211	6	0	0	211	0	0
Total Analysis Volume [veh/h]	0	0	6	0	0	12	1	843	22	0	0	844	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1			
Circulating Flow Rate [veh/h]	856			871			6				34			
Exiting Flow Rate [veh/h]	22			1			856				849			
Demand Flow Rate [veh/h]	0	0	6	0	0	12	1	843	22	0	0	844	0	0
Adjusted Demand Flow Rate [veh/h]	0	0	6	0	0	12	1	843	22	0	0	844	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	6	12	866	844
Capacity of Entry and Bypass Lanes [veh/h]	577	568	1372	1333
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	577	568	1372	1333
X, volume / capacity	0.01	0.02	0.63	0.63

Movement, Approach, & Intersection Results

Lane LOS	A	A	B	B
95th-Percentile Queue Length [veh]	0.03	0.06	4.78	4.80
95th-Percentile Queue Length [ft]	0.79	1.62	119.44	120.03
Approach Delay [s/veh]	6.36	6.59	10.16	10.40
Approach LOS	A	A	B	B
Intersection Delay [s/veh]	10.24			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 2000: Frank Sound Road at East-West Arterial

Control Type:	Unknown	Delay (sec / veh):	?
Analysis Method:	?	Level Of Service:	?
Analysis Period:	15 minutes	Volume to Capacity (v/c):	?

Intersection Setup

Name	Frank Sound Rd	Frank Sound Rd
Approach	Northbound	Southbound
Lane Configuration		
Turning Movement	Thru	Thru
Crosswalk	Yes	Yes

Volumes

Name	Frank Sound Rd	Frank Sound Rd
Base Volume Input [veh/h]	171	192
Base Volume Adjustment Factor	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00
Growth Factor	1.0000	1.0000
In-Process Volume [veh/h]	0	0
Site-Generated Trips [veh/h]	0	0
Diverted Trips [veh/h]	0	0
Pass-by Trips [veh/h]	0	0
Existing Site Adjustment Volume [veh/h]	0	0
Other Volume [veh/h]	0	0
Left-Turn on Red Volume [veh/h]	0	0
Total Hourly Volume [veh/h]	171	192
Peak Hour Factor	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	48
Total Analysis Volume [veh/h]	171	192
Presence of On-Street Parking	No	No
On-Street Parking Maneuver Rate [/h]	0	0
Local Bus Stopping Rate [/h]	0	0
Pedestrian Volume [ped/h]	0	0

Intersection Level Of Service Report
Intersection 2100: Frank Sound Road at East-West Arterial

Control Type:	Roundabout	Delay (sec / veh):	12.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd			Frank Sound Rd			East-West Arterial							
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			50.00				40.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Frank Sound Rd			Frank Sound Rd			East-West Arterial							
Base Volume Input [veh/h]	689	101	0	0	107	148	86	3	765	0	0	9	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	689	101	0	0	107	148	86	3	765	0	0	9	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	172	25	0	0	27	37	22	1	191	0	0	2	0	0
Total Analysis Volume [veh/h]	689	101	0	0	107	148	86	3	765	0	0	9	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1			
Circulating Flow Rate [veh/h]	157			768			101				1020			
Exiting Flow Rate [veh/h]	872			187			846				3			
Demand Flow Rate [veh/h]	689	101	0	0	107	148	86	3	765	0	0	9	0	0
Adjusted Demand Flow Rate [veh/h]	689	101	0	0	107	148	86	3	765	0	0	9	0	0

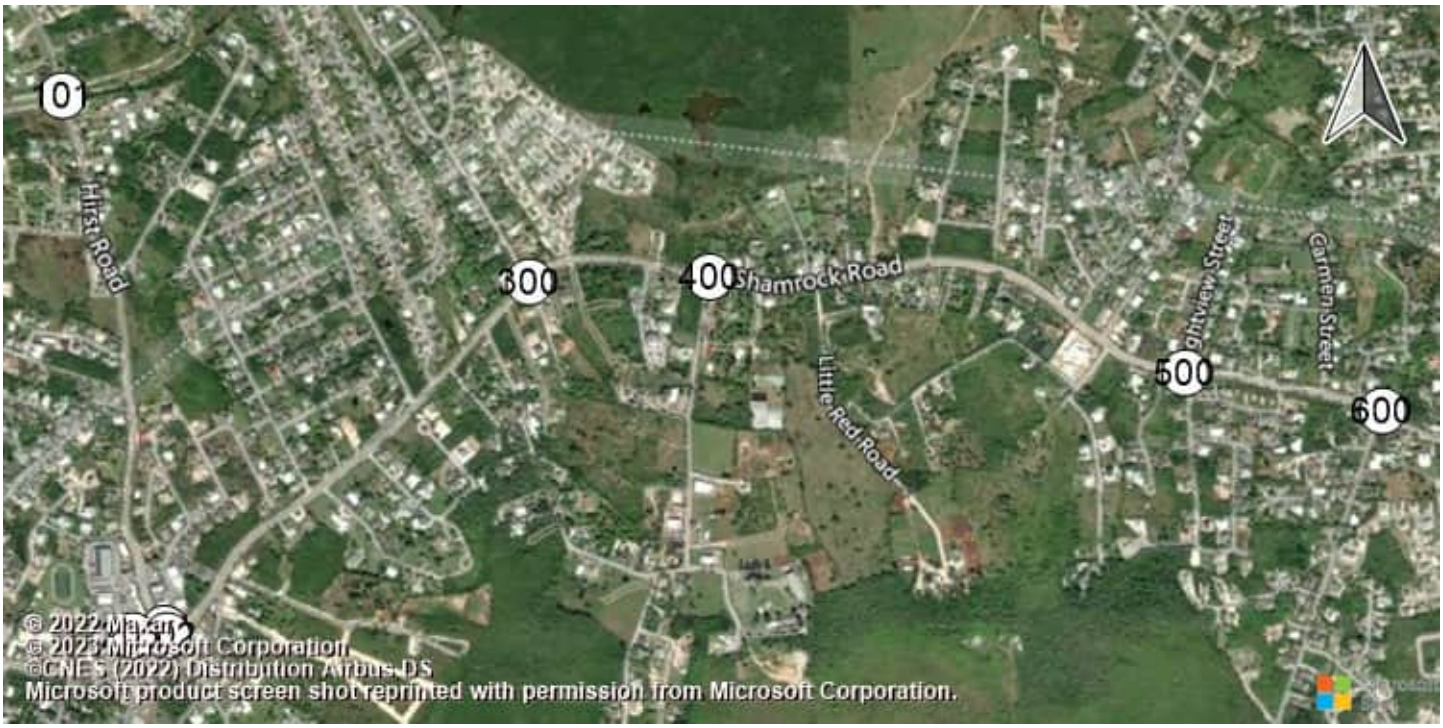
Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	790	255	854	9
Capacity of Entry and Bypass Lanes [veh/h]	1176	631	1245	488
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1176	631	1245	488
X, volume / capacity	0.67	0.40	0.69	0.02

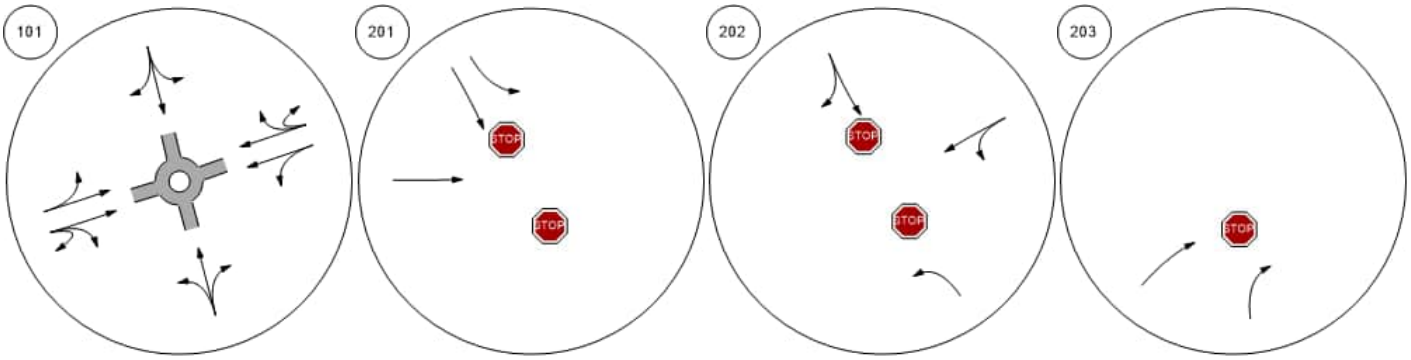
Movement, Approach, & Intersection Results

Lane LOS	B	B	B	A
95th-Percentile Queue Length [veh]	5.51	1.96	5.85	0.06
95th-Percentile Queue Length [ft]	137.82	48.90	146.32	1.41
Approach Delay [s/veh]	12.45	11.56	12.38	7.61
Approach LOS	B	B	B	A
Intersection Delay [s/veh]	12.27			
Intersection LOS	B			

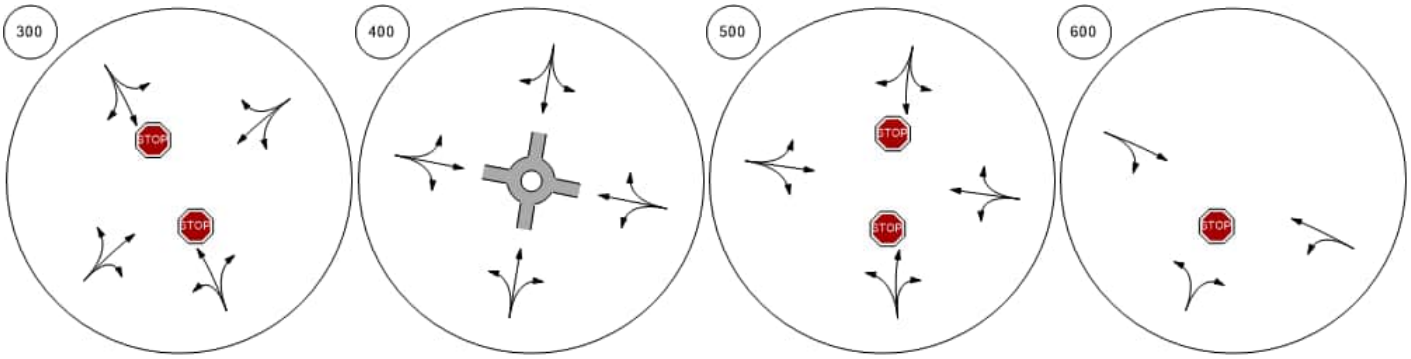
Lane Configuration and Traffic Control



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



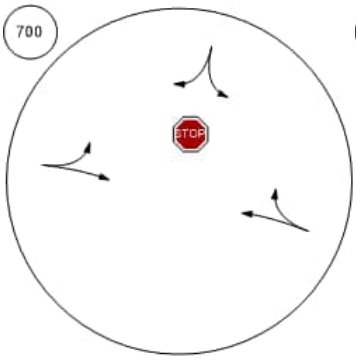
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



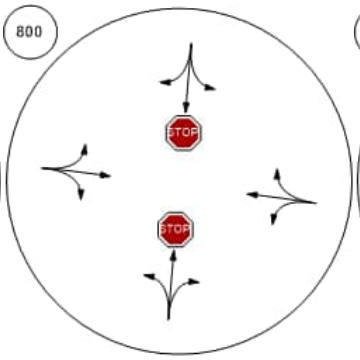
Lane Configuration and Traffic Control



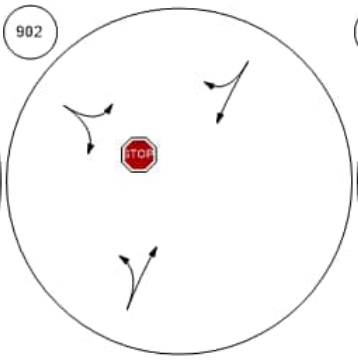
Shamrock Road at Northward



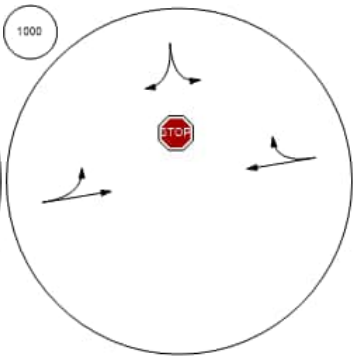
Shamrock Road at Condor R



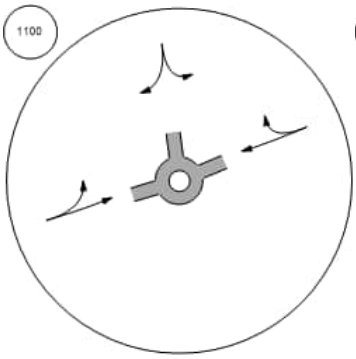
Bodden Town Road at Bodde



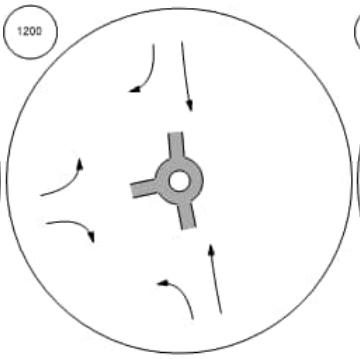
Bodden Town Road at Long



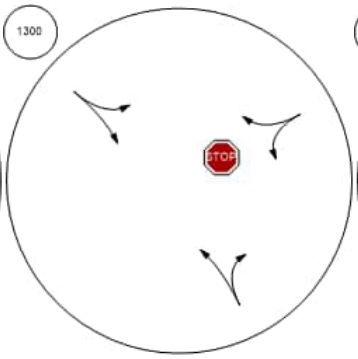
Frank Sound Road at Bodde



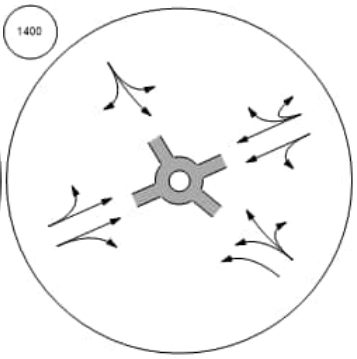
Frank Sound Road at Clifton



Frank Sound Road at North S



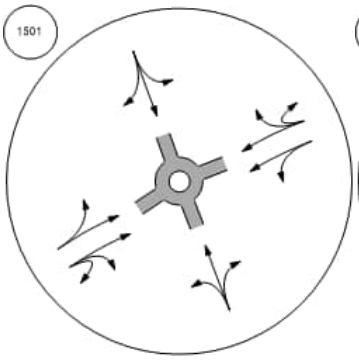
East-West Arterial at Agricola



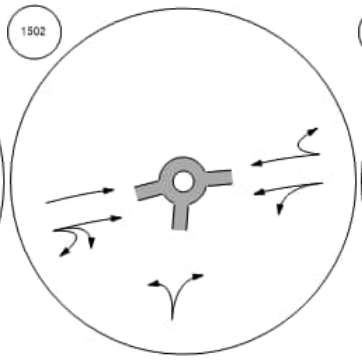
Lane Configuration and Traffic Control



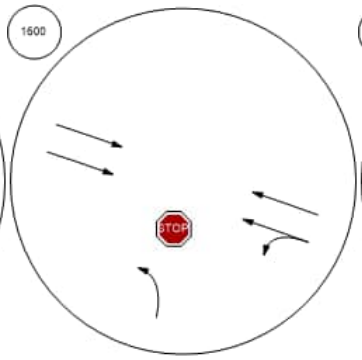
East-West Arterial at Will T C



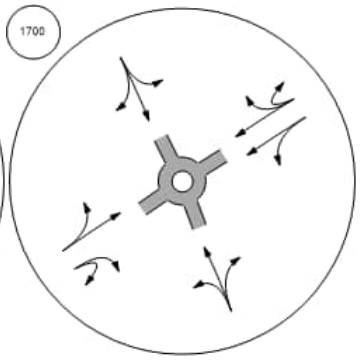
East-West Arterial at Will T C



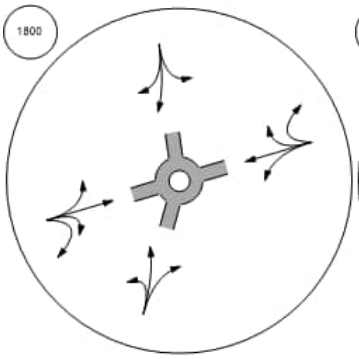
East-West Arterial at Northwa



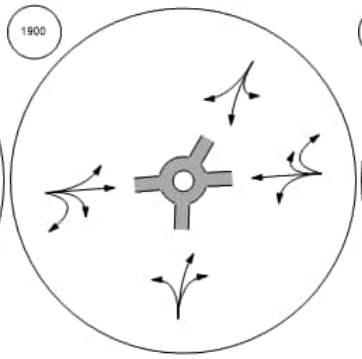
East-West Arterial at Lookout



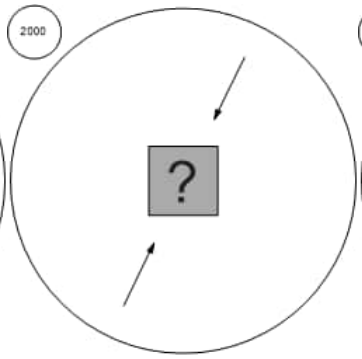
East-West Arterial at Longfell



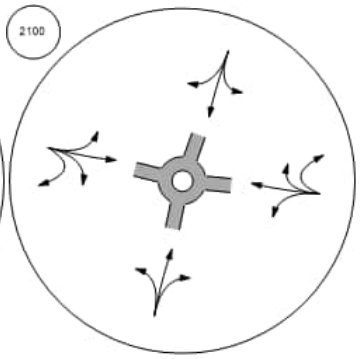
East West Arterial



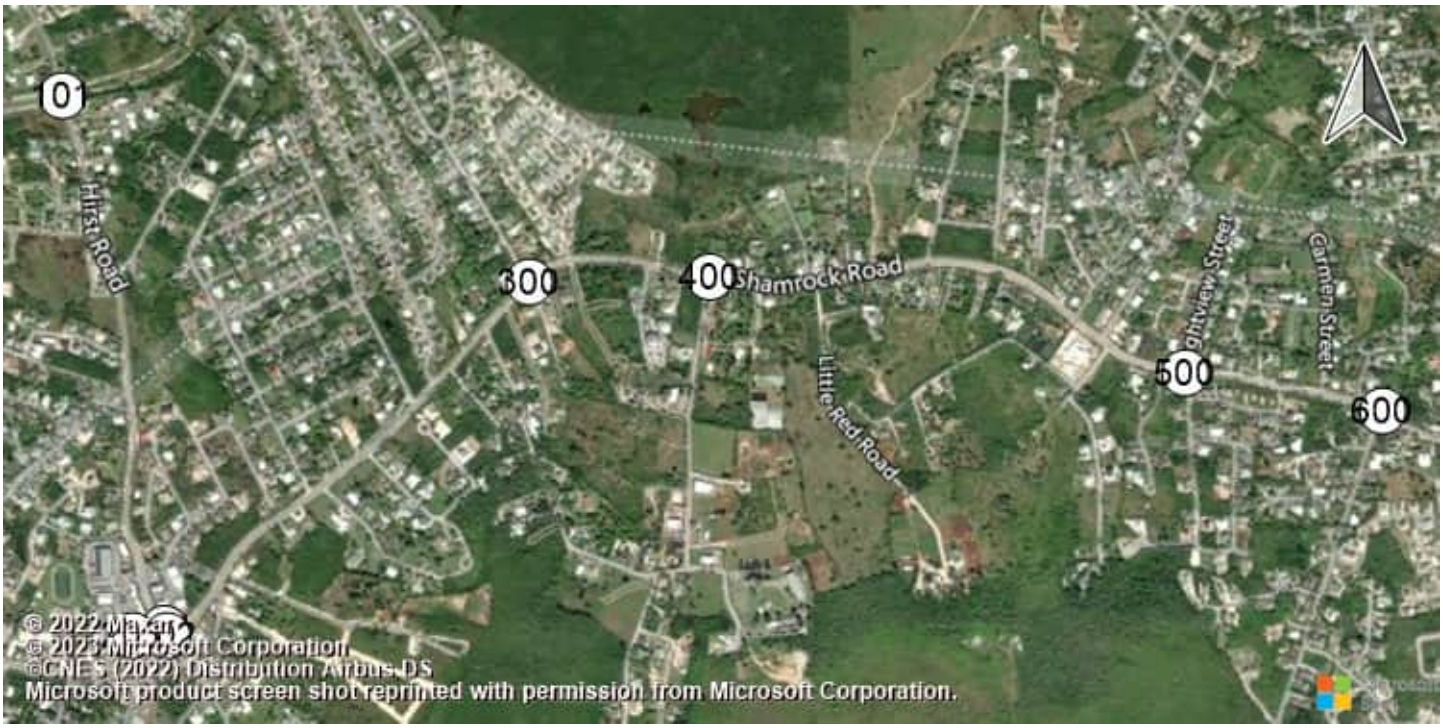
Frank Sound Road at East-W



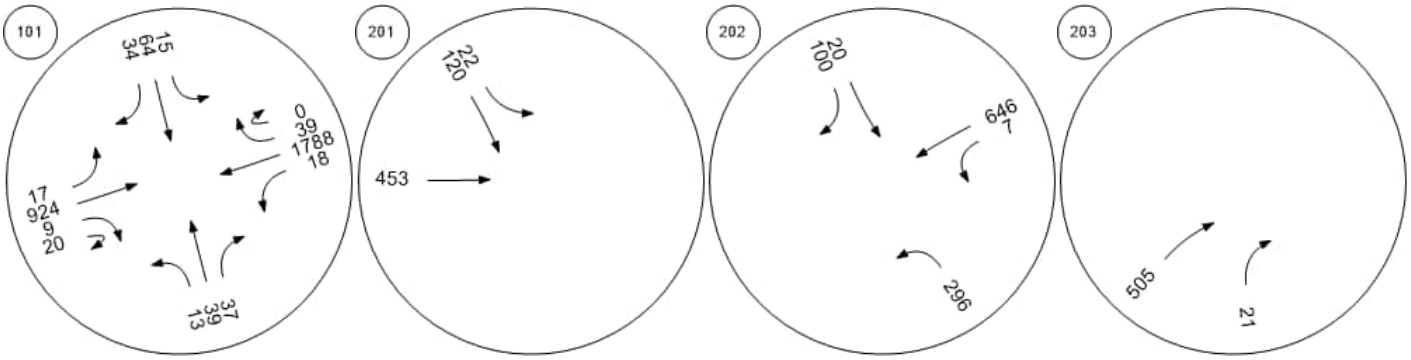
Frank Sound Road at East-W



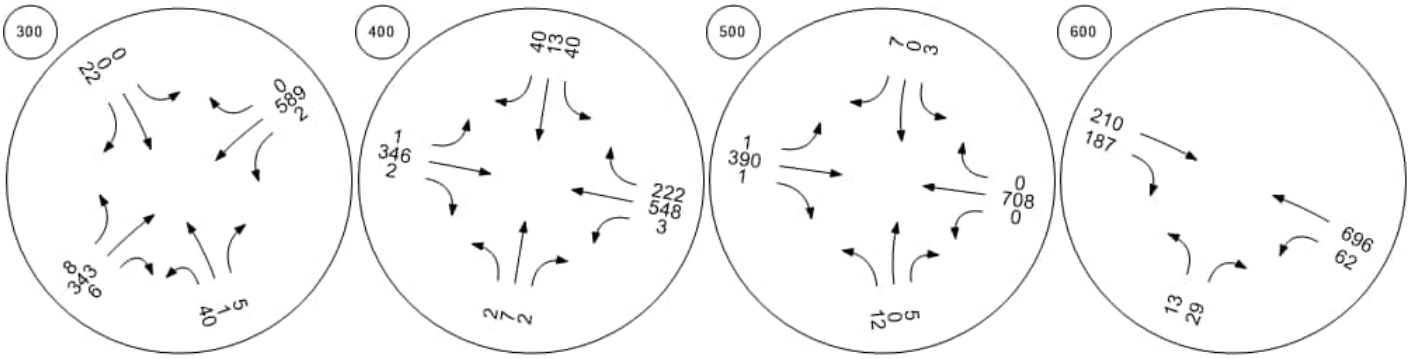
Traffic Volume - Base Volume



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



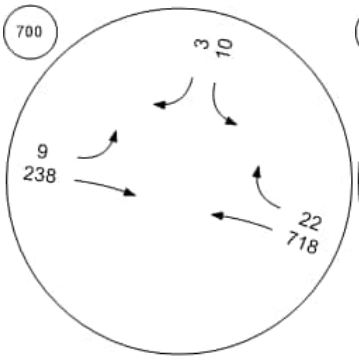
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



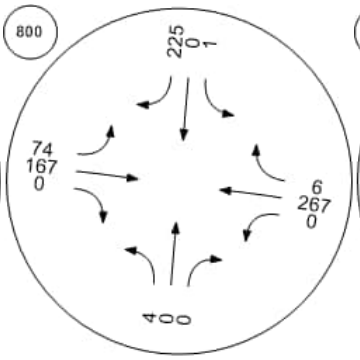
Traffic Volume - Base Volume



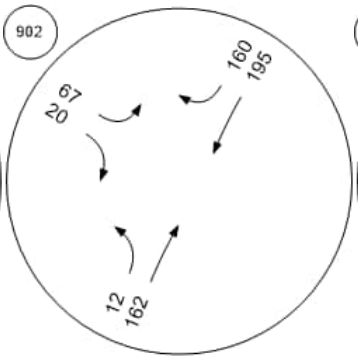
Shamrock Road at Northward



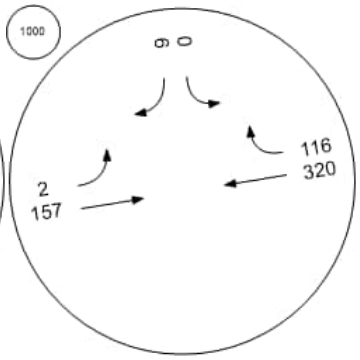
Shamrock Road at Condor R



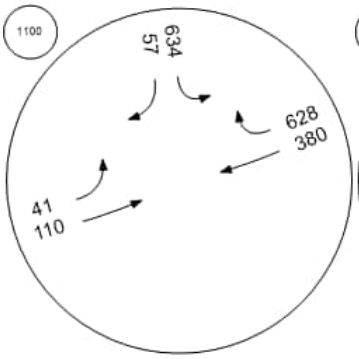
Bodden Town Road at Bodde



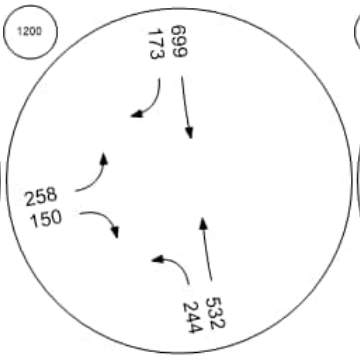
Bodden Town Road at Long



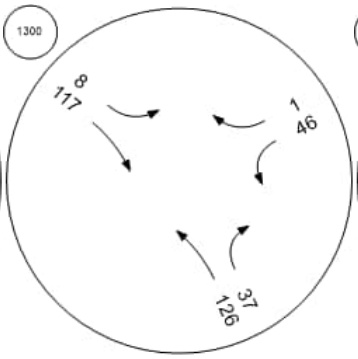
Frank Sound Road at Bodde



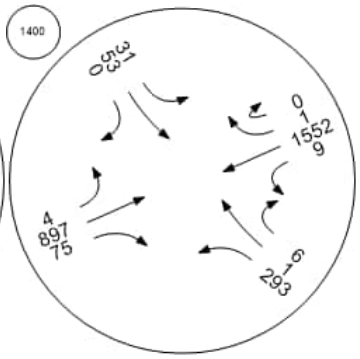
Frank Sound Road at Clifton



Frank Sound Road at North S



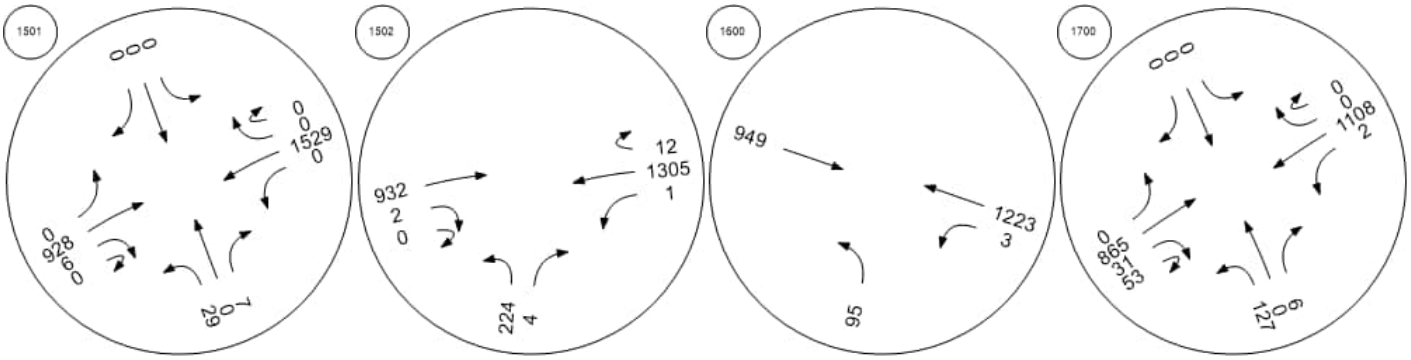
East-West Arterial at Agricola



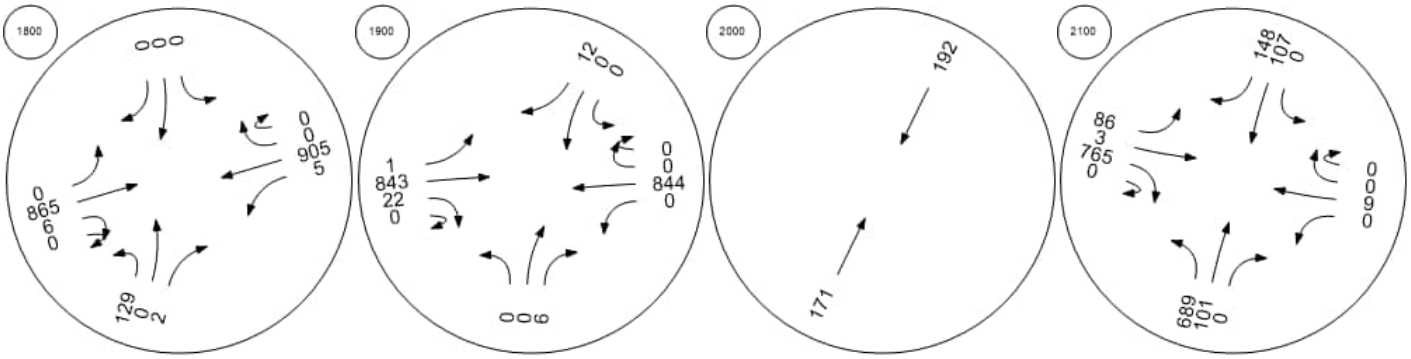
Traffic Volume - Base Volume



East-West Arterial at Will T C East-West Arterial at Will T C East-West Arterial at Northwa East-West Arterial at Lookout



East-West Arterial at Longfell East West Arterial Frank Sound Road at East-W Frank Sound Road at East-W



Intersection Level Of Service Report
Intersection 101: East-West Arterial Road at Hirst Road

Control Type:	Roundabout	Delay (sec / veh):	14.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name									East-West Arterial				East-West Arterial				
Approach	Northbound				Southbound				Eastbound				Westbound				
Lane Configuration																	
Turning Movement	Left	Left	Thru	Right	Left	Thru	Right	Right	Left	Thru	Right	U-tu	Left	Thr	Thr	Rig	U-t
Lane Width [ft]	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.	12.	12.	12.	12.
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100	100	100	100	100
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Speed [mph]	30.00				30.00				40.00				50.00				
Grade [%]	0.00				0.00				0.00				0.00				
Crosswalk	Yes				Yes				Yes				Yes				

Volumes

Name									East-West Arterial				East-West Arterial				
Base Volume Input [veh/h]	41	0	123	29	22	61	0	20	83	1707	57	4	53	817	0	50	0
Base Volume Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	41	0	123	29	22	61	0	20	83	1707	57	4	53	817	0	50	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Other Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Total 15-Minute Volume [veh/h]	10	0	31	7	6	15	0	5	21	427	14	1	13	204	0	13	0
Total Analysis Volume [veh/h]	41	0	123	29	22	61	0	20	83	1707	57	4	53	817	0	50	0
Pedestrian Volume [ped/h]	0				0				0				0				

Intersection Settings

Number of Conflicting Circulating Lanes	2				2				2				2				
Circulating Flow Rate [veh/h]	891				1797				202				142				
Exiting Flow Rate [veh/h]	171				256				882				1758				
Demand Flow Rate [veh/h]	41	0	123	29	22	61	0	20	83	1707	57	4	53	817	0	50	0
Adjusted Demand Flow Rate [veh/h]	41	0	123	29	22	61	0	20	83	1707	57	4	53	817	0	50	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1350.00	1420.00	1350.00
B (coefficient)	0.00085	0.00085	0.00085	0.00092	0.00085	0.00092
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	193	103	982	870	488	433
Capacity of Entry and Bypass Lanes [veh/h]	666	309	1196	1122	1259	1185
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	666	309	1196	1122	1259	1185
X, volume / capacity	0.29	0.33	0.82	0.78	0.39	0.36

Movement, Approach, & Intersection Results

Lane LOS	A	C	C	C	A	A
95th-Percentile Queue Length [veh]	1.20	1.43	9.98	8.23	1.86	1.69
95th-Percentile Queue Length [ft]	30.00	35.65	249.58	205.86	46.54	42.35
Approach Delay [s/veh]	9.05	19.10	18.20		6.60	
Approach LOS	A	C	C		A	
Intersection Delay [s/veh]	14.17					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 201: Shamrock Road at Hirst Rd (1)

Control Type:	Two-way stop	Delay (sec / veh):	31.2
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.656

Intersection Setup

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	0	0	0	11	228	0	0	636	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	11	228	0	0	636	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	3	61	0	0	171	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	12	245	0	0	684	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.03	0.66	0.00	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	13.18	31.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS				B	D			A				
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.08	4.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	2.04	111.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			30.36			0.00			0.00		
Approach LOS	A			D			A			A		
d_I, Intersection Delay [s/veh]	8.29											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 202: Shamrock Road at Hirst Rd (2)

Control Type:	Two-way stop	Delay (sec / veh):	58.6
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.749

Intersection Setup

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	240	0	0	0	38	190	0	0	0	12	452	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	240	0	0	0	38	190	0	0	0	12	452	0
Peak Hour Factor	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	65	0	0	0	10	51	0	0	0	3	122	0
Total Analysis Volume [veh/h]	258	0	0	0	41	204	0	0	0	13	486	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.44	0.00	0.00	0.00	0.09	0.75	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	16.07	0.00	0.00	0.00	52.91	58.57	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	C				F	F				A	A	
95th-Percentile Queue Length [veh/ln]	2.27	0.00	0.00	0.00	7.03	7.03	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	56.80	0.00	0.00	0.00	175.82	175.82	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	16.07			57.62			0.00			0.00		
Approach LOS	C			F			A			A		
d_I, Intersection Delay [s/veh]	18.23											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 203: Shamrock Road atHirst Road Jughandle

Control Type:	Two-way stop	Delay (sec / veh):	17.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.095

Intersection Setup

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	0	29	805	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	29	805	0	0	0
Peak Hour Factor	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	8	216	0	0	0
Total Analysis Volume [veh/h]	0	31	866	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.09	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	17.19	0.00	0.00	0.00	0.00
Movement LOS		C	A			
95th-Percentile Queue Length [veh/ln]	0.00	0.31	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	7.81	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	17.19		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.59					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 300: Shamrock Road at Woodland Drive

Control Type:	Two-way stop	Delay (sec / veh):	27.6
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.250

Intersection Setup

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	12	1	3	0	1	51	10	448	29	5	478	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	1	3	0	1	51	10	448	29	5	478	0
Peak Hour Factor	0.9700	0.9700	1.0000	1.0000	0.9700	0.9700	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	1	0	0	13	3	112	7	1	120	0
Total Analysis Volume [veh/h]	12	1	3	0	1	53	10	448	30	5	478	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.01	0.00	0.00	0.25	0.00	0.00	0.03	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.45	20.57	21.79	16.55	25.83	27.61	0.00	0.00	8.40	0.00	0.00	8.23
Movement LOS	B	C	C	C	D	D	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.12	0.12	0.12	0.97	0.97	0.97	0.08	0.08	0.08	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	2.98	2.98	2.98	24.31	24.31	24.31	2.12	2.12	2.12	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.96			27.58			0.52			0.00		
Approach LOS	B			D			A			A		
d_I, Intersection Delay [s/veh]	1.89											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 400: Shamrock Road at Agricola Drive

Control Type:	Roundabout	Delay (sec / veh):	6.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	1	0	0	203	19	34	4	444	3	8	448	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	0	203	19	34	4	444	3	8	448	46
Peak Hour Factor	1.0000	1.0000	0.9200	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9200	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	51	5	9	1	111	1	2	112	12
Total Analysis Volume [veh/h]	1	0	0	203	19	34	4	444	3	9	448	46
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1			
Circulating Flow Rate [veh/h]	528			447			46			56			
Exiting Flow Rate [veh/h]	31			50			483			647			
Demand Flow Rate [veh/h]	1	0	0	203	19	34	4	444	3	8	448	46	
Adjusted Demand Flow Rate [veh/h]	1	0	0	203	19	34	4	444	3	9	448	46	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	1	256	451	503
Capacity of Entry and Bypass Lanes [veh/h]	806	875	1317	1304
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	806	875	1317	1304
X, volume / capacity	0.00	0.29	0.34	0.39

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	1.22	1.54	1.85
95th-Percentile Queue Length [ft]	0.09	30.55	38.52	46.28
Approach Delay [s/veh]	4.48	7.27	5.86	6.42
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	6.39			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 500: Shamrock Road at Brightview Drive / Calla Lily Drive

Control Type:	Two-way stop	Delay (sec / veh):	25.6
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			20.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	3	0	0	0	0	1	13	561	24	50	427	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	0	0	0	0	1	13	561	24	50	427	25
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	0	0	0	3	140	6	13	107	6
Total Analysis Volume [veh/h]	3	0	0	0	0	1	13	561	24	50	427	25
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.02	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	10.91	23.62	25.38	11.95	24.19	25.62	0.00	0.00	8.36	0.00	0.00	8.66
Movement LOS	B	C	D	B	C	D	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.02	0.02	0.02	0.07	0.07	0.07	0.08	0.08	0.08
95th-Percentile Queue Length [ft/ln]	0.37	0.37	0.37	0.43	0.43	0.43	1.68	1.68	1.68	1.90	1.90	1.90
d_A, Approach Delay [s/veh]	10.91			25.62			0.34			0.43		
Approach LOS	B			D			A			A		
d_I, Intersection Delay [s/veh]	0.43											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 600: Shamrock Road at Beach Bay Road

Control Type:	Two-way stop	Delay (sec / veh):	39.2
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.381

Intersection Setup

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	22	57	475	87	30	480
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	22	57	475	87	30	480
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	16	130	24	8	132
Total Analysis Volume [veh/h]	24	63	522	96	33	527
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.38	0.01	0.09	0.00	0.01
d_M, Delay for Movement [s/veh]	24.04	39.19	0.00	8.89	0.00	0.00
Movement LOS	C	E	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.96	1.96	0.31	0.31	0.00	0.00
95th-Percentile Queue Length [ft/ln]	48.95	48.95	7.76	7.76	0.00	0.00
d_A, Approach Delay [s/veh]	35.01		1.38		0.00	
Approach LOS	E		A		A	
d_I, Intersection Delay [s/veh]	3.08					
Intersection LOS	E					

Intersection Level Of Service Report
Intersection 700: Shamrock Road at Northward Road

Control Type:	Two-way stop	Delay (sec / veh):	20.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.116

Intersection Setup

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	25	29	14	428	518	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	29	14	428	518	17
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	7	4	110	134	4
Total Analysis Volume [veh/h]	26	30	14	441	534	18
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.12	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	12.75	20.79	0.00	0.00	0.00	8.28
Movement LOS	B	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.55	0.55	0.00	0.00	0.05	0.05
95th-Percentile Queue Length [ft/ln]	13.87	13.87	0.00	0.00	1.23	1.23
d_A, Approach Delay [s/veh]	17.06		0.00		0.27	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	1.04					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 800: Shamrock Road at Condor Road

Control Type:	Two-way stop	Delay (sec / veh):	16.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.228

Intersection Setup

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Base Volume Input [veh/h]	1	0	0	4	0	90	101	242	2	0	304	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	0	4	0	90	101	242	2	0	304	13
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	1	0	23	25	61	1	0	76	3
Total Analysis Volume [veh/h]	1	0	0	4	0	90	101	242	2	0	304	13
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.00	0.23	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	9.87	14.69	14.20	12.50	16.78	16.85	0.00	0.00	7.84	0.00	0.00	7.96
Movement LOS	A	B	B	B	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.89	0.89	0.89	0.00	0.00	0.00	0.03	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.10	0.10	0.10	22.37	22.37	22.37	0.12	0.12	0.12	0.80	0.80	0.80
d_A, Approach Delay [s/veh]	9.87			16.67			0.05			0.33		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	2.24											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 902: Bodden Town Road at Bodden Town Bypass

Control Type:	Two-way stop	Delay (sec / veh):	18.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.143

Intersection Setup

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	65	44	29	200	239	132
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	65	44	29	200	239	132
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	12	8	53	64	35
Total Analysis Volume [veh/h]	69	47	31	213	254	140
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.14	0.00	0.00	0.00	0.10
d_M, Delay for Movement [s/veh]	11.47	17.98	0.00	0.00	0.00	8.01
Movement LOS	B	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.87	0.87	0.00	0.00	0.35	0.35
95th-Percentile Queue Length [ft/ln]	21.67	21.67	0.00	0.00	8.77	8.77
d_A, Approach Delay [s/veh]	14.11		0.00		2.85	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	3.66					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1000: Bodden Town Road at Long Fellow Drive

Control Type:	Two-way stop	Delay (sec / veh):	12.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.015

Intersection Setup

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	0	6	3	203	339	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	6	3	203	339	0
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	1	56	93	0
Total Analysis Volume [veh/h]	0	7	3	223	373	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.51	12.80	0.00	0.00	0.00	7.66
Movement LOS	A	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.14	1.14	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.80		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.15					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1100: Frank Sound Road at Bodden Town Road

Control Type:	Roundabout	Delay (sec / veh):	14.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Base Volume Input [veh/h]	822	65	58	138	274	538
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	822	65	58	138	274	538
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	221	17	16	37	74	145
Total Analysis Volume [veh/h]	884	70	62	148	295	578
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	148		578		70	
Exiting Flow Rate [veh/h]	640		365		1032	
Demand Flow Rate [veh/h]	822	65	58	138	274	538
Adjusted Demand Flow Rate [veh/h]	884	70	62	148	295	578

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	954	210	873
Capacity of Entry and Bypass Lanes [veh/h]	1187	766	1285
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1187	766	1285
X, volume / capacity	0.80	0.27	0.68

Movement, Approach, & Intersection Results

Lane LOS	C	A	B
95th-Percentile Queue Length [veh]	9.32	1.12	5.72
95th-Percentile Queue Length [ft]	232.93	27.91	143.06
Approach Delay [s/veh]	18.11	7.85	11.91
Approach LOS	C	A	B
Intersection Delay [s/veh]	14.39		
Intersection LOS	B		

Intersection Level Of Service Report
Intersection 1200: Frank Sound Road at Clifton Hunter High School

Control Type:	Roundabout	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd		Clifton Hunter HS	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		20.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Frank Sound Rd		Clifton Hunter HS	
Base Volume Input [veh/h]	135	604	766	277	209	209
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	135	604	766	277	209	209
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	151	192	69	52	52
Total Analysis Volume [veh/h]	135	604	766	277	209	209
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	277		209		604	
Exiting Flow Rate [veh/h]	975		813		412	
Demand Flow Rate [veh/h]	135	604	766	277	209	209
Adjusted Demand Flow Rate [veh/h]	135	604	766	277	209	209

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00091	0.00091	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	135	604	766	277	209	209
Capacity of Entry and Bypass Lanes [veh/h]	1104	1104	1175	1175	820	820
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1104	1104	1175	1175	820	820
X, volume / capacity	0.12	0.55	0.65	0.24	0.26	0.26

Movement, Approach, & Intersection Results

Lane LOS	A	A	B	A	A	A
95th-Percentile Queue Length [veh]	0.42	3.44	5.12	0.92	1.01	1.01
95th-Percentile Queue Length [ft]	10.42	85.94	127.95	22.97	25.34	25.34
Approach Delay [s/veh]	8.86		10.11		7.16	
Approach LOS	A		B		A	
Intersection Delay [s/veh]	9.13					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1300: Frank Sound Road at North Side Road/Old Robin Road

Control Type:	Two-way stop	Delay (sec / veh):	12.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.048

Intersection Setup

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Base Volume Input [veh/h]	183	39	32	163	75	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	183	39	32	163	75	22
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	51	11	9	46	21	6
Total Analysis Volume [veh/h]	206	44	36	183	84	25
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.03	0.00	0.00	0.10	0.05
d_M, Delay for Movement [s/veh]	0.00	7.73	0.00	0.00	10.10	12.79
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.10	0.10	0.00	0.00	0.52	0.52
95th-Percentile Queue Length [ft/ln]	2.50	2.50	0.00	0.00	12.91	12.91
d_A, Approach Delay [s/veh]	1.36		0.00		10.72	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	2.61					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1400: East-West Arterial at Agricola Drive Connector

Control Type:	Roundabout	Delay (sec / veh):	9.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			50.00			50.00			
Grade [%]	0.00			0.00			0.00			0.00			
Crosswalk	Yes			Yes			Yes			Yes			

Volumes

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Base Volume Input [veh/h]	43	6	9	51	29	2	9	1498	251	40	875	24	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	43	6	9	51	29	2	9	1498	251	40	875	24	2
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	11	2	2	13	7	1	2	375	63	10	219	6	1
Total Analysis Volume [veh/h]	43	6	9	51	29	2	9	1498	251	40	875	24	2
Pedestrian Volume [ped/h]	0			0			0			0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1			1			
Circulating Flow Rate [veh/h]	903			1760			41			282			
Exiting Flow Rate [veh/h]	320			39			920			1560			
Demand Flow Rate [veh/h]	43	6	9	51	29	2	9	1498	251	40	875	24	2
Adjusted Demand Flow Rate [veh/h]	43	6	9	51	29	2	9	1498	251	40	875	24	2

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1350.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00092	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	31	28	82	932	827	499	443
Capacity of Entry and Bypass Lanes [veh/h]	660	589	319	1368	1368	1099	1099
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	660	589	319	1368	1368	1099	1099
X, volume / capacity	0.05	0.05	0.26	0.68	0.60	0.45	0.40

Movement, Approach, & Intersection Results

Lane LOS	A	A	C	B	A	A	A
95th-Percentile Queue Length [veh]	0.15	0.15	1.01	5.79	4.30	2.42	1.97
95th-Percentile Queue Length [ft]	3.66	3.64	25.19	144.80	107.56	60.41	49.35
Approach Delay [s/veh]	6.29		16.49	10.57		7.88	
Approach LOS	A		C	B		A	
Intersection Delay [s/veh]	9.76						
Intersection LOS	A						

Intersection Level Of Service Report
Intersection 1501: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	7.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name							East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name							East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	1	0	5	0	0	0	0	1472	87	0	6	936	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	5	0	0	0	0	1472	87	0	6	936	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	0	0	1	0	0	0	0	368	22	0	2	234	0	0
Total Analysis Volume [veh/h]	1	0	5	0	0	0	0	1472	87	0	6	936	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1				1			
Circulating Flow Rate [veh/h]	936			1564			5				87			
Exiting Flow Rate [veh/h]	93			0			937				1477			
Demand Flow Rate [veh/h]	1	0	5	0	0	0	0	1472	87	0	6	936	0	0
Adjusted Demand Flow Rate [veh/h]	1	0	5	0	0	0	0	1472	87	0	6	936	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	6	0	827	733	500	443
Capacity of Entry and Bypass Lanes [veh/h]	641	376	1414	1414	1312	1312
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	641	376	1414	1414	1312	1312
X, volume / capacity	0.01	0.00	0.58	0.52	0.38	0.34

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.03	0.00	4.00	3.11	1.81	1.51
95th-Percentile Queue Length [ft]	0.71	0.00	100.06	77.87	45.27	37.68
Approach Delay [s/veh]	5.72	9.58	8.45		6.09	
Approach LOS	A	A	A		A	
Intersection Delay [s/veh]	7.56					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1502: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	7.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name			East-West Arterial			East-West Arterial		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	Thru	Right	U-turn	Left	Thru	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00			50.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	Yes		Yes			Yes		

Volumes

Name			East-West Arterial			East-West Arterial		
Base Volume Input [veh/h]	15	1	1447	30	0	2	927	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	1	1447	30	0	2	927	23
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	0	362	8	0	1	232	6
Total Analysis Volume [veh/h]	15	1	1447	30	0	2	927	23
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	2		1			1		
Circulating Flow Rate [veh/h]	950		24			30		
Exiting Flow Rate [veh/h]	32		942			1471		
Demand Flow Rate [veh/h]	15	1	1447	30	0	2	927	23
Adjusted Demand Flow Rate [veh/h]	15	1	1447	30	0	2	927	23

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	16	783	695	505	448
Capacity of Entry and Bypass Lanes [veh/h]	634	1390	1390	1382	1382
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	634	1390	1390	1382	1382
X, volume / capacity	0.03	0.56	0.50	0.37	0.32

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.08	3.69	2.90	1.70	1.42
95th-Percentile Queue Length [ft]	1.94	92.31	72.48	42.48	35.49
Approach Delay [s/veh]	5.96	8.20		5.71	
Approach LOS	A	A		A	
Intersection Delay [s/veh]	7.22				
Intersection LOS	A				

Intersection Level Of Service Report
Intersection 1600: East-West Arterial at Northward Rd

Control Type:	Two-way stop	Delay (sec / veh):	11.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.048

Intersection Setup

Name	Northward Rd		East-West Arterial		East-West Arterial	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		East-West Arterial		East-West Arterial	
Base Volume Input [veh/h]	26	0	1471	0	11	925
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	26	0	1471	0	11	925
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	0	368	0	3	231
Total Analysis Volume [veh/h]	26	0	1471	0	11	925
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.00	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	11.91	0.00	0.00	0.00	0.00	0.00
Movement LOS	B		A		A	A
95th-Percentile Queue Length [veh/ln]	0.15	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	3.73	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.91		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.13					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1700: East-West Arterial at Lookout Rd

Control Type:	Roundabout	Delay (sec / veh):	12.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Lookout Rd			Lookout Rd			East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	200.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Lookout Rd			Lookout Rd			East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	28	0	6	0	0	0	0	1176	175	120	18	860	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	28	0	6	0	0	0	0	1176	175	120	18	860	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	7	0	2	0	0	0	0	294	44	30	5	215	0	0
Total Analysis Volume [veh/h]	28	0	6	0	0	0	0	1176	175	120	18	860	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1				1			
Circulating Flow Rate [veh/h]	980			1477			6				295			
Exiting Flow Rate [veh/h]	193			0			1008				1182			
Demand Flow Rate [veh/h]	28	0	6	0	0	0	0	1176	175	120	18	860	0	0
Adjusted Demand Flow Rate [veh/h]	28	0	6	0	0	0	0	1176	175	120	18	860	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	34	0	1176	295	466	413
Capacity of Entry and Bypass Lanes [veh/h]	618	405	1413	1413	1086	1086
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	618	405	1413	1413	1086	1086
X, volume / capacity	0.06	0.00	0.83	0.21	0.43	0.38

Movement, Approach, & Intersection Results

Lane LOS	A	A	C	A	A	A
95th-Percentile Queue Length [veh]	0.17	0.00	10.91	0.79	2.19	1.80
95th-Percentile Queue Length [ft]	4.36	0.00	272.63	19.69	54.72	45.02
Approach Delay [s/veh]	6.45	8.90	15.07		7.60	
Approach LOS	A	A	C		A	
Intersection Delay [s/veh]	12.19					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1800: East-West Arterial at Longfellow Rd

Control Type:	Roundabout	Delay (sec / veh):	16.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes		

Intersection Setup

Name	Longfellow Rd			Longfellow Rd			East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Longfellow Rd			Longfellow Rd			East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	10	0	2	0	0	0	0	1124	58	0	6	826	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	0	2	0	0	0	0	1124	58	0	6	826	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	3	0	1	0	0	0	0	281	15	0	2	207	0	0
Total Analysis Volume [veh/h]	10	0	2	0	0	0	0	1124	58	0	6	826	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1					
Circulating Flow Rate [veh/h]	826			1184			2				58					
Exiting Flow Rate [veh/h]	64			0			836				1126					
Demand Flow Rate [veh/h]	10	0	2	0	0	0	0	1124	58	0	6	826	0	0		
Adjusted Demand Flow Rate [veh/h]	10	0	2	0	0	0	0	1124	58	0	6	826	0	0		

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	12	0	1182	832
Capacity of Entry and Bypass Lanes [veh/h]	595	413	1378	1301
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	595	413	1378	1301
X, volume / capacity	0.02	0.00	0.86	0.64

Movement, Approach, & Intersection Results

Lane LOS	A	A	C	B
95th-Percentile Queue Length [veh]	0.06	0.00	12.13	4.91
95th-Percentile Queue Length [ft]	1.54	0.00	303.33	122.83
Approach Delay [s/veh]	6.28	8.73	20.03	10.74
Approach LOS	A	A	C	B
Intersection Delay [s/veh]	16.13			
Intersection LOS	C			

Intersection Level Of Service Report
Intersection 1900: East West Arterial

Control Type:	Roundabout	Delay (sec / veh):	14.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name							East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name							East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	0	0	4	0	0	3	9	1048	69	0	0	783	3	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	4	0	0	3	9	1048	69	0	0	783	3	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	0	0	1	0	0	1	2	262	17	0	0	196	1	0
Total Analysis Volume [veh/h]	0	0	4	0	0	3	9	1048	69	0	0	783	3	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1				
Circulating Flow Rate [veh/h]	789			1121			7				72				
Exiting Flow Rate [veh/h]	69			12			786				1052				
Demand Flow Rate [veh/h]	0	0	4	0	0	3	9	1048	69	0	0	783	3	0	
Adjusted Demand Flow Rate [veh/h]	0	0	4	0	0	3	9	1048	69	0	0	783	3	0	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	4	3	1126	786
Capacity of Entry and Bypass Lanes [veh/h]	618	440	1371	1283
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	618	440	1371	1283
X, volume / capacity	0.01	0.01	0.82	0.61

Movement, Approach, & Intersection Results

Lane LOS	A	A	C	B
95th-Percentile Queue Length [veh]	0.02	0.02	10.33	4.43
95th-Percentile Queue Length [ft]	0.49	0.51	258.37	110.86
Approach Delay [s/veh]	5.90	8.28	17.43	10.21
Approach LOS	A	A	C	B
Intersection Delay [s/veh]	14.43			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 2000: Frank Sound Road at East-West Arterial

Control Type:	Unknown	Delay (sec / veh):	?
Analysis Method:	?	Level Of Service:	?
Analysis Period:	15 minutes	Volume to Capacity (v/c):	?

Intersection Setup

Name	Frank Sound Rd	Frank Sound Rd
Approach	Northeastbound	Southwestbound
Lane Configuration		
Turning Movement	Thru	Thru
Crosswalk	Yes	Yes

Volumes

Name	Frank Sound Rd	Frank Sound Rd
Base Volume Input [veh/h]	257	260
Base Volume Adjustment Factor	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00
Growth Factor	1.0000	1.0000
In-Process Volume [veh/h]	0	0
Site-Generated Trips [veh/h]	0	0
Diverted Trips [veh/h]	0	0
Pass-by Trips [veh/h]	0	0
Existing Site Adjustment Volume [veh/h]	0	0
Other Volume [veh/h]	0	0
Left-Turn on Red Volume [veh/h]	0	0
Total Hourly Volume [veh/h]	257	260
Peak Hour Factor	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000
Total 15-Minute Volume [veh/h]	64	65
Total Analysis Volume [veh/h]	257	260
Presence of On-Street Parking	No	No
On-Street Parking Maneuver Rate [/h]	0	0
Local Bus Stopping Rate [/h]	0	0
Pedestrian Volume [ped/h]	0	0

Intersection Level Of Service Report
Intersection 2100: Frank Sound Road at East-West Arterial

Control Type:	Roundabout	Delay (sec / veh):	18.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd			Frank Sound Rd			East-West Arterial							
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00			50.00			50.00				40.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Frank Sound Rd			Frank Sound Rd			East-West Arterial							
Base Volume Input [veh/h]	673	140	0	0	166	128	171	0	877	5	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	673	140	0	0	166	128	171	0	877	5	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	168	35	0	0	42	32	43	0	219	1	0	0	0	0
Total Analysis Volume [veh/h]	673	140	0	0	166	128	171	0	877	5	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1			
Circulating Flow Rate [veh/h]	133			882			140				1176			
Exiting Flow Rate [veh/h]	1043			311			806				0			
Demand Flow Rate [veh/h]	673	140	0	0	166	128	171	0	877	5	0	0	0	0
Adjusted Demand Flow Rate [veh/h]	673	140	0	0	166	128	171	0	877	5	0	0	0	0

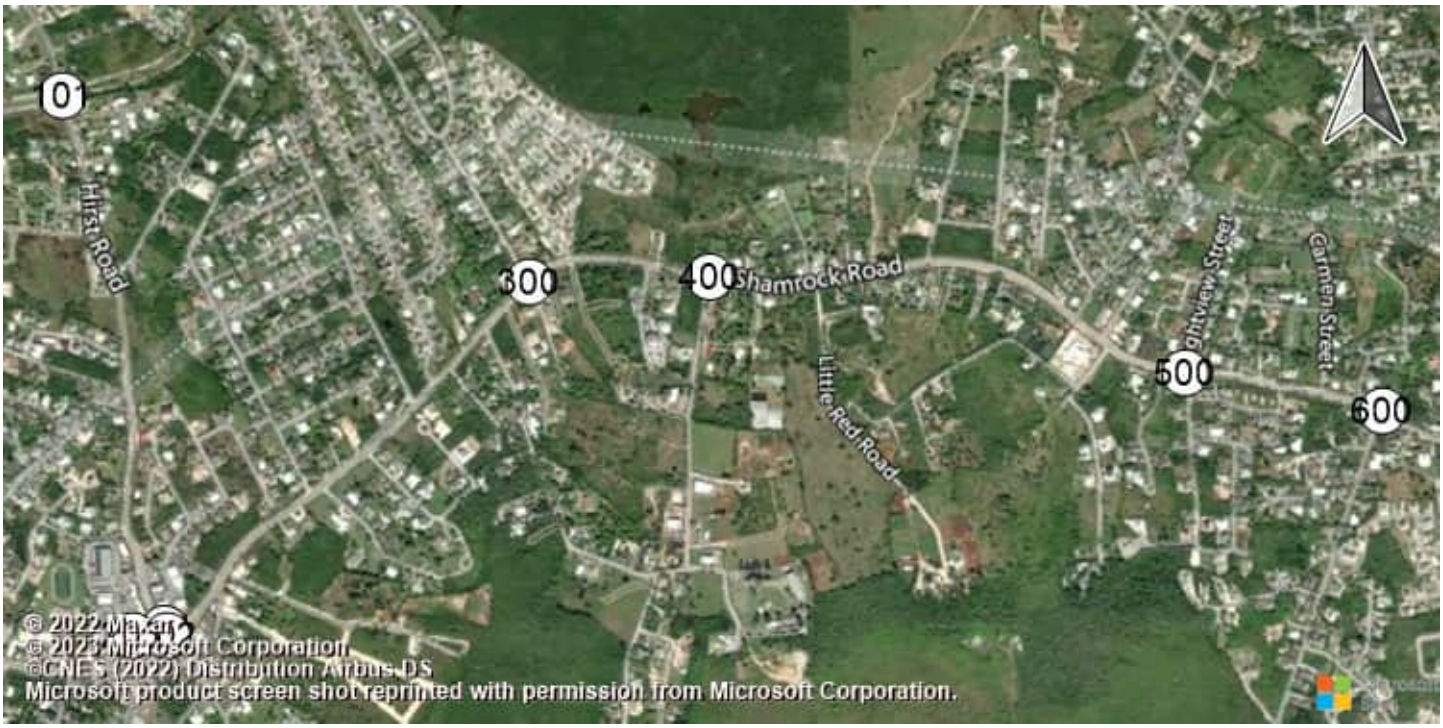
Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	813	294	1053	0
Capacity of Entry and Bypass Lanes [veh/h]	1205	562	1197	416
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1205	562	1197	416
X, volume / capacity	0.67	0.52	0.88	0.00

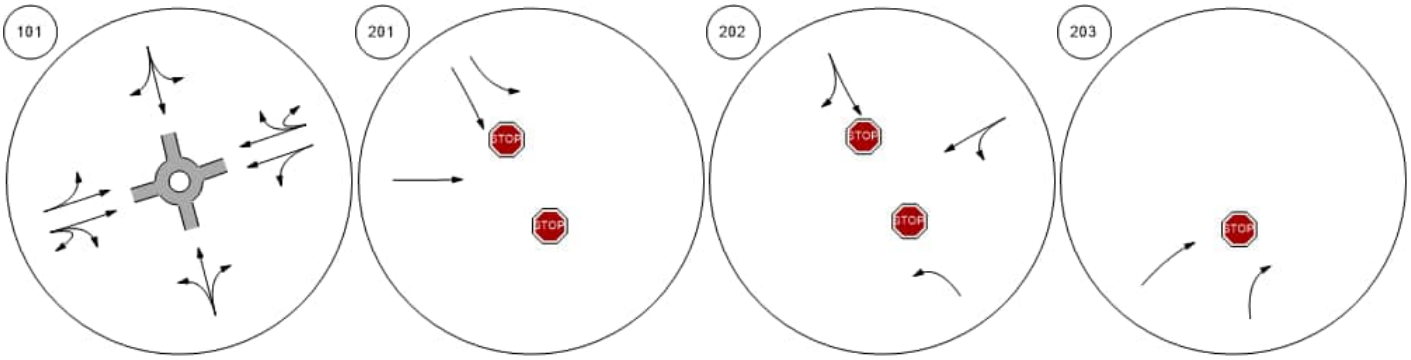
Movement, Approach, & Intersection Results

Lane LOS	B	C	C	A
95th-Percentile Queue Length [veh]	5.59	3.03	12.84	0.00
95th-Percentile Queue Length [ft]	139.65	75.65	320.95	0.00
Approach Delay [s/veh]	12.32	15.87	24.25	8.66
Approach LOS	B	C	C	A
Intersection Delay [s/veh]	18.62			
Intersection LOS	C			

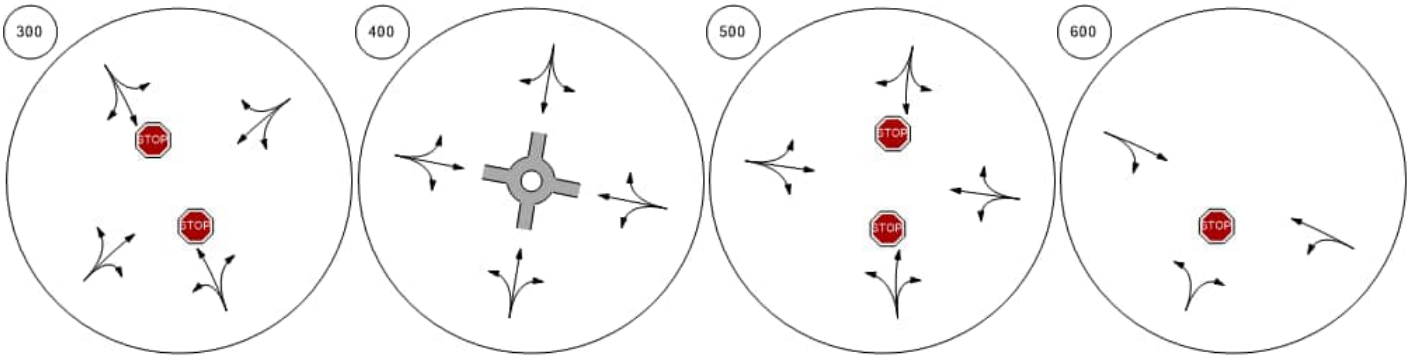
Lane Configuration and Traffic Control



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



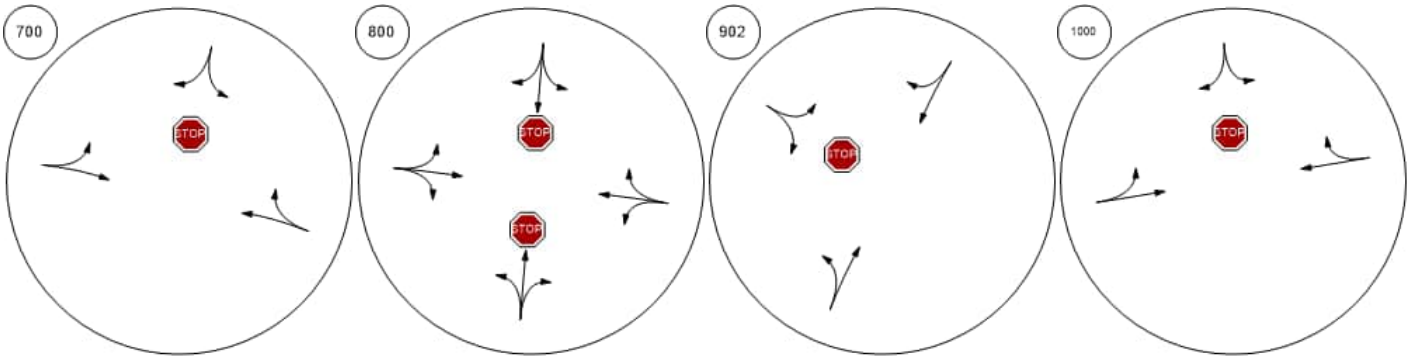
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



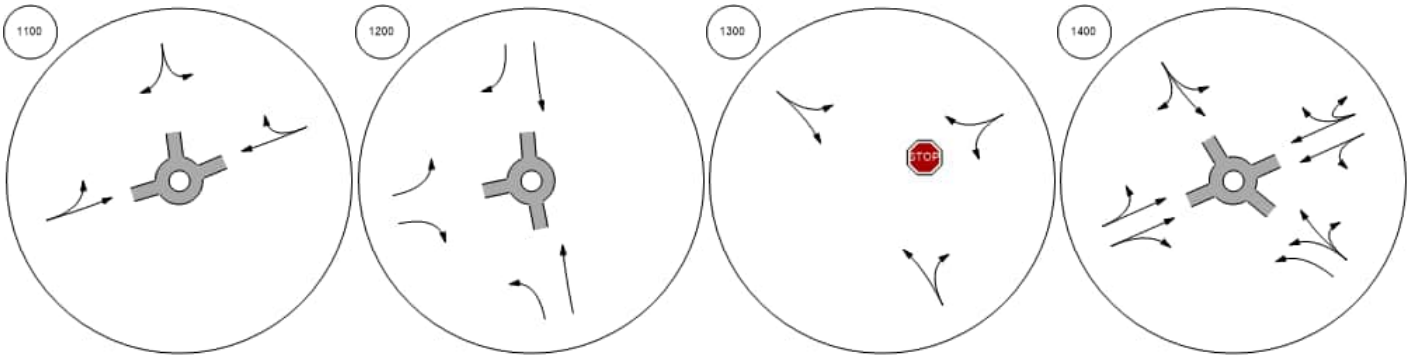
Lane Configuration and Traffic Control



Shamrock Road at Northward | Shamrock Road at Condor R | Bodden Town Road at Bodde | Bodden Town Road at Long



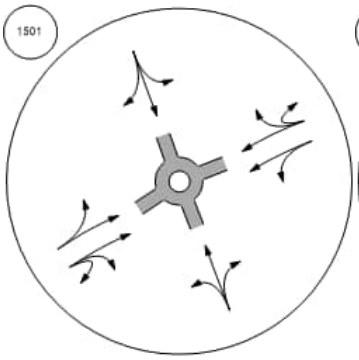
Frank Sound Road at Bodde | Frank Sound Road at Clifton | Frank Sound Road at North S | East-West Arterial at Agricola



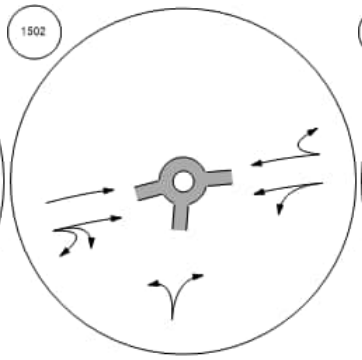
Lane Configuration and Traffic Control



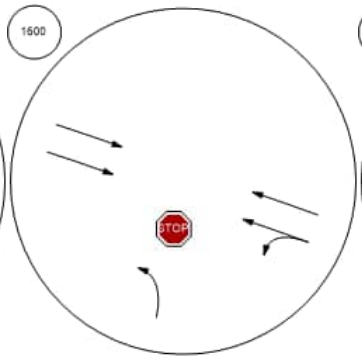
East-West Arterial at Will T C



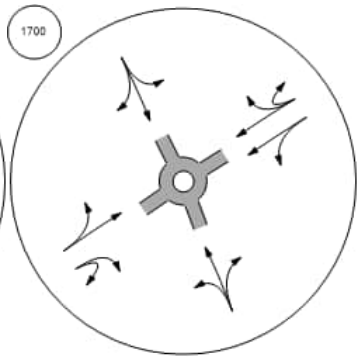
East-West Arterial at Will T C



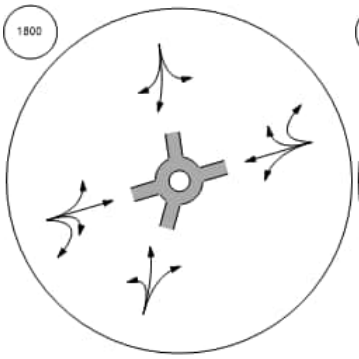
East-West Arterial at Northwa



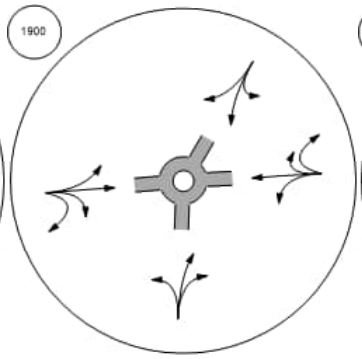
East-West Arterial at Lookout



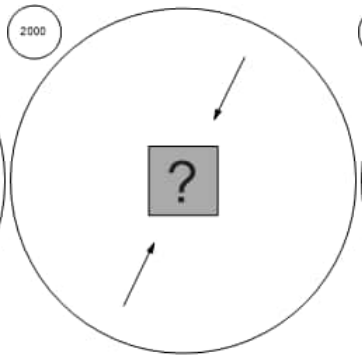
East-West Arterial at Longfell



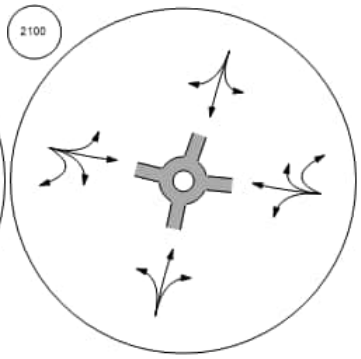
East West Arterial



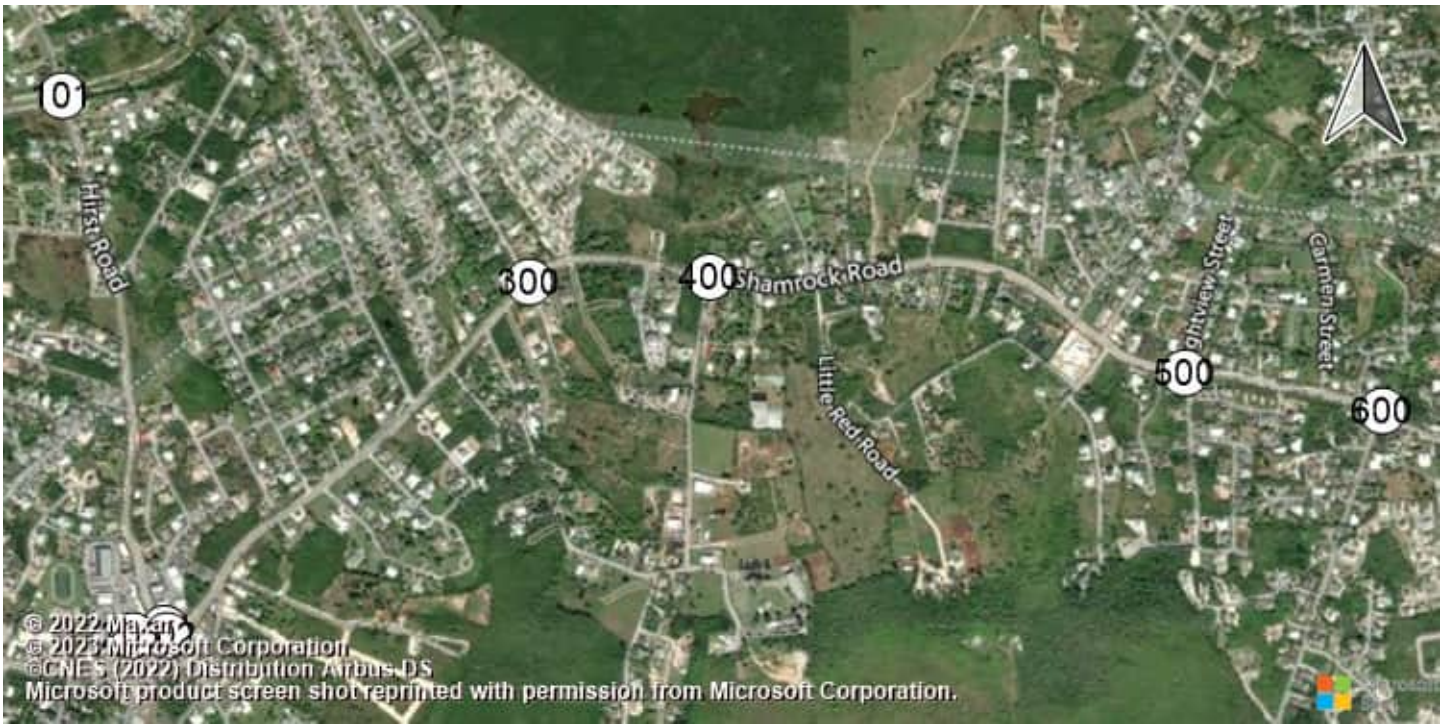
Frank Sound Road at East-W



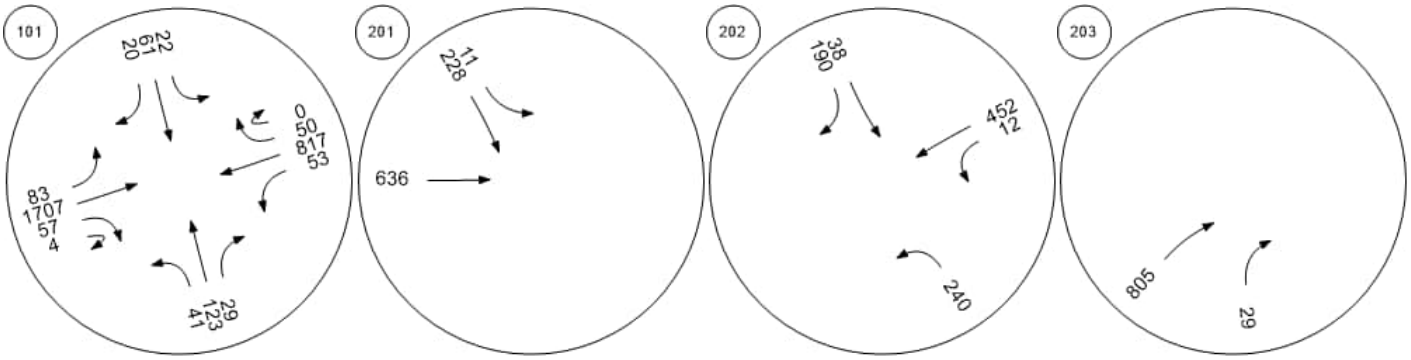
Frank Sound Road at East-W



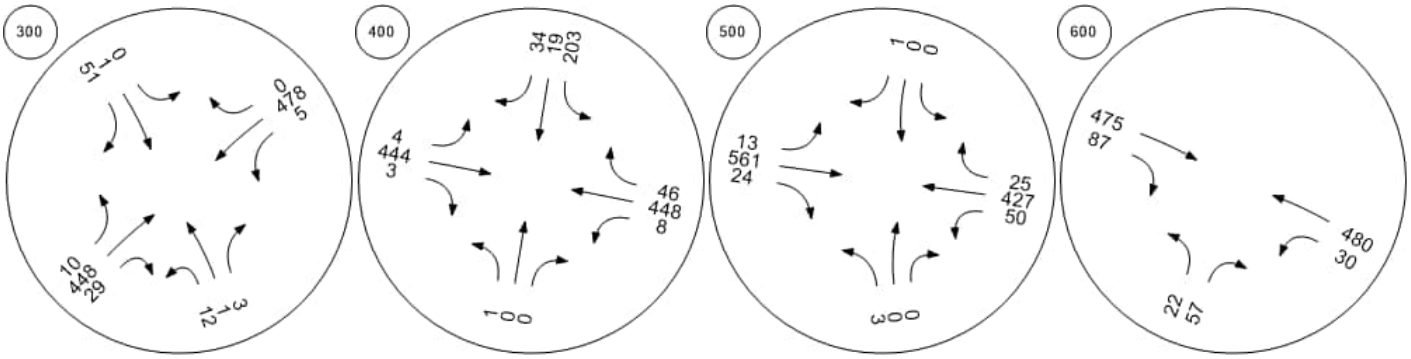
Traffic Volume - Base Volume



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



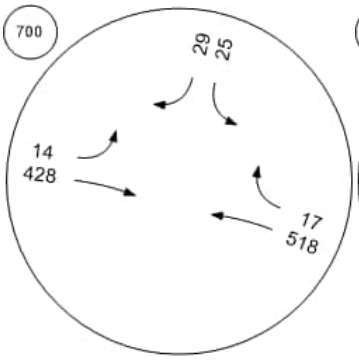
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



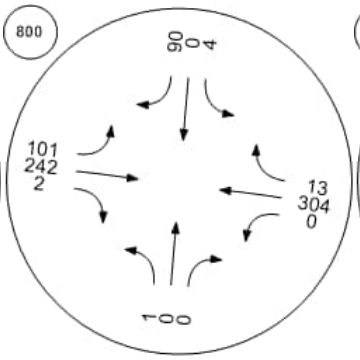
Traffic Volume - Base Volume



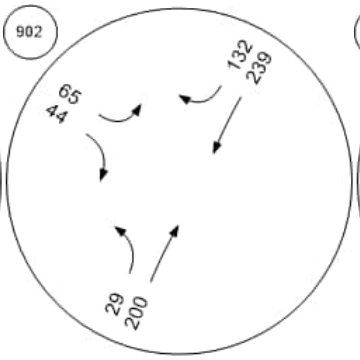
Shamrock Road at Northward



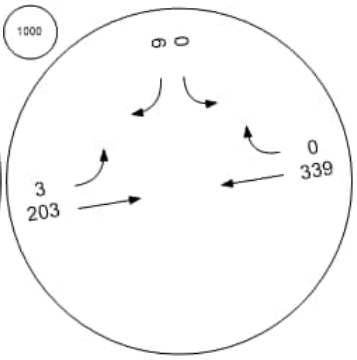
Shamrock Road at Condor R



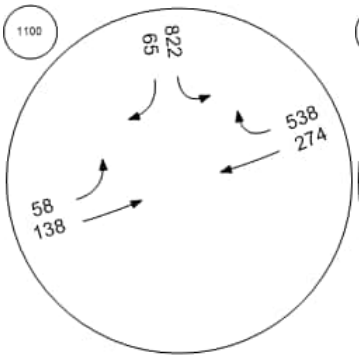
Bodden Town Road at Bodde



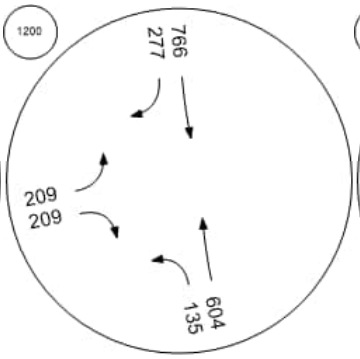
Bodden Town Road at Long



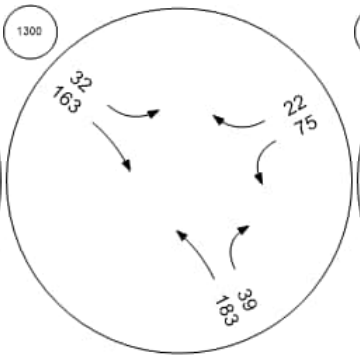
Frank Sound Road at Bodde



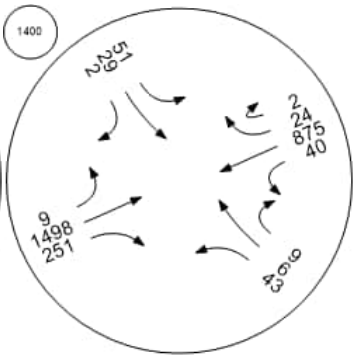
Frank Sound Road at Clifton



Frank Sound Road at North S



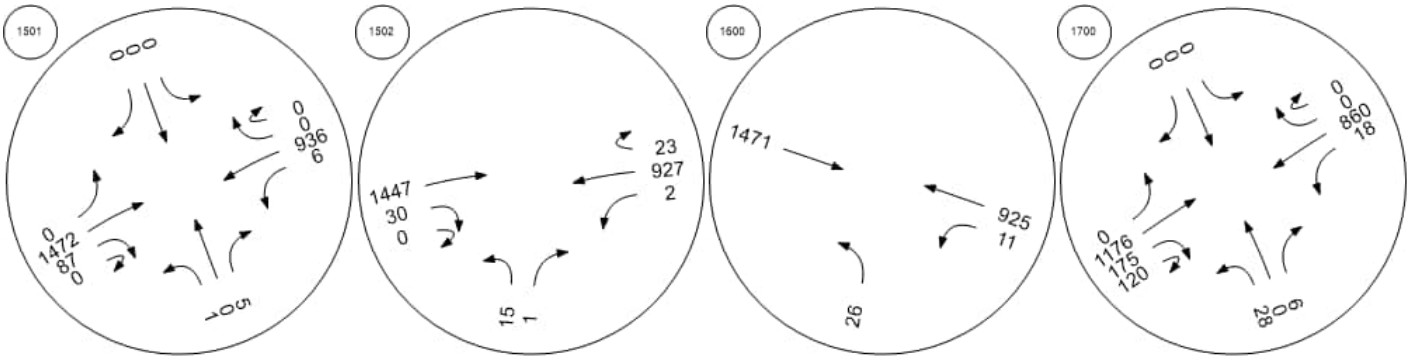
East-West Arterial at Agricola



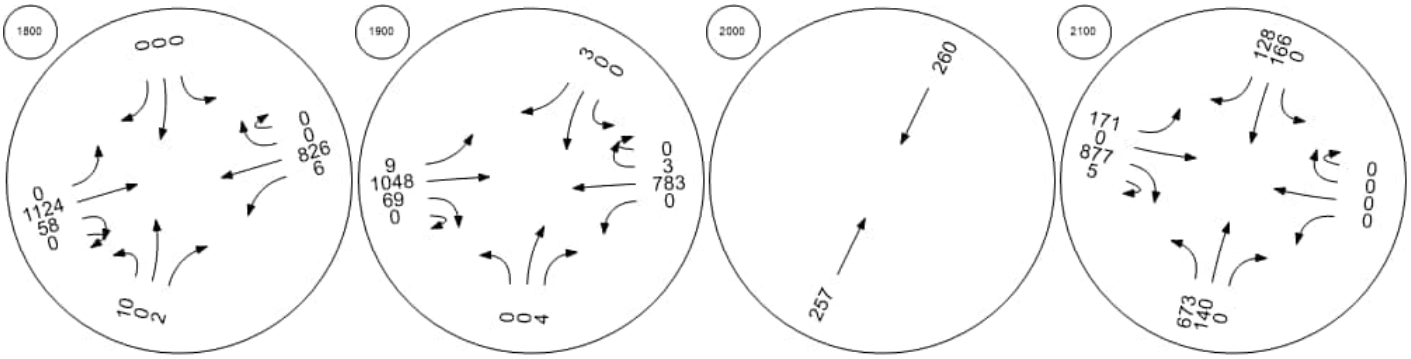
Traffic Volume - Base Volume



East-West Arterial at Will T C East-West Arterial at Will T C East-West Arterial at Northwa East-West Arterial at Lookout



East-West Arterial at Longfell East West Arterial Frank Sound Road at East-W Frank Sound Road at East-W



Intersection Level Of Service Report
Intersection 101: East-West Arterial Road at Hirst Road

Control Type:	Roundabout	Delay (sec / veh):	12.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name									East-West Arterial				East-West Arterial				
Approach	Northbound				Southbound				Eastbound				Westbound				
Lane Configuration																	
Turning Movement	Left	Left	Thru	Right	Left	Thru	Right	Right	Left	Thru	Right	U-tu	Left	Thr	Thr	Rig	U-t
Lane Width [ft]	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.	12.	12.	12.	12.
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100	100	100	100	100
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Speed [mph]	30.00				30.00				40.00				50.00				
Grade [%]	0.00				0.00				0.00				0.00				
Crosswalk	Yes				Yes				Yes				Yes				

Volumes

Name									East-West Arterial				East-West Arterial				
Base Volume Input [veh/h]	14	0	39	37	15	62	0	35	17	909	10	20	27	177	0	39	0
Base Volume Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	0	39	37	15	62	0	35	17	909	10	20	27	177	0	39	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Other Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Total 15-Minute Volume [veh/h]	4	0	10	9	4	16	0	9	4	227	3	5	7	445	0	10	0
Total Analysis Volume [veh/h]	14	0	39	37	15	62	0	35	17	909	10	20	27	177	0	39	0
Pedestrian Volume [ped/h]	0				0				0				0				

Intersection Settings

Number of Conflicting Circulating Lanes	2				2				2				2				
Circulating Flow Rate [veh/h]	1873				976				115				127				
Exiting Flow Rate [veh/h]	99				95				1848				961				
Demand Flow Rate [veh/h]	14	0	39	37	15	62	0	35	17	909	10	20	27	177	0	39	0
Adjusted Demand Flow Rate [veh/h]	14	0	39	37	15	62	0	35	17	909	10	20	27	177	0	39	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1350.00	1420.00	1350.00
B (coefficient)	0.00085	0.00085	0.00085	0.00092	0.00085	0.00092
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	90	112	507	450	978	868
Capacity of Entry and Bypass Lanes [veh/h]	289	620	1288	1215	1275	1202
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	289	620	1288	1215	1275	1202
X, volume / capacity	0.31	0.18	0.39	0.37	0.77	0.72

Movement, Approach, & Intersection Results

Lane LOS	C	A	A	A	C	B
95th-Percentile Queue Length [veh]	1.29	0.66	1.91	1.73	8.11	6.71
95th-Percentile Queue Length [ft]	32.25	16.38	47.72	43.26	202.75	167.76
Approach Delay [s/veh]	19.55	7.99	6.55		14.65	
Approach LOS	C	A	A		B	
Intersection Delay [s/veh]	11.97					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 201: Shamrock Road at Hirst Rd (1)

Control Type:	Two-way stop	Delay (sec / veh):	15.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.279

Intersection Setup

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	0	0	0	21	126	0	0	454	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	21	126	0	0	454	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	6	34	0	0	122	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	23	135	0	0	488	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.04	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	11.42	15.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS				B	C			A				
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.12	1.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	3.07	28.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			14.75			0.00			0.00		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	3.61											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 202: Shamrock Road at Hirst Rd (2)

Control Type:	Two-way stop	Delay (sec / veh):	187.8
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.047

Intersection Setup

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	295	0	0	0	22	104	0	0	0	5	638	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	295	0	0	0	22	104	0	0	0	5	638	0
Peak Hour Factor	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	79	0	0	0	6	28	0	0	0	1	172	0
Total Analysis Volume [veh/h]	317	0	0	0	24	112	0	0	0	5	686	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.71	0.00	0.00	0.00	0.06	1.05	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	30.00	0.00	0.00	0.00	163.90	187.83	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	D				F	F				A	A	
95th-Percentile Queue Length [veh/ln]	5.41	0.00	0.00	0.00	8.05	8.05	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	135.28	0.00	0.00	0.00	201.23	201.23	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	30.00			183.61			0.00			0.00		
Approach LOS	D			F			A			A		
d_I, Intersection Delay [s/veh]	30.14											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 203: Shamrock Road atHirst Road Jughandle

Control Type:	Two-way stop	Delay (sec / veh):	12.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.046

Intersection Setup

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	0	21	507	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	21	507	0	0	0
Peak Hour Factor	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	6	136	0	0	0
Total Analysis Volume [veh/h]	0	23	545	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.05	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	12.50	0.00	0.00	0.00	0.00
Movement LOS		B	A			
95th-Percentile Queue Length [veh/ln]	0.00	0.14	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	3.59	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.50		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.51					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 300: Shamrock Road at Woodland Drive

Control Type:	Two-way stop	Delay (sec / veh):	23.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.106

Intersection Setup

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	38	1	6	0	0	22	8	346	6	2	582	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	38	1	6	0	0	22	8	346	6	2	582	0
Peak Hour Factor	0.9700	0.9700	1.0000	1.0000	0.9700	0.9700	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	0	2	0	0	6	2	87	2	1	146	0
Total Analysis Volume [veh/h]	39	1	6	0	0	23	8	346	6	2	582	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.00	0.02	0.00	0.00	0.11	0.00	0.00	0.01	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	12.92	19.76	20.79	12.12	20.73	23.58	0.00	0.00	8.62	0.00	0.00	7.96
Movement LOS	B	C	C	B	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.35	0.35	0.35	0.35	0.35	0.35	0.02	0.02	0.02	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	8.66	8.66	8.66	8.78	8.78	8.78	0.45	0.45	0.45	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	14.10			23.58			0.14			0.00		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	1.23											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 400: Shamrock Road at Agricola Drive

Control Type:	Roundabout	Delay (sec / veh):	9.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	2	7	2	41	13	41	2	349	2	3	541	271
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	7	2	41	13	41	2	349	2	3	541	271
Peak Hour Factor	1.0000	1.0000	0.9200	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9200	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	1	10	3	10	1	87	1	1	135	68
Total Analysis Volume [veh/h]	2	7	2	41	13	41	2	349	2	3	541	271
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	853			353			280			56		
Exiting Flow Rate [veh/h]	18			280			584			392		
Demand Flow Rate [veh/h]	2	7	2	41	13	41	2	349	2	3	541	271
Adjusted Demand Flow Rate [veh/h]	2	7	2	41	13	41	2	349	2	3	541	271

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	11	95	353	815
Capacity of Entry and Bypass Lanes [veh/h]	579	963	1038	1304
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	579	963	1038	1304
X, volume / capacity	0.02	0.10	0.34	0.63

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	B
95th-Percentile Queue Length [veh]	0.06	0.33	1.52	4.65
95th-Percentile Queue Length [ft]	1.45	8.19	38.02	116.30
Approach Delay [s/veh]	6.44	4.64	6.95	10.38
Approach LOS	A	A	A	B
Intersection Delay [s/veh]	8.97			
Intersection LOS	A			

Intersection Level Of Service Report

Intersection 500: Shamrock Road at Brightview Drive / Calla Lily Drive

Control Type:	Two-way stop	Delay (sec / veh):	27.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.041

Intersection Setup

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			20.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	12	0	5	3	0	7	1	394	1	0	758	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	0	5	3	0	7	1	394	1	0	758	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	1	1	0	2	0	99	0	0	190	0
Total Analysis Volume [veh/h]	12	0	5	3	0	7	1	394	1	0	758	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.00	0.03	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	14.53	23.91	26.42	11.26	23.95	27.14	0.00	0.00	9.18	0.00	0.00	8.07
Movement LOS	B	C	D	B	C	D	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.18	0.18	0.18	0.14	0.14	0.14	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	4.59	4.59	4.59	3.60	3.60	3.60	0.09	0.09	0.09	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	18.03			22.38			0.02			0.00		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	0.46											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 600: Shamrock Road at Beach Bay Road

Control Type:	Two-way stop	Delay (sec / veh):	59.8
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.338

Intersection Setup

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	12	29	215	186	62	746
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	29	215	186	62	746
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	8	59	51	17	205
Total Analysis Volume [veh/h]	13	32	236	204	68	820
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.34	0.00	0.26	0.00	0.01
d_M, Delay for Movement [s/veh]	31.80	59.84	0.00	11.34	0.00	0.00
Movement LOS	D	F	A	B	A	A
95th-Percentile Queue Length [veh/ln]	1.54	1.54	1.06	1.06	0.00	0.00
95th-Percentile Queue Length [ft/ln]	38.48	38.48	26.57	26.57	0.00	0.00
d_A, Approach Delay [s/veh]	51.74		5.26		0.00	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	3.38					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 700: Shamrock Road at Northward Road

Control Type:	Two-way stop	Delay (sec / veh):	20.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.013

Intersection Setup

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	10	3	9	243	767	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	3	9	243	767	22
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	1	2	63	198	6
Total Analysis Volume [veh/h]	10	3	9	251	791	23
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	9.75	20.71	0.00	0.00	0.00	7.78
Movement LOS	A	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.08	0.08	0.00	0.00	0.05	0.05
95th-Percentile Queue Length [ft/ln]	1.97	1.97	0.00	0.00	1.33	1.33
d_A, Approach Delay [s/veh]	12.28		0.00		0.22	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.31					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 800: Shamrock Road at Condor Road

Control Type:	Two-way stop	Delay (sec / veh):	19.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.470

Intersection Setup

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Base Volume Input [veh/h]	4	0	0	1	0	215	73	173	0	0	308	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	0	0	1	0	215	73	173	0	0	308	6
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	0	0	54	18	43	0	0	77	2
Total Analysis Volume [veh/h]	4	0	0	1	0	215	73	173	0	0	308	6
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.47	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.91	13.32	12.85	16.12	19.72	19.68	0.00	0.00	7.85	0.00	0.00	7.72
Movement LOS	A	B	B	C	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.02	2.47	2.47	2.47	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.41	0.41	0.41	61.82	61.82	61.82	0.00	0.00	0.00	0.34	0.34	0.34
d_A, Approach Delay [s/veh]	9.91			19.66			0.00			0.15		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	5.56											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 902: Bodden Town Road at Bodden Town Bypass

Control Type:	Two-way stop	Delay (sec / veh):	17.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.069

Intersection Setup

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	70	20	12	168	237	170
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	70	20	12	168	237	170
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	5	3	45	63	45
Total Analysis Volume [veh/h]	74	21	13	179	252	181
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.07	0.00	0.00	0.00	0.13
d_M, Delay for Movement [s/veh]	10.25	17.95	0.00	0.00	0.00	7.97
Movement LOS	B	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.55	0.55	0.00	0.00	0.45	0.45
95th-Percentile Queue Length [ft/ln]	13.65	13.65	0.00	0.00	11.16	11.16
d_A, Approach Delay [s/veh]	11.95		0.00		3.33	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	3.58					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1000: Bodden Town Road at Long Fellow Drive

Control Type:	Two-way stop	Delay (sec / veh):	12.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	0	2	0	162	375	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	2	0	162	375	0
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	0	45	103	0
Total Analysis Volume [veh/h]	0	2	0	178	412	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.17	12.64	0.00	0.00	0.00	7.55
Movement LOS	A	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.32	0.32	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.64		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.04					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1100: Frank Sound Road at Bodden Town Road

Control Type:	Roundabout	Delay (sec / veh):	15.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Base Volume Input [veh/h]	631	57	45	110	314	693
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	631	57	45	110	314	693
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	170	15	12	30	84	186
Total Analysis Volume [veh/h]	678	61	48	118	338	745
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	118		745		61	
Exiting Flow Rate [veh/h]	793		399		796	
Demand Flow Rate [veh/h]	631	57	45	110	314	693
Adjusted Demand Flow Rate [veh/h]	678	61	48	118	338	745

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	739	166	1083
Capacity of Entry and Bypass Lanes [veh/h]	1224	646	1297
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1224	646	1297
X, volume / capacity	0.60	0.26	0.84

Movement, Approach, & Intersection Results

Lane LOS	B	A	C
95th-Percentile Queue Length [veh]	4.27	1.02	10.82
95th-Percentile Queue Length [ft]	106.85	25.53	270.47
Approach Delay [s/veh]	10.34	8.78	19.05
Approach LOS	B	A	C
Intersection Delay [s/veh]	14.95		
Intersection LOS	B		

Intersection Level Of Service Report
Intersection 1200: Frank Sound Road at Clifton Hunter High School

Control Type:	Roundabout	Delay (sec / veh):	7.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd		Clifton Hunter HS	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		20.00		20.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Frank Sound Rd		Clifton Hunter HS	
Base Volume Input [veh/h]	250	594	692	168	254	154
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	250	594	692	168	254	154
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	63	149	173	42	64	39
Total Analysis Volume [veh/h]	250	594	692	168	254	154
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	168		154		594	
Exiting Flow Rate [veh/h]	846		848		418	
Demand Flow Rate [veh/h]	250	594	692	168	254	154
Adjusted Demand Flow Rate [veh/h]	250	594	692	168	254	154

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00091	0.00091	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	250	594	692	168	254	154
Capacity of Entry and Bypass Lanes [veh/h]	1219	1219	1235	1235	828	828
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1219	1219	1235	1235	828	828
X, volume / capacity	0.21	0.49	0.56	0.14	0.31	0.19

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.77	2.76	3.63	0.47	1.31	0.68
95th-Percentile Queue Length [ft]	19.23	68.88	90.83	11.77	32.65	17.02
Approach Delay [s/veh]	7.15		8.34		7.23	
Approach LOS	A		A		A	
Intersection Delay [s/veh]	7.65					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1300: Frank Sound Road at North Side Road/Old Robin Road

Control Type:	Two-way stop	Delay (sec / veh):	11.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Base Volume Input [veh/h]	126	37	7	118	45	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	126	37	7	118	45	1
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	10	2	33	13	0
Total Analysis Volume [veh/h]	142	42	8	133	51	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.03	0.00	0.00	0.06	0.00
d_M, Delay for Movement [s/veh]	0.00	7.55	0.00	0.00	9.17	11.05
Movement LOS	A	A	A	A	A	B
95th-Percentile Queue Length [veh/ln]	0.09	0.09	0.00	0.00	0.18	0.18
95th-Percentile Queue Length [ft/ln]	2.23	2.23	0.00	0.00	4.55	4.55
d_A, Approach Delay [s/veh]	1.72		0.00		9.20	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.11					
Intersection LOS	B					

Intersection Level Of Service Report

Intersection 1400: East-West Arterial at Agricola Drive Connector

Control Type:	Roundabout	Delay (sec / veh):	9.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			50.00			50.00			
Grade [%]	0.00			0.00			0.00			0.00			
Crosswalk	Yes			Yes			Yes			Yes			

Volumes

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Base Volume Input [veh/h]	345	1	6	31	53	3	4	880	77	9	1497	1	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	345	1	6	31	53	3	4	880	77	9	1497	1	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	86	0	2	8	13	1	1	220	19	2	374	0	0
Total Analysis Volume [veh/h]	345	1	6	31	53	3	4	880	77	9	1497	1	0
Pedestrian Volume [ped/h]	0			0			0			0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1			1			
Circulating Flow Rate [veh/h]	1501			963			8			133			
Exiting Flow Rate [veh/h]	139			6			1845			917			
Demand Flow Rate [veh/h]	345	1	6	31	53	3	4	880	77	9	1497	1	0
Adjusted Demand Flow Rate [veh/h]	345	1	6	31	53	3	4	880	77	9	1497	1	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1350.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00092	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	187	166	87	510	452	799	709
Capacity of Entry and Bypass Lanes [veh/h]	397	340	627	1410	1410	1259	1259
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	397	340	627	1410	1410	1259	1259
X, volume / capacity	0.47	0.49	0.14	0.36	0.32	0.63	0.56

Movement, Approach, & Intersection Results

Lane LOS	C	C	A	A	A	B	A
95th-Percentile Queue Length [veh]	2.44	2.55	0.48	1.67	1.40	4.81	3.67
95th-Percentile Queue Length [ft]	60.99	63.86	12.01	41.81	34.95	120.31	91.72
Approach Delay [s/veh]	20.89		7.37	5.59		10.13	
Approach LOS	C		A	A		B	
Intersection Delay [s/veh]	9.85						
Intersection LOS	A						

Intersection Level Of Service Report
Intersection 1501: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	7.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name							East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name							East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	29	0	7	0	0	0	0	911	6	0	0	1474	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	29	0	7	0	0	0	0	911	6	0	0	1474	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	7	0	2	0	0	0	0	228	2	0	0	369	0	0
Total Analysis Volume [veh/h]	29	0	7	0	0	0	0	911	6	0	0	1474	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1				1			
Circulating Flow Rate [veh/h]	1474			924			7				6			
Exiting Flow Rate [veh/h]	6			0			1503				918			
Demand Flow Rate [veh/h]	29	0	7	0	0	0	0	911	6	0	0	1474	0	0
Adjusted Demand Flow Rate [veh/h]	29	0	7	0	0	0	0	911	6	0	0	1474	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	36	0	487	431	782	693
Capacity of Entry and Bypass Lanes [veh/h]	406	648	1411	1411	1413	1413
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	406	648	1411	1411	1413	1413
X, volume / capacity	0.09	0.00	0.34	0.31	0.55	0.49

Movement, Approach, & Intersection Results

Lane LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.29	0.00	1.56	1.31	3.55	2.80
95th-Percentile Queue Length [ft]	7.26	0.00	38.88	32.64	88.85	70.03
Approach Delay [s/veh]	10.18	5.56	5.41		7.96	
Approach LOS	B	A	A		A	
Intersection Delay [s/veh]	7.03					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1502: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	7.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name			East-West Arterial			East-West Arterial		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	Thru	Right	U-turn	Left	Thru	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00			50.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	Yes		Yes			Yes		

Volumes

Name			East-West Arterial			East-West Arterial		
Base Volume Input [veh/h]	229	4	915	2	0	1	1244	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	229	4	915	2	0	1	1244	11
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	57	1	229	1	0	0	311	3
Total Analysis Volume [veh/h]	229	4	915	2	0	1	1244	11
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	2		1			1		
Circulating Flow Rate [veh/h]	1255		15			2		
Exiting Flow Rate [veh/h]	3		1473			930		
Demand Flow Rate [veh/h]	229	4	915	2	0	1	1244	11
Adjusted Demand Flow Rate [veh/h]	229	4	915	2	0	1	1244	11

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	233	487	431	666	591
Capacity of Entry and Bypass Lanes [veh/h]	489	1401	1401	1418	1418
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	489	1401	1401	1418	1418
X, volume / capacity	0.48	0.35	0.31	0.47	0.42

Movement, Approach, & Intersection Results

Lane LOS	C	A	A	A	A
95th-Percentile Queue Length [veh]	2.53	1.57	1.32	2.59	2.10
95th-Percentile Queue Length [ft]	63.33	39.31	32.97	64.64	52.46
Approach Delay [s/veh]	16.28	5.47		6.79	
Approach LOS	C	A		A	
Intersection Delay [s/veh]	7.21				
Intersection LOS	A				

Intersection Level Of Service Report
Intersection 1600: East-West Arterial at Northward Rd

Control Type:	Two-way stop	Delay (sec / veh):	14.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.210

Intersection Setup

Name	Northward Rd		East-West Arterial		East-West Arterial	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		East-West Arterial		East-West Arterial	
Base Volume Input [veh/h]	97	0	930	0	3	1159
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	97	0	930	0	3	1159
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	0	233	0	1	290
Total Analysis Volume [veh/h]	97	0	930	0	3	1159
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.21	0.00	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	14.85	0.00	0.00	0.00	0.00	0.00
Movement LOS	B		A		A	A
95th-Percentile Queue Length [veh/ln]	0.78	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	19.59	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	14.85		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.66					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1700: East-West Arterial at Lookout Rd

Control Type:	Roundabout	Delay (sec / veh):	7.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Lookout Rd			Lookout Rd			East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	200.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Lookout Rd			Lookout Rd			East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	128	0	3	0	0	0	0	846	31	53	2	1043	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	128	0	3	0	0	0	0	846	31	53	2	1043	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	32	0	1	0	0	0	0	212	8	13	1	261	0	0
Total Analysis Volume [veh/h]	128	0	3	0	0	0	0	846	31	53	2	1043	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1			
Circulating Flow Rate [veh/h]	1096			933			3				84			
Exiting Flow Rate [veh/h]	33			0			1224				849			
Demand Flow Rate [veh/h]	128	0	3	0	0	0	0	846	31	53	2	1043	0	0
Adjusted Demand Flow Rate [veh/h]	128	0	3	0	0	0	0	846	31	53	2	1043	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00102	0.00102	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	131	0	846	84	554	492
Capacity of Entry and Bypass Lanes [veh/h]	452	533	1417	1417	1316	1316
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	452	533	1417	1417	1316	1316
X, volume / capacity	0.29	0.00	0.60	0.06	0.42	0.37

Movement, Approach, & Intersection Results

Lane LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh]	1.19	0.00	4.20	0.19	2.13	1.76
95th-Percentile Queue Length [ft]	29.80	0.00	105.09	4.72	53.34	43.94
Approach Delay [s/veh]	12.66	6.76	8.66		6.54	
Approach LOS	B	A	A		A	
Intersection Delay [s/veh]	7.86					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1800: East-West Arterial at Longfellow Rd

Control Type:	Roundabout	Delay (sec / veh):	10.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Longfellow Rd			Longfellow Rd			East-West Arterial			East-West Arterial			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			50.00			50.00			
Grade [%]	0.00			0.00			0.00			0.00			
Crosswalk	Yes			Yes			Yes			Yes			

Volumes

Name	Longfellow Rd			Longfellow Rd			East-West Arterial			East-West Arterial			
Base Volume Input [veh/h]	12	0	0	0	0	0	0	849	0	0	956	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	0	0	0	0	0	0	849	0	0	956	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	3	0	0	0	0	0	0	212	0	0	239	0	0
Total Analysis Volume [veh/h]	12	0	0	0	0	0	0	849	0	0	956	0	0
Pedestrian Volume [ped/h]	0			0			0			0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1			
Circulating Flow Rate [veh/h]	956			849			0			0			
Exiting Flow Rate [veh/h]	0			0			968			849			
Demand Flow Rate [veh/h]	12	0	0	0	0	0	0	849	0	0	956	0	0
Adjusted Demand Flow Rate [veh/h]	12	0	0	0	0	0	0	849	0	0	956	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	12	0	849	956
Capacity of Entry and Bypass Lanes [veh/h]	521	581	1380	1380
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	521	581	1380	1380
X, volume / capacity	0.02	0.00	0.62	0.69

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	B
95th-Percentile Queue Length [veh]	0.07	0.00	4.49	6.07
95th-Percentile Queue Length [ft]	1.77	0.00	112.31	151.73
Approach Delay [s/veh]	7.20	6.20	9.76	11.72
Approach LOS	A	A	A	B
Intersection Delay [s/veh]	10.78			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1900: East West Arterial

Control Type:	Roundabout	Delay (sec / veh):	10.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name							East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name							East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	49	0	7	0	0	12	1	825	22	0	0	894	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	49	0	7	0	0	12	1	825	22	0	0	894	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	12	0	2	0	0	3	0	206	6	0	0	224	0	0
Total Analysis Volume [veh/h]	49	0	7	0	0	12	1	825	22	0	0	894	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1			
Circulating Flow Rate [veh/h]	906			854			7				34			
Exiting Flow Rate [veh/h]	22			1			955				832			
Demand Flow Rate [veh/h]	49	0	7	0	0	12	1	825	22	0	0	894	0	0
Adjusted Demand Flow Rate [veh/h]	49	0	7	0	0	12	1	825	22	0	0	894	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	56	12	848	894
Capacity of Entry and Bypass Lanes [veh/h]	548	578	1371	1333
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	548	578	1371	1333
X, volume / capacity	0.10	0.02	0.62	0.67

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	B
95th-Percentile Queue Length [veh]	0.34	0.06	4.55	5.55
95th-Percentile Queue Length [ft]	8.49	1.59	113.85	138.72
Approach Delay [s/veh]	7.83	6.47	9.89	11.36
Approach LOS	A	A	A	B
Intersection Delay [s/veh]	10.53			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 2000: Frank Sound Road at East-West Arterial

Control Type:	Unknown	Delay (sec / veh):	?
Analysis Method:	?	Level Of Service:	?
Analysis Period:	15 minutes	Volume to Capacity (v/c):	?

Intersection Setup

Name	Frank Sound Rd	Frank Sound Rd
Approach	Northeastbound	Southwestbound
Lane Configuration		
Turning Movement	Thru	Thru
Crosswalk	Yes	Yes

Volumes

Name	Frank Sound Rd	Frank Sound Rd
Base Volume Input [veh/h]	171	192
Base Volume Adjustment Factor	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00
Growth Factor	1.0000	1.0000
In-Process Volume [veh/h]	0	0
Site-Generated Trips [veh/h]	0	0
Diverted Trips [veh/h]	0	0
Pass-by Trips [veh/h]	0	0
Existing Site Adjustment Volume [veh/h]	0	0
Other Volume [veh/h]	0	0
Left-Turn on Red Volume [veh/h]	0	0
Total Hourly Volume [veh/h]	171	192
Peak Hour Factor	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	48
Total Analysis Volume [veh/h]	171	192
Presence of On-Street Parking	No	No
On-Street Parking Maneuver Rate [/h]	0	0
Local Bus Stopping Rate [/h]	0	0
Pedestrian Volume [ped/h]	0	0

Intersection Level Of Service Report
Intersection 2100: Frank Sound Road at East-West Arterial

Control Type:	Roundabout	Delay (sec / veh):	12.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd			Frank Sound Rd			East-West Arterial							
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			50.00				40.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Frank Sound Rd			Frank Sound Rd			East-West Arterial							
Base Volume Input [veh/h]	742	107	0	0	107	147	81	3	753	0	0	9	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	742	107	0	0	107	147	81	3	753	0	0	9	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	186	27	0	0	27	37	20	1	188	0	0	2	0	0
Total Analysis Volume [veh/h]	742	107	0	0	107	147	81	3	753	0	0	9	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1			
Circulating Flow Rate [veh/h]	156			756			107				1007			
Exiting Flow Rate [veh/h]	860			188			898				3			
Demand Flow Rate [veh/h]	742	107	0	0	107	147	81	3	753	0	0	9	0	0
Adjusted Demand Flow Rate [veh/h]	742	107	0	0	107	147	81	3	753	0	0	9	0	0

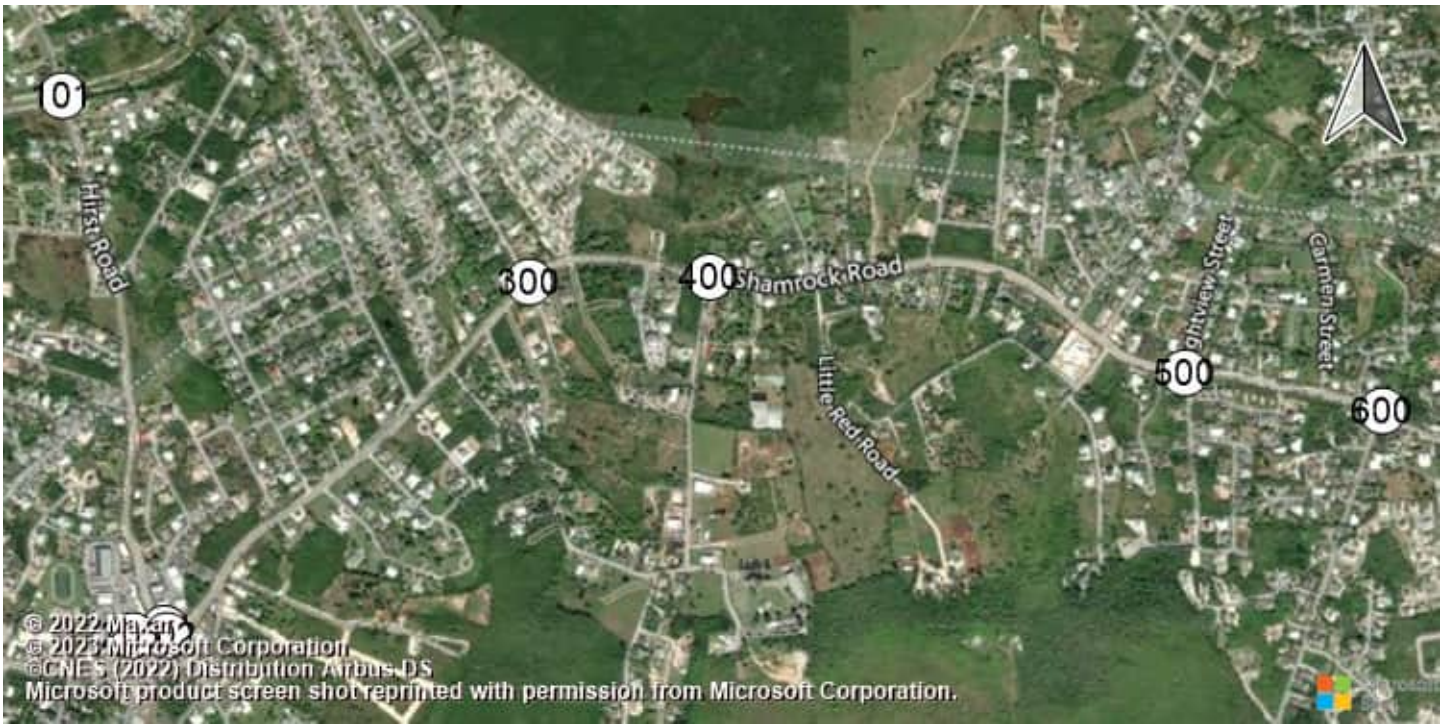
Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	849	254	837	9
Capacity of Entry and Bypass Lanes [veh/h]	1177	639	1238	495
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1177	639	1238	495
X, volume / capacity	0.72	0.40	0.68	0.02

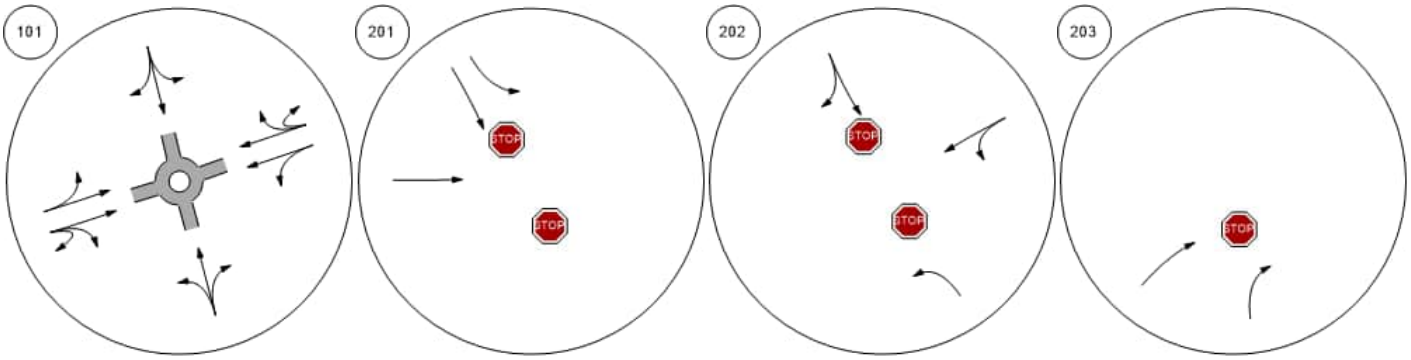
Movement, Approach, & Intersection Results

Lane LOS	B	B	B	A
95th-Percentile Queue Length [veh]	6.68	1.91	5.64	0.06
95th-Percentile Queue Length [ft]	166.94	47.68	140.94	1.39
Approach Delay [s/veh]	14.14	11.31	12.14	7.51
Approach LOS	B	B	B	A
Intersection Delay [s/veh]	12.88			
Intersection LOS	B			

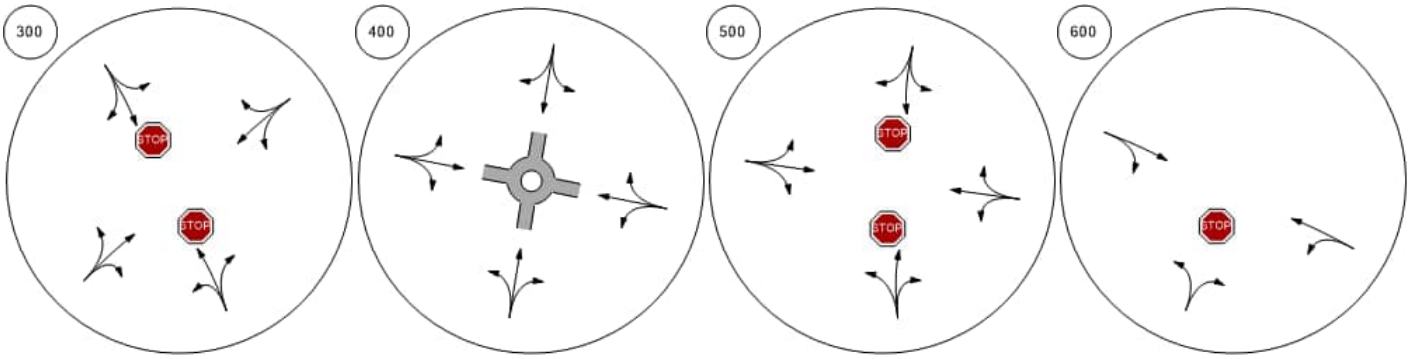
Lane Configuration and Traffic Control



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



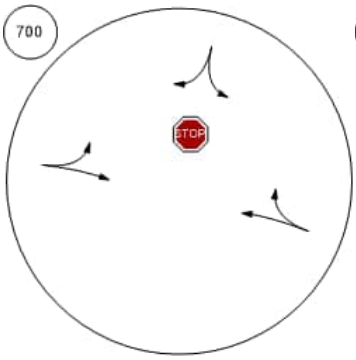
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



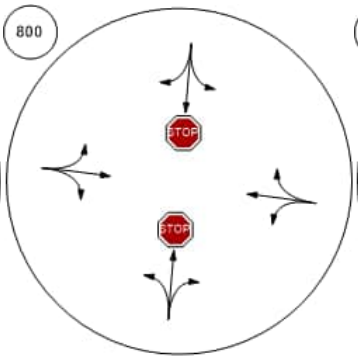
Lane Configuration and Traffic Control



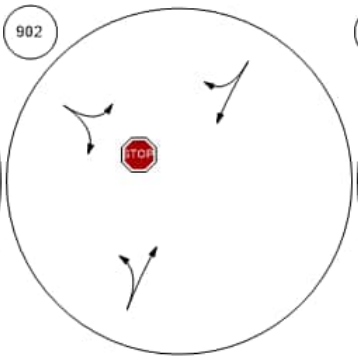
Shamrock Road at Northward



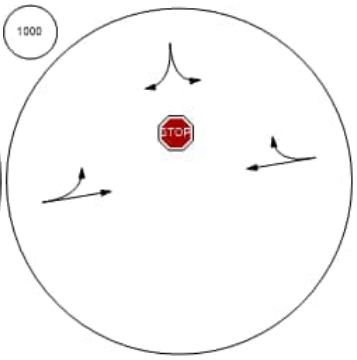
Shamrock Road at Condor R



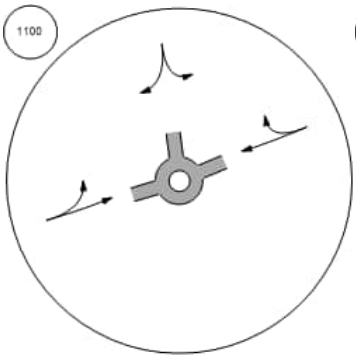
Bodden Town Road at Bodde



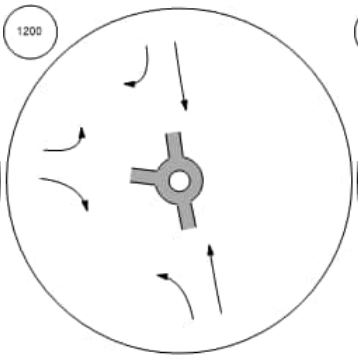
Bodden Town Road at Long



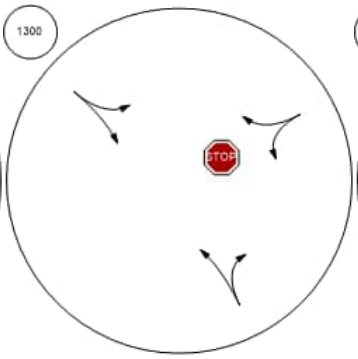
Frank Sound Road at Bodde



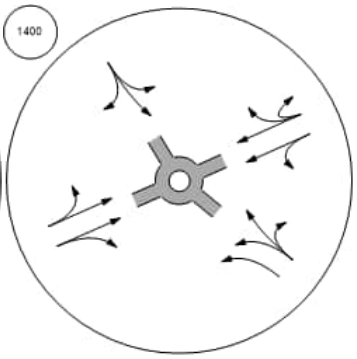
Frank Sound Road at Clifton



Frank Sound Road at North S



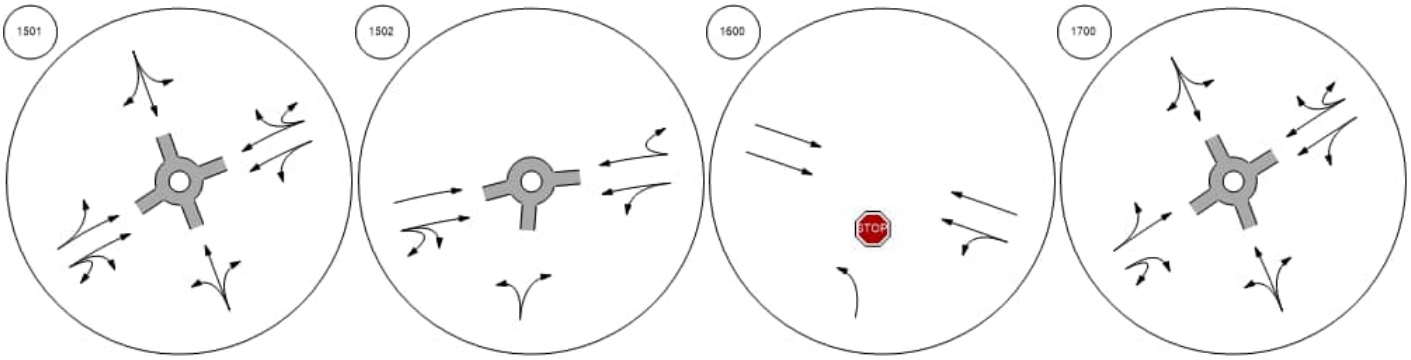
East-West Arterial at Agricola



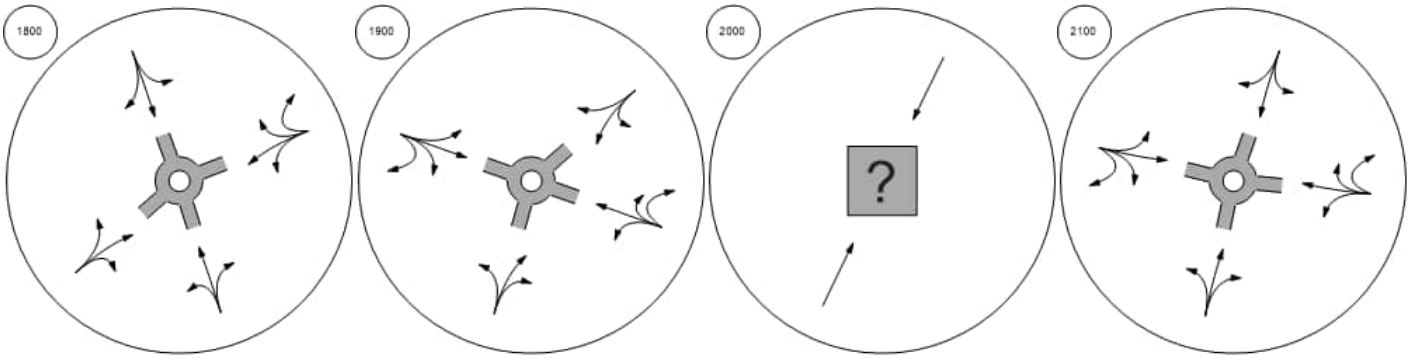
Lane Configuration and Traffic Control



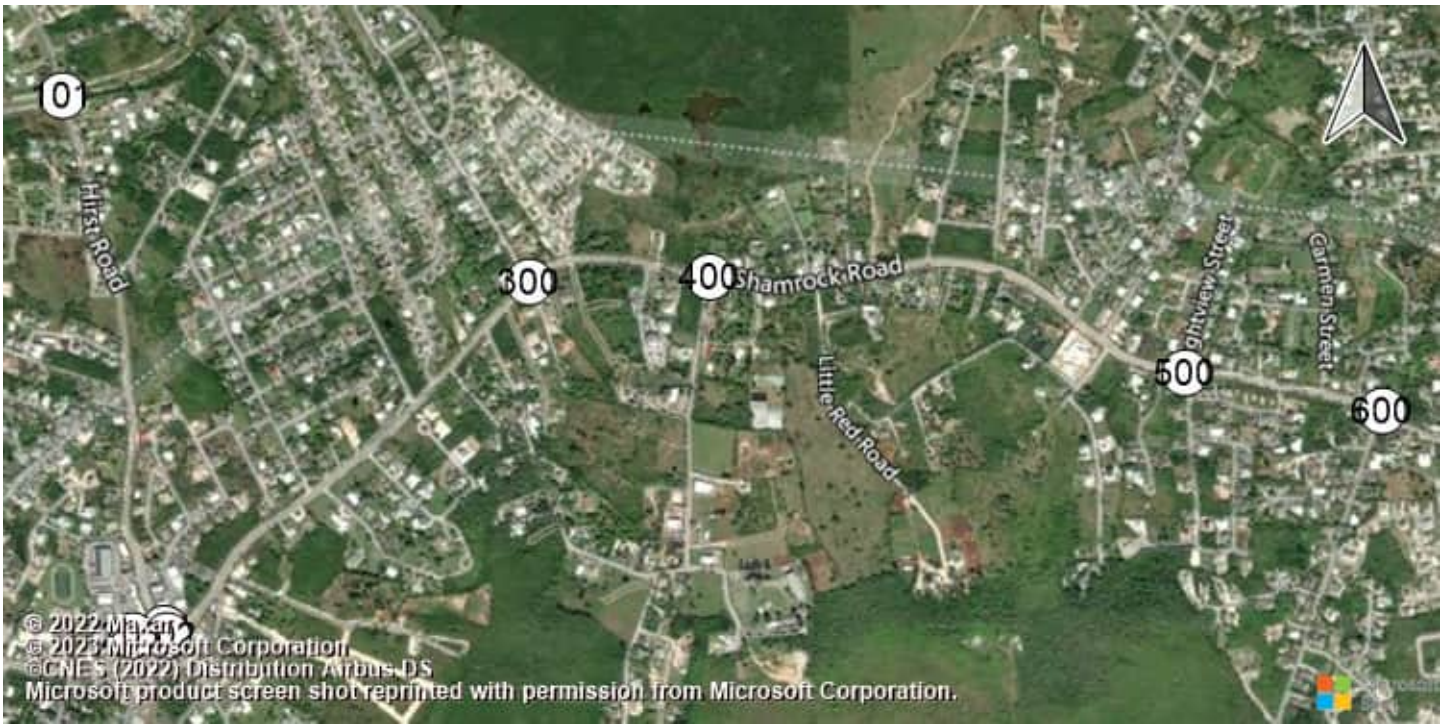
East-West Arterial at Will T C East-West Arterial at Will T C East-West Arterial at Northwa East-West Arterial at Lookout



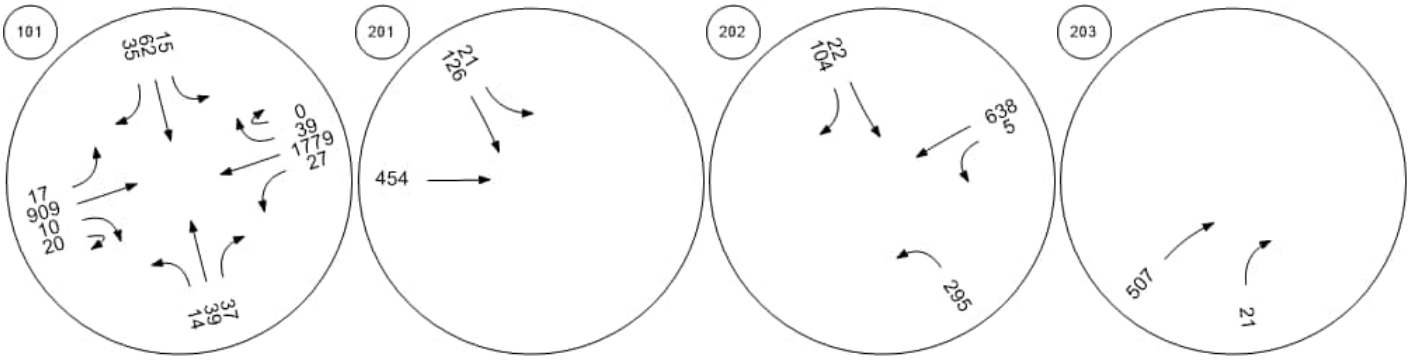
East-West Arterial at Longfell East West Arterial Frank Sound Road at East-W Frank Sound Road at East-W



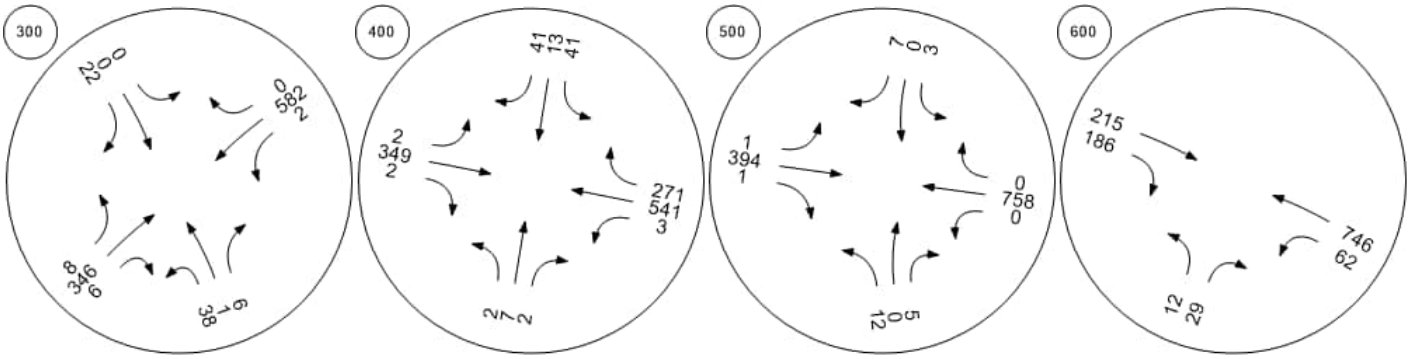
Traffic Volume - Base Volume



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



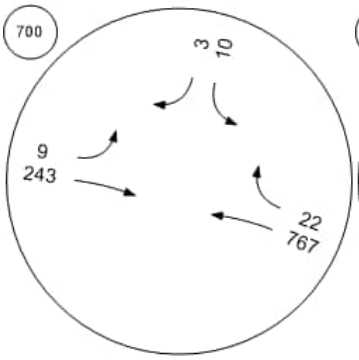
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



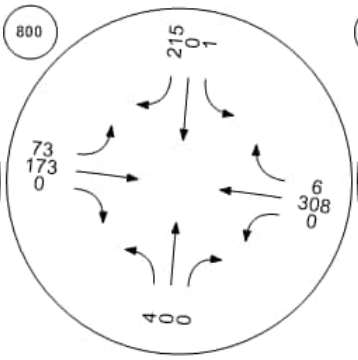
Traffic Volume - Base Volume



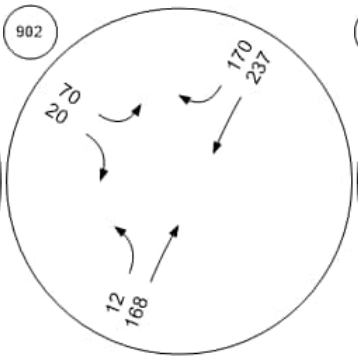
Shamrock Road at Northward



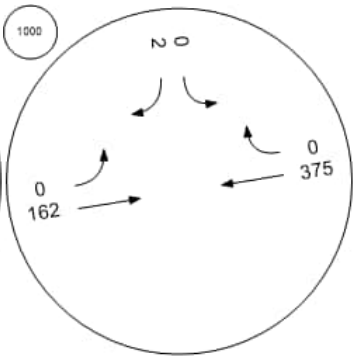
Shamrock Road at Condor R



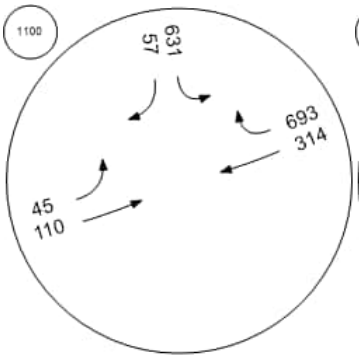
Bodden Town Road at Bodde



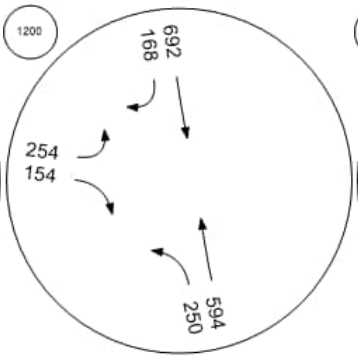
Bodden Town Road at Long



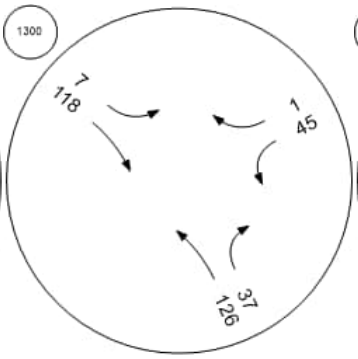
Frank Sound Road at Bodde



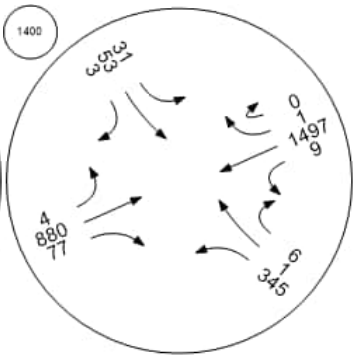
Frank Sound Road at Clifton



Frank Sound Road at North S



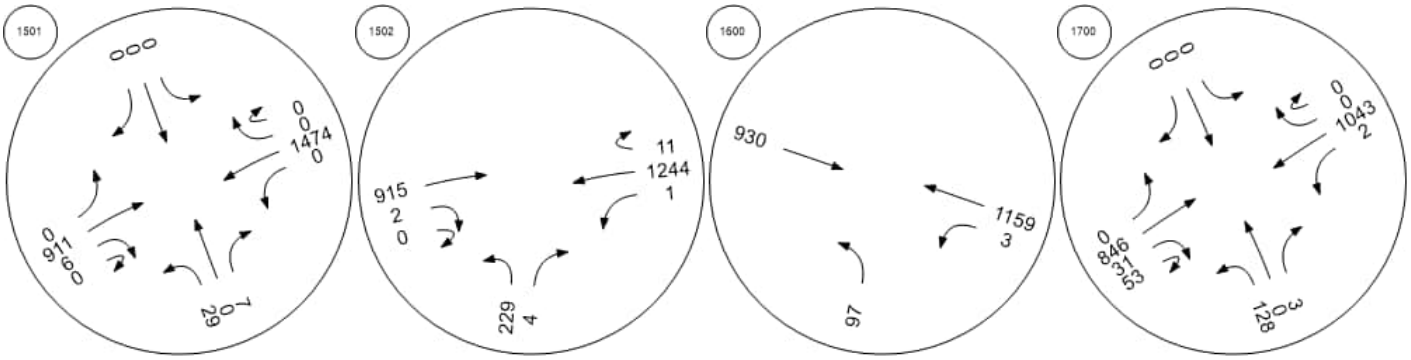
East-West Arterial at Agricola



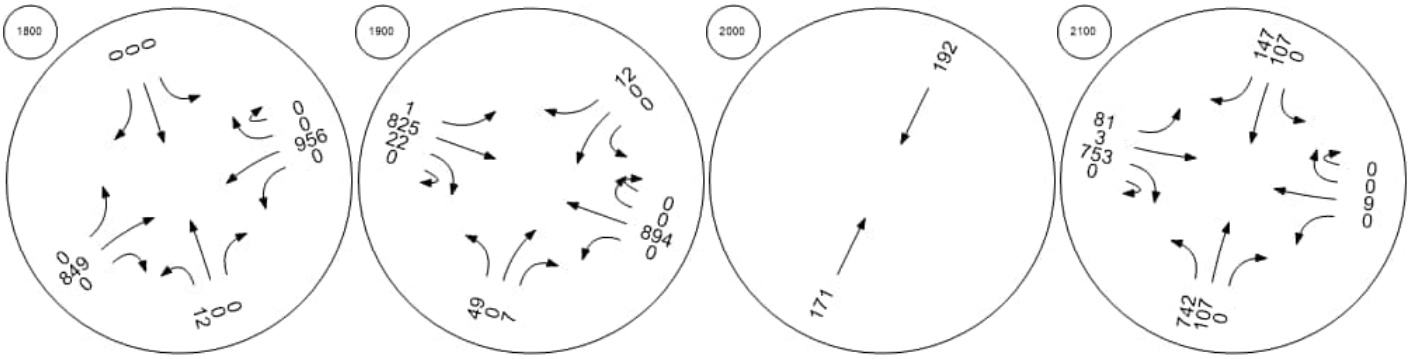
Traffic Volume - Base Volume



East-West Arterial at Will T C East-West Arterial at Will T C East-West Arterial at Northwa East-West Arterial at Lookout



East-West Arterial at Longfell East West Arterial Frank Sound Road at East-W Frank Sound Road at East-W



Intersection Level Of Service Report
Intersection 101: East-West Arterial Road at Hirst Road

Control Type:	Roundabout	Delay (sec / veh):	13.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name									East-West Arterial				East-West Arterial				
Approach	Northbound				Southbound				Eastbound				Westbound				
Lane Configuration																	
Turning Movement	Left	Left	Thru	Right	Left	Thru	Right	Right	Left	Thru	Right	U-tu	Left	Thr	Thr	Rig	U-t
Lane Width [ft]	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.	12.	12.	12.	12.
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100	100	100	100	100
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Speed [mph]	30.00				30.00				40.00				50.00				
Grade [%]	0.00				0.00				0.00				0.00				
Crosswalk	Yes				Yes				Yes				Yes				

Volumes

Name									East-West Arterial				East-West Arterial				
Base Volume Input [veh/h]	47	0	123	30	22	61	0	20	83	1683	57	4	55	788	0	48	0
Base Volume Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	47	0	123	30	22	61	0	20	83	1683	57	4	55	788	0	48	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Other Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Total 15-Minute Volume [veh/h]	12	0	31	8	6	15	0	5	21	421	14	1	14	197	0	12	0
Total Analysis Volume [veh/h]	47	0	123	30	22	61	0	20	83	1683	57	4	55	788	0	48	0
Pedestrian Volume [ped/h]	0				0				0				0				

Intersection Settings

Number of Conflicting Circulating Lanes	2				2				2				2				
Circulating Flow Rate [veh/h]	860				1774				201				142				
Exiting Flow Rate [veh/h]	173				254				859				1735				
Demand Flow Rate [veh/h]	47	0	123	30	22	61	0	20	83	1683	57	4	55	788	0	48	0
Adjusted Demand Flow Rate [veh/h]	47	0	123	30	22	61	0	20	83	1683	57	4	55	788	0	48	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1350.00	1420.00	1350.00
B (coefficient)	0.00085	0.00085	0.00085	0.00092	0.00085	0.00092
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	200	103	969	859	473	419
Capacity of Entry and Bypass Lanes [veh/h]	684	315	1197	1123	1259	1185
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	684	315	1197	1123	1259	1185
X, volume / capacity	0.29	0.33	0.81	0.77	0.38	0.35

Movement, Approach, & Intersection Results

Lane LOS	A	C	C	C	A	A
95th-Percentile Queue Length [veh]	1.22	1.39	9.53	7.89	1.77	1.61
95th-Percentile Queue Length [ft]	30.40	34.72	238.19	197.24	44.25	40.33
Approach Delay [s/veh]	8.89	18.57	17.52		6.45	
Approach LOS	A	C	C		A	
Intersection Delay [s/veh]	13.72					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 201: Shamrock Road at Hirst Rd (1)

Control Type:	Two-way stop	Delay (sec / veh):	32.6
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.671

Intersection Setup

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	0	0	0	11	229	0	0	649	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	11	229	0	0	649	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	3	62	0	0	174	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	12	246	0	0	698	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.03	0.67	0.00	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	13.34	32.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS				B	D			A				
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.08	4.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	2.08	116.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			31.75			0.00			0.00		
Approach LOS	A			D			A			A		
d_I, Intersection Delay [s/veh]	8.57											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 202: Shamrock Road at Hirst Rd (2)

Control Type:	Two-way stop	Delay (sec / veh):	67.4
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.786

Intersection Setup

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	240	0	0	0	39	190	0	0	0	11	470	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	240	0	0	0	39	190	0	0	0	11	470	0
Peak Hour Factor	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	65	0	0	0	10	51	0	0	0	3	126	0
Total Analysis Volume [veh/h]	258	0	0	0	42	204	0	0	0	12	505	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.46	0.00	0.00	0.00	0.09	0.79	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	16.55	0.00	0.00	0.00	61.29	67.43	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	C				F	F				A	A	
95th-Percentile Queue Length [veh/ln]	2.36	0.00	0.00	0.00	7.68	7.68	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	59.07	0.00	0.00	0.00	191.95	191.95	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	16.55			66.38			0.00			0.00		
Approach LOS	C			F			A			A		
d_I, Intersection Delay [s/veh]	20.18											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 203: Shamrock Road atHirst Road Jughandle

Control Type:	Two-way stop	Delay (sec / veh):	17.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.100

Intersection Setup

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	0	30	817	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	30	817	0	0	0
Peak Hour Factor	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	8	220	0	0	0
Total Analysis Volume [veh/h]	0	32	878	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.10	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	17.45	0.00	0.00	0.00	0.00
Movement LOS		C	A			
95th-Percentile Queue Length [veh/ln]	0.00	0.33	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	8.23	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	17.45		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.61					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 300: Shamrock Road at Woodland Drive

Control Type:	Two-way stop	Delay (sec / veh):	29.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.261

Intersection Setup

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	12	1	3	0	1	51	10	460	29	5	495	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	1	3	0	1	51	10	460	29	5	495	0
Peak Hour Factor	0.9700	0.9700	1.0000	1.0000	0.9700	0.9700	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	1	0	0	13	3	115	7	1	124	0
Total Analysis Volume [veh/h]	12	1	3	0	1	53	10	460	30	5	495	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.01	0.00	0.00	0.26	0.00	0.00	0.03	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.61	21.21	22.60	17.28	27.09	29.06	0.00	0.00	8.45	0.00	0.00	8.27
Movement LOS	B	C	C	C	D	D	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.12	0.12	0.12	1.03	1.03	1.03	0.09	0.09	0.09	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	3.08	3.08	3.08	25.74	25.74	25.74	2.15	2.15	2.15	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	14.27			29.02			0.51			0.00		
Approach LOS	B			D			A			A		
d_I, Intersection Delay [s/veh]	1.91											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 400: Shamrock Road at Agricola Drive

Control Type:	Roundabout	Delay (sec / veh):	6.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	1	0	0	220	19	33	4	456	3	9	466	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	0	220	19	33	4	456	3	9	466	46
Peak Hour Factor	1.0000	1.0000	0.9200	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9200	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	55	5	8	1	114	1	2	117	12
Total Analysis Volume [veh/h]	1	0	0	220	19	33	4	456	3	10	466	46
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	545			459			46			55		
Exiting Flow Rate [veh/h]	32			50			500			676		
Demand Flow Rate [veh/h]	1	0	0	220	19	33	4	456	3	9	466	46
Adjusted Demand Flow Rate [veh/h]	1	0	0	220	19	33	4	456	3	10	466	46

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	1	272	463	522
Capacity of Entry and Bypass Lanes [veh/h]	792	865	1317	1305
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	792	865	1317	1305
X, volume / capacity	0.00	0.31	0.35	0.40

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	1.35	1.60	1.96
95th-Percentile Queue Length [ft]	0.09	33.84	40.07	49.04
Approach Delay [s/veh]	4.56	7.64	5.97	6.59
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	6.59			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 500: Shamrock Road at Brightview Drive / Calla Lily Drive

Control Type:	Two-way stop	Delay (sec / veh):	27.3
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			20.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	3	0	0	0	0	1	12	592	22	52	447	26
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	0	0	0	0	1	12	592	22	52	447	26
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	0	0	0	3	148	6	13	112	7
Total Analysis Volume [veh/h]	3	0	0	0	0	1	12	592	22	52	447	26
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.02	0.00	0.00	0.03
d_M, Delay for Movement [s/veh]	11.08	24.94	27.06	12.25	25.60	27.33	0.00	0.00	8.42	0.00	0.00	8.76
Movement LOS	B	C	D	B	D	D	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.02	0.02	0.02	0.02	0.06	0.06	0.06	0.08	0.08	0.08
95th-Percentile Queue Length [ft/ln]	0.38	0.38	0.38	0.46	0.46	0.46	1.57	1.57	1.57	2.03	2.03	2.03
d_A, Approach Delay [s/veh]	11.08			27.33			0.30			0.43		
Approach LOS	B			D			A			A		
d_I, Intersection Delay [s/veh]	0.41											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 600: Shamrock Road at Beach Bay Road

Control Type:	Two-way stop	Delay (sec / veh):	43.8
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.410

Intersection Setup

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	22	56	506	87	29	502
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	22	56	506	87	29	502
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	15	139	24	8	138
Total Analysis Volume [veh/h]	24	62	556	96	32	552
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.41	0.01	0.10	0.00	0.01
d_M, Delay for Movement [s/veh]	26.86	43.81	0.00	8.98	0.00	0.00
Movement LOS	D	E	A	A	A	A
95th-Percentile Queue Length [veh/ln]	2.15	2.15	0.32	0.32	0.00	0.00
95th-Percentile Queue Length [ft/ln]	53.73	53.73	7.94	7.94	0.00	0.00
d_A, Approach Delay [s/veh]	39.08		1.32		0.00	
Approach LOS	E		A		A	
d_I, Intersection Delay [s/veh]	3.19					
Intersection LOS	E					

Intersection Level Of Service Report
Intersection 700: Shamrock Road at Northward Road

Control Type:	Two-way stop	Delay (sec / veh):	22.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.117

Intersection Setup

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	25	27	13	458	541	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	27	13	458	541	17
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	7	3	118	139	4
Total Analysis Volume [veh/h]	26	28	13	472	558	18
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.12	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	13.13	22.02	0.00	0.00	0.00	8.36
Movement LOS	B	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.56	0.56	0.00	0.00	0.05	0.05
95th-Percentile Queue Length [ft/ln]	14.12	14.12	0.00	0.00	1.26	1.26
d_A, Approach Delay [s/veh]	17.74		0.00		0.26	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.99					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 800: Shamrock Road at Condor Road

Control Type:	Two-way stop	Delay (sec / veh):	18.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.246

Intersection Setup

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Base Volume Input [veh/h]	1	0	0	4	0	90	100	272	2	0	321	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	0	4	0	90	100	272	2	0	321	13
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	1	0	23	25	68	1	0	80	3
Total Analysis Volume [veh/h]	1	0	0	4	0	90	100	272	2	0	321	13
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	9.98	15.31	14.89	13.17	17.83	18.01	0.00	0.00	7.88	0.00	0.00	8.04
Movement LOS	A	C	B	B	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.98	0.98	0.98	0.00	0.00	0.00	0.03	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.10	0.10	0.10	24.46	24.46	24.46	0.12	0.12	0.12	0.82	0.82	0.82
d_A, Approach Delay [s/veh]	9.98			17.81			0.04			0.31		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	2.25											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 902: Bodden Town Road at Bodden Town Bypass

Control Type:	Two-way stop	Delay (sec / veh):	19.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.160

Intersection Setup

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	66	44	29	231	256	141
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	66	44	29	231	256	141
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	12	8	61	68	38
Total Analysis Volume [veh/h]	70	47	31	246	272	150
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.16	0.00	0.00	0.00	0.12
d_M, Delay for Movement [s/veh]	12.13	19.74	0.00	0.00	0.00	8.14
Movement LOS	B	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.97	0.97	0.00	0.00	0.39	0.39
95th-Percentile Queue Length [ft/ln]	24.33	24.33	0.00	0.00	9.78	9.78
d_A, Approach Delay [s/veh]	15.18		0.00		2.89	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	3.67					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1000: Bodden Town Road at Long Fellow Drive

Control Type:	Two-way stop	Delay (sec / veh):	13.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	0	3	4	198	368	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	3	4	198	368	0
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	1	54	101	0
Total Analysis Volume [veh/h]	0	3	4	218	404	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.42	13.01	0.00	0.00	0.00	7.65
Movement LOS	A	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.50	0.50	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.01		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.06					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1100: Frank Sound Road at Bodden Town Road

Control Type:	Roundabout	Delay (sec / veh):	14.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Base Volume Input [veh/h]	821	65	57	134	293	512
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	821	65	57	134	293	512
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	221	17	15	36	79	138
Total Analysis Volume [veh/h]	883	70	61	144	315	551
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	144		551		70	
Exiting Flow Rate [veh/h]	612		385		1027	
Demand Flow Rate [veh/h]	821	65	57	134	293	512
Adjusted Demand Flow Rate [veh/h]	883	70	61	144	315	551

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	953	205	866
Capacity of Entry and Bypass Lanes [veh/h]	1192	787	1285
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1192	787	1285
X, volume / capacity	0.80	0.26	0.67

Movement, Approach, & Intersection Results

Lane LOS	C	A	B
95th-Percentile Queue Length [veh]	9.17	1.04	5.60
95th-Percentile Queue Length [ft]	229.21	26.06	140.06
Approach Delay [s/veh]	17.80	7.48	11.75
Approach LOS	C	A	B
Intersection Delay [s/veh]	14.17		
Intersection LOS	B		

Intersection Level Of Service Report
Intersection 1200: Frank Sound Road at Clifton Hunter High School

Control Type:	Roundabout	Delay (sec / veh):	9.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd		Clifton Hunter HS	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		20.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Frank Sound Rd		Clifton Hunter HS	
Base Volume Input [veh/h]	138	579	770	274	204	213
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	138	579	770	274	204	213
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	145	193	69	51	53
Total Analysis Volume [veh/h]	138	579	770	274	204	213
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	274		213		579	
Exiting Flow Rate [veh/h]	983		783		412	
Demand Flow Rate [veh/h]	138	579	770	274	204	213
Adjusted Demand Flow Rate [veh/h]	138	579	770	274	204	213

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00091	0.00091	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	138	579	770	274	204	213
Capacity of Entry and Bypass Lanes [veh/h]	1107	1107	1170	1170	839	839
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1107	1107	1170	1170	839	839
X, volume / capacity	0.12	0.52	0.66	0.23	0.24	0.25

Movement, Approach, & Intersection Results

Lane LOS	A	A	B	A	A	A
95th-Percentile Queue Length [veh]	0.43	3.14	5.23	0.91	0.95	1.01
95th-Percentile Queue Length [ft]	10.65	78.56	130.76	22.76	23.83	25.22
Approach Delay [s/veh]	8.41		10.27		6.95	
Approach LOS	A		B		A	
Intersection Delay [s/veh]	9.02					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1300: Frank Sound Road at North Side Road/Old Robin Road

Control Type:	Two-way stop	Delay (sec / veh):	12.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.048

Intersection Setup

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Base Volume Input [veh/h]	183	39	32	162	74	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	183	39	32	162	74	22
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	51	11	9	46	21	6
Total Analysis Volume [veh/h]	206	44	36	182	83	25
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.03	0.00	0.00	0.10	0.05
d_M, Delay for Movement [s/veh]	0.00	7.73	0.00	0.00	10.09	12.78
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.10	0.10	0.00	0.00	0.51	0.51
95th-Percentile Queue Length [ft/ln]	2.50	2.50	0.00	0.00	12.77	12.77
d_A, Approach Delay [s/veh]	1.36		0.00		10.71	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	2.60					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1400: East-West Arterial at Agricola Drive Connector

Control Type:	Roundabout	Delay (sec / veh):	9.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			50.00			50.00			
Grade [%]	0.00			0.00			0.00			0.00			
Crosswalk	Yes			Yes			Yes			Yes			

Volumes

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Base Volume Input [veh/h]	43	6	9	51	29	2	9	1457	268	38	846	25	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	43	6	9	51	29	2	9	1457	268	38	846	25	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	11	2	2	13	7	1	2	364	67	10	212	6	0
Total Analysis Volume [veh/h]	43	6	9	51	29	2	9	1457	268	38	846	25	0
Pedestrian Volume [ped/h]	0			0			0			0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1			1			
Circulating Flow Rate [veh/h]	873			1734			40			299			
Exiting Flow Rate [veh/h]	335			40			891			1517			
Demand Flow Rate [veh/h]	43	6	9	51	29	2	9	1457	268	38	846	25	0
Adjusted Demand Flow Rate [veh/h]	43	6	9	51	29	2	9	1457	268	38	846	25	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1350.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00092	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	31	28	82	920	815	482	428
Capacity of Entry and Bypass Lanes [veh/h]	677	605	326	1370	1370	1082	1082
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	677	605	326	1370	1370	1082	1082
X, volume / capacity	0.05	0.05	0.25	0.67	0.60	0.45	0.39

Movement, Approach, & Intersection Results

Lane LOS	A	A	C	B	A	A	A
95th-Percentile Queue Length [veh]	0.14	0.14	0.98	5.57	4.16	2.34	1.91
95th-Percentile Queue Length [ft]	3.57	3.53	24.50	139.30	104.03	58.41	47.84
Approach Delay [s/veh]	6.11		16.02	10.33		7.85	
Approach LOS	A		C	B		A	
Intersection Delay [s/veh]	9.60						
Intersection LOS	A						

Intersection Level Of Service Report
Intersection 1501: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	7.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name							East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name							East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	1	0	5	0	0	0	0	1430	88	0	3	906	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	5	0	0	0	0	1430	88	0	3	906	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	0	0	1	0	0	0	0	358	22	0	1	227	0	0
Total Analysis Volume [veh/h]	1	0	5	0	0	0	0	1430	88	0	3	906	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1				1			
Circulating Flow Rate [veh/h]	906			1523			5				88			
Exiting Flow Rate [veh/h]	91			0			907				1435			
Demand Flow Rate [veh/h]	1	0	5	0	0	0	0	1430	88	0	3	906	0	0
Adjusted Demand Flow Rate [veh/h]	1	0	5	0	0	0	0	1430	88	0	3	906	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	6	0	805	714	482	428
Capacity of Entry and Bypass Lanes [veh/h]	658	390	1414	1414	1311	1311
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	658	390	1414	1414	1311	1311
X, volume / capacity	0.01	0.00	0.57	0.50	0.37	0.33

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.03	0.00	3.78	2.96	1.72	1.43
95th-Percentile Queue Length [ft]	0.69	0.00	94.40	73.93	42.88	35.80
Approach Delay [s/veh]	5.57	9.25	8.20		5.95	
Approach LOS	A	A	A		A	
Intersection Delay [s/veh]	7.35					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1502: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	7.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name			East-West Arterial			East-West Arterial		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	Thru	Right	U-turn	Left	Thru	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00			50.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	Yes		Yes			Yes		

Volumes

Name			East-West Arterial			East-West Arterial		
Base Volume Input [veh/h]	15	1	1405	30	0	1	894	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	1	1405	30	0	1	894	23
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	0	351	8	0	0	224	6
Total Analysis Volume [veh/h]	15	1	1405	30	0	1	894	23
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	2		1			1		
Circulating Flow Rate [veh/h]	917		24			30		
Exiting Flow Rate [veh/h]	31		909			1429		
Demand Flow Rate [veh/h]	15	1	1405	30	0	1	894	23
Adjusted Demand Flow Rate [veh/h]	15	1	1405	30	0	1	894	23

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	16	761	675	487	432
Capacity of Entry and Bypass Lanes [veh/h]	652	1390	1390	1382	1382
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	652	1390	1390	1382	1382
X, volume / capacity	0.02	0.55	0.49	0.35	0.31

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.08	3.48	2.75	1.61	1.35
95th-Percentile Queue Length [ft]	1.89	86.88	68.65	40.18	33.67
Approach Delay [s/veh]	5.79	7.96		5.57	
Approach LOS	A	A		A	
Intersection Delay [s/veh]	7.02				
Intersection LOS	A				

Intersection Level Of Service Report
Intersection 1600: East-West Arterial at Northward Rd

Control Type:	Two-way stop	Delay (sec / veh):	11.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.046

Intersection Setup

Name	Northward Rd		East-West Arterial		East-West Arterial	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		East-West Arterial		East-West Arterial	
Base Volume Input [veh/h]	26	0	1429	0	9	892
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	26	0	1429	0	9	892
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	0	357	0	2	223
Total Analysis Volume [veh/h]	26	0	1429	0	9	892
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.00	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	11.72	0.00	0.00	0.00	0.00	0.00
Movement LOS	B		A		A	A
95th-Percentile Queue Length [veh/ln]	0.15	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	3.63	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.72		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.13					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1700: East-West Arterial at Lookout Rd

Control Type:	Roundabout	Delay (sec / veh):	11.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Lookout Rd			Lookout Rd			East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	200.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Lookout Rd			Lookout Rd			East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	25	0	6	0	0	0	0	1132	176	121	16	824	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	0	6	0	0	0	0	1132	176	121	16	824	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	6	0	2	0	0	0	0	283	44	30	4	206	0	0
Total Analysis Volume [veh/h]	25	0	6	0	0	0	0	1132	176	121	16	824	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1			
Circulating Flow Rate [veh/h]	945			1435			6				297			
Exiting Flow Rate [veh/h]	192			0			970				1138			
Demand Flow Rate [veh/h]	25	0	6	0	0	0	0	1132	176	121	16	824	0	0
Adjusted Demand Flow Rate [veh/h]	25	0	6	0	0	0	0	1132	176	121	16	824	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00102	0.00102	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	31	0	1132	297	446	395
Capacity of Entry and Bypass Lanes [veh/h]	527	320	1413	1413	1084	1084
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	527	320	1413	1413	1084	1084
X, volume / capacity	0.06	0.00	0.80	0.21	0.41	0.36

Movement, Approach, & Intersection Results

Lane LOS	A	B	C	A	A	A
95th-Percentile Queue Length [veh]	0.19	0.00	9.53	0.79	2.04	1.69
95th-Percentile Queue Length [ft]	4.68	0.00	238.16	19.86	50.99	42.16
Approach Delay [s/veh]	7.56	11.27	13.47		7.37	
Approach LOS	A	B	B		A	
Intersection Delay [s/veh]	11.16					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1800: East-West Arterial at Longfellow Rd

Control Type:	Roundabout	Delay (sec / veh):	14.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Longfellow Rd			Longfellow Rd			East-West Arterial			East-West Arterial			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			50.00			50.00			
Grade [%]	0.00			0.00			0.00			0.00			
Crosswalk	Yes			Yes			Yes			Yes			

Volumes

Name	Longfellow Rd			Longfellow Rd			East-West Arterial			East-West Arterial			
Base Volume Input [veh/h]	8	0	0	0	0	0	0	1118	21	0	791	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	0	0	0	0	0	0	1118	21	0	791	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	2	0	0	0	0	0	0	280	5	0	198	0	0
Total Analysis Volume [veh/h]	8	0	0	0	0	0	0	1118	21	0	791	0	0
Pedestrian Volume [ped/h]	0			0			0			0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1			
Circulating Flow Rate [veh/h]	791			1139			0			21			
Exiting Flow Rate [veh/h]	21			0			799			1118			
Demand Flow Rate [veh/h]	8	0	0	0	0	0	0	1118	21	0	791	0	0
Adjusted Demand Flow Rate [veh/h]	8	0	0	0	0	0	0	1118	21	0	791	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	8	0	1139	791
Capacity of Entry and Bypass Lanes [veh/h]	616	432	1380	1351
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	616	432	1380	1351
X, volume / capacity	0.01	0.00	0.83	0.59

Movement, Approach, & Intersection Results

Lane LOS	A	A	C	A
95th-Percentile Queue Length [veh]	0.04	0.00	10.51	4.01
95th-Percentile Queue Length [ft]	0.99	0.00	262.78	100.24
Approach Delay [s/veh]	5.99	8.34	17.57	9.29
Approach LOS	A	A	C	A
Intersection Delay [s/veh]	14.14			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1900: East West Arterial

Control Type:	Roundabout	Delay (sec / veh):	14.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name							East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name							East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	37	0	6	0	0	3	9	1041	68	0	0	751	3	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	37	0	6	0	0	3	9	1041	68	0	0	751	3	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	9	0	2	0	0	1	2	260	17	0	0	188	1	0
Total Analysis Volume [veh/h]	37	0	6	0	0	3	9	1041	68	0	0	751	3	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1			
Circulating Flow Rate [veh/h]	757			1115			9				71			
Exiting Flow Rate [veh/h]	68			12			791				1047			
Demand Flow Rate [veh/h]	37	0	6	0	0	3	9	1041	68	0	0	751	3	0
Adjusted Demand Flow Rate [veh/h]	37	0	6	0	0	3	9	1041	68	0	0	751	3	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	43	3	1118	754
Capacity of Entry and Bypass Lanes [veh/h]	638	443	1368	1284
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	638	443	1368	1284
X, volume / capacity	0.07	0.01	0.82	0.59

Movement, Approach, & Intersection Results

Lane LOS	A	A	C	A
95th-Percentile Queue Length [veh]	0.22	0.02	10.15	4.03
95th-Percentile Queue Length [ft]	5.41	0.51	253.66	100.66
Approach Delay [s/veh]	6.39	8.22	17.19	9.65
Approach LOS	A	A	C	A
Intersection Delay [s/veh]	13.97			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 2000: Frank Sound Road at East-West Arterial

Control Type:	Unknown	Delay (sec / veh):	?
Analysis Method:	?	Level Of Service:	?
Analysis Period:	15 minutes	Volume to Capacity (v/c):	?

Intersection Setup

Name	Frank Sound Rd	Frank Sound Rd
Approach	Northeastbound	Southwestbound
Lane Configuration		
Turning Movement	Thru	Thru
Crosswalk	Yes	Yes

Volumes

Name	Frank Sound Rd	Frank Sound Rd
Base Volume Input [veh/h]	256	259
Base Volume Adjustment Factor	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00
Growth Factor	1.0000	1.0000
In-Process Volume [veh/h]	0	0
Site-Generated Trips [veh/h]	0	0
Diverted Trips [veh/h]	0	0
Pass-by Trips [veh/h]	0	0
Existing Site Adjustment Volume [veh/h]	0	0
Other Volume [veh/h]	0	0
Left-Turn on Red Volume [veh/h]	0	0
Total Hourly Volume [veh/h]	256	259
Peak Hour Factor	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000
Total 15-Minute Volume [veh/h]	64	65
Total Analysis Volume [veh/h]	256	259
Presence of On-Street Parking	No	No
On-Street Parking Maneuver Rate [/h]	0	0
Local Bus Stopping Rate [/h]	0	0
Pedestrian Volume [ped/h]	0	0

Intersection Level Of Service Report
Intersection 2100: Frank Sound Road at East-West Arterial

Control Type:	Roundabout	Delay (sec / veh):	18.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd			Frank Sound Rd			East-West Arterial							
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00			50.00			50.00				40.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Frank Sound Rd			Frank Sound Rd			East-West Arterial							
Base Volume Input [veh/h]	643	140	0	0	167	126	170	0	877	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	643	140	0	0	167	126	170	0	877	0	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	161	35	0	0	42	32	43	0	219	0	0	0	0	0
Total Analysis Volume [veh/h]	643	140	0	0	167	126	170	0	877	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1				1			
Circulating Flow Rate [veh/h]	126			877			140				1170			
Exiting Flow Rate [veh/h]	1044			310			769				0			
Demand Flow Rate [veh/h]	643	140	0	0	167	126	170	0	877	0	0	0	0	0
Adjusted Demand Flow Rate [veh/h]	643	140	0	0	167	126	170	0	877	0	0	0	0	0

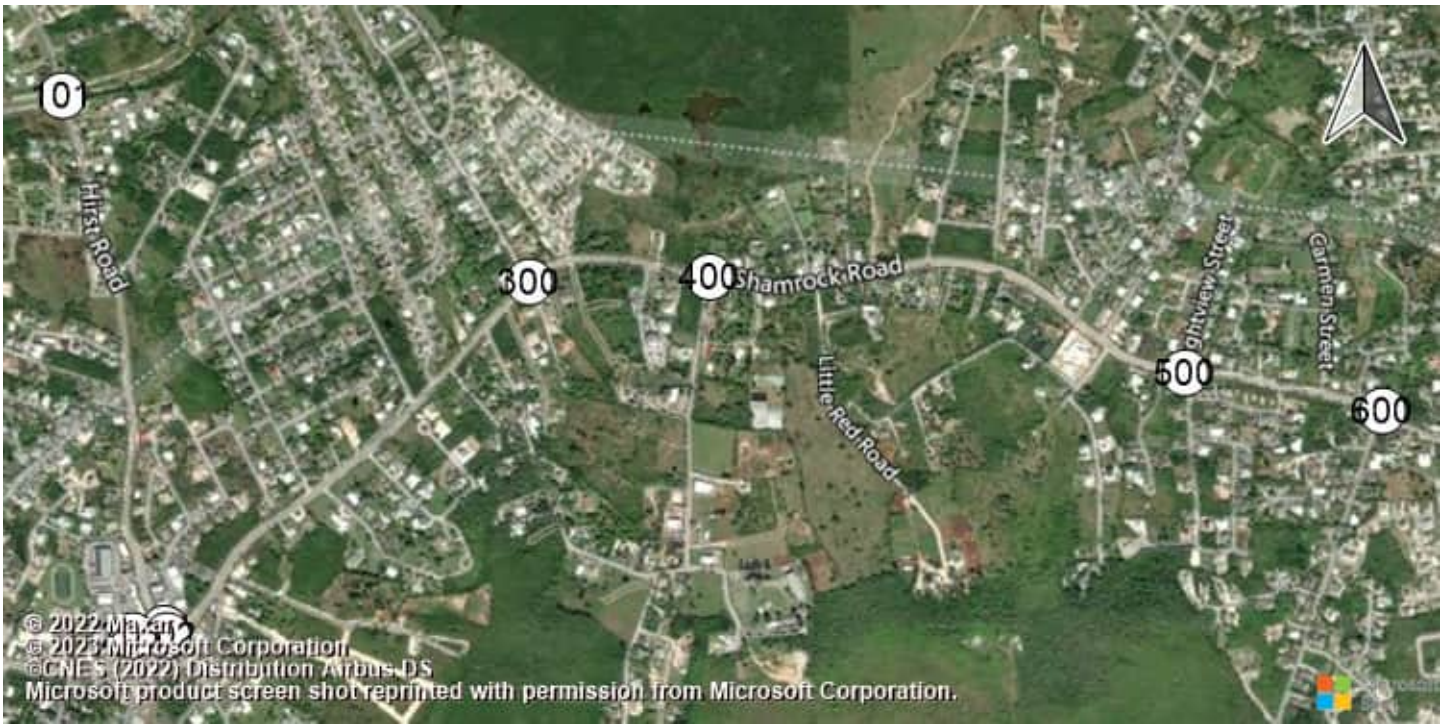
Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	783	293	1047	0
Capacity of Entry and Bypass Lanes [veh/h]	1214	565	1197	419
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1214	565	1197	419
X, volume / capacity	0.65	0.52	0.88	0.00

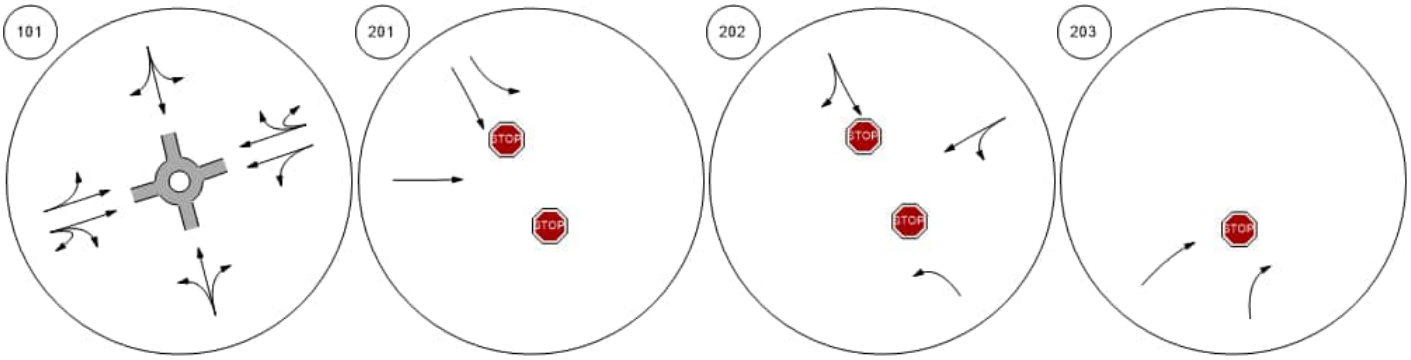
Movement, Approach, & Intersection Results

Lane LOS	B	C	C	A
95th-Percentile Queue Length [veh]	4.99	2.98	12.57	0.00
95th-Percentile Queue Length [ft]	124.81	74.50	314.21	0.00
Approach Delay [s/veh]	11.42	15.67	23.73	8.60
Approach LOS	B	C	C	A
Intersection Delay [s/veh]	18.07			
Intersection LOS	C			

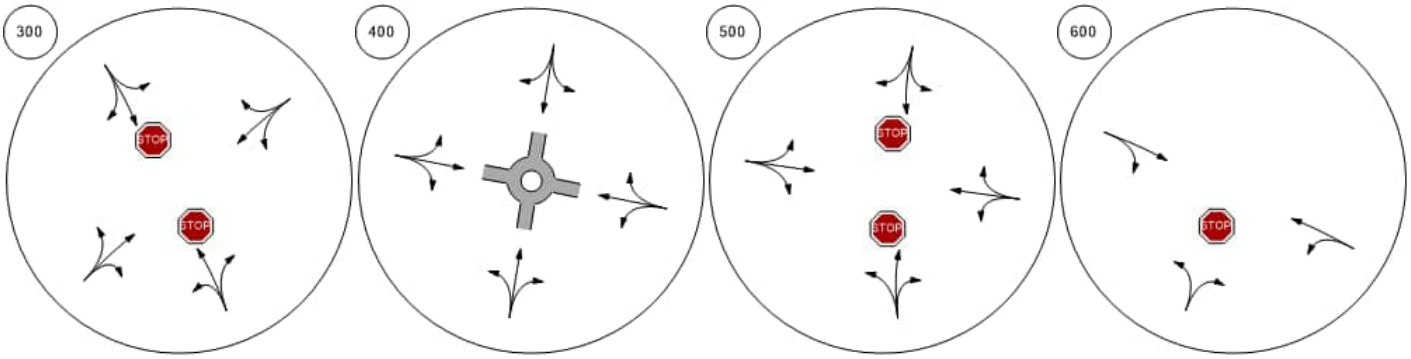
Lane Configuration and Traffic Control



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



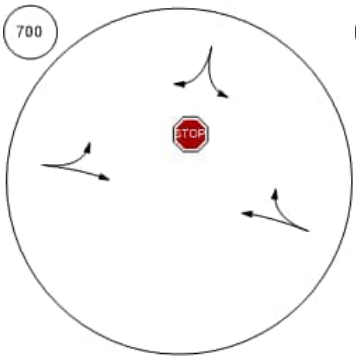
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



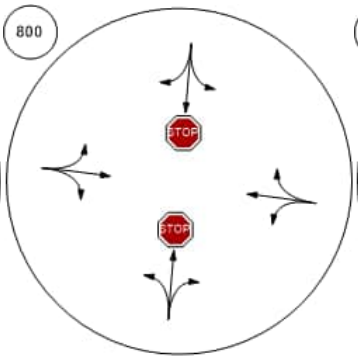
Lane Configuration and Traffic Control



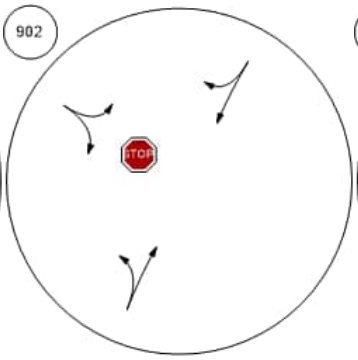
Shamrock Road at Northward



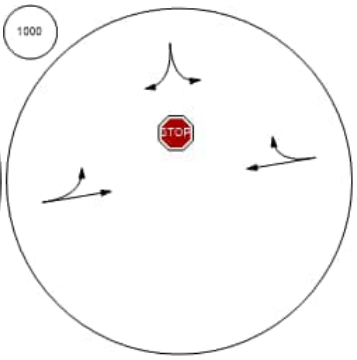
Shamrock Road at Condor R



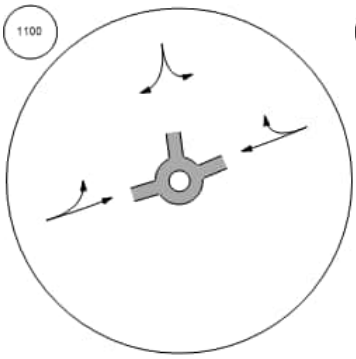
Bodden Town Road at Bodde



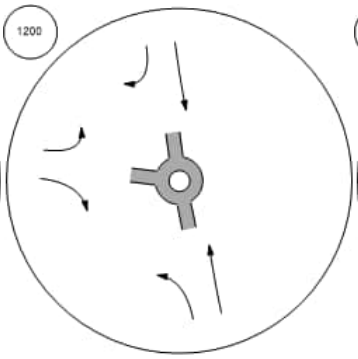
Bodden Town Road at Long



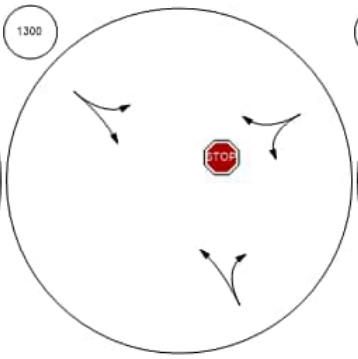
Frank Sound Road at Bodde



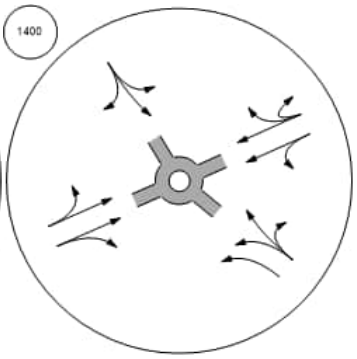
Frank Sound Road at Clifton



Frank Sound Road at North S



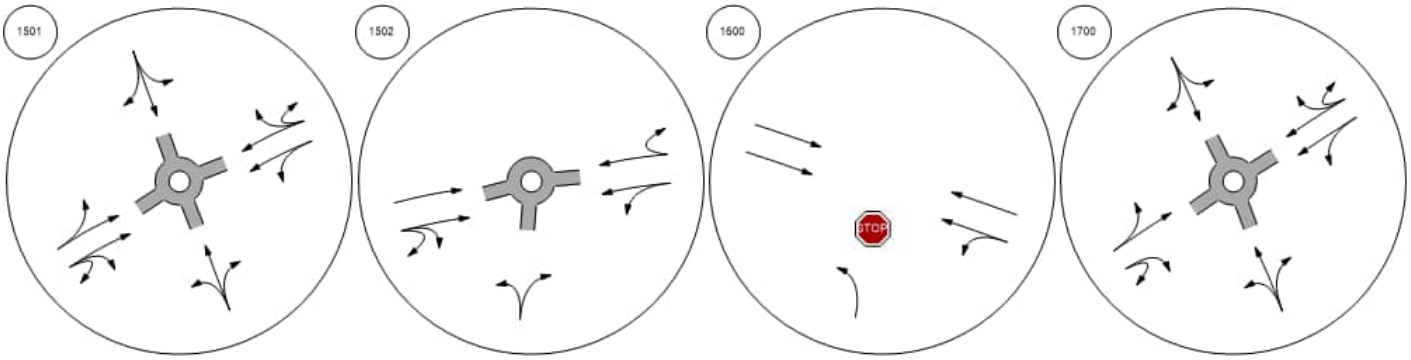
East-West Arterial at Agricola



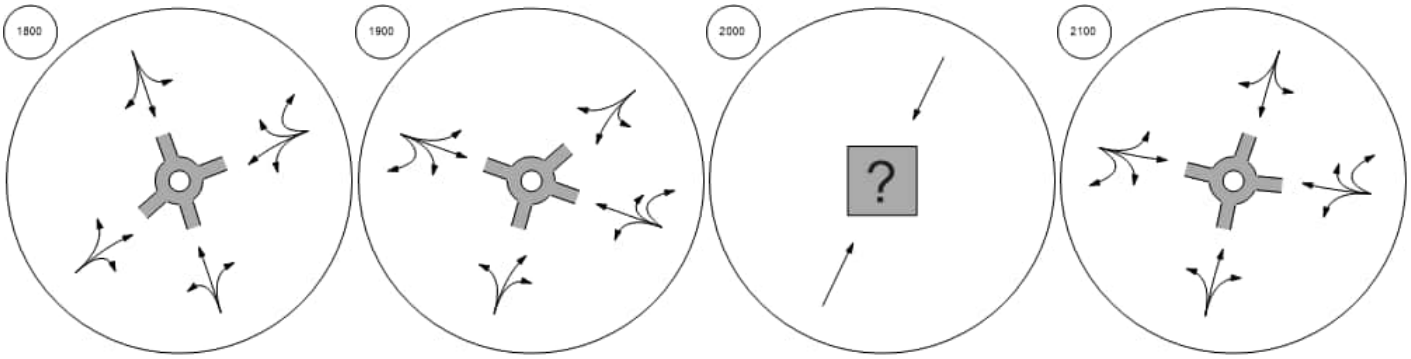
Lane Configuration and Traffic Control



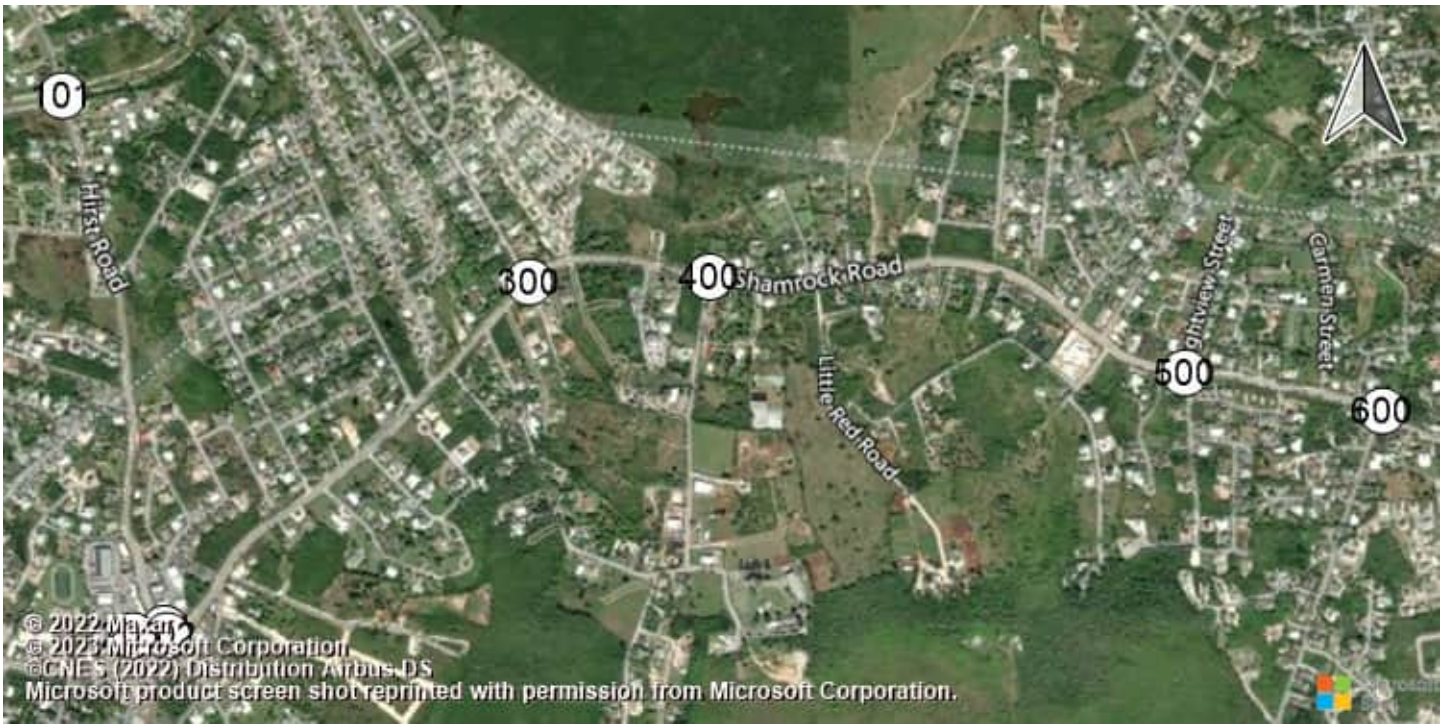
East-West Arterial at Will T C East-West Arterial at Will T C East-West Arterial at Northwa East-West Arterial at Lookout



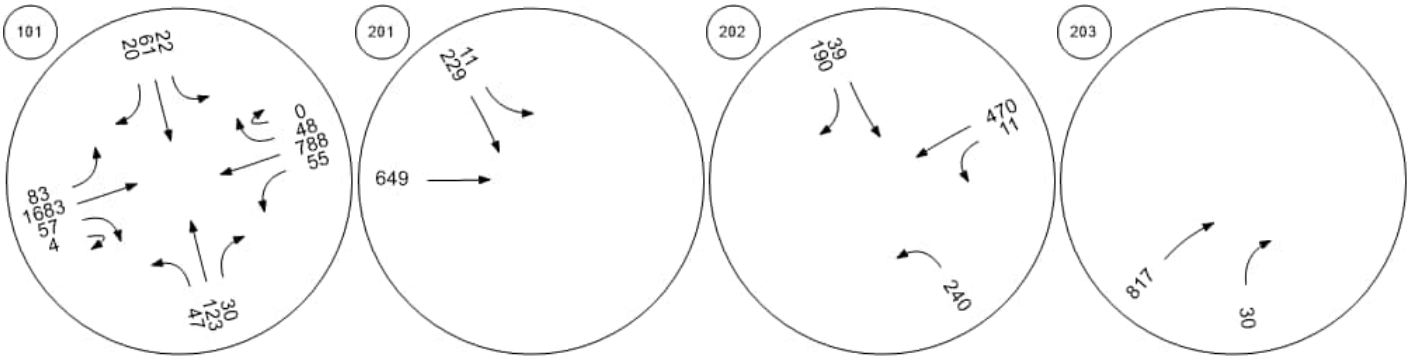
East-West Arterial at Longfell East West Arterial Frank Sound Road at East-W Frank Sound Road at East-W



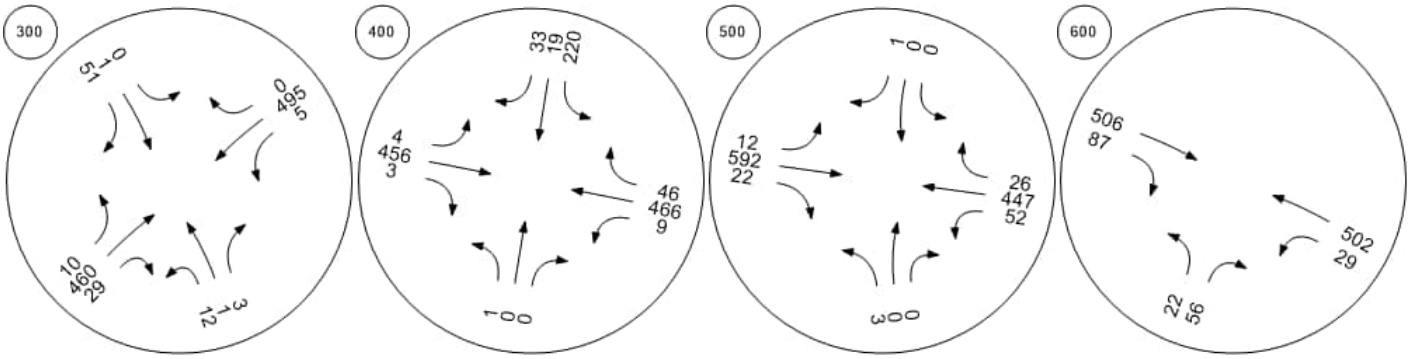
Traffic Volume - Base Volume



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



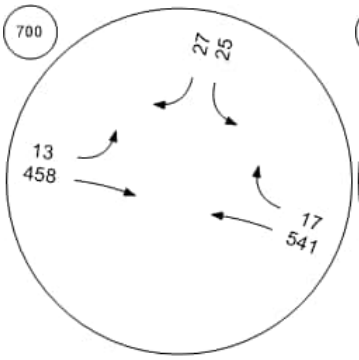
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



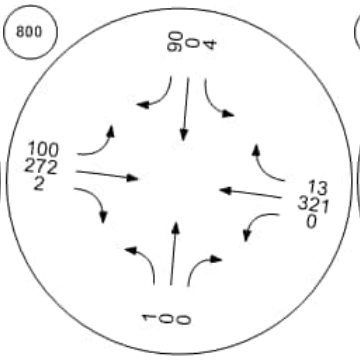
Traffic Volume - Base Volume



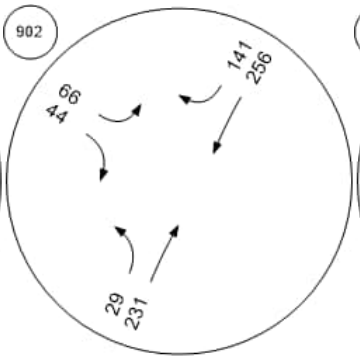
Shamrock Road at Northward



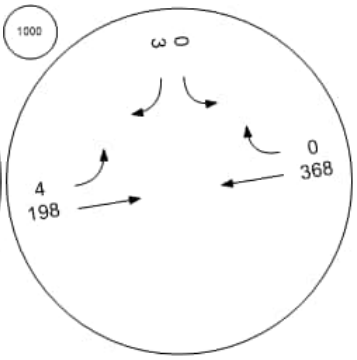
Shamrock Road at Condor R



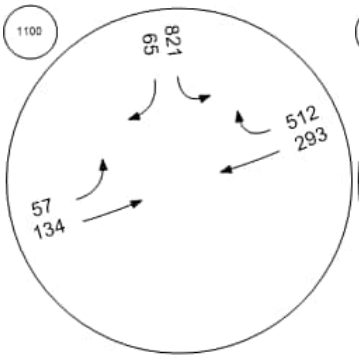
Bodden Town Road at Bodde



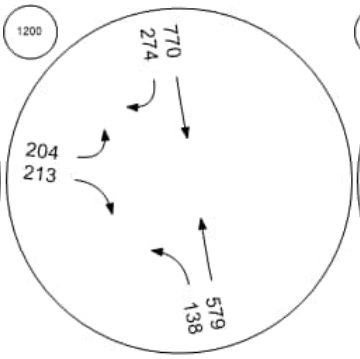
Bodden Town Road at Long



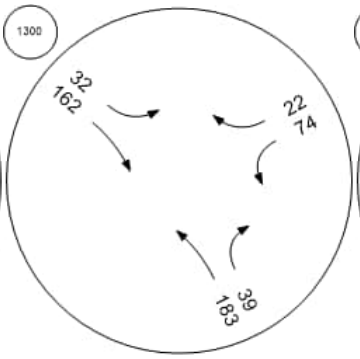
Frank Sound Road at Bodde



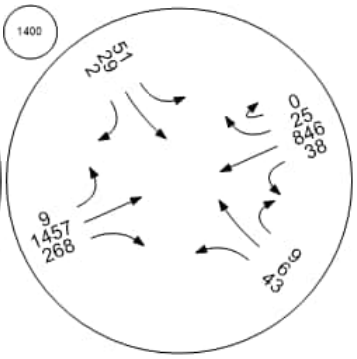
Frank Sound Road at Clifton



Frank Sound Road at North S



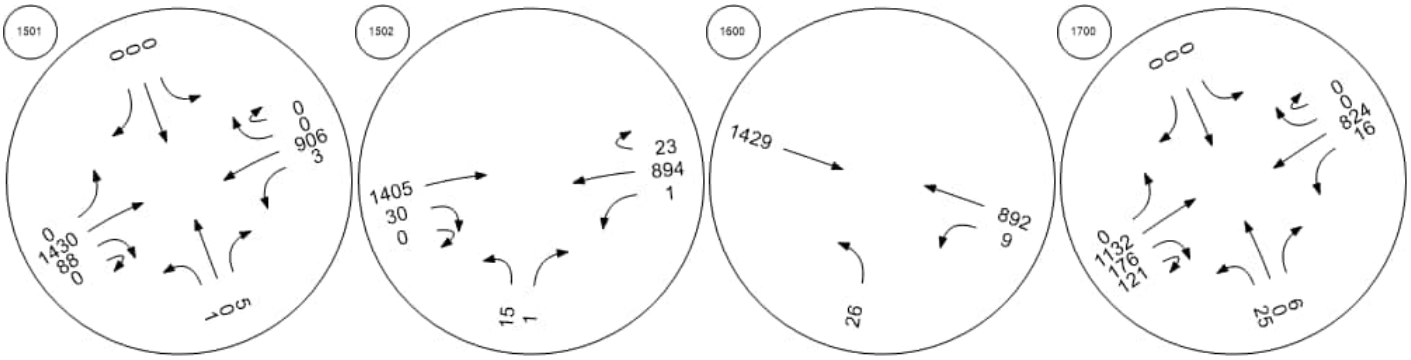
East-West Arterial at Agricola



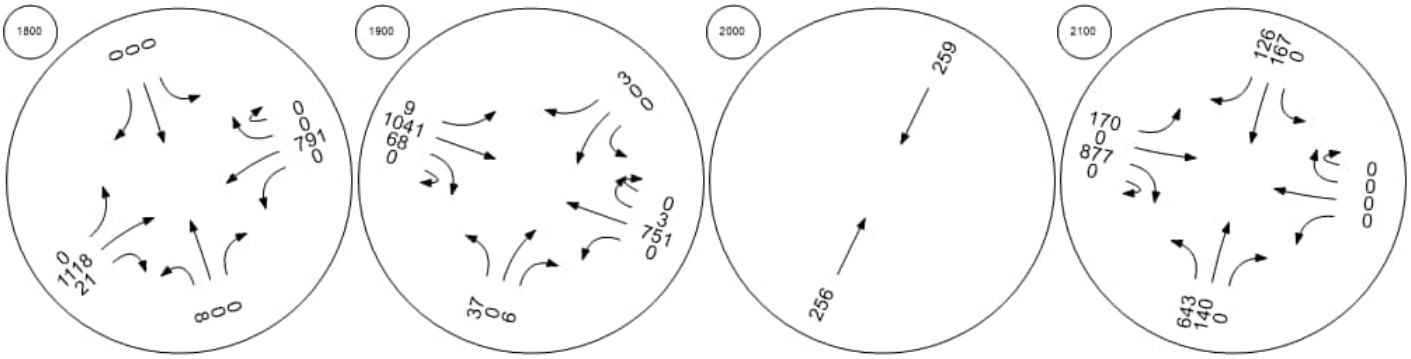
Traffic Volume - Base Volume



East-West Arterial at Will T C East-West Arterial at Will T C East-West Arterial at Northwa East-West Arterial at Lookout



East-West Arterial at Longfell East West Arterial Frank Sound Road at East-W Frank Sound Road at East-W



Intersection Level Of Service Report
Intersection 101: East-West Arterial Road at Hirst Road

Control Type:	Roundabout	Delay (sec / veh):	12.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name									East-West Arterial				East-West Arterial				
Approach	Northbound				Southbound				Eastbound				Westbound				
Lane Configuration																	
Turning Movement	Left	Left	Thru	Right	Left	Thru	Right	Right	Left	Thru	Right	U-tu	Left	Thr	Thr	Rig	U-t
Lane Width [ft]	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.	12.	12.	12.	12.
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100	100	100	100	100
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Speed [mph]	30.00				30.00				40.00				50.00				
Grade [%]	0.00				0.00				0.00				0.00				
Crosswalk	Yes				Yes				Yes				Yes				

Volumes

Name									East-West Arterial				East-West Arterial				
Base Volume Input [veh/h]	13	0	39	19	13	59	0	36	17	925	9	21	12	180	0	39	0
Base Volume Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	0	39	19	13	59	0	36	17	925	9	21	12	180	0	39	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Other Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Total 15-Minute Volume [veh/h]	3	0	10	5	3	15	0	9	4	231	2	5	3	452	0	10	0
Total Analysis Volume [veh/h]	13	0	39	19	13	59	0	36	17	925	9	21	12	180	0	39	0
Pedestrian Volume [ped/h]	0				0				0				0				

Intersection Settings

Number of Conflicting Circulating Lanes	2				2				2				2				
Circulating Flow Rate [veh/h]	1904				974				97				125				
Exiting Flow Rate [veh/h]	80				95				1878				957				
Demand Flow Rate [veh/h]	13	0	39	19	13	59	0	36	17	925	9	21	12	180	0	39	0
Adjusted Demand Flow Rate [veh/h]	13	0	39	19	13	59	0	36	17	925	9	21	12	180	0	39	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1350.00	1420.00	1350.00
B (coefficient)	0.00085	0.00085	0.00085	0.00092	0.00085	0.00092
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	71	108	516	457	986	874
Capacity of Entry and Bypass Lanes [veh/h]	282	621	1308	1235	1277	1204
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	282	621	1308	1235	1277	1204
X, volume / capacity	0.25	0.17	0.39	0.37	0.77	0.73

Movement, Approach, & Intersection Results

Lane LOS	C	A	A	A	C	B
95th-Percentile Queue Length [veh]	0.98	0.63	1.91	1.73	8.26	6.82
95th-Percentile Queue Length [ft]	24.40	15.65	47.83	43.27	206.58	170.56
Approach Delay [s/veh]	18.31	7.89	6.49		14.82	
Approach LOS	C	A	A		B	
Intersection Delay [s/veh]	11.96					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 201: Shamrock Road at Hirst Rd (1)

Control Type:	Two-way stop	Delay (sec / veh):	14.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.259

Intersection Setup

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	0	0	0	20	119	0	0	436	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	20	119	0	0	436	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	5	32	0	0	117	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	22	128	0	0	469	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.04	0.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	11.25	14.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Movement LOS				B	B			A					
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.11	1.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	2.86	25.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
d_A, Approach Delay [s/veh]	0.00			14.27			0.00			0.00			
Approach LOS	A			B			A			A			
d_I, Intersection Delay [s/veh]	3.46												
Intersection LOS	B												

Intersection Level Of Service Report
Intersection 202: Shamrock Road at Hirst Rd (2)

Control Type:	Two-way stop	Delay (sec / veh):	103.4
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.807

Intersection Setup

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	294	0	0	0	20	99	0	0	0	7	594	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	294	0	0	0	20	99	0	0	0	7	594	0
Peak Hour Factor	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	79	0	0	0	5	27	0	0	0	2	160	0
Total Analysis Volume [veh/h]	316	0	0	0	22	106	0	0	0	8	639	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.66	0.00	0.00	0.00	0.06	0.81	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	26.14	0.00	0.00	0.00	85.14	103.37	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	D				F	F				A	A	
95th-Percentile Queue Length [veh/ln]	4.76	0.00	0.00	0.00	5.77	5.77	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	119.01	0.00	0.00	0.00	144.28	144.28	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	26.14			100.23			0.00			0.00		
Approach LOS	D			F			A			A		
d_I, Intersection Delay [s/veh]	19.33											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 203: Shamrock Road atHirst Road Jughandle

Control Type:	Two-way stop	Delay (sec / veh):	12.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.046

Intersection Setup

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	0	22	488	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	22	488	0	0	0
Peak Hour Factor	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	6	131	0	0	0
Total Analysis Volume [veh/h]	0	24	525	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.05	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	12.31	0.00	0.00	0.00	0.00
Movement LOS		B	A			
95th-Percentile Queue Length [veh/ln]	0.00	0.15	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	3.65	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.31		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.54					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 300: Shamrock Road at Woodland Drive

Control Type:	Two-way stop	Delay (sec / veh):	21.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.096

Intersection Setup

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	40	1	5	0	0	22	8	324	6	2	537	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	1	5	0	0	22	8	324	6	2	537	0
Peak Hour Factor	0.9700	0.9700	1.0000	1.0000	0.9700	0.9700	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	0	1	0	0	6	2	81	2	1	134	0
Total Analysis Volume [veh/h]	41	1	5	0	0	23	8	324	6	2	537	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.00	0.02	0.00	0.00	0.10	0.00	0.00	0.01	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	12.38	18.42	19.17	11.59	19.15	21.55	0.00	0.00	8.48	0.00	0.00	7.91
Movement LOS	B	C	C	B	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.32	0.32	0.32	0.31	0.31	0.31	0.02	0.02	0.02	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	8.01	8.01	8.01	7.84	7.84	7.84	0.44	0.44	0.44	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.23			21.55			0.15			0.00		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	1.23											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 400: Shamrock Road at Agricola Drive

Control Type:	Roundabout	Delay (sec / veh):	7.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	3	6	2	36	12	37	1	327	2	3	499	156
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	6	2	36	12	37	1	327	2	3	499	156
Peak Hour Factor	1.0000	1.0000	0.9200	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9200	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	1	9	3	9	0	82	1	1	125	39
Total Analysis Volume [veh/h]	3	6	2	36	12	37	1	327	2	3	499	156
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	692			331			164			51		
Exiting Flow Rate [veh/h]	17			163			539			365		
Demand Flow Rate [veh/h]	3	6	2	36	12	37	1	327	2	3	499	156
Adjusted Demand Flow Rate [veh/h]	3	6	2	36	12	37	1	327	2	3	499	156

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	11	85	330	658
Capacity of Entry and Bypass Lanes [veh/h]	682	985	1168	1311
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	682	985	1168	1311
X, volume / capacity	0.02	0.09	0.28	0.50

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.05	0.28	1.17	2.92
95th-Percentile Queue Length [ft]	1.23	7.07	29.23	73.06
Approach Delay [s/veh]	5.45	4.43	5.71	8.00
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	7.00			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 500: Shamrock Road at Brightview Drive / Calla Lily Drive

Control Type:	Two-way stop	Delay (sec / veh):	20.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.026

Intersection Setup

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			20.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	11	0	5	3	0	6	1	374	1	0	582	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	0	5	3	0	6	1	374	1	0	582	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	1	1	0	2	0	94	0	0	146	0
Total Analysis Volume [veh/h]	11	0	5	3	0	6	1	374	1	0	582	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.02	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	12.39	19.34	20.62	10.70	19.29	20.93	0.00	0.00	8.60	0.00	0.00	8.01
Movement LOS	B	C	C	B	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.13	0.13	0.13	0.09	0.09	0.09	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	3.31	3.31	3.31	2.34	2.34	2.34	0.07	0.07	0.07	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	14.96			17.52			0.02			0.00		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	0.41											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 600: Shamrock Road at Beach Bay Road

Control Type:	Two-way stop	Delay (sec / veh):	39.0
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.242

Intersection Setup

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	13	30	195	187	64	570
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	30	195	187	64	570
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	8	54	51	18	157
Total Analysis Volume [veh/h]	14	33	214	205	70	626
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.24	0.00	0.23	0.00	0.01
d_M, Delay for Movement [s/veh]	20.32	38.97	0.00	10.11	0.00	0.00
Movement LOS	C	E	A	B	A	A
95th-Percentile Queue Length [veh/ln]	1.05	1.05	0.86	0.86	0.00	0.00
95th-Percentile Queue Length [ft/ln]	26.24	26.24	21.62	21.62	0.00	0.00
d_A, Approach Delay [s/veh]	33.41		4.95		0.00	
Approach LOS	D		A		A	
d_I, Intersection Delay [s/veh]	3.13					
Intersection LOS	E					

Intersection Level Of Service Report
Intersection 700: Shamrock Road at Northward Road

Control Type:	Two-way stop	Delay (sec / veh):	16.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.013

Intersection Setup

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	12	4	9	225	594	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	4	9	225	594	15
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	1	2	58	153	4
Total Analysis Volume [veh/h]	12	4	9	232	612	15
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	9.63	16.59	0.00	0.00	0.00	7.72
Movement LOS	A	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.08	0.08	0.00	0.00	0.03	0.03
95th-Percentile Queue Length [ft/ln]	2.12	2.12	0.00	0.00	0.85	0.85
d_A, Approach Delay [s/veh]	11.37		0.00		0.18	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.34					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 800: Shamrock Road at Condor Road

Control Type:	Two-way stop	Delay (sec / veh):	12.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.318

Intersection Setup

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Base Volume Input [veh/h]	4	0	0	1	0	224	70	68	0	0	131	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	0	0	1	0	224	70	68	0	0	131	6
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	0	0	56	18	17	0	0	33	2
Total Analysis Volume [veh/h]	4	0	0	1	0	224	70	68	0	0	131	6
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.91	10.75	10.10	11.13	12.86	12.49	0.00	0.00	7.45	0.00	0.00	7.48
Movement LOS	A	B	B	B	B	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	1.37	1.37	1.37	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.33	0.33	0.33	34.36	34.36	34.36	0.00	0.00	0.00	0.31	0.31	0.31
d_A, Approach Delay [s/veh]	8.91			12.48			0.00			0.33		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	5.73											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 901: Lookout Road at Bodden Town Bypass

Control Type:	Roundabout	Delay (sec / veh):	9.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Lookout Rd			An/Bo			An/Bo		
Approach	Southbound			Eastbound			Westbound		
Lane Configuration									
Turning Movement	Left	Right	U-turn	Left	Thru	U-turn	Thru	Right	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Lookout Rd			An/Bo			An/Bo		
Base Volume Input [veh/h]	838	31	122	2	145	0	186	1192	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	838	31	122	2	145	0	186	1192	8
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	210	8	31	1	36	0	47	298	2
Total Analysis Volume [veh/h]	838	31	122	2	145	0	186	1192	8
Pedestrian Volume [ped/h]	0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			2		
Circulating Flow Rate [veh/h]	153			1322			153		
Exiting Flow Rate [veh/h]	1316			217			991		
Demand Flow Rate [veh/h]	838	31	122	2	145	0	186	1192	8
Adjusted Demand Flow Rate [veh/h]	838	31	122	2	145	0	186	1192	8

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1350.00	1420.00	1420.00	1350.00
B (coefficient)	0.00085	0.00092	0.00085	0.00085	0.00092
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	526	466	147	652	735
Capacity of Entry and Bypass Lanes [veh/h]	1247	1173	462	1247	1173
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1247	1173	462	1247	1173
X, volume / capacity	0.42	0.40	0.32	0.52	0.63

Movement, Approach, & Intersection Results

Lane LOS	A	A	B	A	B
95th-Percentile Queue Length [veh]	2.13	1.93	1.36	3.15	4.64
95th-Percentile Queue Length [ft]	53.33	48.35	33.88	78.72	115.92
Approach Delay [s/veh]	7.07		12.99	9.98	
Approach LOS	A		B	A	
Intersection Delay [s/veh]	9.02				
Intersection LOS	A				

Intersection Level Of Service Report
Intersection 902: Bodden Town Road at Bodden Town Bypass

Control Type:	Roundabout	Delay (sec / veh):	8.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Bodden Town Bypass			Bodden Town Rd			Bodden Town Rd		
Approach	Southbound			Eastbound			Westbound		
Lane Configuration									
Turning Movement	Left	Right	U-turn	Left	Thru	U-turn	Thru	Right	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Bodden Town Bypass			Bodden Town Rd			Bodden Town Rd		
Base Volume Input [veh/h]	1006	18	0	19	63	0	69	1367	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1006	18	0	19	63	0	69	1367	6
Peak Hour Factor	0.9400	0.9400	1.0000	0.9400	0.9400	1.0000	0.9400	0.9400	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	268	5	0	5	17	0	18	364	2
Total Analysis Volume [veh/h]	1070	19	0	20	67	0	73	1454	6
Pedestrian Volume [ped/h]	0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			2		
Circulating Flow Rate [veh/h]	73			1460			19		
Exiting Flow Rate [veh/h]	1474			92			1143		
Demand Flow Rate [veh/h]	1006	18	0	19	63	0	69	1367	6
Adjusted Demand Flow Rate [veh/h]	1070	19	0	20	67	0	73	1454	6

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1350.00	1420.00	1420.00	1350.00
B (coefficient)	0.00085	0.00092	0.00085	0.00085	0.00092
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	578	512	87	721	813
Capacity of Entry and Bypass Lanes [veh/h]	1335	1263	411	1398	1327
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1335	1263	411	1398	1327
X, volume / capacity	0.43	0.41	0.21	0.52	0.61

Movement, Approach, & Intersection Results

Lane LOS	A	A	B	A	A
95th-Percentile Queue Length [veh]	2.23	2.00	0.79	3.08	4.44
95th-Percentile Queue Length [ft]	55.84	50.08	19.78	77.04	110.88
Approach Delay [s/veh]	6.86		12.17	8.98	
Approach LOS	A		B	A	
Intersection Delay [s/veh]	8.23				
Intersection LOS	A				

Intersection Level Of Service Report
Intersection 1000: Bodden Town Road at Long Fellow Drive

Control Type:	Roundabout	Delay (sec / veh):	7.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Longfellow Dr		Bodden Town Rd			Bodden Town Rd		
Approach	Southbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	Left	Thru	U-turn	Thru	Right	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		45.00			45.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	Yes		Yes			Yes		

Volumes

Name	Longfellow Dr		Bodden Town Rd			Bodden Town Rd		
Base Volume Input [veh/h]	0	14	1	995	0	1321	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	14	1	995	0	1321	0	0
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	1.0000	0.9100	0.9100	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	4	0	273	0	363	0	0
Total Analysis Volume [veh/h]	0	15	1	1093	0	1452	0	0
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	2		1			1		
Circulating Flow Rate [veh/h]	1093		0			15		
Exiting Flow Rate [veh/h]	1		1467			1093		
Demand Flow Rate [veh/h]	0	14	1	995	0	1321	0	0
Adjusted Demand Flow Rate [veh/h]	0	15	1	1093	0	1452	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	15	580	515	770	683
Capacity of Entry and Bypass Lanes [veh/h]	561	1420	1420	1401	1401
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	561	1420	1420	1401	1401
X, volume / capacity	0.03	0.41	0.36	0.55	0.49

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.08	2.03	1.68	3.50	2.77
95th-Percentile Queue Length [ft]	2.06	50.78	41.95	87.56	69.13
Approach Delay [s/veh]	6.73	6.06		7.94	
Approach LOS	A	A		A	
Intersection Delay [s/veh]	7.13				
Intersection LOS	A				

Intersection Level Of Service Report
Intersection 1100: Frank Sound Road at Bodden Town Road

Control Type:	Roundabout	Delay (sec / veh):	96.2
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Bodden Town Rd			Sea View Rd	
Approach	Southbound		Eastbound			Westbound	
Lane Configuration							
Turning Movement	Left	Right	Left	Thru	U-turn	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		45.00			50.00	
Grade [%]	0.00		0.00			0.00	
Crosswalk	Yes		Yes			Yes	

Volumes

Name	Frank Sound Rd		Bodden Town Rd			Sea View Rd	
Base Volume Input [veh/h]	190	530	403	568	0	742	288
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	190	530	403	568	0	742	288
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	1.0000	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	51	142	108	153	0	199	77
Total Analysis Volume [veh/h]	204	570	433	611	0	798	310
Pedestrian Volume [ped/h]	0		0			0	

Intersection Settings

Number of Conflicting Circulating Lanes	2		1			1	
Circulating Flow Rate [veh/h]	611		310			570	
Exiting Flow Rate [veh/h]	743		1368			815	
Demand Flow Rate [veh/h]	190	530	403	568	0	742	288
Adjusted Demand Flow Rate [veh/h]	204	570	433	611	0	798	310

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1380.00
B (coefficient)	0.00085	0.00091	0.00091	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	774	433	611	1108
Capacity of Entry and Bypass Lanes [veh/h]	845	1071	1071	772
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	845	1071	1071	772
X, volume / capacity	0.92	0.40	0.57	1.44

Movement, Approach, & Intersection Results

Lane LOS	E	A	B	F
95th-Percentile Queue Length [veh]	13.18	1.99	3.74	50.31
95th-Percentile Queue Length [ft]	329.46	49.67	93.54	1257.78
Approach Delay [s/veh]	35.95	9.36		220.19
Approach LOS	E	A		F
Intersection Delay [s/veh]	96.23			
Intersection LOS	F			

Intersection Level Of Service Report
Intersection 1200: Frank Sound Road at Clifton Hunter High School

Control Type:	Roundabout	Delay (sec / veh):	6.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd		Clifton Hunter HS	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		20.00		20.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Frank Sound Rd		Clifton Hunter HS	
Base Volume Input [veh/h]	342	136	198	70	48	355
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	342	136	198	70	48	355
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	86	34	50	18	12	89
Total Analysis Volume [veh/h]	342	136	198	70	48	355
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	70		355		136	
Exiting Flow Rate [veh/h]	553		184		412	
Demand Flow Rate [veh/h]	342	136	198	70	48	355
Adjusted Demand Flow Rate [veh/h]	342	136	198	70	48	355

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1420.00	1420.00
B (coefficient)	0.00102	0.00102	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	478	268	48	355
Capacity of Entry and Bypass Lanes [veh/h]	1285	961	1255	1255
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1285	961	1255	1255
X, volume / capacity	0.37	0.28	0.04	0.28

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	1.75	1.15	0.12	1.17
95th-Percentile Queue Length [ft]	43.67	28.64	2.98	29.29
Approach Delay [s/veh]	6.31	6.58	5.15	
Approach LOS	A	A	A	
Intersection Delay [s/veh]	5.97			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1300: Frank Sound Road at North Side Road/Old Robin Road

Control Type:	Two-way stop	Delay (sec / veh):	11.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Base Volume Input [veh/h]	125	36	8	117	44	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	125	36	8	117	44	2
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	10	2	33	12	1
Total Analysis Volume [veh/h]	140	40	9	131	49	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.03	0.00	0.00	0.05	0.00
d_M, Delay for Movement [s/veh]	0.00	7.54	0.00	0.00	9.16	10.98
Movement LOS	A	A	A	A	A	B
95th-Percentile Queue Length [veh/ln]	0.08	0.08	0.00	0.00	0.18	0.18
95th-Percentile Queue Length [ft/ln]	2.12	2.12	0.00	0.00	4.49	4.49
d_A, Approach Delay [s/veh]	1.68		0.00		9.23	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.08					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1400: East-West Arterial at Agricola Drive Connector

Control Type:	Roundabout	Delay (sec / veh):	9.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			50.00			50.00			
Grade [%]	0.00			0.00			0.00			0.00			
Crosswalk	Yes			Yes			Yes			Yes			

Volumes

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Base Volume Input [veh/h]	225	1	2	30	50	5	4	881	72	2	1630	1	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	225	1	2	30	50	5	4	881	72	2	1630	1	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	56	0	1	8	13	1	1	220	18	1	408	0	0
Total Analysis Volume [veh/h]	225	1	2	30	50	5	4	881	72	2	1630	1	0
Pedestrian Volume [ped/h]	0			0			0			0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1			1			
Circulating Flow Rate [veh/h]	1636			955			4			127			
Exiting Flow Rate [veh/h]	124			6			1860			913			
Demand Flow Rate [veh/h]	225	1	2	30	50	5	4	881	72	2	1630	1	0
Adjusted Demand Flow Rate [veh/h]	225	1	2	30	50	5	4	881	72	2	1630	1	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1350.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00092	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	121	108	85	508	450	866	768
Capacity of Entry and Bypass Lanes [veh/h]	354	300	631	1415	1415	1266	1266
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	354	300	631	1415	1415	1266	1266
X, volume / capacity	0.34	0.36	0.13	0.36	0.32	0.68	0.61

Movement, Approach, & Intersection Results

Lane LOS	C	C	A	A	A	B	B
95th-Percentile Queue Length [veh]	1.48	1.57	0.46	1.65	1.38	5.82	4.33
95th-Percentile Queue Length [ft]	37.07	39.19	11.61	41.31	34.56	145.51	108.18
Approach Delay [s/veh]	18.62		7.27	5.55		11.24	
Approach LOS	C		A	A		B	
Intersection Delay [s/veh]	9.82						
Intersection LOS	A						

Intersection Level Of Service Report
Intersection 1501: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	7.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name							East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name							East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	30	0	1	0	0	0	0	907	6	0	0	1600	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	0	1	0	0	0	0	907	6	0	0	1600	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	8	0	0	0	0	0	0	227	2	0	0	400	0	0
Total Analysis Volume [veh/h]	30	0	1	0	0	0	0	907	6	0	0	1600	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1				1			
Circulating Flow Rate [veh/h]	1600			914			1				6			
Exiting Flow Rate [veh/h]	6			0			1630				908			
Demand Flow Rate [veh/h]	30	0	1	0	0	0	0	907	6	0	0	1600	0	0
Adjusted Demand Flow Rate [veh/h]	30	0	1	0	0	0	0	907	6	0	0	1600	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	31	0	484	430	848	752
Capacity of Entry and Bypass Lanes [veh/h]	365	653	1419	1419	1413	1413
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	365	653	1419	1419	1413	1413
X, volume / capacity	0.09	0.00	0.34	0.30	0.60	0.53

Movement, Approach, & Intersection Results

Lane LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.28	0.00	1.53	1.29	4.25	3.29
95th-Percentile Queue Length [ft]	6.93	0.00	38.32	32.19	106.30	82.15
Approach Delay [s/veh]	11.22	5.51	5.36		8.73	
Approach LOS	B	A	A		A	
Intersection Delay [s/veh]	7.55					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1502: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	7.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name			East-West Arterial			East-West Arterial		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	Thru	Right	U-turn	Left	Thru	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00			50.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	Yes		Yes			Yes		

Volumes

Name			East-West Arterial			East-West Arterial		
Base Volume Input [veh/h]	225	3	906	2	0	1	1375	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	225	3	906	2	0	1	1375	18
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	56	1	227	1	0	0	344	5
Total Analysis Volume [veh/h]	225	3	906	2	0	1	1375	18
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	2		1			1		
Circulating Flow Rate [veh/h]	1393		21			2		
Exiting Flow Rate [veh/h]	3		1600			927		
Demand Flow Rate [veh/h]	225	3	906	2	0	1	1375	18
Adjusted Demand Flow Rate [veh/h]	225	3	906	2	0	1	1375	18

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	228	482	427	739	656
Capacity of Entry and Bypass Lanes [veh/h]	435	1394	1394	1418	1418
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	435	1394	1394	1418	1418
X, volume / capacity	0.52	0.35	0.31	0.52	0.46

Movement, Approach, & Intersection Results

Lane LOS	C	A	A	A	A
95th-Percentile Queue Length [veh]	2.97	1.56	1.31	3.15	2.51
95th-Percentile Queue Length [ft]	74.24	39.05	32.77	78.73	62.81
Approach Delay [s/veh]	19.69	5.47		7.47	
Approach LOS	C	A		A	
Intersection Delay [s/veh]	7.86				
Intersection LOS	A				

Intersection Level Of Service Report
Intersection 1600: East-West Arterial at Northward Rd

Control Type:	Two-way stop	Delay (sec / veh):	15.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.202

Intersection Setup

Name	Northward Rd		East-West Arterial		East-West Arterial	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		East-West Arterial		East-West Arterial	
Base Volume Input [veh/h]	83	0	926	0	5	1311
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	83	0	926	0	5	1311
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	0	232	0	1	328
Total Analysis Volume [veh/h]	83	0	926	0	5	1311
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.20	0.00	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	15.94	0.00	0.00	0.00	0.00	0.00
Movement LOS	C		A		A	A
95th-Percentile Queue Length [veh/ln]	0.74	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	18.61	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	15.94		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.57					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1700: East-West Arterial at Lookout Rd

Control Type:	Roundabout	Delay (sec / veh):	6.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Lookout Rd		East-West Arterial			Lookout Rd		
Approach	Southbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	Left	Thru	U-turn	Thru	Right	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		35.00			35.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	Yes		Yes			Yes		

Volumes

Name	Lookout Rd		East-West Arterial			Lookout Rd		
Base Volume Input [veh/h]	0	0	0	857	69	1333	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	857	69	1333	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	214	17	333	0	0
Total Analysis Volume [veh/h]	0	0	0	857	69	1333	0	0
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	2		1			1		
Circulating Flow Rate [veh/h]	926		0			69		
Exiting Flow Rate [veh/h]	0		1402			857		
Demand Flow Rate [veh/h]	0	0	0	857	69	1333	0	0
Adjusted Demand Flow Rate [veh/h]	0	0	0	857	69	1333	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	0	491	436	707	627
Capacity of Entry and Bypass Lanes [veh/h]	647	1420	1420	1334	1334
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	647	1420	1420	1334	1334
X, volume / capacity	0.00	0.35	0.31	0.53	0.47

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	1.56	1.31	3.25	2.58
95th-Percentile Queue Length [ft]	0.00	39.09	32.80	81.14	64.57
Approach Delay [s/veh]	5.57	5.40		7.91	
Approach LOS	A	A		A	
Intersection Delay [s/veh]	6.88				
Intersection LOS	A				

Intersection Level Of Service Report
Intersection 2000: Frank Sound Road at East-West Arterial

Control Type:	Unknown	Delay (sec / veh):	?
Analysis Method:	?	Level Of Service:	?
Analysis Period:	15 minutes	Volume to Capacity (v/c):	?

Intersection Setup

Name	Frank Sound Rd	Frank Sound Rd
Approach	Northeastbound	Southwestbound
Lane Configuration		
Turning Movement	Thru	Thru
Crosswalk	Yes	Yes

Volumes

Name	Frank Sound Rd	Frank Sound Rd
Base Volume Input [veh/h]	168	189
Base Volume Adjustment Factor	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00
Growth Factor	1.0000	1.0000
In-Process Volume [veh/h]	0	0
Site-Generated Trips [veh/h]	0	0
Diverted Trips [veh/h]	0	0
Pass-by Trips [veh/h]	0	0
Existing Site Adjustment Volume [veh/h]	0	0
Other Volume [veh/h]	0	0
Left-Turn on Red Volume [veh/h]	0	0
Total Hourly Volume [veh/h]	168	189
Peak Hour Factor	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	47
Total Analysis Volume [veh/h]	168	189
Presence of On-Street Parking	No	No
On-Street Parking Maneuver Rate [/h]	0	0
Local Bus Stopping Rate [/h]	0	0
Pedestrian Volume [ped/h]	0	0

Intersection Level Of Service Report
Intersection 2100: Frank Sound Road at East-West Arterial

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd			
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		20.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Frank Sound Rd			
Base Volume Input [veh/h]	184	0	0	268	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	184	0	0	268	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	46	0	0	67	0	0
Total Analysis Volume [veh/h]	184	0	0	268	0	0
Pedestrian Volume [ped/h]	0		0		0	

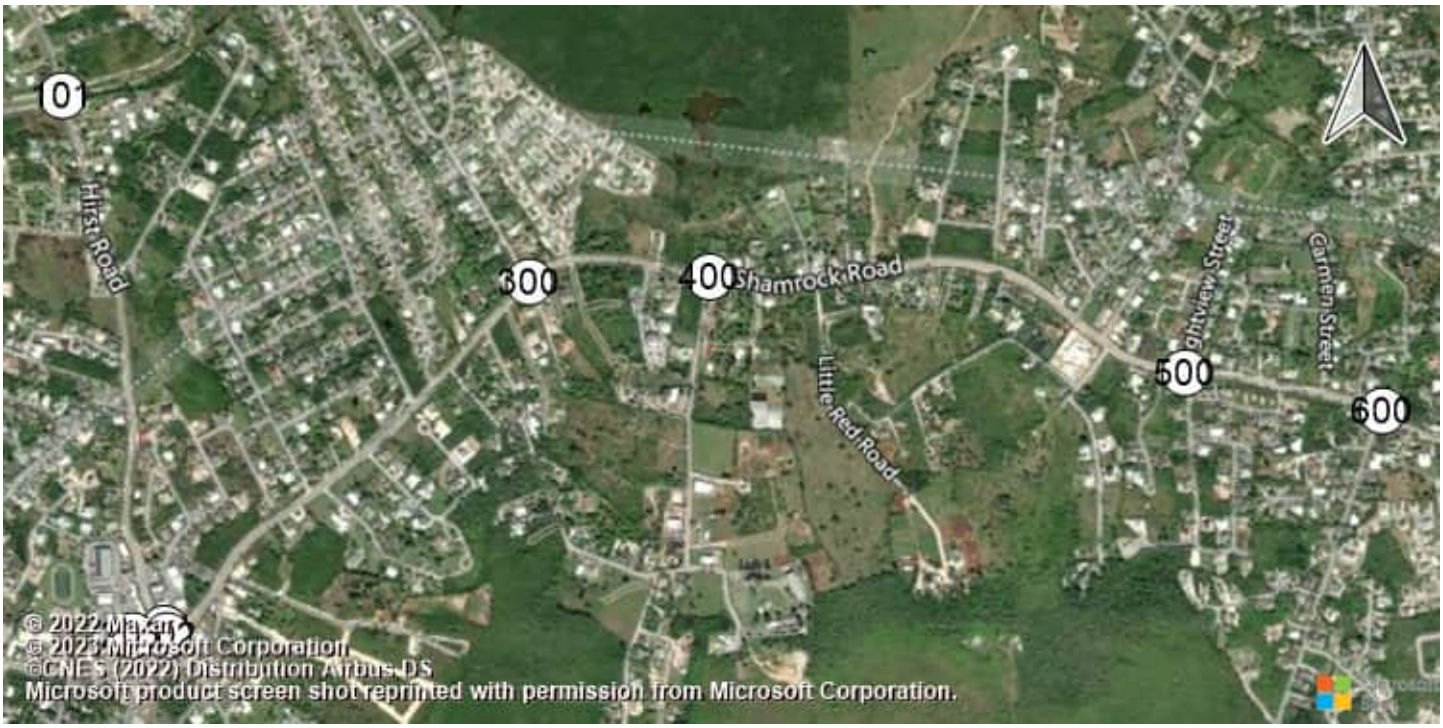
Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

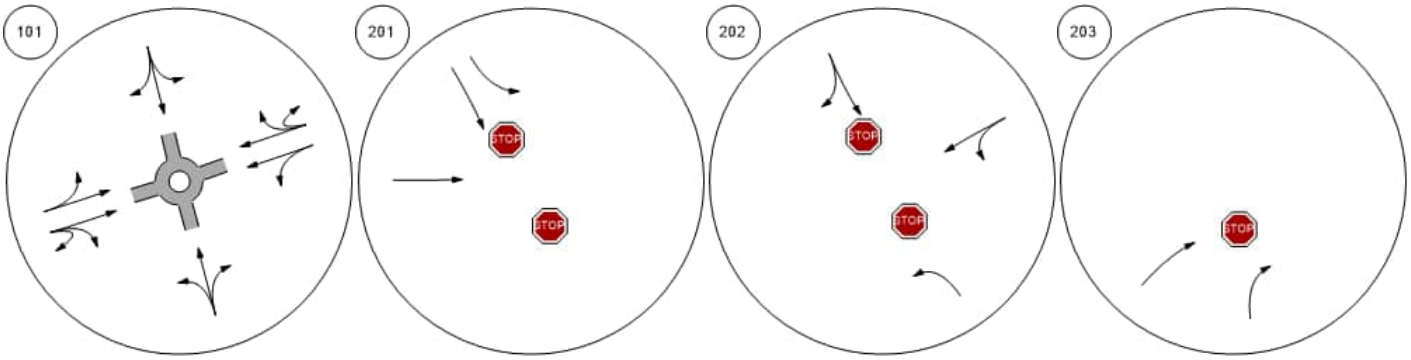
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	7.75	0.00	0.00	9.64	11.33
Movement LOS	A	A	A	A	A	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		10.48	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

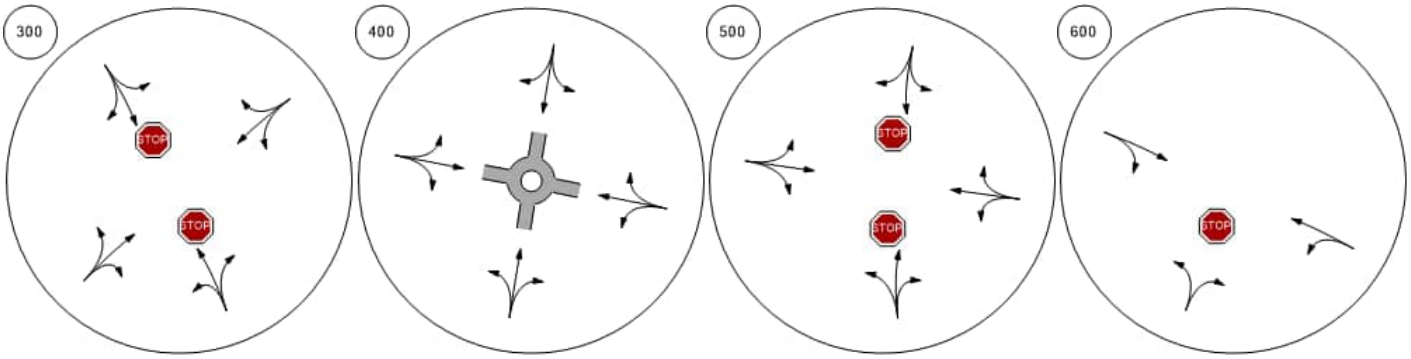
Lane Configuration and Traffic Control



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



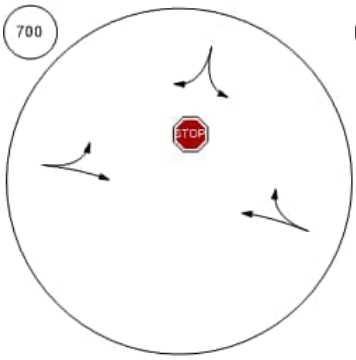
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



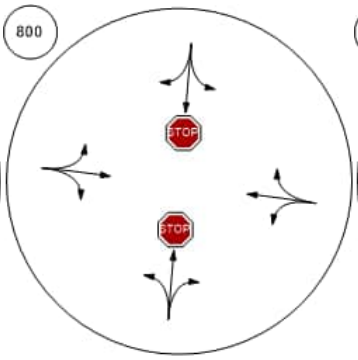
Lane Configuration and Traffic Control



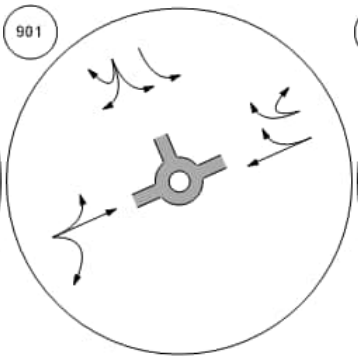
Shamrock Road at Northward



Shamrock Road at Condor R



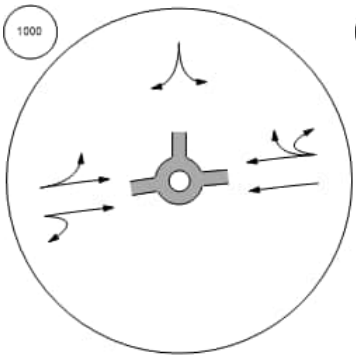
Lookout Road at Bodden To



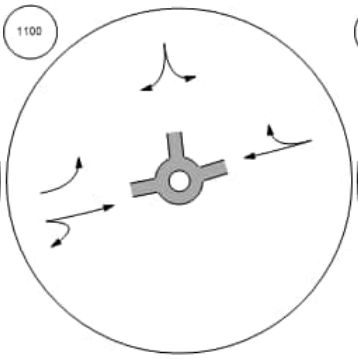
Bodden Town Road at Bodde



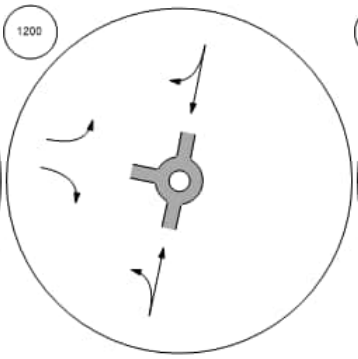
Bodden Town Road at Long



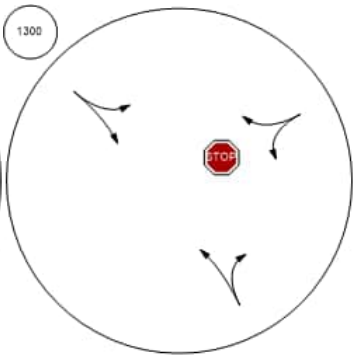
Frank Sound Road at Bodde



Frank Sound Road at Clifton



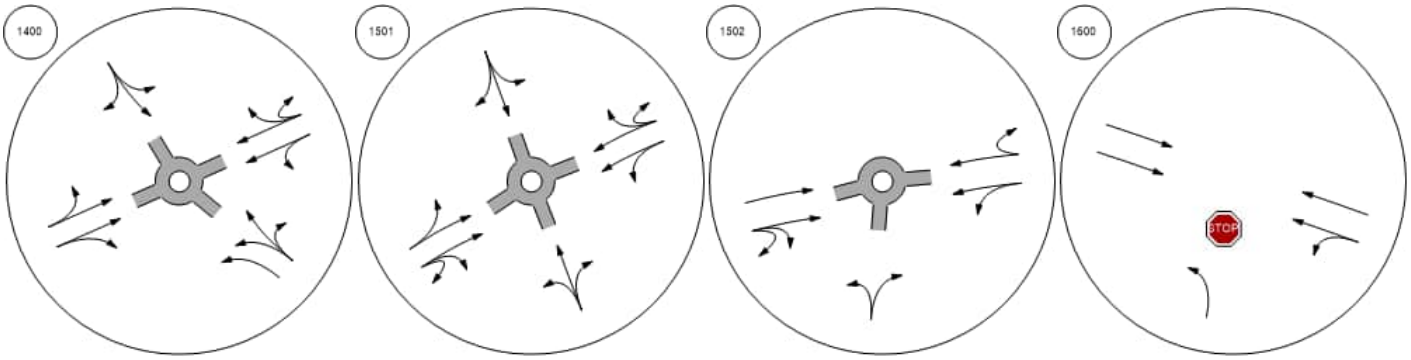
Frank Sound Road at North S



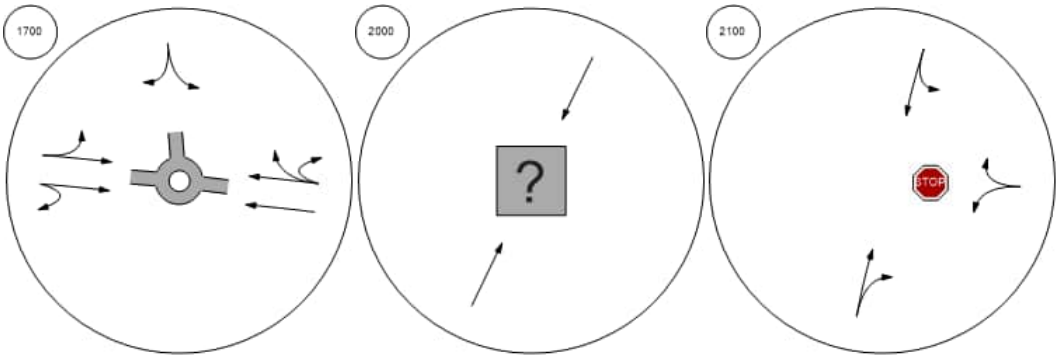
Lane Configuration and Traffic Control



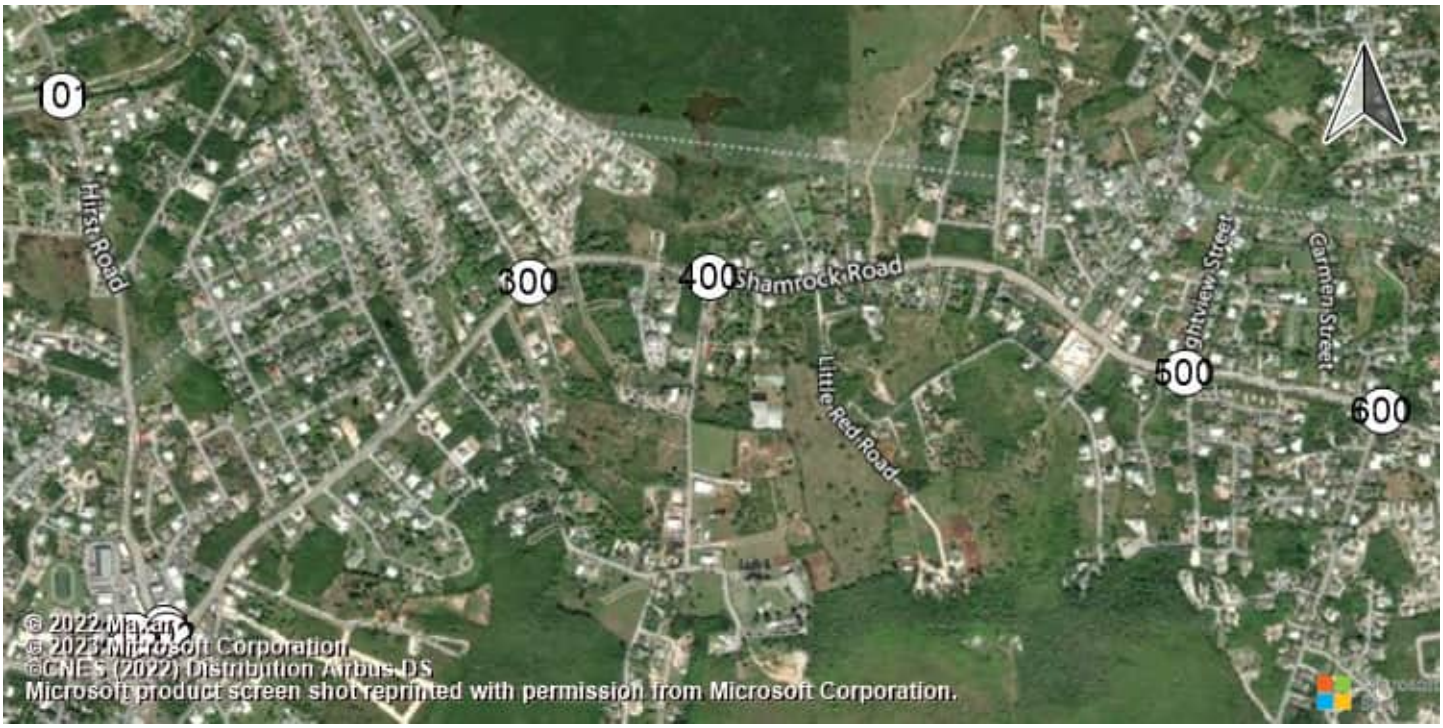
East-West Arterial at Agricola | East-West Arterial at Will T C | East-West Arterial at Will T C | East-West Arterial at Northwa



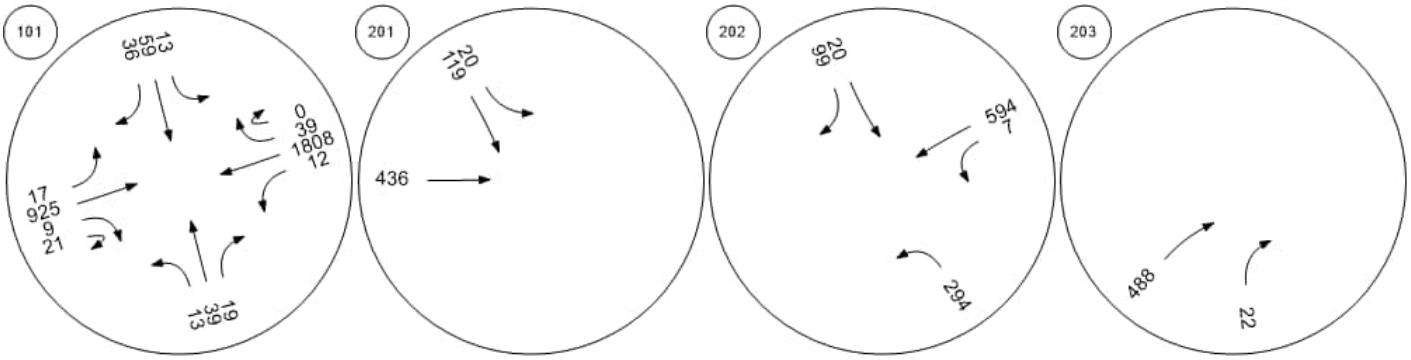
East-West Arterial at Lookout | Frank Sound Road at East-W | Frank Sound Road at East-W



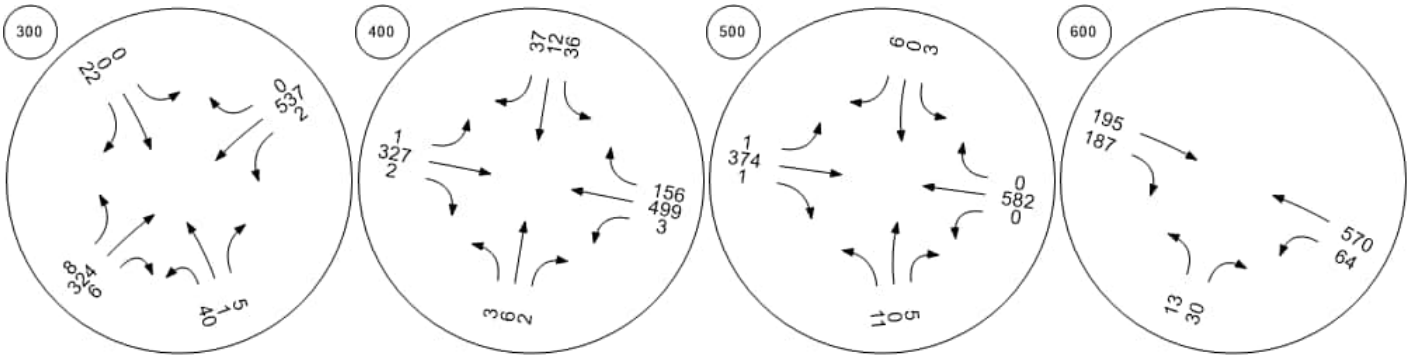
Traffic Volume - Base Volume



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



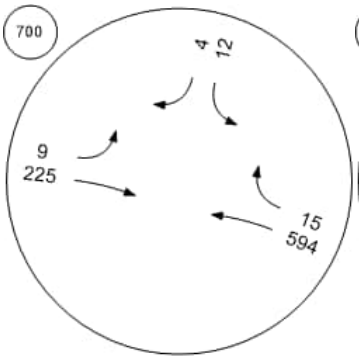
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



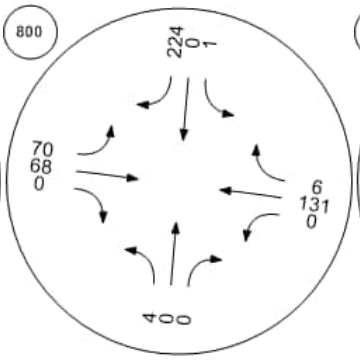
Traffic Volume - Base Volume



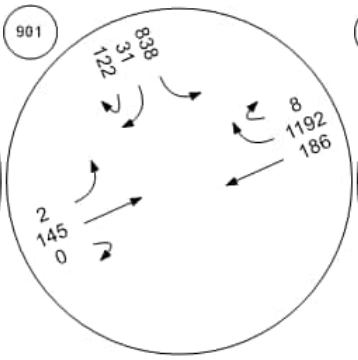
Shamrock Road at Northward



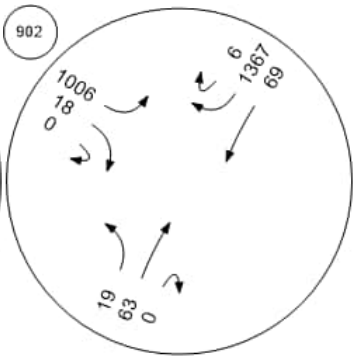
Shamrock Road at Condor R



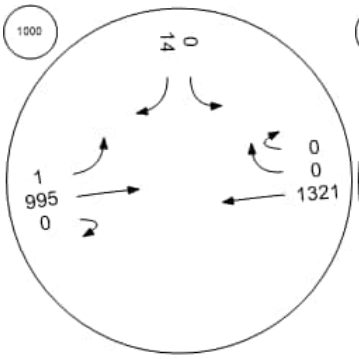
Lookout Road at Bodden To



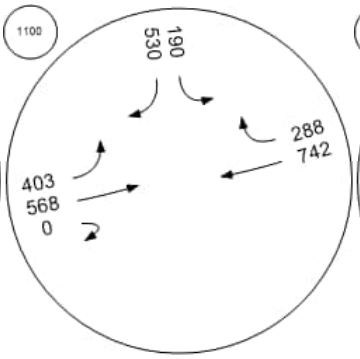
Bodden Town Road at Bodde



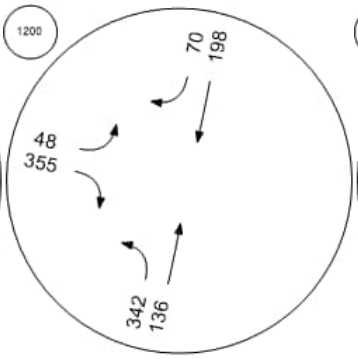
Bodden Town Road at Long



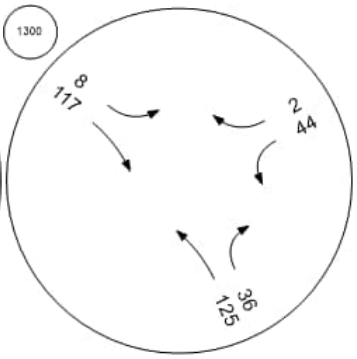
Frank Sound Road at Bodde



Frank Sound Road at Clifton



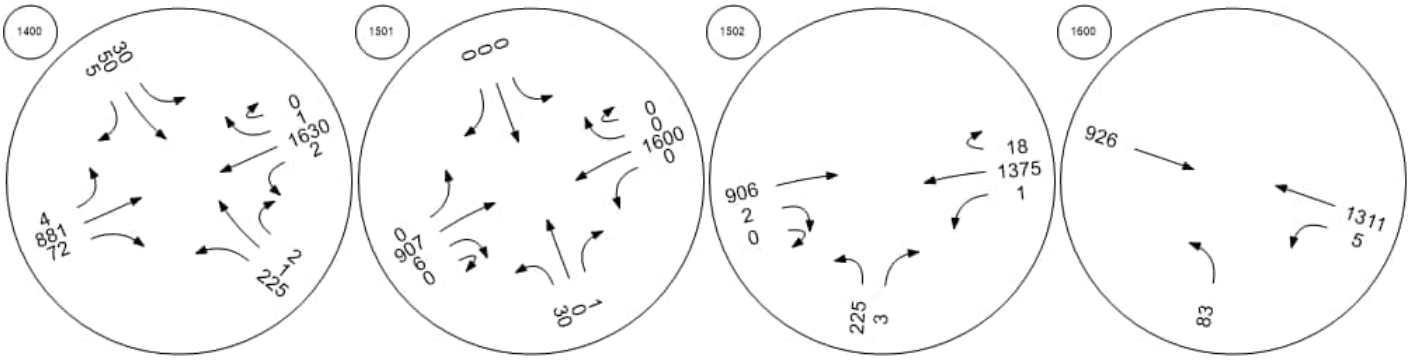
Frank Sound Road at North S



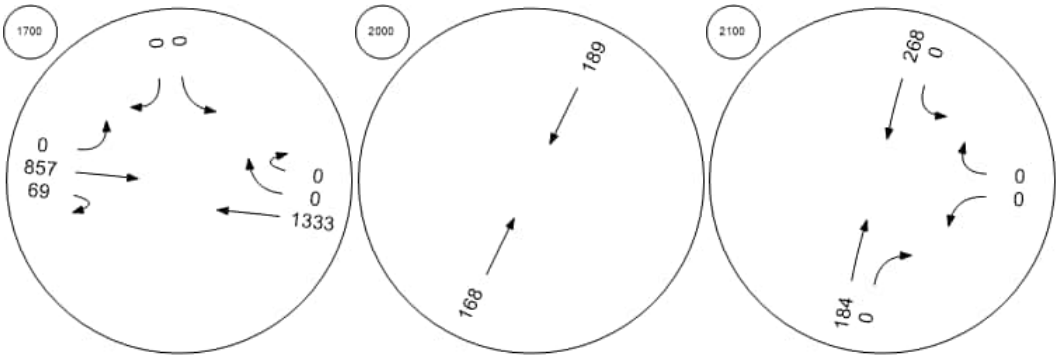
Traffic Volume - Base Volume



East-West Arterial at Agricola East-West Arterial at Will T C East-West Arterial at Will T C East-West Arterial at Northwa



East-West Arterial at Lookout Frank Sound Road at East-W Frank Sound Road at East-W



Intersection Level Of Service Report
Intersection 101: East-West Arterial Road at Hirst Road

Control Type:	Roundabout	Delay (sec / veh):	14.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name									East-West Arterial				East-West Arterial				
Approach	Northbound				Southbound				Eastbound				Westbound				
Lane Configuration																	
Turning Movement	Left	Left	Thru	Right	Left	Thru	Right	Right	Left	Thru	Right	U-tu	Left	Thr	Thr	Rig	U-t
Lane Width [ft]	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.	12.	12.	12.	12.
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100	100	100	100	100
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Speed [mph]	30.00				30.00				40.00				50.00				
Grade [%]	0.00				0.00				0.00				0.00				
Crosswalk	Yes				Yes				Yes				Yes				

Volumes

Name									East-West Arterial				East-West Arterial				
Base Volume Input [veh/h]	62	0	122	28	22	61	0	20	85	1720	45	4	35	703	0	50	0
Base Volume Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	62	0	122	28	22	61	0	20	85	1720	45	4	35	703	0	50	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Other Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Total 15-Minute Volume [veh/h]	16	0	31	7	6	15	0	5	21	430	11	1	9	176	0	13	0
Total Analysis Volume [veh/h]	62	0	122	28	22	61	0	20	85	1720	45	4	35	703	0	50	0
Pedestrian Volume [ped/h]	0				0				0				0				

Intersection Settings

Number of Conflicting Circulating Lanes	2				2				2				2				
Circulating Flow Rate [veh/h]	777				1797				200				130				
Exiting Flow Rate [veh/h]	141				257				789				1770				
Demand Flow Rate [veh/h]	62	0	122	28	22	61	0	20	85	1720	45	4	35	703	0	50	0
Adjusted Demand Flow Rate [veh/h]	62	0	122	28	22	61	0	20	85	1720	45	4	35	703	0	50	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1350.00	1420.00	1350.00
B (coefficient)	0.00085	0.00085	0.00085	0.00092	0.00085	0.00092
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	212	103	983	872	418	371
Capacity of Entry and Bypass Lanes [veh/h]	734	309	1199	1124	1272	1198
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	734	309	1199	1124	1272	1198
X, volume / capacity	0.29	0.33	0.82	0.78	0.33	0.31

Movement, Approach, & Intersection Results

Lane LOS	A	C	C	C	A	A
95th-Percentile Queue Length [veh]	1.20	1.43	9.98	8.23	1.45	1.33
95th-Percentile Queue Length [ft]	29.93	35.65	249.60	205.78	36.20	33.14
Approach Delay [s/veh]	8.33	19.10	18.17		5.87	
Approach LOS	A	C	C		A	
Intersection Delay [s/veh]	14.22					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 201: Shamrock Road at Hirst Rd (1)

Control Type:	Two-way stop	Delay (sec / veh):	26.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.587

Intersection Setup

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	0	0	0	12	218	0	0	591	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	12	218	0	0	591	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	3	59	0	0	159	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	13	234	0	0	635	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.03	0.59	0.00	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	12.67	26.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS				B	D			A				
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.08	3.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	2.08	90.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			25.38			0.00			0.00		
Approach LOS	A			D			A			A		
d_I, Intersection Delay [s/veh]	7.11											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 202: Shamrock Road at Hirst Rd (2)

Control Type:	Two-way stop	Delay (sec / veh):	131.5
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.992

Intersection Setup

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	241	0	0	0	33	185	0	0	0	13	554	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	241	0	0	0	33	185	0	0	0	13	554	0
Peak Hour Factor	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	65	0	0	0	9	50	0	0	0	3	149	0
Total Analysis Volume [veh/h]	259	0	0	0	35	199	0	0	0	14	596	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.52	0.00	0.00	0.00	0.08	0.99	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	19.53	0.00	0.00	0.00	122.30	131.50	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	C				F	F				A	A	
95th-Percentile Queue Length [veh/ln]	2.91	0.00	0.00	0.00	10.47	10.47	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	72.76	0.00	0.00	0.00	261.74	261.74	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	19.53			130.13			0.00			0.00		
Approach LOS	C			F			A			A		
d_I, Intersection Delay [s/veh]	32.19											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 203: Shamrock Road atHirst Road Jughandle

Control Type:	Two-way stop	Delay (sec / veh):	16.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.096

Intersection Setup

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	0	31	771	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	31	771	0	0	0
Peak Hour Factor	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	8	207	0	0	0
Total Analysis Volume [veh/h]	0	33	829	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.10	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	16.60	0.00	0.00	0.00	0.00
Movement LOS		C	A			
95th-Percentile Queue Length [veh/ln]	0.00	0.32	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	7.91	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	16.60		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.64					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 300: Shamrock Road at Woodland Drive

Control Type:	Two-way stop	Delay (sec / veh):	30.7
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.275

Intersection Setup

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	12	1	4	0	1	51	11	402	29	6	581	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	1	4	0	1	51	11	402	29	6	581	0
Peak Hour Factor	0.9700	0.9700	1.0000	1.0000	0.9700	0.9700	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	1	0	0	13	3	101	7	2	145	0
Total Analysis Volume [veh/h]	12	1	4	0	1	53	11	402	30	6	581	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.02	0.00	0.00	0.27	0.00	0.00	0.03	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	12.50	22.02	23.56	17.61	28.52	30.71	0.00	0.00	8.72	0.00	0.00	8.11
Movement LOS	B	C	C	C	D	D	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.15	0.15	0.15	1.09	1.09	1.09	0.09	0.09	0.09	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	3.76	3.76	3.76	27.34	27.34	27.34	2.32	2.32	2.32	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	15.66			30.67			0.59			0.00		
Approach LOS	C			D			A			A		
d_I, Intersection Delay [s/veh]	1.98											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 400: Shamrock Road at Agricola Drive

Control Type:	Roundabout	Delay (sec / veh):	6.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	1	0	0	181	18	7	4	399	3	9	579	48
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	0	181	18	7	4	399	3	9	579	48
Peak Hour Factor	1.0000	1.0000	0.9200	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9200	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	45	5	2	1	100	1	2	145	12
Total Analysis Volume [veh/h]	1	0	0	181	18	7	4	399	3	10	579	48
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	634			402			48			28		
Exiting Flow Rate [veh/h]	31			52			587			580		
Demand Flow Rate [veh/h]	1	0	0	181	18	7	4	399	3	9	579	48
Adjusted Demand Flow Rate [veh/h]	1	0	0	181	18	7	4	399	3	10	579	48

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	1	206	406	637
Capacity of Entry and Bypass Lanes [veh/h]	723	916	1315	1342
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	723	916	1315	1342
X, volume / capacity	0.00	0.22	0.31	0.47

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.86	1.33	2.64
95th-Percentile Queue Length [ft]	0.10	21.56	33.15	65.88
Approach Delay [s/veh]	4.99	6.19	5.50	7.46
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	6.62			
Intersection LOS	A			

Intersection Level Of Service Report

Intersection 500: Shamrock Road at Brightview Drive / Calla Lily Drive

Control Type:	Two-way stop	Delay (sec / veh):	28.3
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			20.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	3	0	0	0	0	1	11	498	22	52	564	27
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	0	0	0	0	1	11	498	22	52	564	27
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	0	0	0	3	125	6	13	141	7
Total Analysis Volume [veh/h]	3	0	0	0	0	1	11	498	22	52	564	27
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.02	0.00	0.01	0.03
d_M, Delay for Movement [s/veh]	12.08	25.67	27.99	11.44	26.37	28.28	0.00	0.00	8.78	0.00	0.00	8.46
Movement LOS	B	D	D	B	D	D	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.02	0.02	0.02	0.02	0.07	0.07	0.07	0.08	0.08	0.08
95th-Percentile Queue Length [ft/ln]	0.44	0.44	0.44	0.48	0.48	0.48	1.73	1.73	1.73	1.95	1.95	1.95
d_A, Approach Delay [s/veh]	12.08			28.28			0.36			0.36		
Approach LOS	B			D			A			A		
d_I, Intersection Delay [s/veh]	0.41											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 600: Shamrock Road at Beach Bay Road

Control Type:	Two-way stop	Delay (sec / veh):	48.3
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.438

Intersection Setup

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	22	57	409	90	30	621
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	22	57	409	90	30	621
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	16	112	25	8	171
Total Analysis Volume [veh/h]	24	63	449	99	33	682
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.44	0.00	0.11	0.00	0.01
d_M, Delay for Movement [s/veh]	31.41	48.33	0.00	9.52	0.00	0.00
Movement LOS	D	E	A	A	A	A
95th-Percentile Queue Length [veh/ln]	2.40	2.40	0.37	0.37	0.00	0.00
95th-Percentile Queue Length [ft/ln]	59.92	59.92	9.30	9.30	0.00	0.00
d_A, Approach Delay [s/veh]	43.66		1.72		0.00	
Approach LOS	E		A		A	
d_I, Intersection Delay [s/veh]	3.51					
Intersection LOS	E					

Intersection Level Of Service Report
Intersection 700: Shamrock Road at Northward Road

Control Type:	Two-way stop	Delay (sec / veh):	22.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.122

Intersection Setup

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	22	28	14	363	660	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	22	28	14	363	660	12
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	7	4	94	170	3
Total Analysis Volume [veh/h]	23	29	14	374	680	12
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.12	0.00	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	12.36	22.12	0.00	0.00	0.00	8.08
Movement LOS	B	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.55	0.55	0.00	0.00	0.03	0.03
95th-Percentile Queue Length [ft/ln]	13.67	13.67	0.00	0.00	0.77	0.77
d_A, Approach Delay [s/veh]	17.80		0.00		0.14	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.90					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 800: Shamrock Road at Condor Road

Control Type:	Two-way stop	Delay (sec / veh):	13.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.179

Intersection Setup

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Base Volume Input [veh/h]	1	0	0	4	0	88	100	123	2	0	280	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	0	4	0	88	100	123	2	0	280	13
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	1	0	22	25	31	1	0	70	3
Total Analysis Volume [veh/h]	1	0	0	4	0	88	100	123	2	0	280	13
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	9.72	13.01	12.38	10.72	14.11	13.94	0.00	0.00	7.79	0.00	0.00	7.68
Movement LOS	A	B	B	B	B	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.67	0.67	0.67	0.00	0.00	0.00	0.03	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.10	0.10	0.10	16.66	16.66	16.66	0.12	0.12	0.12	0.72	0.72	0.72
d_A, Approach Delay [s/veh]	9.72			13.80			0.07			0.34		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	2.28											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 901: Lookout Road at Bodden Town Bypass

Control Type:	Roundabout	Delay (sec / veh):	7.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Lookout Rd			An/Bo			An/Bo		
Approach	Southbound			Eastbound			Westbound		
Lane Configuration									
Turning Movement	Left	Right	U-turn	Left	Thru	U-turn	Thru	Right	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Lookout Rd			An/Bo			An/Bo		
Base Volume Input [veh/h]	1216	9	36	7	141	0	304	684	41
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1216	9	36	7	141	0	304	684	41
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	304	2	9	2	35	0	76	171	10
Total Analysis Volume [veh/h]	1216	9	36	7	141	0	304	684	41
Pedestrian Volume [ped/h]	0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			2		
Circulating Flow Rate [veh/h]	182			761			45		
Exiting Flow Rate [veh/h]	727			313			1398		
Demand Flow Rate [veh/h]	1216	9	36	7	141	0	304	684	41
Adjusted Demand Flow Rate [veh/h]	1216	9	36	7	141	0	304	684	41

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1350.00	1420.00	1420.00	1350.00
B (coefficient)	0.00085	0.00092	0.00085	0.00085	0.00092
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	669	593	148	484	546
Capacity of Entry and Bypass Lanes [veh/h]	1217	1142	744	1367	1296
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1217	1142	744	1367	1296
X, volume / capacity	0.55	0.52	0.20	0.35	0.42

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A	A
95th-Percentile Queue Length [veh]	3.48	3.10	0.74	1.62	2.13
95th-Percentile Queue Length [ft]	87.02	77.44	18.45	40.48	53.33
Approach Delay [s/veh]	9.18		7.03	6.40	
Approach LOS	A		A	A	
Intersection Delay [s/veh]	7.87				
Intersection LOS	A				

Intersection Level Of Service Report
Intersection 902: Bodden Town Road at Bodden Town Bypass

Control Type:	Roundabout	Delay (sec / veh):	8.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Bodden Town Bypass			Bodden Town Rd			Bodden Town Rd		
Approach	Southbound			Eastbound			Westbound		
Lane Configuration									
Turning Movement	Left	Right	U-turn	Left	Thru	U-turn	Thru	Right	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Bodden Town Bypass			Bodden Town Rd			Bodden Town Rd		
Base Volume Input [veh/h]	1337	37	0	36	81	0	225	995	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1337	37	0	36	81	0	225	995	8
Peak Hour Factor	0.9400	0.9400	1.0000	0.9400	0.9400	1.0000	0.9400	0.9400	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	356	10	0	10	22	0	60	265	2
Total Analysis Volume [veh/h]	1422	39	0	38	86	0	239	1059	8
Pedestrian Volume [ped/h]	0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			2		
Circulating Flow Rate [veh/h]	94			1067			39		
Exiting Flow Rate [veh/h]	1097			278			1516		
Demand Flow Rate [veh/h]	1337	37	0	36	81	0	225	995	8
Adjusted Demand Flow Rate [veh/h]	1422	39	0	38	86	0	239	1059	8

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1350.00	1420.00	1420.00	1350.00
B (coefficient)	0.00085	0.00092	0.00085	0.00085	0.00092
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	775	687	124	614	693
Capacity of Entry and Bypass Lanes [veh/h]	1311	1239	574	1374	1303
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1311	1239	574	1374	1303
X, volume / capacity	0.59	0.55	0.22	0.45	0.53

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A	A
95th-Percentile Queue Length [veh]	4.08	3.55	0.82	2.36	3.26
95th-Percentile Queue Length [ft]	102.02	88.81	20.40	59.11	81.58
Approach Delay [s/veh]	9.42		9.08	7.78	
Approach LOS	A		A	A	
Intersection Delay [s/veh]	8.66				
Intersection LOS	A				

Intersection Level Of Service Report
Intersection 1000: Bodden Town Road at Long Fellow Drive

Control Type:	Roundabout	Delay (sec / veh):	7.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Longfellow Dr		Bodden Town Rd			Bodden Town Rd		
Approach	Southbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	Left	Thru	U-turn	Thru	Right	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		45.00			45.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	Yes		Yes			Yes		

Volumes

Name	Longfellow Dr		Bodden Town Rd			Bodden Town Rd		
Base Volume Input [veh/h]	0	12	24	1304	0	1145	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	12	24	1304	0	1145	0	0
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	1.0000	0.9100	0.9100	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	3	7	358	0	315	0	0
Total Analysis Volume [veh/h]	0	13	26	1433	0	1258	0	0
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	2		1			1		
Circulating Flow Rate [veh/h]	1433		0			13		
Exiting Flow Rate [veh/h]	26		1271			1433		
Demand Flow Rate [veh/h]	0	12	24	1304	0	1145	0	0
Adjusted Demand Flow Rate [veh/h]	0	13	26	1433	0	1258	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	13	774	686	667	592
Capacity of Entry and Bypass Lanes [veh/h]	421	1420	1420	1404	1404
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	421	1420	1420	1404	1404
X, volume / capacity	0.03	0.54	0.48	0.48	0.42

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.10	3.44	2.72	2.64	2.14
95th-Percentile Queue Length [ft]	2.39	86.01	68.03	66.00	53.48
Approach Delay [s/veh]	9.00	7.80		6.91	
Approach LOS	A	A		A	
Intersection Delay [s/veh]	7.39				
Intersection LOS	A				

Intersection Level Of Service Report
Intersection 1100: Frank Sound Road at Bodden Town Road

Control Type:	Roundabout	Delay (sec / veh):	44.4
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Bodden Town Rd			Sea View Rd	
Approach	Southbound		Eastbound			Westbound	
Lane Configuration							
Turning Movement	Left	Right	Left	Thru	U-turn	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		45.00			50.00	
Grade [%]	0.00		0.00			0.00	
Crosswalk	Yes		Yes			Yes	

Volumes

Name	Frank Sound Rd		Bodden Town Rd			Sea View Rd	
Base Volume Input [veh/h]	238	473	501	729	0	634	181
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	238	473	501	729	0	634	181
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	1.0000	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	64	127	135	196	0	170	49
Total Analysis Volume [veh/h]	256	509	539	784	0	682	195
Pedestrian Volume [ped/h]	0		0			0	

Intersection Settings

Number of Conflicting Circulating Lanes	2		1			1	
Circulating Flow Rate [veh/h]	784		195			509	
Exiting Flow Rate [veh/h]	734		1191			1040	
Demand Flow Rate [veh/h]	238	473	501	729	0	634	181
Adjusted Demand Flow Rate [veh/h]	256	509	539	784	0	682	195

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1380.00
B (coefficient)	0.00085	0.00091	0.00091	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	765	539	784	877
Capacity of Entry and Bypass Lanes [veh/h]	730	1190	1190	822
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	730	1190	1190	822
X, volume / capacity	1.05	0.45	0.66	1.07

Movement, Approach, & Intersection Results

Lane LOS	F	A	B	F
95th-Percentile Queue Length [veh]	19.32	2.42	5.26	21.96
95th-Percentile Queue Length [ft]	482.97	60.39	131.49	549.03
Approach Delay [s/veh]	70.49	10.27		73.09
Approach LOS	F	B		F
Intersection Delay [s/veh]	44.39			
Intersection LOS	E			

Intersection Level Of Service Report
Intersection 1200: Frank Sound Road at Clifton Hunter High School

Control Type:	Roundabout	Delay (sec / veh):	6.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd		Clifton Hunter HS	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		20.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Frank Sound Rd		Clifton Hunter HS	
Base Volume Input [veh/h]	302	230	186	105	87	325
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	302	230	186	105	87	325
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	76	58	47	26	22	81
Total Analysis Volume [veh/h]	302	230	186	105	87	325
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	105		325		230	
Exiting Flow Rate [veh/h]	511		317		407	
Demand Flow Rate [veh/h]	302	230	186	105	87	325
Adjusted Demand Flow Rate [veh/h]	302	230	186	105	87	325

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1420.00	1420.00
B (coefficient)	0.00102	0.00102	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	532	291	87	325
Capacity of Entry and Bypass Lanes [veh/h]	1240	991	1152	1152
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1240	991	1152	1152
X, volume / capacity	0.43	0.29	0.08	0.28

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	2.20	1.23	0.24	1.17
95th-Percentile Queue Length [ft]	55.00	30.76	6.12	29.15
Approach Delay [s/veh]	7.21	6.61	5.34	
Approach LOS	A	A	A	
Intersection Delay [s/veh]	6.44			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1300: Frank Sound Road at North Side Road/Old Robin Road

Control Type:	Two-way stop	Delay (sec / veh):	12.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.048

Intersection Setup

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Base Volume Input [veh/h]	180	38	33	160	73	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	180	38	33	160	73	22
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	51	11	9	45	21	6
Total Analysis Volume [veh/h]	202	43	37	180	82	25
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.03	0.00	0.00	0.10	0.05
d_M, Delay for Movement [s/veh]	0.00	7.72	0.00	0.00	10.07	12.68
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.10	0.10	0.00	0.00	0.50	0.50
95th-Percentile Queue Length [ft/ln]	2.44	2.44	0.00	0.00	12.58	12.58
d_A, Approach Delay [s/veh]	1.36		0.00		10.68	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	2.59					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1400: East-West Arterial at Agricola Drive Connector

Control Type:	Roundabout	Delay (sec / veh):	9.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			50.00			50.00			
Grade [%]	0.00			0.00			0.00			0.00			
Crosswalk	Yes			Yes			Yes			Yes			

Volumes

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Base Volume Input [veh/h]	26	20	6	53	26	2	9	1533	228	5	759	5	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	26	20	6	53	26	2	9	1533	228	5	759	5	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	7	5	2	13	7	1	2	383	57	1	190	1	0
Total Analysis Volume [veh/h]	26	20	6	53	26	2	9	1533	228	5	759	5	1
Pedestrian Volume [ped/h]	0			0			0			0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1			1			
Circulating Flow Rate [veh/h]	767			1768			32			256			
Exiting Flow Rate [veh/h]	259			34			787			1593			
Demand Flow Rate [veh/h]	26	20	6	53	26	2	9	1533	228	5	759	5	1
Adjusted Demand Flow Rate [veh/h]	26	20	6	53	26	2	9	1533	228	5	759	5	1

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1350.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00092	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	26	26	81	939	832	409	362
Capacity of Entry and Bypass Lanes [veh/h]	740	667	316	1380	1380	1125	1125
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	740	667	316	1380	1380	1125	1125
X, volume / capacity	0.04	0.04	0.26	0.68	0.60	0.36	0.32

Movement, Approach, & Intersection Results

Lane LOS	A	A	C	B	A	A	A
95th-Percentile Queue Length [veh]	0.11	0.12	1.00	5.77	4.29	1.68	1.40
95th-Percentile Queue Length [ft]	2.73	3.04	25.00	144.37	107.26	41.92	35.06
Approach Delay [s/veh]	5.52		16.56	10.49		6.59	
Approach LOS	A		C	B		A	
Intersection Delay [s/veh]	9.45						
Intersection LOS	A						

Intersection Level Of Service Report
Intersection 1501: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	7.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name							East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name							East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	1	0	1	0	0	0	0	1505	87	0	2	767	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	1	0	0	0	0	1505	87	0	2	767	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0	0	376	22	0	1	192	0	0
Total Analysis Volume [veh/h]	1	0	1	0	0	0	0	1505	87	0	2	767	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1				1			
Circulating Flow Rate [veh/h]	767			1593			1				87			
Exiting Flow Rate [veh/h]	89			0			768				1506			
Demand Flow Rate [veh/h]	1	0	1	0	0	0	0	1505	87	0	2	767	0	0
Adjusted Demand Flow Rate [veh/h]	1	0	1	0	0	0	0	1505	87	0	2	767	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	2	0	844	749	408	362
Capacity of Entry and Bypass Lanes [veh/h]	740	367	1419	1419	1312	1312
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	740	367	1419	1419	1312	1312
X, volume / capacity	0.00	0.00	0.59	0.53	0.31	0.28

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.01	0.00	4.16	3.22	1.34	1.13
95th-Percentile Queue Length [ft]	0.20	0.00	104.04	80.60	33.41	28.25
Approach Delay [s/veh]	4.89	9.82	8.60		5.36	
Approach LOS	A	A	A		A	
Intersection Delay [s/veh]	7.54					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1502: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	7.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name			East-West Arterial			East-West Arterial		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	Thru	Right	U-turn	Left	Thru	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00			50.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	Yes		Yes			Yes		

Volumes

Name			East-West Arterial			East-West Arterial		
Base Volume Input [veh/h]	15	1	1475	31	0	1	754	57
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	1	1475	31	0	1	754	57
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	0	369	8	0	0	189	14
Total Analysis Volume [veh/h]	15	1	1475	31	0	1	754	57
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	2		1			1		
Circulating Flow Rate [veh/h]	811		58			31		
Exiting Flow Rate [veh/h]	32		769			1533		
Demand Flow Rate [veh/h]	15	1	1475	31	0	1	754	57
Adjusted Demand Flow Rate [veh/h]	15	1	1475	31	0	1	754	57

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	16	799	708	431	382
Capacity of Entry and Bypass Lanes [veh/h]	713	1347	1347	1381	1381
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	713	1347	1347	1381	1381
X, volume / capacity	0.02	0.59	0.53	0.31	0.28

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.07	4.12	3.19	1.34	1.14
95th-Percentile Queue Length [ft]	1.72	102.90	79.86	33.59	28.40
Approach Delay [s/veh]	5.28	8.87		5.17	
Approach LOS	A	A		A	
Intersection Delay [s/veh]	7.56				
Intersection LOS	A				

Intersection Level Of Service Report
Intersection 1700: East-West Arterial at Lookout Rd

Control Type:	Roundabout	Delay (sec / veh):	7.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Lookout Rd		East-West Arterial			Lookout Rd		
Approach	Southbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	Left	Thru	U-turn	Thru	Right	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		35.00			35.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	Yes		Yes			Yes		

Volumes

Name	Lookout Rd		East-West Arterial			Lookout Rd		
Base Volume Input [veh/h]	0	0	0	1372	162	724	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	1372	162	724	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	343	41	181	0	0
Total Analysis Volume [veh/h]	0	0	0	1372	162	724	0	0
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	2		1			1		
Circulating Flow Rate [veh/h]	1534		0			162		
Exiting Flow Rate [veh/h]	0		886			1372		
Demand Flow Rate [veh/h]	0	0	0	1372	162	724	0	0
Adjusted Demand Flow Rate [veh/h]	0	0	0	1372	162	724	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	0	814	721	384	341
Capacity of Entry and Bypass Lanes [veh/h]	386	1420	1420	1226	1226
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	386	1420	1420	1226	1226
X, volume / capacity	0.00	0.57	0.51	0.31	0.28

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	3.83	2.99	1.35	1.14
95th-Percentile Queue Length [ft]	0.00	95.64	74.80	33.76	28.54
Approach Delay [s/veh]	9.34	8.23		5.66	
Approach LOS	A	A		A	
Intersection Delay [s/veh]	7.40				
Intersection LOS	A				

Intersection Level Of Service Report
Intersection 2000: Frank Sound Road at East-West Arterial

Control Type:	Unknown	Delay (sec / veh):	?
Analysis Method:	?	Level Of Service:	?
Analysis Period:	15 minutes	Volume to Capacity (v/c):	?

Intersection Setup

Name	Frank Sound Rd	Frank Sound Rd
Approach	Northeastbound	Southwestbound
Lane Configuration		
Turning Movement	Thru	Thru
Crosswalk	Yes	Yes

Volumes

Name	Frank Sound Rd	Frank Sound Rd
Base Volume Input [veh/h]	252	256
Base Volume Adjustment Factor	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00
Growth Factor	1.0000	1.0000
In-Process Volume [veh/h]	0	0
Site-Generated Trips [veh/h]	0	0
Diverted Trips [veh/h]	0	0
Pass-by Trips [veh/h]	0	0
Existing Site Adjustment Volume [veh/h]	0	0
Other Volume [veh/h]	0	0
Left-Turn on Red Volume [veh/h]	0	0
Total Hourly Volume [veh/h]	252	256
Peak Hour Factor	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000
Total 15-Minute Volume [veh/h]	63	64
Total Analysis Volume [veh/h]	252	256
Presence of On-Street Parking	No	No
On-Street Parking Maneuver Rate [/h]	0	0
Local Bus Stopping Rate [/h]	0	0
Pedestrian Volume [ped/h]	0	0

Intersection Level Of Service Report
Intersection 2100: Frank Sound Road at East-West Arterial

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd			
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Frank Sound Rd			
Base Volume Input [veh/h]	317	0	0	292	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	317	0	0	292	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	79	0	0	73	0	0
Total Analysis Volume [veh/h]	317	0	0	292	0	0
Pedestrian Volume [ped/h]	0		0		0	

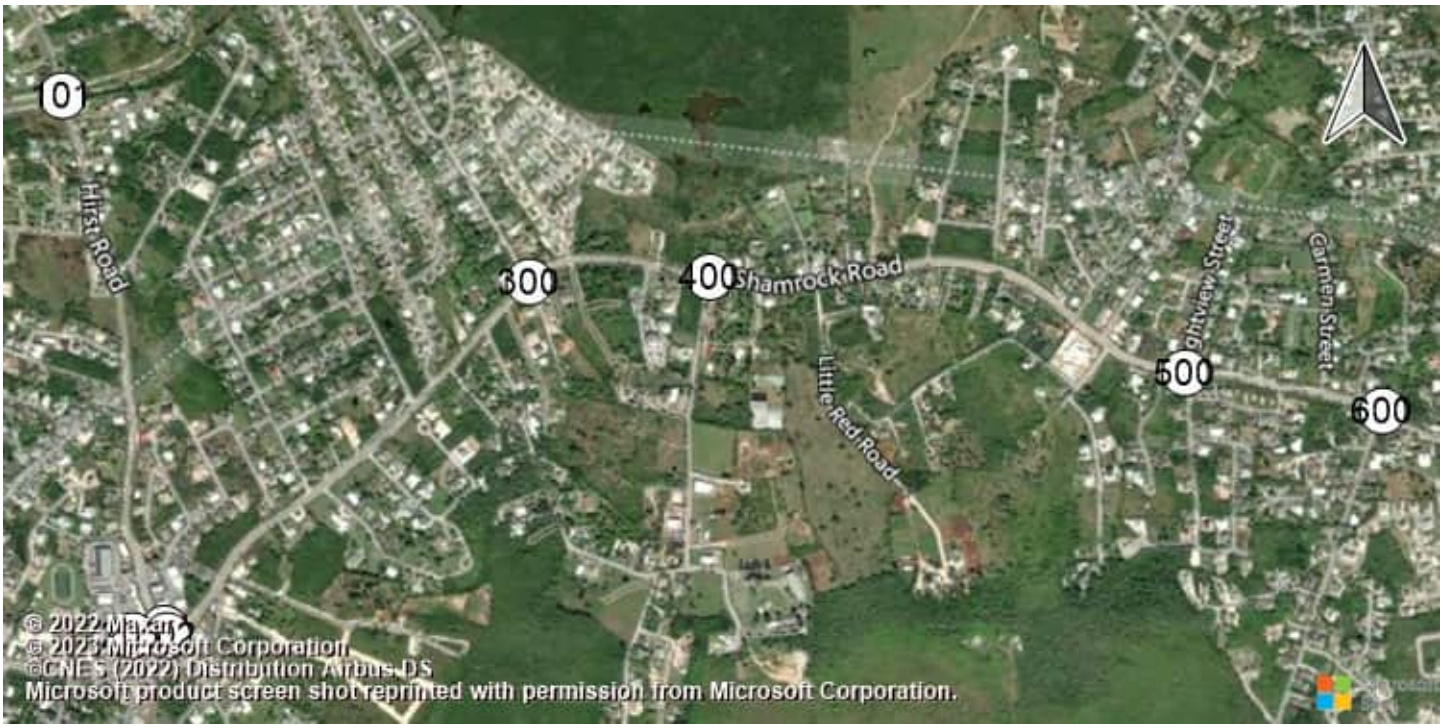
Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

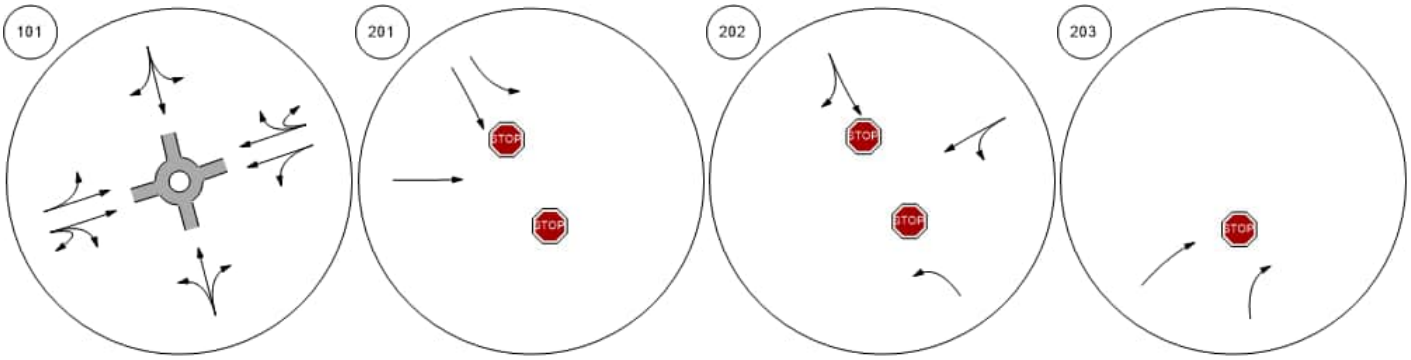
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	7.81	0.00	0.00	9.79	12.80
Movement LOS	A	A	A	A	A	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		11.29	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

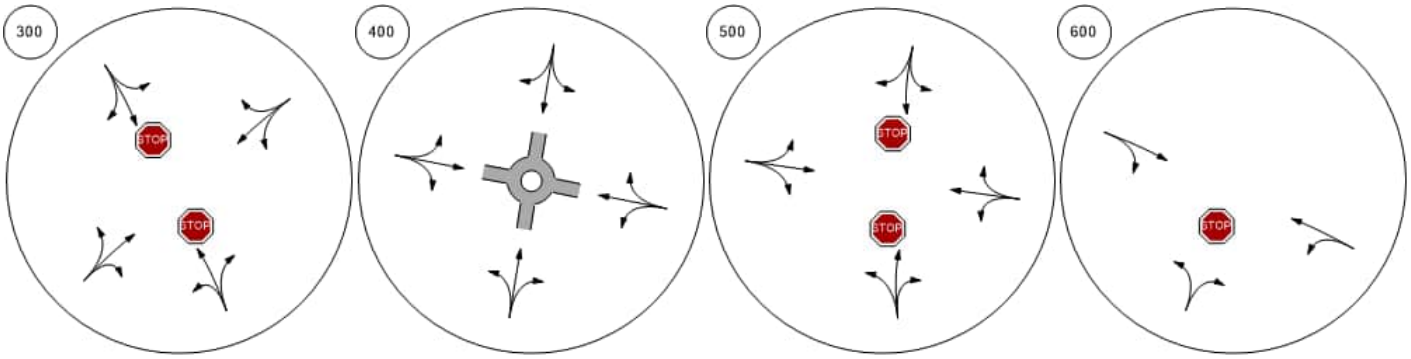
Lane Configuration and Traffic Control



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



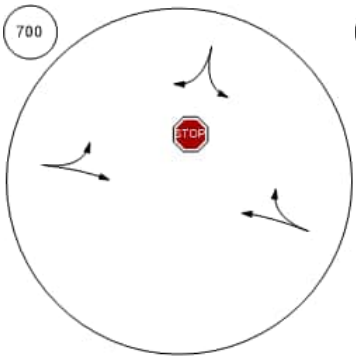
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



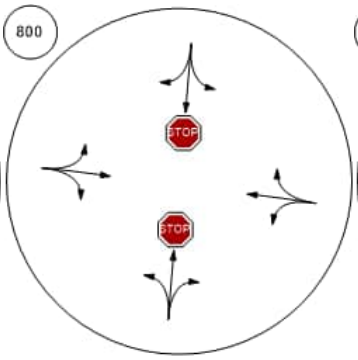
Lane Configuration and Traffic Control



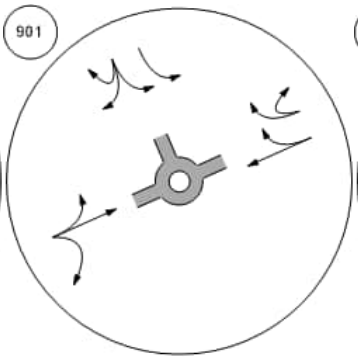
Shamrock Road at Northward



Shamrock Road at Condor R



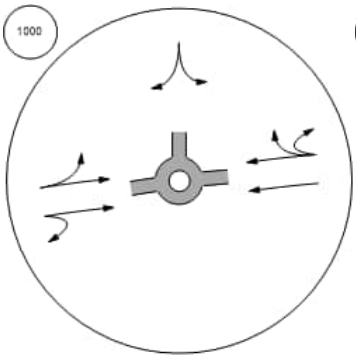
Lookout Road at Bodden To



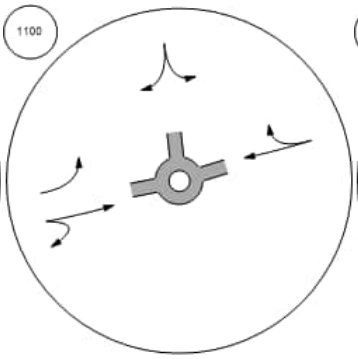
Bodden Town Road at Bodde



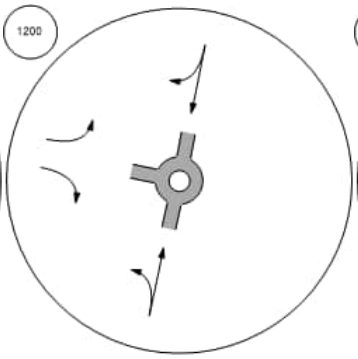
Bodden Town Road at Long



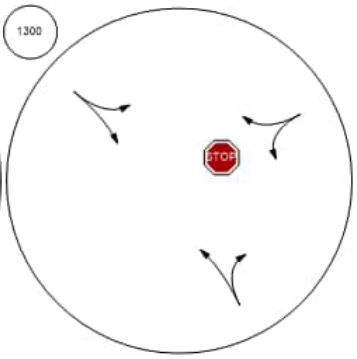
Frank Sound Road at Bodde



Frank Sound Road at Clifton



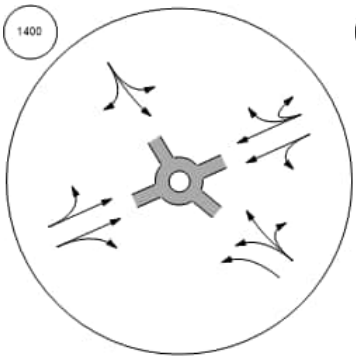
Frank Sound Road at North S



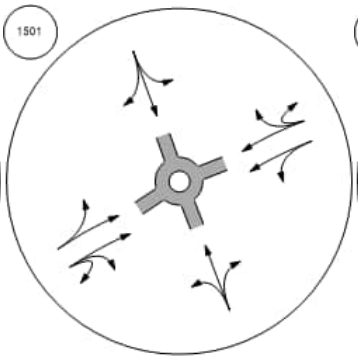
Lane Configuration and Traffic Control



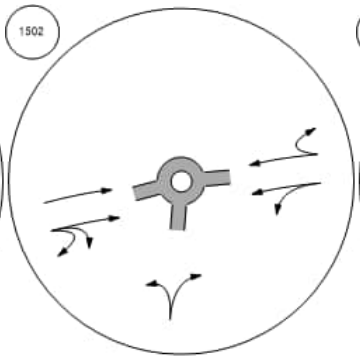
East-West Arterial at Agricola



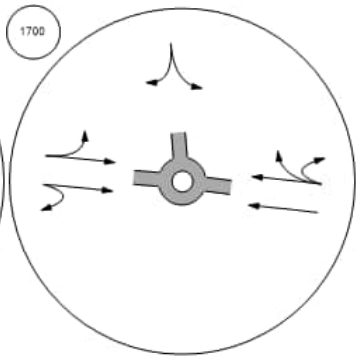
East-West Arterial at Will T C



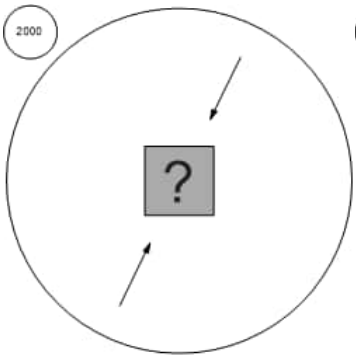
East-West Arterial at Will T C



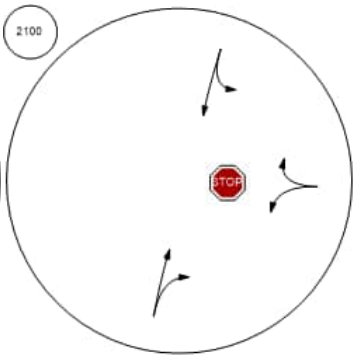
East-West Arterial at Lookout



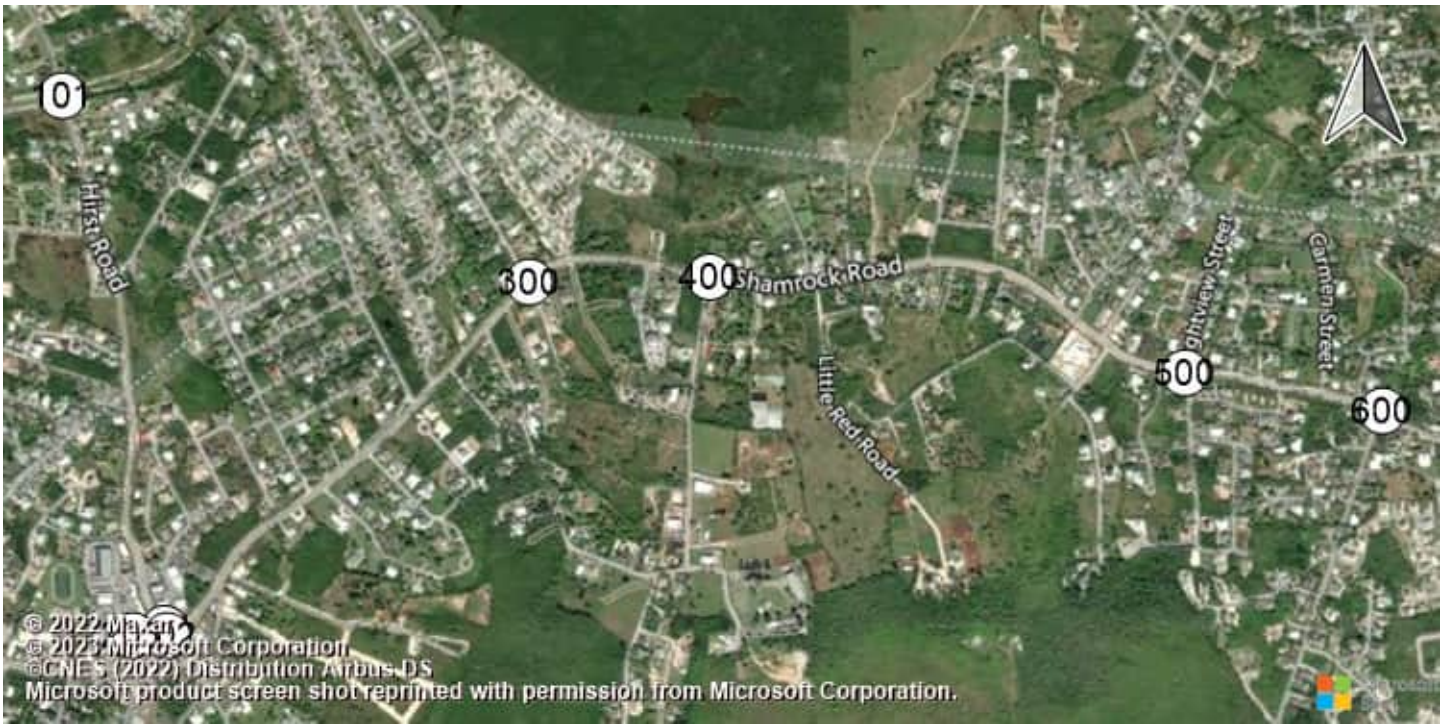
Frank Sound Road at East-W



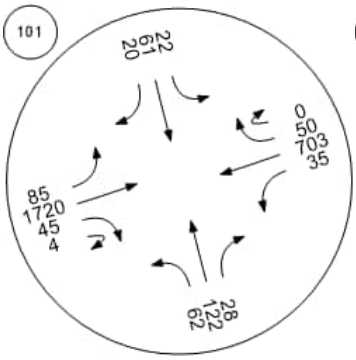
Frank Sound Road at East-W



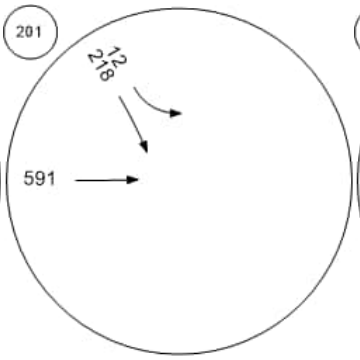
Traffic Volume - Base Volume



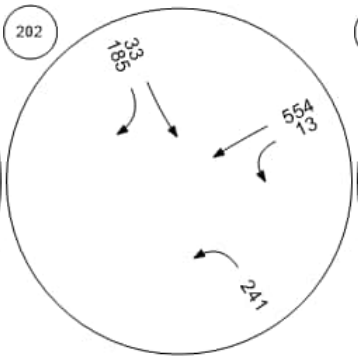
East-West Arterial Road at Hi



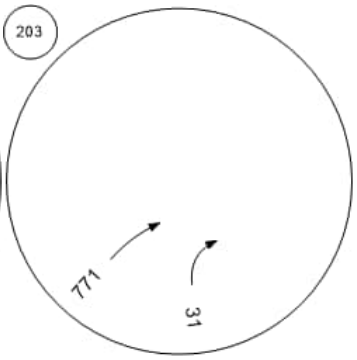
Shamrock Road at Hirst Rd (



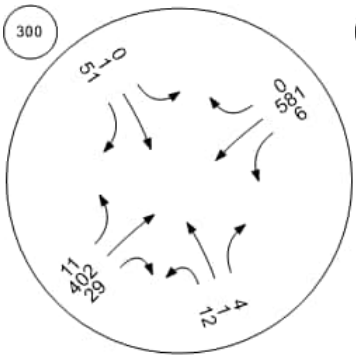
Shamrock Road at Hirst Rd (



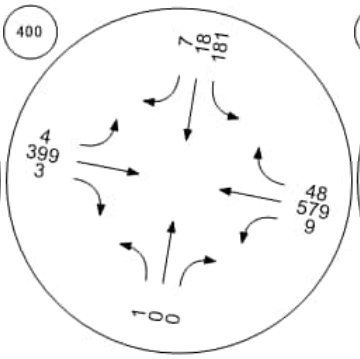
Shamrock Road atHirst Road



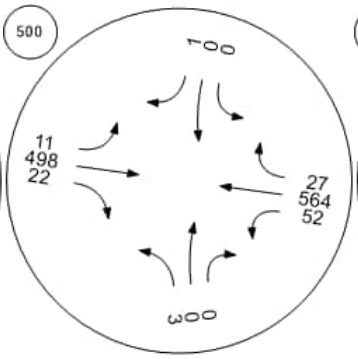
Shamrock Road at Woodland



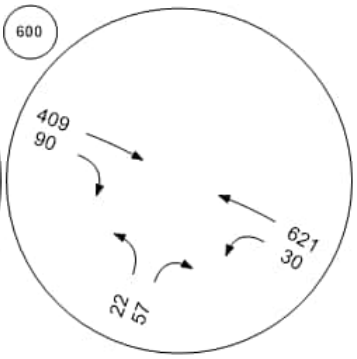
Shamrock Road at Agricola D



Shamrock Road at Brightview



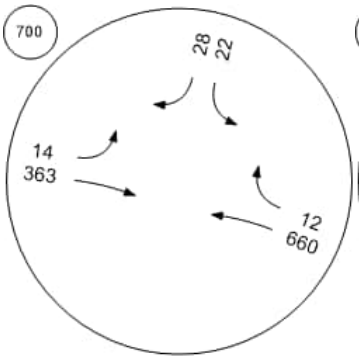
Shamrock Road at Beach Ba



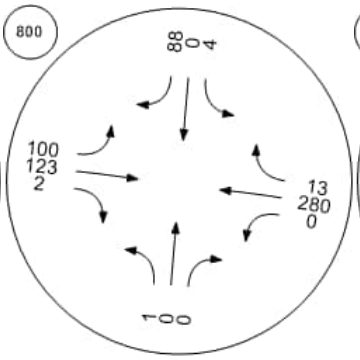
Traffic Volume - Base Volume



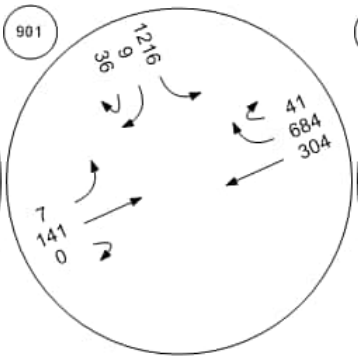
Shamrock Road at Northward



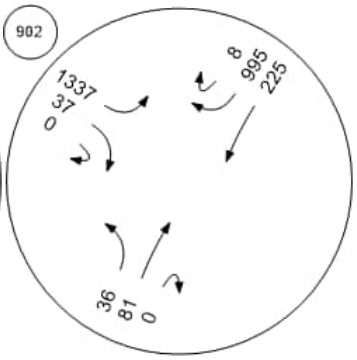
Shamrock Road at Condor R



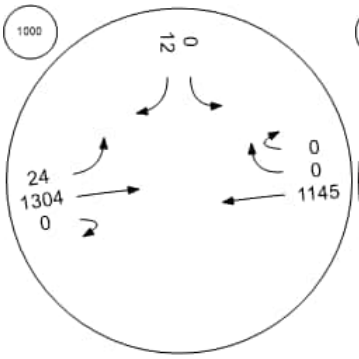
Lookout Road at Bodden To



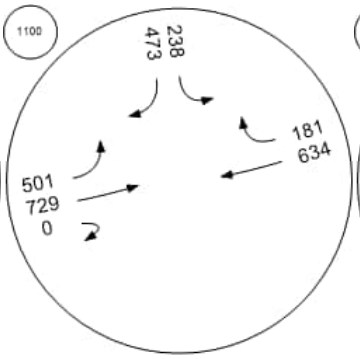
Bodden Town Road at Bodde



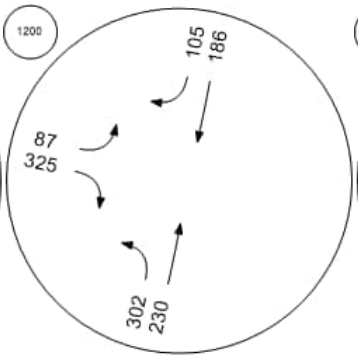
Bodden Town Road at Long



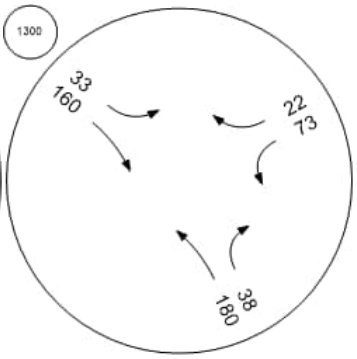
Frank Sound Road at Bodde



Frank Sound Road at Clifton



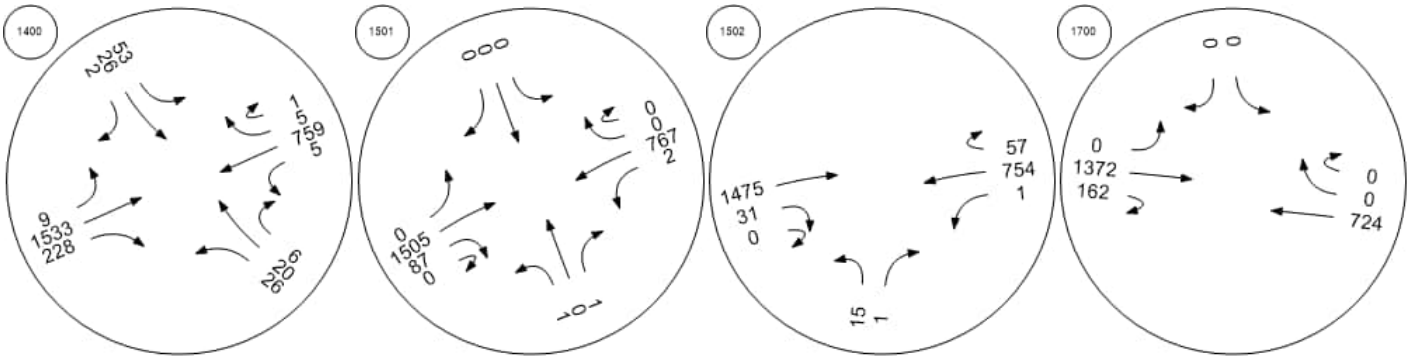
Frank Sound Road at North S



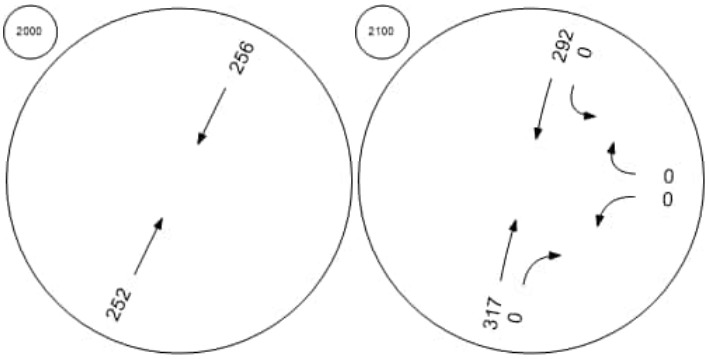
Traffic Volume - Base Volume



East-West Arterial at Agricola East-West Arterial at Will T C East-West Arterial at Will T C East-West Arterial at Lookout



Frank Sound Road at East-W Frank Sound Road at East-W



Attachment D5

2074 Alternative VISTRO Reports

Intersection Level Of Service Report
Intersection 101: East-West Arterial Road at Hirst Road

Control Type:	Roundabout	Delay (sec / veh):	247.4
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes		

Intersection Setup

Name											East-West Arterial									
Approach	Northbound					Southbound					Eastbound					Westbound				
Lane Configuration																				
Turning Movement	Left	Left	Thru	Righ	Righ	Left	Left	Thru	Righ	Righ	Left	Thru	Thru	Righ	U-tu	Left	Thru	Thru	Righ	U-tu
Lane Width [ft]	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00					30.00					40.00					40.00				
Grade [%]	0.00					0.00					0.00					0.00				
Crosswalk	Yes					Yes					Yes					Yes				

Volumes

Name											East-West Arterial									
Base Volume Input [veh/h]	222	0	168	0	2	27	0	108	0	298	655	0	113	277	21	5	103	0	190	0
Base Volume Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	222	0	168	0	2	27	0	108	0	298	655	0	113	277	21	5	103	0	190	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	56	0	42	0	1	7	0	27	0	75	164	0	284	69	5	1	260	0	48	0
Total Analysis Volume [veh/h]	222	0	168	0	2	27	0	108	0	298	655	0	113	277	21	5	103	0	190	0
Pedestrian Volume [ped/h]	0					0					0					0				

Intersection Settings

Number of Conflicting Circulating Lanes	2					2					2					2				
Circulating Flow Rate [veh/h]	1548					1436					360					704				
Exiting Flow Rate [veh/h]	390					1013					1580					1165				
Demand Flow Rate [veh/h]	222	0	168	0	2	27	0	108	0	298	655	0	113	277	21	5	103	0	190	0
Adjusted Demand Flow Rate [veh/h]	222	0	168	0	2	27	0	108	0	298	655	0	113	277	21	5	103	0	190	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1350.00	1420.00
B (coefficient)	0.00085	0.00085	0.00085	0.00092	0.00085
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	392	433	1791	298	1234
Capacity of Entry and Bypass Lanes [veh/h]	381	419	1046	970	781
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	381	419	1046	970	781
X, volume / capacity	1.03	1.03	1.71	0.31	1.58

Movement, Approach, & Intersection Results

Lane LOS	F	F	F	A	F
95th-Percentile Queue Length [veh]	12.84	13.65	99.89	1.31	63.92
95th-Percentile Queue Length [ft]	320.90	341.23	2497.25	32.78	1597.99
Approach Delay [s/veh]	87.47	84.78	290.13		283.02
Approach LOS	F	F	F		F
Intersection Delay [s/veh]	247.43				
Intersection LOS	F				

Intersection Level Of Service Report
Intersection 201: Shamrock Road at Hirst Rd (1)

Control Type:	Two-way stop	Delay (sec / veh):	125.1
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.158

Intersection Setup

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	0	0	0	186	448	0	0	560	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	186	448	0	0	560	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	50	120	0	0	151	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	200	482	0	0	602	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop			Stop			Free			Free		
Flared Lane												
Storage Area [veh]	0			0			0			0		
Two-Stage Gap Acceptance				No								
Number of Storage Spaces in Median	0			0			0			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.40	1.16	0.00	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	16.79	125.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS				C	F			A				
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	1.88	18.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	47.11	454.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			93.36			0.00			0.00		
Approach LOS	A			F			A			A		
d_I, Intersection Delay [s/veh]	49.59											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 202: Shamrock Road at Hirst Rd (2)

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	6.516

Intersection Setup

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	896	0	0	0	253	195	0	0	0	4	2095	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	896	0	0	0	253	195	0	0	0	4	2095	0
Peak Hour Factor	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	241	0	0	0	68	52	0	0	0	1	563	0
Total Analysis Volume [veh/h]	963	0	0	0	272	210	0	0	0	4	2253	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	18.13	0.00	0.00	0.00	6.52	0.00	0.00	0.00	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	7851.37	0.00	0.00	0.00	10000.0	10000.0	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	F				F	F				A	A	
95th-Percentile Queue Length [veh/ln]	116.83	0.00	0.00	0.00	63.11	63.11	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	2920.65	0.00	0.00	0.00	1577.85	1577.85	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	7851.37			10000.00			0.00			0.00		
Approach LOS	F			F			A			A		
d_I, Intersection Delay [s/veh]	3344.37											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 203: Shamrock Road atHirst Road Jughandle

Control Type:	Two-way stop	Delay (sec / veh):	18.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.377

Intersection Setup

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	0	145	642	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	145	642	0	0	0
Peak Hour Factor	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	39	173	0	0	0
Total Analysis Volume [veh/h]	0	156	690	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.38	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	18.86	0.00	0.00	0.00	0.00
Movement LOS		C	A			
95th-Percentile Queue Length [veh/ln]	0.00	1.72	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	43.04	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	18.86		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	3.48					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 300: Shamrock Road at Woodland Drive

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	23.301

Intersection Setup

Name	Woodland Dr			Woodland Dr			Shamrock Rd					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Woodland Dr			Woodland Dr			Shamrock Rd					
Base Volume Input [veh/h]	38	1	6	30	0	287	40	539	7	2	1719	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	38	1	6	30	0	287	40	539	7	2	1719	12
Peak Hour Factor	0.9700	0.9700	1.0000	1.0000	0.9700	0.9700	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	0	2	8	0	74	10	135	2	1	430	3
Total Analysis Volume [veh/h]	39	1	6	30	0	296	41	539	7	2	1719	12
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.35	0.04	0.31	0.06	0.00	23.30	0.00	0.01	0.02	0.00	0.02	0.01
d_M, Delay for Movement [s/veh]	117.56	222.97	274.31	10000.0	10000.0	10000.0	0.00	0.00	14.85	0.00	0.00	8.63
Movement LOS	F	F	F	F	F	F	A	A	B	A	A	A
95th-Percentile Queue Length [veh/ln]	3.10	3.10	3.10	41.92	41.92	41.92	0.06	0.06	0.06	0.04	0.04	0.04
95th-Percentile Queue Length [ft/ln]	77.59	77.59	77.59	1048.04	1048.04	1048.04	1.43	1.43	1.43	0.91	0.91	0.91
d_A, Approach Delay [s/veh]	140.30			10000.00			0.18			0.06		
Approach LOS	F			F			A			A		
d_I, Intersection Delay [s/veh]	1213.47											
Intersection LOS	F											

Intersection Level Of Service Report

Intersection 400: Shamrock Road at Agricola Drive

Control Type:	Roundabout	Delay (sec / veh):	412.9
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	4	7	2	1183	10	6	2	573	1	3	1722	1144
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	7	2	1183	10	6	2	573	1	3	1722	1144
Peak Hour Factor	1.0000	1.0000	0.9200	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9200	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	1	296	3	2	1	143	0	1	431	286
Total Analysis Volume [veh/h]	4	7	2	1183	10	6	2	573	1	3	1722	1144
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1			
Circulating Flow Rate [veh/h]	2872			576			1153			17			
Exiting Flow Rate [veh/h]	14			1153			1732			1758			
Demand Flow Rate [veh/h]	4	7	2	1183	10	6	2	573	1	3	1722	1144	
Adjusted Demand Flow Rate [veh/h]	4	7	2	1183	10	6	2	573	1	3	1722	1144	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	13	1199	576	2869
Capacity of Entry and Bypass Lanes [veh/h]	74	767	426	1357
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	74	767	426	1357
X, volume / capacity	0.18	1.56	1.35	2.12

Movement, Approach, & Intersection Results

Lane LOS	F	F	F	F
95th-Percentile Queue Length [veh]	0.60	61.35	26.83	194.62
95th-Percentile Queue Length [ft]	14.89	1533.64	670.86	4865.46
Approach Delay [s/veh]	59.88	275.68	199.92	514.55
Approach LOS	F	F	F	F
Intersection Delay [s/veh]	412.86			
Intersection LOS	F			

Intersection Level Of Service Report
Intersection 500: Shamrock Road at Brightview Drive / Calla Lily Drive

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	16.902

Intersection Setup

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			20.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	16	0	5	3	0	9	1	1774	2	0	2233	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	16	0	5	3	0	9	1	1774	2	0	2233	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	0	1	1	0	2	0	444	1	0	558	0
Total Analysis Volume [veh/h]	16	0	5	3	0	9	1	1774	2	0	2233	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.29	0.00	6.77	0.03	0.00	16.90	0.00	0.02	0.01	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	3822.84	6986.34	8630.48	10000.0	10000.0	10000.0	0.00	0.00	20.40	0.00	0.00	15.14
Movement LOS	F	F	F	F	F	F	A	A	C	A	A	C
95th-Percentile Queue Length [veh/ln]	4.15	4.15	4.15	2.94	2.94	2.94	0.03	0.03	0.03	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	103.76	103.76	103.76	73.53	73.53	73.53	0.64	0.64	0.64	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	4967.51			10000.00			0.02			0.00		
Approach LOS	F			F			A			A		
d_I, Intersection Delay [s/veh]	55.49											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 600: Shamrock Road at Beach Bay Road

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.953

Intersection Setup

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	36	2	1759	23	13	2197
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	2	1759	23	13	2197
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	1	483	6	4	604
Total Analysis Volume [veh/h]	40	2	1933	25	14	2414
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.95	0.00	0.02	0.13	0.00	0.02
d_M, Delay for Movement [s/veh]	10000.00	10000.00	0.00	25.83	0.00	0.00
Movement LOS	F	F	A	D	A	A
95th-Percentile Queue Length [veh/ln]	7.38	7.38	0.43	0.43	0.00	0.00
95th-Percentile Queue Length [ft/ln]	184.58	184.58	10.65	10.65	0.00	0.00
d_A, Approach Delay [s/veh]	10000.00		0.33		0.00	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	95.00					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 700: Shamrock Road at Northward Road

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.232

Intersection Setup

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	23	147	86	1682	2022	78
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	23	147	86	1682	2022	78
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	38	22	434	521	20
Total Analysis Volume [veh/h]	24	152	89	1734	2085	80
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.23	0.00	0.00	0.02	0.02	0.24
d_M, Delay for Movement [s/veh]	10000.00	10000.00	0.00	0.00	0.00	18.80
Movement LOS	F	F	A	A	A	C
95th-Percentile Queue Length [veh/ln]	24.67	24.67	0.00	0.00	0.90	0.90
95th-Percentile Queue Length [ft/ln]	616.87	616.87	0.00	0.00	22.43	22.43
d_A, Approach Delay [s/veh]	10000.00		0.00		0.69	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	423.03					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 800: Shamrock Road at Condor Road

Control Type:	Two-way stop	Delay (sec / veh):	1,061.1
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.203

Intersection Setup

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Base Volume Input [veh/h]	5	0	0	17	0	32	132	1405	0	0	1169	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	0	0	17	0	32	132	1405	0	0	1169	6
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	4	0	8	33	351	0	0	292	2
Total Analysis Volume [veh/h]	5	0	0	17	0	32	132	1405	0	0	1169	6
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.11	0.00	2.20	0.00	0.01	0.00	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	20.49	182.71	279.99	836.07	974.00	1061.09	0.00	0.00	10.95	0.00	0.00	13.33
Movement LOS	C	F	F	F	F	F	A	A	B	A	A	B
95th-Percentile Queue Length [veh/ln]	0.06	0.06	0.06	6.36	6.36	6.36	0.00	0.00	0.00	0.04	0.04	0.04
95th-Percentile Queue Length [ft/ln]	1.61	1.61	1.61	159.06	159.06	159.06	0.00	0.00	0.00	1.04	1.04	1.04
d_A, Approach Delay [s/veh]	20.49			983.02			0.00			0.07		
Approach LOS	C			F			A			A		
d_I, Intersection Delay [s/veh]	17.48											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 902: Bodden Town Road at Bodden Town Bypass

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.864

Intersection Setup

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	272	4	10	1389	1489	432
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	272	4	10	1389	1489	432
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	72	1	3	369	396	115
Total Analysis Volume [veh/h]	289	4	11	1478	1584	460
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	1.86	0.00	0.00	0.01	0.02	1.01
d_M, Delay for Movement [s/veh]	10000.00	10000.00	0.00	0.00	0.00	73.97
Movement LOS	F	F	A	A	A	F
95th-Percentile Queue Length [veh/ln]	39.41	39.41	0.00	0.00	13.31	13.31
95th-Percentile Queue Length [ft/ln]	985.32	985.32	0.00	0.00	332.74	332.74
d_A, Approach Delay [s/veh]	10000.00		0.00		16.65	
Approach LOS	F		A		C	
d_I, Intersection Delay [s/veh]	774.71					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 1000: Bodden Town Road at Long Fellow Drive

Control Type:	Two-way stop	Delay (sec / veh):	2,156.6
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.881

Intersection Setup

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	0	14	1	1584	1792	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	14	1	1584	1792	0
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	4	0	435	492	0
Total Analysis Volume [veh/h]	0	15	1	1741	1969	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane	No					
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance	No					
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	2.88	0.00	0.02	0.02	0.00
d_M, Delay for Movement [s/veh]	1498.28	2156.60	0.00	0.00	0.00	14.84
Movement LOS	F	F	A	A	A	B
95th-Percentile Queue Length [veh/ln]	3.06	3.06	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	76.54	76.54	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	2156.60		0.00		0.00	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	8.68					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 1100: Frank Sound Road at Bodden Town Road

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Base Volume Input [veh/h]	0	129	858	707	1618	392
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	129	858	707	1618	392
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	35	231	190	435	105
Total Analysis Volume [veh/h]	0	139	923	760	1740	422
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.01	0.02	0.49
d_M, Delay for Movement [s/veh]	10000.00	10000.00	0.00	0.00	0.00	13.14
Movement LOS	F	F	A	A	A	B
95th-Percentile Queue Length [veh/ln]	19.98	19.98	0.00	0.00	2.75	2.75
95th-Percentile Queue Length [ft/ln]	499.59	499.59	0.00	0.00	68.68	68.68
d_A, Approach Delay [s/veh]	10000.00		0.00		2.56	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	350.29					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 1200: Frank Sound Road at Clifton Hunter High School

Control Type:	Two-way stop	Delay (sec / veh):	591.1
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.761

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd		High School Access	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		20.00		20.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Frank Sound Rd		High School Access	
Base Volume Input [veh/h]	569	514	89	114	566	144
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	569	514	89	114	566	144
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	142	129	22	29	142	36
Total Analysis Volume [veh/h]	569	514	89	114	566	144
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.17	1.46	0.76
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	11.69	581.32	591.08
Movement LOS	A	A	A	B	F	F
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.63	0.63	53.67	53.67
95th-Percentile Queue Length [ft/ln]	0.00	0.00	15.75	15.75	1341.64	1341.64
d_A, Approach Delay [s/veh]	0.00		6.57		583.30	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	208.15					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 1300: Frank Sound Road at North Side Road/Old Robin Road

Control Type:	Two-way stop	Delay (sec / veh):	14.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Base Volume Input [veh/h]	175	60	12	289	35	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	175	60	12	289	35	2
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	49	17	3	81	10	1
Total Analysis Volume [veh/h]	197	67	13	325	39	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.05	0.00	0.00	0.05	0.00
d_M, Delay for Movement [s/veh]	0.00	8.09	0.00	0.00	10.37	14.25
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.17	0.17	0.00	0.00	0.19	0.19
95th-Percentile Queue Length [ft/ln]	4.31	4.31	0.00	0.00	4.74	4.74
d_A, Approach Delay [s/veh]	2.05		0.00		10.56	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	1.52					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1400: East-West Arterial at Agricola Drive Connector

Control Type:	Roundabout	Delay (sec / veh):	24.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial		
Approach	Northbound			Southbound			Eastbound		
Lane Configuration									
Turning Movement	Left	Left	Thru	Thru	Right	Right	Left	Right	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial		
Base Volume Input [veh/h]	1234	0	36	69	0	0	2	1163	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1234	0	36	69	0	0	2	1163	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	309	0	9	17	0	0	1	291	0
Total Analysis Volume [veh/h]	1234	0	36	69	0	0	2	1163	0
Pedestrian Volume [ped/h]	0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1		
Circulating Flow Rate [veh/h]	0			1163			36		
Exiting Flow Rate [veh/h]	1232			38			1234		
Demand Flow Rate [veh/h]	1234	0	36	69	0	0	2	1163	0
Adjusted Demand Flow Rate [veh/h]	1234	0	36	69	0	0	2	1163	0

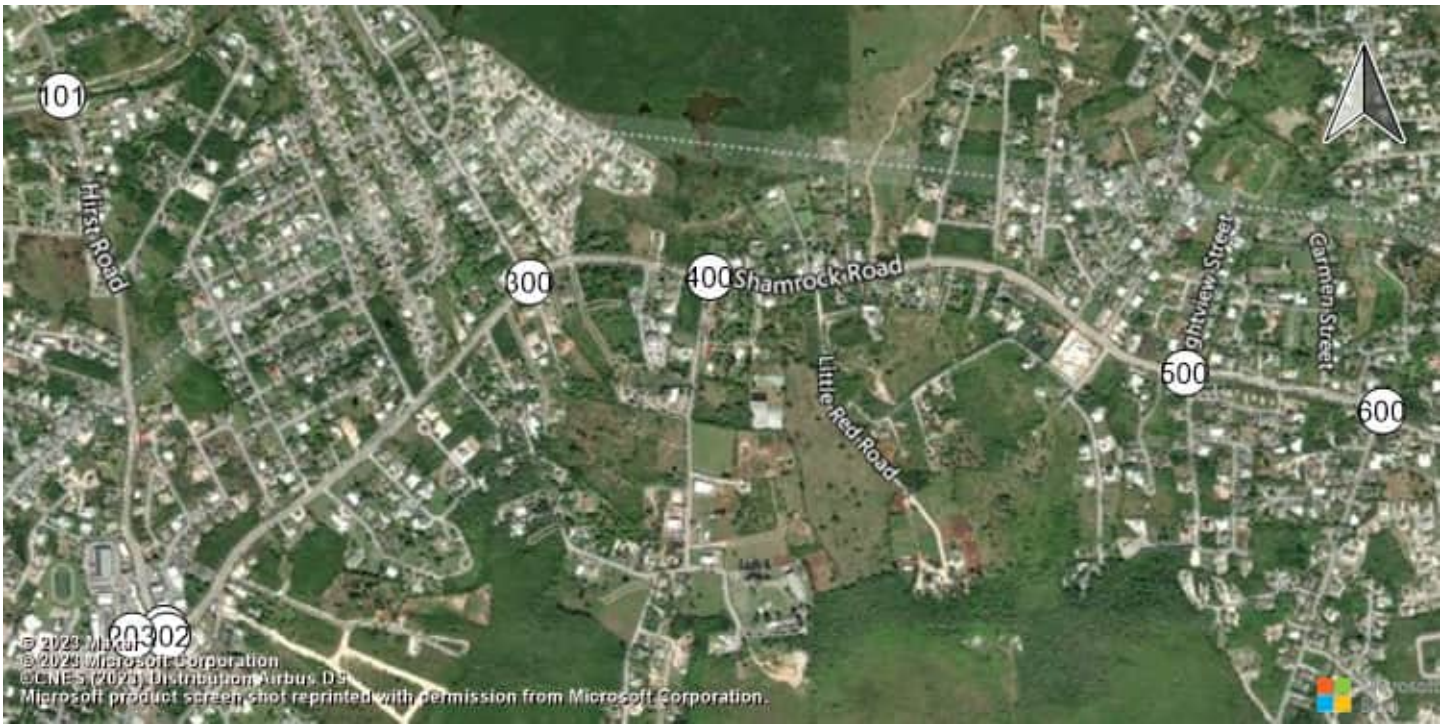
Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	1270	69	1165
Capacity of Entry and Bypass Lanes [veh/h]	1380	422	1331
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1380	422	1331
X, volume / capacity	0.92	0.16	0.88

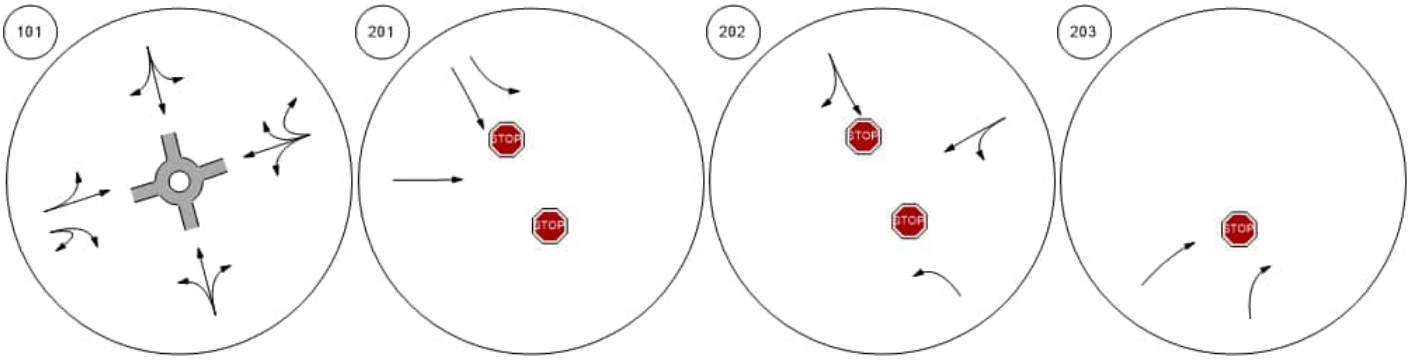
Movement, Approach, & Intersection Results

Lane LOS	D	B	C
95th-Percentile Queue Length [veh]	16.01	0.58	12.99
95th-Percentile Queue Length [ft]	400.14	14.49	324.65
Approach Delay [s/veh]	26.72	11.03	22.12
Approach LOS	D	B	C
Intersection Delay [s/veh]	24.15		
Intersection LOS	C		

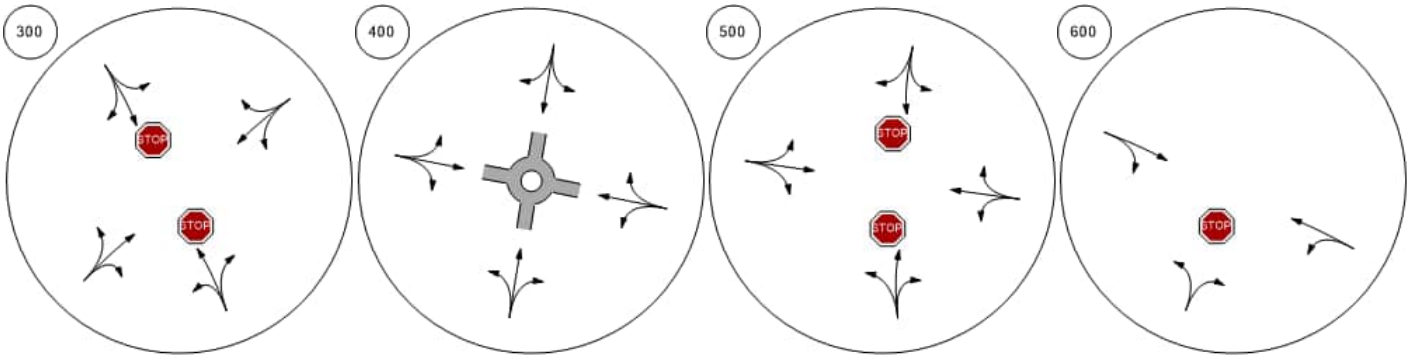
Lane Configuration and Traffic Control



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



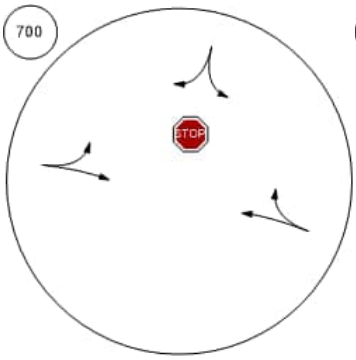
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



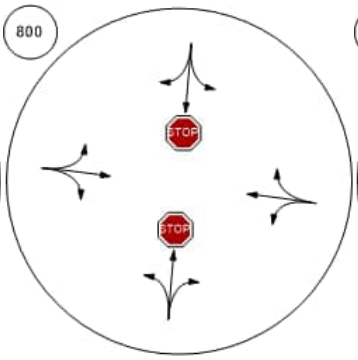
Lane Configuration and Traffic Control



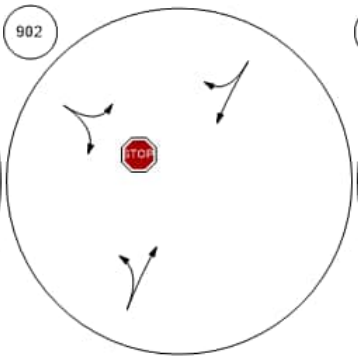
Shamrock Road at Northward



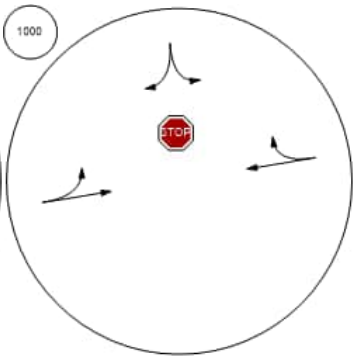
Shamrock Road at Condor R



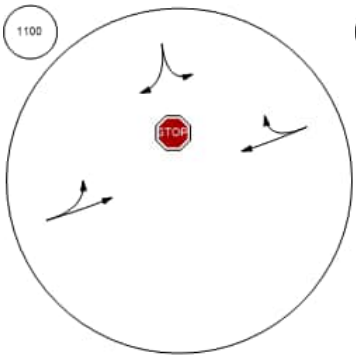
Bodden Town Road at Bodde



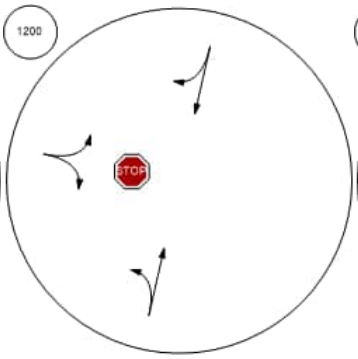
Bodden Town Road at Long



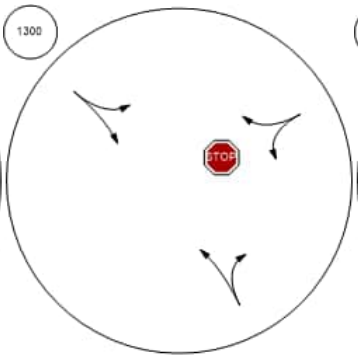
Frank Sound Road at Bodde



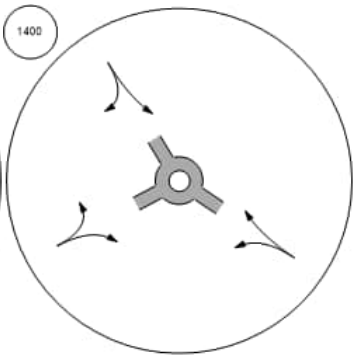
Frank Sound Road at Clifton



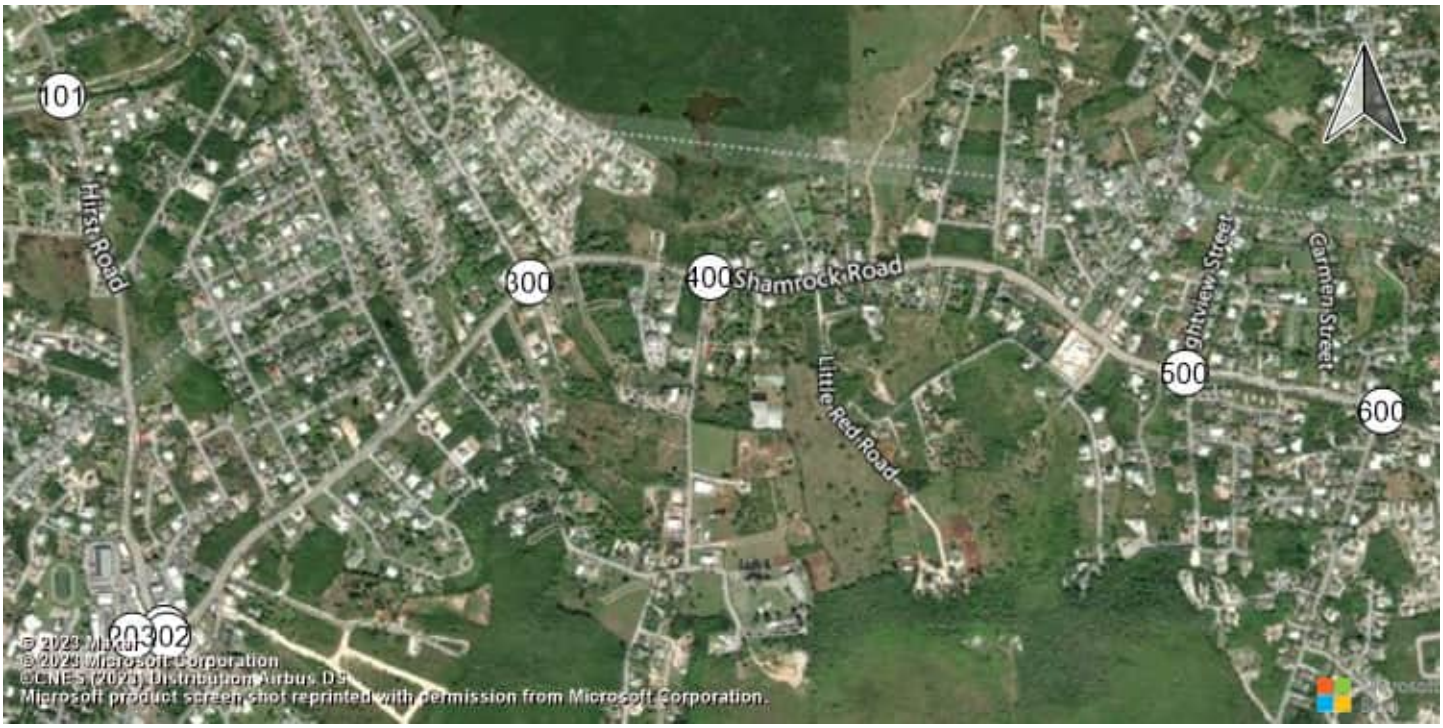
Frank Sound Road at North S



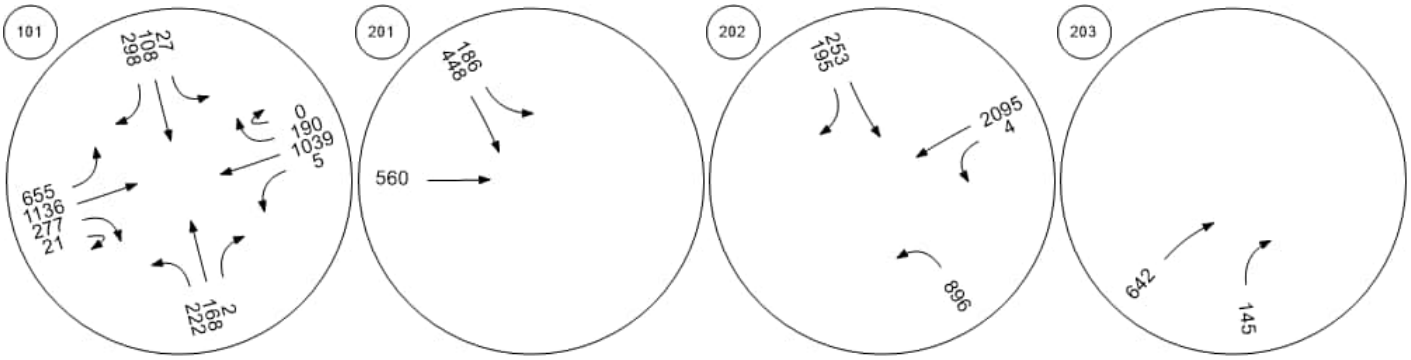
East-West Arterial at Agricola



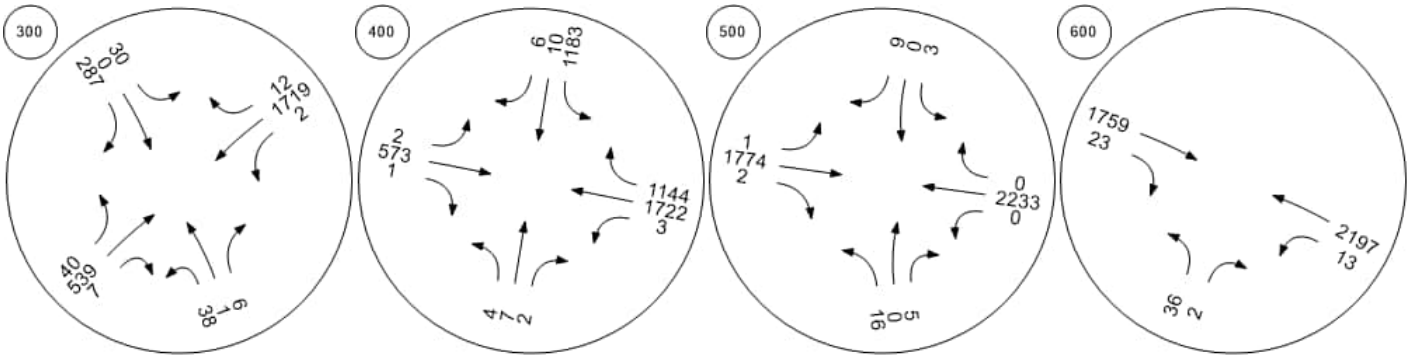
Traffic Volume - Base Volume



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



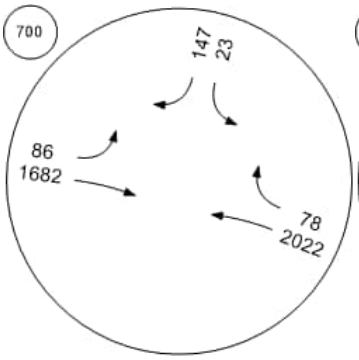
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



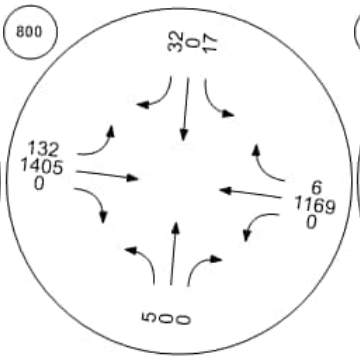
Traffic Volume - Base Volume



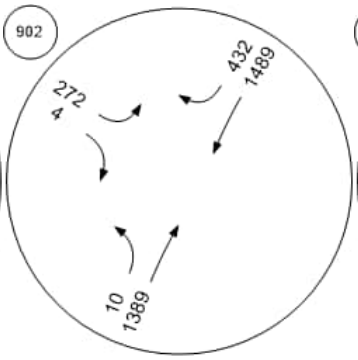
Shamrock Road at Northward



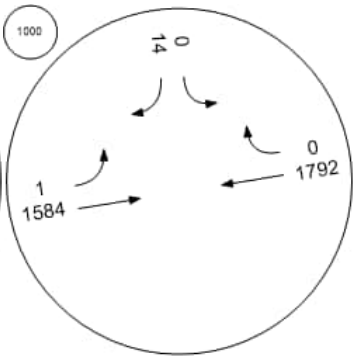
Shamrock Road at Condor R



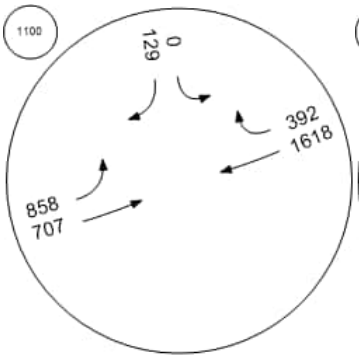
Bodden Town Road at Bodde



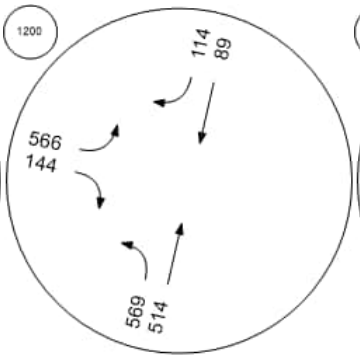
Bodden Town Road at Long



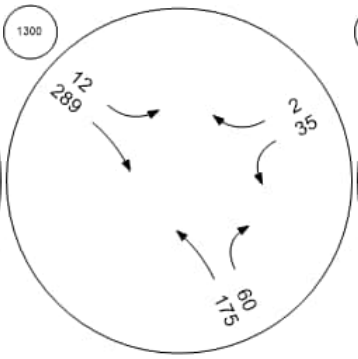
Frank Sound Road at Bodde



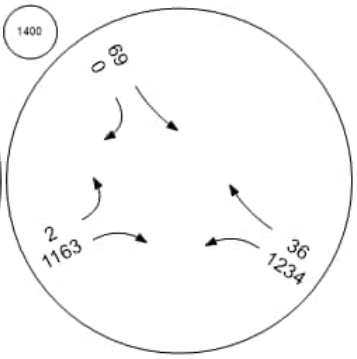
Frank Sound Road at Clifton



Frank Sound Road at North S



East-West Arterial at Agricola



Intersection Level Of Service Report
Intersection 101: East-West Arterial Road at Hirst Road

Control Type:	Roundabout	Delay (sec / veh):	27.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes		

Intersection Setup

Name											East-West Arterial									
Approach	Northbound					Southbound					Eastbound					Westbound				
Lane Configuration																				
Turning Movement	Left	Left	Thru	Righ	Righ	Left	Left	Thru	Righ	Righ	Left	Thru	Thru	Righ	U-tu	Left	Thru	Thru	Righ	U-tu
Lane Width [ft]	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00					30.00					40.00					40.00				
Grade [%]	0.00					0.00					0.00					0.00				
Crosswalk	Yes					Yes					Yes					Yes				

Volumes

Name											East-West Arterial									
Base Volume Input [veh/h]	75	0	244	0	14	0	0	252	0	331	333	0	521	546	0	67	119	0	83	0
Base Volume Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	75	0	244	0	14	0	0	252	0	331	333	0	521	546	0	67	119	0	83	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	19	0	61	0	4	0	0	63	0	83	83	0	130	137	0	17	30	0	21	0
Total Analysis Volume [veh/h]	75	0	244	0	14	0	0	252	0	331	333	0	521	546	0	67	119	0	83	0
Pedestrian Volume [ped/h]	0					0					0					0				

Intersection Settings

Number of Conflicting Circulating Lanes	2					2					2					2				
Circulating Flow Rate [veh/h]	533					1081					341					1129				
Exiting Flow Rate [veh/h]	865					660					525					535				
Demand Flow Rate [veh/h]	75	0	244	0	14	0	0	252	0	331	333	0	521	546	0	67	119	0	83	0
Adjusted Demand Flow Rate [veh/h]	75	0	244	0	14	0	0	252	0	331	333	0	521	546	0	67	119	0	83	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1350.00	1420.00
B (coefficient)	0.00085	0.00085	0.00085	0.00092	0.00085
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	333	583	854	546	269
Capacity of Entry and Bypass Lanes [veh/h]	903	567	1063	987	544
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	903	567	1063	987	544
X, volume / capacity	0.37	1.03	0.80	0.55	0.49

Movement, Approach, & Intersection Results

Lane LOS	A	F	C	B	C
95th-Percentile Queue Length [veh]	1.71	15.85	9.10	3.50	2.72
95th-Percentile Queue Length [ft]	42.81	396.25	227.53	87.42	68.01
Approach Delay [s/veh]	8.15	72.52	16.18		15.39
Approach LOS	A	F	C		C
Intersection Delay [s/veh]	27.77				
Intersection LOS	D				

Intersection Level Of Service Report
Intersection 201: Shamrock Road at Hirst Rd (1)

Control Type:	Two-way stop	Delay (sec / veh):	9,291.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	20.960

Intersection Setup

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	0	0	0	424	469	0	0	2447	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	424	469	0	0	2447	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	114	126	0	0	658	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	456	504	0	0	2631	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	14.65	20.96	0.00	0.00	0.03	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	6386.00	9291.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS				F	F			A				
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	56.15	62.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	1403.87	1574.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			7911.29			0.00			0.00		
Approach LOS	A			F			A			A		
d_I, Intersection Delay [s/veh]	2114.97											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 202: Shamrock Road at Hirst Rd (2)

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.482

Intersection Setup

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	537	0	0	0	40	429	0	0	0	9	1599	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	537	0	0	0	40	429	0	0	0	9	1599	0
Peak Hour Factor	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	144	0	0	0	11	115	0	0	0	2	430	0
Total Analysis Volume [veh/h]	577	0	0	0	43	461	0	0	0	10	1719	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	5.18	0.00	0.00	0.00	0.48	0.00	0.00	0.00	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	1955.62	0.00	0.00	0.00	10000.0	10000.0	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	F				F	F				A	A	
95th-Percentile Queue Length [veh/ln]	61.70	0.00	0.00	0.00	65.87	65.87	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1542.43	0.00	0.00	0.00	1646.73	1646.73	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	1955.62			10000.00			0.00			0.00		
Approach LOS	F			F			A			A		
d_I, Intersection Delay [s/veh]	2195.16											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 203: Shamrock Road atHirst Road Jughandle

Control Type:	Two-way stop	Delay (sec / veh):	2,065.4
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	4.632

Intersection Setup

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	0	77	2692	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	77	2692	0	0	0
Peak Hour Factor	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	21	724	0	0	0
Total Analysis Volume [veh/h]	0	83	2895	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	4.63	0.03	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	2065.44	0.00	0.00	0.00	0.00
Movement LOS		F	A			
95th-Percentile Queue Length [veh/ln]	0.00	10.97	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	274.30	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	2065.44		0.00		0.00	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	57.57					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 300: Shamrock Road at Woodland Drive

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.273

Intersection Setup

Name	Woodland Dr			Woodland Dr			Shamrock Rd					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Woodland Dr			Woodland Dr			Shamrock Rd					
Base Volume Input [veh/h]	13	1	1	15	0	56	218	2118	30	4	1593	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	1	1	15	0	56	218	2118	30	4	1593	22
Peak Hour Factor	0.9700	0.9700	1.0000	1.0000	0.9700	0.9700	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	0	4	0	14	56	530	8	1	398	6
Total Analysis Volume [veh/h]	13	1	1	15	0	58	225	2118	31	4	1593	22
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.00	0.00	0.27	0.00	0.00	0.00	0.02	0.07	0.00	0.02	0.10
d_M, Delay for Movement [s/veh]	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	0.00	0.00	14.36	0.00	0.00	23.79
Movement LOS	F	F	F	F	F	F	A	A	B	A	A	C
95th-Percentile Queue Length [veh/ln]	3.49	3.49	3.49	11.50	11.50	11.50	0.24	0.24	0.24	0.34	0.34	0.34
95th-Percentile Queue Length [ft/ln]	87.19	87.19	87.19	287.61	287.61	287.61	6.01	6.01	6.01	8.49	8.49	8.49
d_A, Approach Delay [s/veh]	10000.00			10000.00			0.19			0.32		
Approach LOS	F			F			A			A		
d_I, Intersection Delay [s/veh]	215.87											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 400: Shamrock Road at Agricola Drive

Control Type:	Roundabout	Delay (sec / veh):	544.8
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	7	2	0	690	20	6	10	2123	2	9	1606	269
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	2	0	690	20	6	10	2123	2	9	1606	269
Peak Hour Factor	1.0000	1.0000	0.9200	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9200	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	1	0	173	5	2	3	531	1	2	402	67
Total Analysis Volume [veh/h]	7	2	0	690	20	6	10	2123	2	10	1606	269
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	1881			2125			271			28		
Exiting Flow Rate [veh/h]	32			281			1619			2813		
Demand Flow Rate [veh/h]	7	2	0	690	20	6	10	2123	2	9	1606	269
Adjusted Demand Flow Rate [veh/h]	7	2	0	690	20	6	10	2123	2	10	1606	269

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	9	716	2135	1885
Capacity of Entry and Bypass Lanes [veh/h]	203	158	1047	1342
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	203	158	1047	1342
X, volume / capacity	0.04	4.53	2.04	1.41

Movement, Approach, & Intersection Results

Lane LOS	C	F	F	F
95th-Percentile Queue Length [veh]	0.14	73.41	141.69	77.14
95th-Percentile Queue Length [ft]	3.47	1835.31	3542.14	1928.62
Approach Delay [s/veh]	18.82	1646.28	482.96	199.04
Approach LOS	C	F	F	F
Intersection Delay [s/veh]	544.83			
Intersection LOS	F			

Intersection Level Of Service Report
Intersection 500: Shamrock Road at Brightview Drive / Calla Lily Drive

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.044

Intersection Setup

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			20.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	5	0	0	0	0	3	16	2409	29	47	1687	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	0	0	0	0	3	16	2409	29	47	1687	23
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	0	0	1	4	602	7	12	422	6
Total Analysis Volume [veh/h]	5	0	0	0	0	3	16	2409	29	47	1687	23
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.08	0.00	0.02	0.12
d_M, Delay for Movement [s/veh]	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	0.00	0.00	15.61	0.00	0.00	25.53
Movement LOS	F	F	F	F	F	F	A	A	C	A	A	D
95th-Percentile Queue Length [veh/ln]	1.72	1.72	1.72	1.26	1.26	1.26	0.25	0.25	0.25	0.39	0.39	0.39
95th-Percentile Queue Length [ft/ln]	42.93	42.93	42.93	31.62	31.62	31.62	6.37	6.37	6.37	9.67	9.67	9.67
d_A, Approach Delay [s/veh]	10000.00			10000.00			0.18			0.33		
Approach LOS	F			F			A			A		
d_I, Intersection Delay [s/veh]	19.21											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 600: Shamrock Road at Beach Bay Road

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.315

Intersection Setup

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	25	7	2406	4	21	1732
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	7	2406	4	21	1732
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	2	661	1	6	476
Total Analysis Volume [veh/h]	27	8	2644	4	23	1903
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.32	0.00	0.03	0.01	0.00	0.02
d_M, Delay for Movement [s/veh]	10000.00	10000.00	0.00	16.75	0.00	0.00
Movement LOS	F	F	A	C	A	A
95th-Percentile Queue Length [veh/ln]	6.42	6.42	0.04	0.04	0.00	0.00
95th-Percentile Queue Length [ft/ln]	160.49	160.49	0.98	0.98	0.00	0.00
d_A, Approach Delay [s/veh]	10000.00		0.03		0.00	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	75.95					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 700: Shamrock Road at Northward Road

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.199

Intersection Setup

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	58	81	185	2136	1706	63
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	58	81	185	2136	1706	63
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	21	48	551	440	16
Total Analysis Volume [veh/h]	60	84	191	2202	1759	65
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	1.20	0.00	0.00	0.02	0.02	0.32
d_M, Delay for Movement [s/veh]	10000.00	10000.00	0.00	0.00	0.00	30.67
Movement LOS	F	F	A	A	A	D
95th-Percentile Queue Length [veh/ln]	20.62	20.62	0.00	0.00	1.30	1.30
95th-Percentile Queue Length [ft/ln]	515.47	515.47	0.00	0.00	32.61	32.61
d_A, Approach Delay [s/veh]	10000.00		0.00		1.09	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	330.66					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 800: Shamrock Road at Condor Road

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.448

Intersection Setup

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Base Volume Input [veh/h]	1	0	0	46	0	0	158	1705	2	0	1198	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	0	46	0	0	158	1705	2	0	1198	13
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	12	0	0	40	426	1	0	300	3
Total Analysis Volume [veh/h]	1	0	0	46	0	0	158	1705	2	0	1198	13
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.45	0.00	0.00	0.00	0.02	0.00	0.00	0.01	0.04
d_M, Delay for Movement [s/veh]	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	0.00	0.00	11.13	0.00	0.00	16.41
Movement LOS	F	F	F	F	F	F	A	A	B	A	A	C
95th-Percentile Queue Length [veh/ln]	0.68	0.68	0.68	7.93	7.93	7.93	0.01	0.01	0.01	0.12	0.12	0.12
95th-Percentile Queue Length [ft/ln]	16.95	16.95	16.95	198.16	198.16	198.16	0.26	0.26	0.26	3.08	3.08	3.08
d_A, Approach Delay [s/veh]	10000.00			10000.00			0.01			0.18		
Approach LOS	F			F			A			A		
d_I, Intersection Delay [s/veh]	150.57											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 902: Bodden Town Road at Bodden Town Bypass

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.862

Intersection Setup

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	179	4	26	1668	1315	430
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	179	4	26	1668	1315	430
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	48	1	7	444	350	114
Total Analysis Volume [veh/h]	190	4	28	1774	1399	457
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	1.86	0.00	0.00	0.02	0.01	1.32
d_M, Delay for Movement [s/veh]	10000.00	10000.00	0.00	0.00	0.00	193.14
Movement LOS	F	F	A	A	A	F
95th-Percentile Queue Length [veh/ln]	26.95	26.95	0.00	0.00	21.69	21.69
95th-Percentile Queue Length [ft/ln]	673.74	673.74	0.00	0.00	542.16	542.16
d_A, Approach Delay [s/veh]	10000.00		0.00		47.56	
Approach LOS	F		A		E	
d_I, Intersection Delay [s/veh]	526.55					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 1000: Bodden Town Road at Long Fellow Drive

Control Type:	Two-way stop	Delay (sec / veh):	2,056.8
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.585

Intersection Setup

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	0	12	24	1724	1661	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	12	24	1724	1661	0
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	3	7	474	456	0
Total Analysis Volume [veh/h]	0	13	26	1895	1825	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane	No					
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance	No					
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	2.58	0.00	0.02	0.02	0.00
d_M, Delay for Movement [s/veh]	1382.72	2056.76	0.00	0.00	0.00	16.54
Movement LOS	F	F	A	A	A	C
95th-Percentile Queue Length [veh/ln]	2.76	2.76	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	69.04	69.04	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	2056.76		0.00		0.00	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	7.11					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 1100: Frank Sound Road at Bodden Town Road

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Base Volume Input [veh/h]	0	219	871	786	1411	275
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	219	871	786	1411	275
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	59	234	211	379	74
Total Analysis Volume [veh/h]	0	235	937	845	1517	296
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.01	0.02	0.37
d_M, Delay for Movement [s/veh]	10000.00	10000.00	0.00	0.00	0.00	12.11
Movement LOS	F	F	A	A	A	B
95th-Percentile Queue Length [veh/ln]	32.12	32.12	0.00	0.00	1.71	1.71
95th-Percentile Queue Length [ft/ln]	802.97	802.97	0.00	0.00	42.86	42.86
d_A, Approach Delay [s/veh]	10000.00		0.00		1.98	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	614.51					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 1200: Frank Sound Road at Clifton Hunter High School

Control Type:	Two-way stop	Delay (sec / veh):	838.4
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.960

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd		High School Access	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		20.00		20.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Frank Sound Rd		High School Access	
Base Volume Input [veh/h]	545	767	65	110	503	131
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	545	767	65	110	503	131
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	136	192	16	28	126	33
Total Analysis Volume [veh/h]	545	767	65	110	503	131
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.21	1.78	0.96
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	13.48	824.78	838.41
Movement LOS	A	A	A	B	F	F
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.77	0.77	54.68	54.68
95th-Percentile Queue Length [ft/ln]	0.00	0.00	19.18	19.18	1367.02	1367.02
d_A, Approach Delay [s/veh]	0.00		8.48		827.60	
Approach LOS	A		A		F	
d_I, Intersection Delay [s/veh]	248.08					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 1300: Frank Sound Road at North Side Road/Old Robin Road

Control Type:	Two-way stop	Delay (sec / veh):	15.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.066

Intersection Setup

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Base Volume Input [veh/h]	304	49	33	221	44	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	304	49	33	221	44	22
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	85	14	9	62	12	6
Total Analysis Volume [veh/h]	342	55	37	248	49	25
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free		Free		Stop	
Flared Lane					No	
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance					No	
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.04	0.00	0.00	0.06	0.07
d_M, Delay for Movement [s/veh]	0.00	7.92	0.00	0.00	10.56	15.47
Movement LOS	A	A	A	A	B	C
95th-Percentile Queue Length [veh/ln]	0.13	0.13	0.00	0.00	0.44	0.44
95th-Percentile Queue Length [ft/ln]	3.34	3.34	0.00	0.00	11.06	11.06
d_A, Approach Delay [s/veh]	1.10		0.00		12.22	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	1.77					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1400: East-West Arterial at Agricola Drive Connector

Control Type:	Roundabout	Delay (sec / veh):	6.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial		
Approach	Northbound			Southbound			Eastbound		
Lane Configuration									
Turning Movement	Left	Left	Thru	Thru	Right	Right	Left	Right	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			40.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial		
Base Volume Input [veh/h]	251	0	90	241	0	18	11	524	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	251	0	90	241	0	18	11	524	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	63	0	23	60	0	5	3	131	0
Total Analysis Volume [veh/h]	251	0	90	241	0	18	11	524	0
Pedestrian Volume [ped/h]	0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1		
Circulating Flow Rate [veh/h]	18			524			90		
Exiting Flow Rate [veh/h]	765			101			269		
Demand Flow Rate [veh/h]	251	0	90	241	0	18	11	524	0
Adjusted Demand Flow Rate [veh/h]	251	0	90	241	0	18	11	524	0

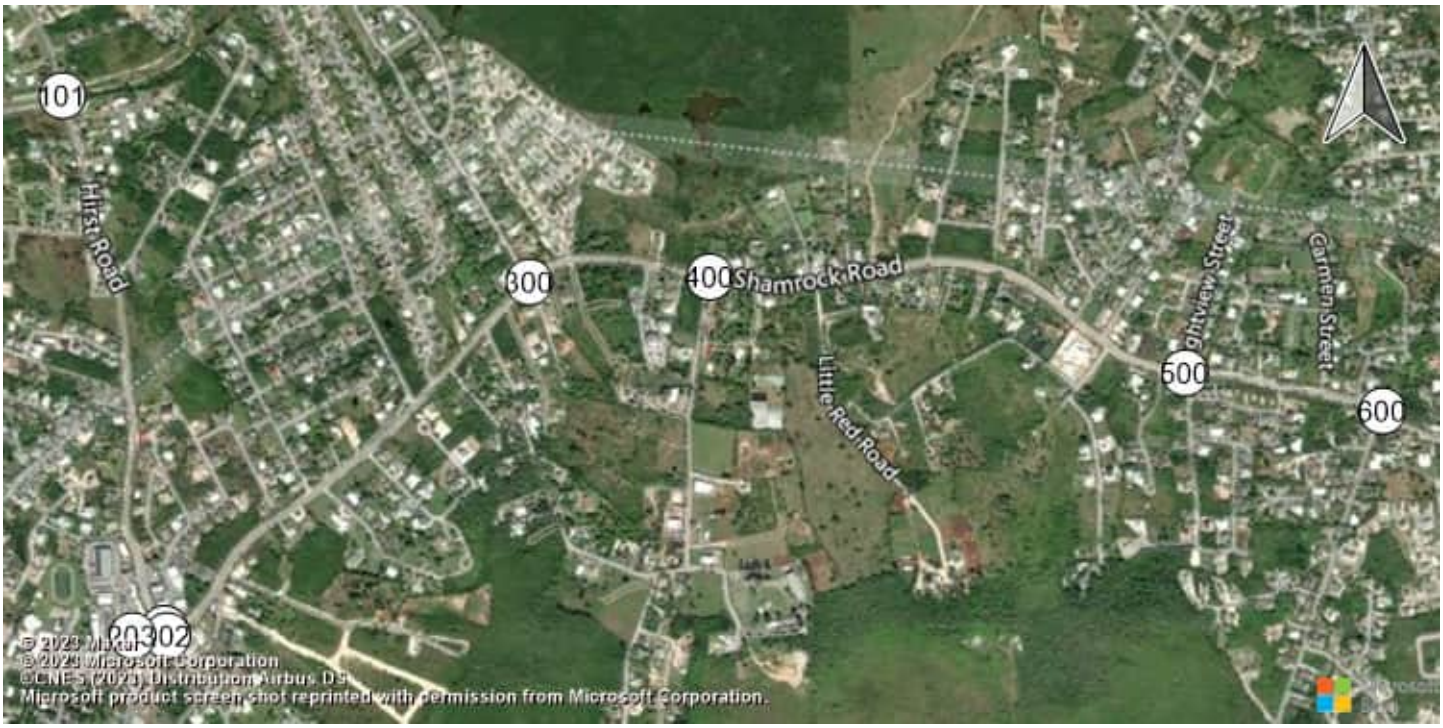
Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	341	259	535
Capacity of Entry and Bypass Lanes [veh/h]	1355	809	1259
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1355	809	1259
X, volume / capacity	0.25	0.32	0.42

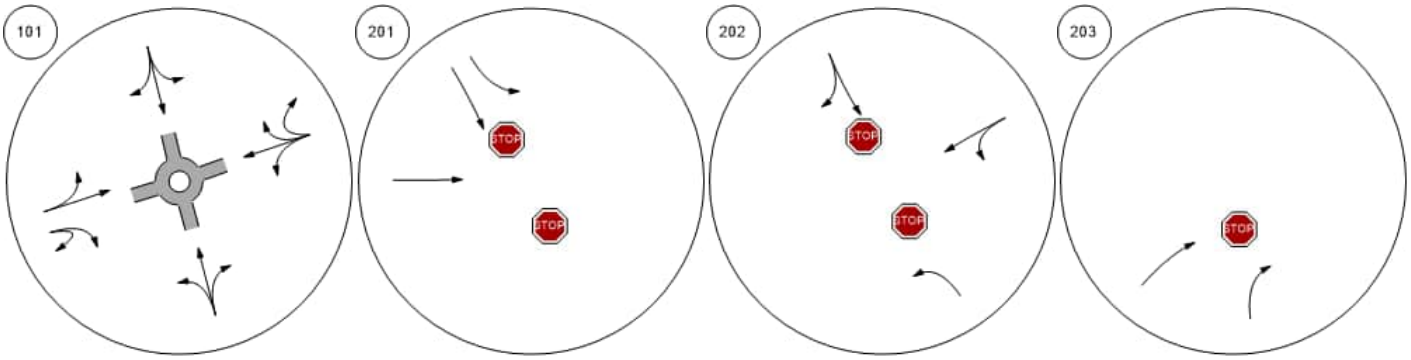
Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	1.00	1.39	2.17
95th-Percentile Queue Length [ft]	25.03	34.64	54.13
Approach Delay [s/veh]	4.81	8.14	7.08
Approach LOS	A	A	A
Intersection Delay [s/veh]	6.64		
Intersection LOS	A		

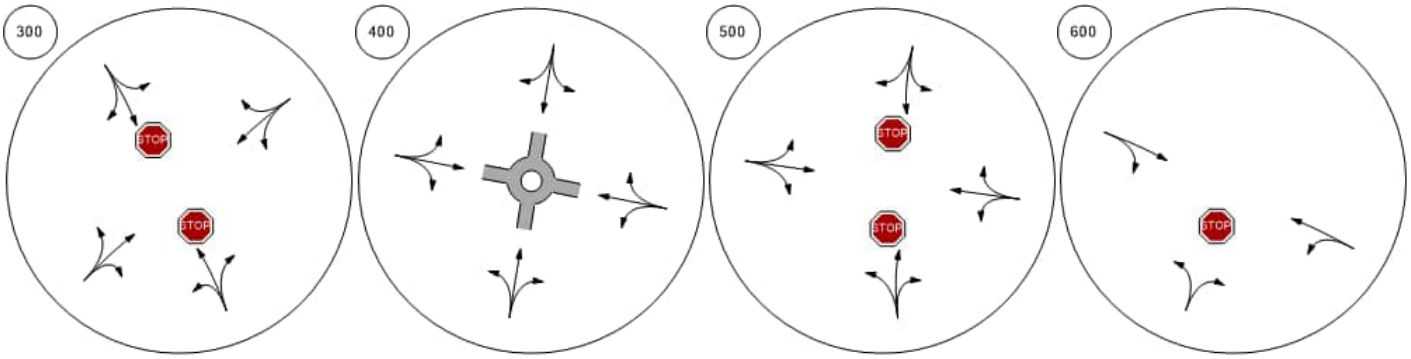
Lane Configuration and Traffic Control



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



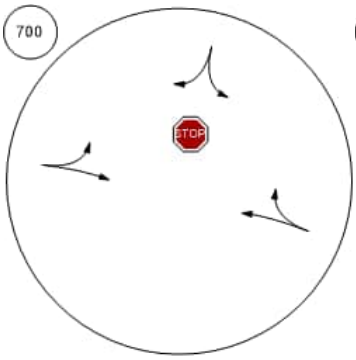
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



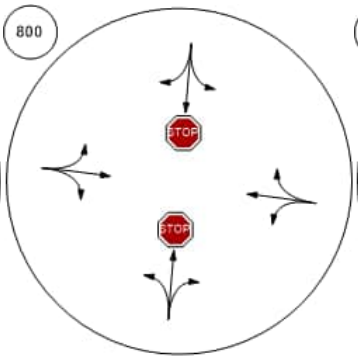
Lane Configuration and Traffic Control



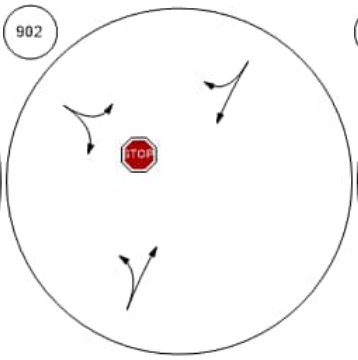
Shamrock Road at Northward



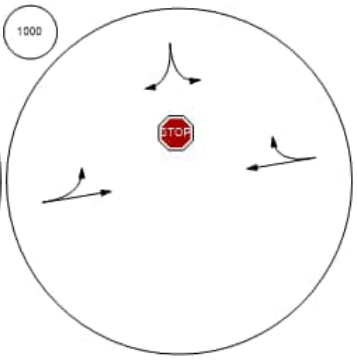
Shamrock Road at Condor R



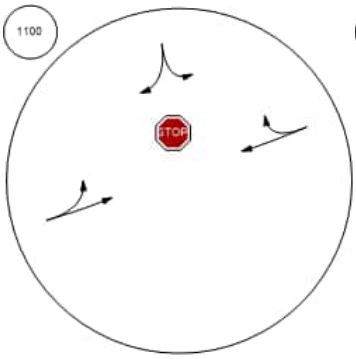
Bodden Town Road at Bodde



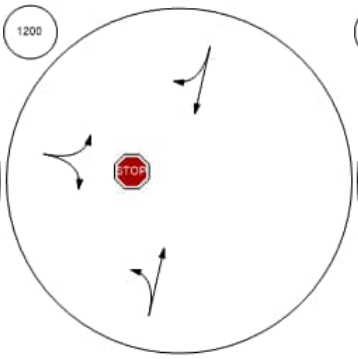
Bodden Town Road at Long



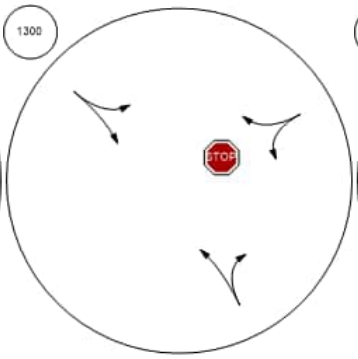
Frank Sound Road at Bodde



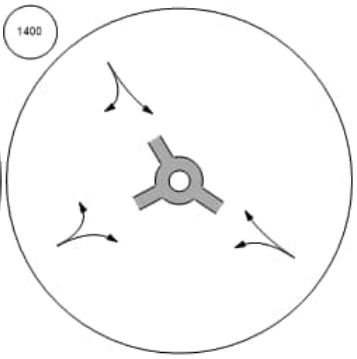
Frank Sound Road at Clifton



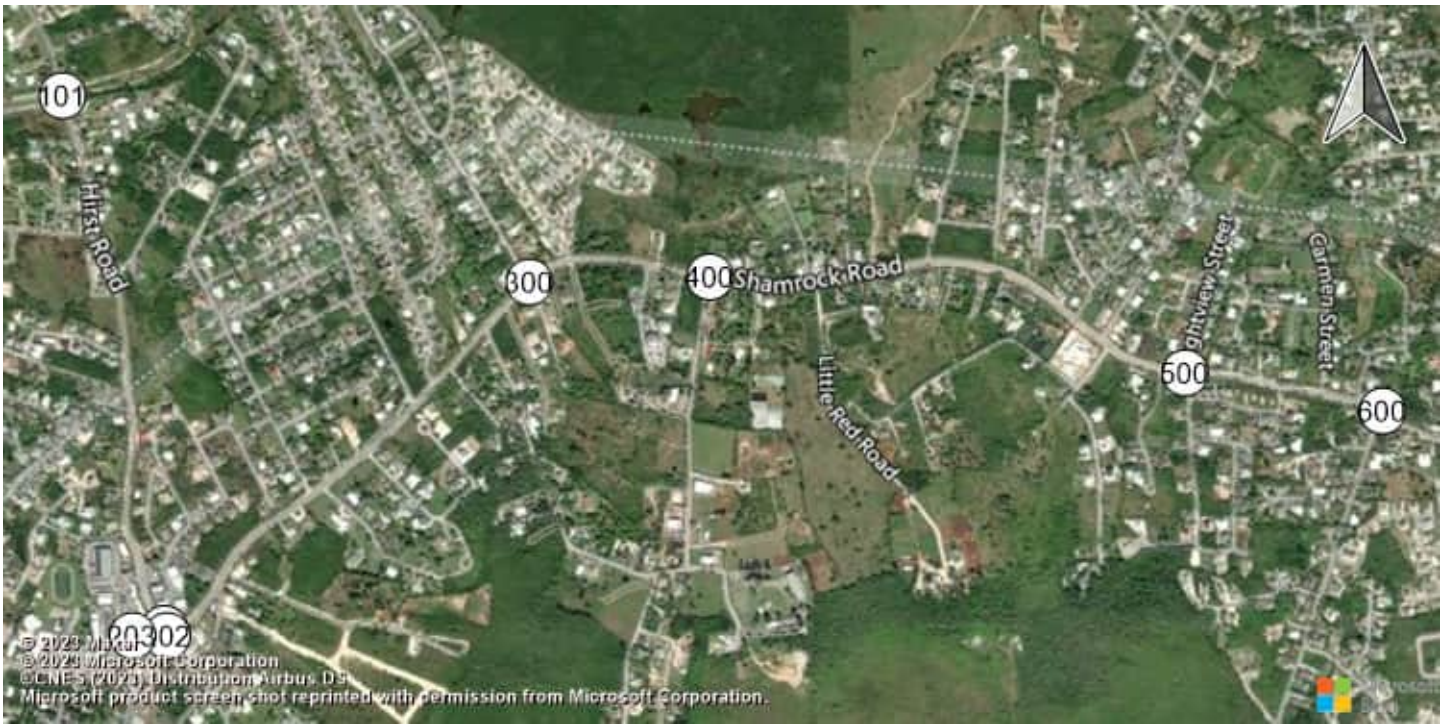
Frank Sound Road at North S



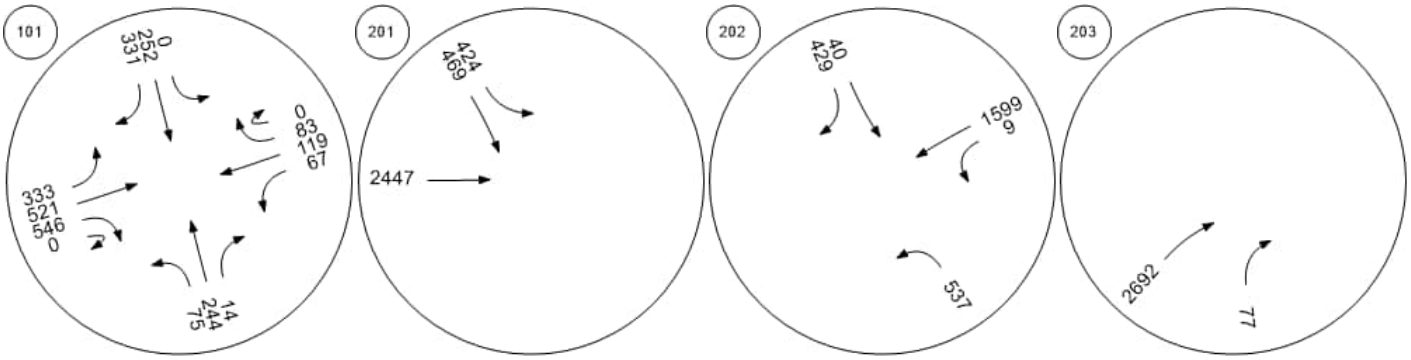
East-West Arterial at Agricola



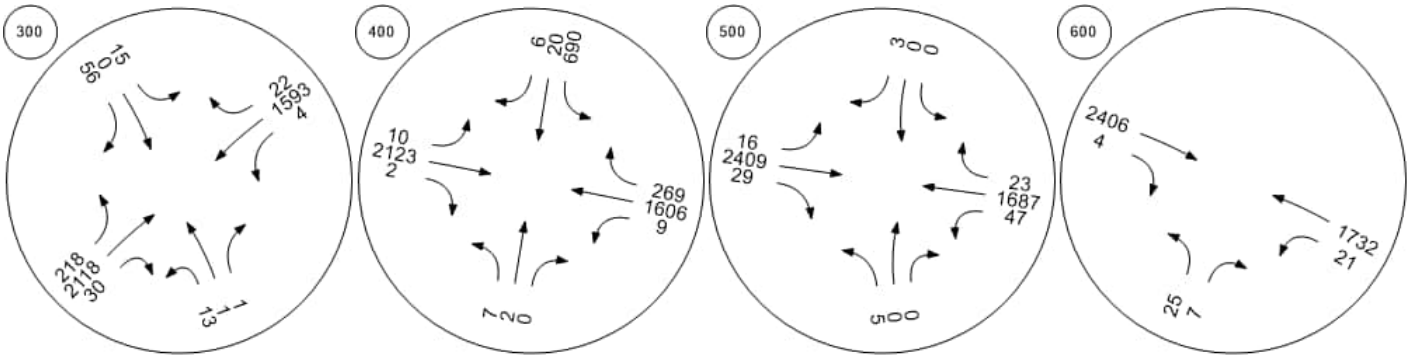
Traffic Volume - Base Volume



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



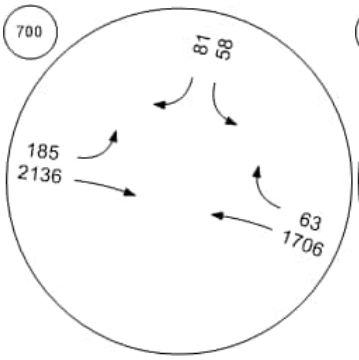
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



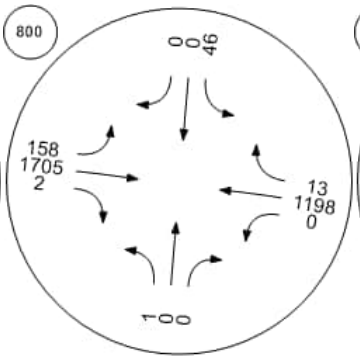
Traffic Volume - Base Volume



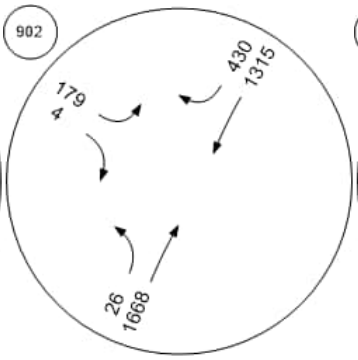
Shamrock Road at Northward



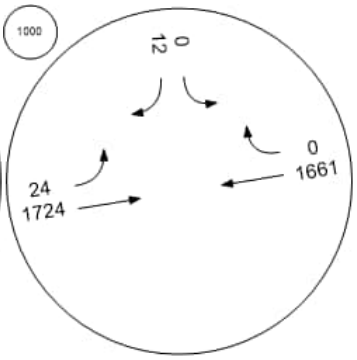
Shamrock Road at Condor R



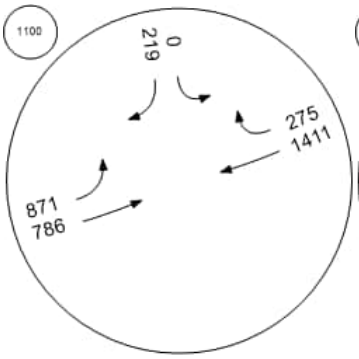
Bodden Town Road at Bodde



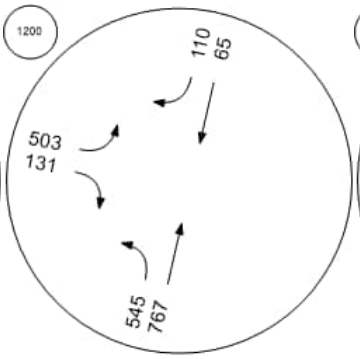
Bodden Town Road at Long



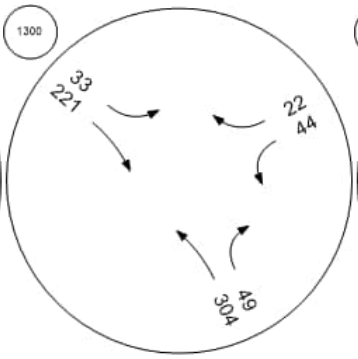
Frank Sound Road at Bodde



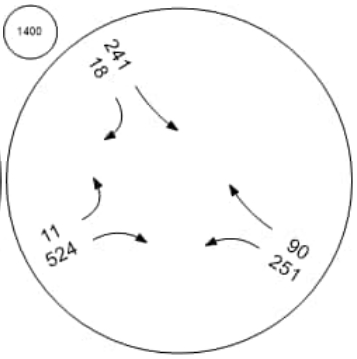
Frank Sound Road at Clifton



Frank Sound Road at North S



East-West Arterial at Agricola



Intersection Level Of Service Report
Intersection 101: East-West Arterial Road at Hirst Road

Control Type:	Roundabout	Delay (sec / veh):	15.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes		

Intersection Setup

Name									East-West Arterial				East-West Arterial				
Approach	Northbound				Southbound				Eastbound				Westbound				
Lane Configuration																	
Turning Movement	Left	Left	Thru	Right	Left	Thru	Right	Right	Left	Thru	Right	U-tu	Left	Thr	Thr	Rig	U-t
Lane Width [ft]	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.	12.	12.	12.	12.
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100	100	100	100	100
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Speed [mph]	30.00				30.00				25.00				25.00				
Grade [%]	0.00				0.00				0.00				0.00				
Crosswalk	Yes				Yes				Yes				Yes				

Volumes

Name									East-West Arterial				East-West Arterial				
Base Volume Input [veh/h]	1	0	139	149	48	226	0	185	625	0	10	16	281	0	0	257	0
Base Volume Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	139	149	48	226	0	185	625	0	10	16	281	0	0	257	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Other Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Total 15-Minute Volume [veh/h]	0	0	35	37	12	57	0	46	156	0	3	4	70	0	0	64	0
Total Analysis Volume [veh/h]	1	0	139	149	48	226	0	185	625	0	10	16	281	0	0	257	0
Pedestrian Volume [ped/h]	0				0				0				0				

Intersection Settings

Number of Conflicting Circulating Lanes	1				1				1				1				
Circulating Flow Rate [veh/h]	458				175				545				437				
Exiting Flow Rate [veh/h]	517				1021				202				197				
Demand Flow Rate [veh/h]	1	0	139	149	48	226	0	185	625	0	10	16	281	0	0	257	0
Adjusted Demand Flow Rate [veh/h]	1	0	139	149	48	226	0	185	625	0	10	16	281	0	0	257	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	289	459	651	538
Capacity of Entry and Bypass Lanes [veh/h]	865	1155	792	884
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	865	1155	792	884
X, volume / capacity	0.33	0.40	0.82	0.61

Movement, Approach, & Intersection Results

Lane LOS	A	A	D	B
95th-Percentile Queue Length [veh]	1.48	1.94	9.14	4.25
95th-Percentile Queue Length [ft]	36.88	48.42	228.54	106.27
Approach Delay [s/veh]	7.91	7.15	25.98	13.24
Approach LOS	A	A	D	B
Intersection Delay [s/veh]	15.28			
Intersection LOS	C			

Intersection Level Of Service Report
Intersection 201: Shamrock Road at Hirst Rd (1)

Control Type:	Two-way stop	Delay (sec / veh):	152.4
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.257

Intersection Setup

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	0	0	0	44	659	0	0	342	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	44	659	0	0	342	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	12	177	0	0	92	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	47	709	0	0	368	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.07	1.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	10.67	152.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS				B	F			A				
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.22	27.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	5.54	692.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			143.62			0.00			0.00		
Approach LOS	A			F			A			A		
d_I, Intersection Delay [s/veh]	96.60											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 202: Shamrock Road at Hirst Rd (2)

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.088

Intersection Setup

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	580	0	0	0	8	651	0	0	0	0	1520	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	580	0	0	0	8	651	0	0	0	0	1520	0
Peak Hour Factor	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	156	0	0	0	2	175	0	0	0	0	409	0
Total Analysis Volume [veh/h]	624	0	0	0	9	700	0	0	0	0	1634	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	4.94	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	1843.8	0.00	0.00	0.00	10000.	10000.	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	F				F	F				A	A	
95th-Percentile Queue Length [veh/ln]	65.78	0.00	0.00	0.00	91.53	91.53	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1644.5	0.00	0.00	0.00	2288.2	2288.2	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	1843.83			10000.00			0.00			0.00		
Approach LOS	F			F			A			A		
d_I, Intersection Delay [s/veh]	2777.40											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 203: Shamrock Road atHirst Road Jughandle

Control Type:	Two-way stop	Delay (sec / veh):	12.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.087

Intersection Setup

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	0	41	503	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	41	503	0	0	0
Peak Hour Factor	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	11	135	0	0	0
Total Analysis Volume [veh/h]	0	44	541	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.09	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	12.80	0.00	0.00	0.00	0.00
Movement LOS		B	A			
95th-Percentile Queue Length [veh/ln]	0.00	0.28	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	7.11	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.80		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.96					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 300: Shamrock Road at Woodland Drive

Control Type:	Two-way stop	Delay (sec / veh):	198.8
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.852

Intersection Setup

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	33	0	12	0	0	46	10	250	6	3	1442	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	33	0	12	0	0	46	10	250	6	3	1442	0
Peak Hour Factor	0.9700	0.9700	1.0000	1.0000	0.9700	0.9700	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	0	3	0	0	12	3	63	2	1	361	0
Total Analysis Volume [veh/h]	34	0	12	0	0	47	10	250	6	3	1442	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.21	0.00	0.17	0.00	0.00	0.85	0.00	0.00	0.01	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	43.65	61.82	72.01	138.09	173.47	198.82	0.00	0.00	12.67	0.00	0.00	7.74
Movement LOS	E	F	F	F	F	F	A	A	B	A	A	A
95th-Percentile Queue Length [veh/ln]	1.55	1.55	1.55	3.72	3.72	3.72	0.04	0.04	0.04	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	38.79	38.79	38.79	93.01	93.01	93.01	0.96	0.96	0.96	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	51.05			198.82			0.29			0.00		
Approach LOS	F			F			A			A		
d_I, Intersection Delay [s/veh]	6.52											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 400: Shamrock Road at Agricola Drive

Control Type:	Roundabout	Delay (sec / veh):	72.5
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	4	7	2	359	19	106	29	233	0	3	1335	101
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	7	2	359	19	106	29	233	0	3	1335	101
Peak Hour Factor	1.0000	1.0000	0.9200	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9200	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	1	90	5	27	7	58	0	1	334	25
Total Analysis Volume [veh/h]	4	7	2	359	19	106	29	233	0	3	1335	101
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	1542			235			110			125		
Exiting Flow Rate [veh/h]	22			137			1445			594		
Demand Flow Rate [veh/h]	4	7	2	359	19	106	29	233	0	3	1335	101
Adjusted Demand Flow Rate [veh/h]	4	7	2	359	19	106	29	233	0	3	1335	101

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	13	484	262	1439
Capacity of Entry and Bypass Lanes [veh/h]	287	1086	1234	1215
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	287	1086	1234	1215
X, volume / capacity	0.05	0.45	0.21	1.18

Movement, Approach, & Intersection Results

Lane LOS	B	A	A	F
95th-Percentile Queue Length [veh]	0.14	2.34	0.80	41.14
95th-Percentile Queue Length [ft]	3.55	58.49	20.09	1028.52
Approach Delay [s/veh]	13.40	8.18	4.77	106.97
Approach LOS	B	A	A	F
Intersection Delay [s/veh]	72.48			
Intersection LOS	F			

Intersection Level Of Service Report

Intersection 500: Shamrock Road at Brightview Drive / Calla Lily Drive

Control Type:	Two-way stop	Delay (sec / veh):	64.1
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.132

Intersection Setup

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			20.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	16	0	5	3	0	9	1	592	2	0	1099	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	16	0	5	3	0	9	1	592	2	0	1099	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	0	1	1	0	2	0	148	1	0	275	0
Total Analysis Volume [veh/h]	16	0	5	3	0	9	1	592	2	0	1099	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.00	0.07	0.01	0.00	0.13	0.00	0.01	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	22.08	46.94	57.44	18.52	50.09	64.08	0.00	0.00	10.62	0.00	0.00	8.63
Movement LOS	C	E	F	C	F	F	A	A	B	A	A	A
95th-Percentile Queue Length [veh/ln]	0.44	0.44	0.44	0.46	0.46	0.46	0.01	0.01	0.01	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	10.90	10.90	10.90	11.40	11.40	11.40	0.23	0.23	0.23	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	30.50			52.69			0.04			0.00		
Approach LOS	D			F			A			A		
d_I, Intersection Delay [s/veh]	0.75											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 600: Shamrock Road at Beach Bay Road

Control Type:	Two-way stop	Delay (sec / veh):	507.6
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.247

Intersection Setup

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	37	25	351	248	58	1063
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	37	25	351	248	58	1063
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	7	96	68	16	292
Total Analysis Volume [veh/h]	41	27	386	273	64	1168
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.18	1.25	0.00	0.48	0.00	0.01
d_M, Delay for Movement [s/veh]	357.18	507.63	0.00	16.89	0.00	0.00
Movement LOS	F	F	A	C	A	A
95th-Percentile Queue Length [veh/ln]	6.48	6.48	2.56	2.56	0.00	0.00
95th-Percentile Queue Length [ft/ln]	161.98	161.98	63.98	63.98	0.00	0.00
d_A, Approach Delay [s/veh]	416.92		7.00		0.00	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	16.83					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 700: Shamrock Road at Northward Road

Control Type:	Two-way stop	Delay (sec / veh):	35.8
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.065

Intersection Setup

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	11	8	12	372	1071	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	8	12	372	1071	21
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	2	3	96	276	5
Total Analysis Volume [veh/h]	11	8	12	384	1104	22
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.07	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	11.81	35.77	0.00	0.00	0.00	8.13
Movement LOS	B	E	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.26	0.26	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	6.62	6.62	0.00	0.00	1.43	1.43
d_A, Approach Delay [s/veh]	21.90		0.00		0.16	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.39					
Intersection LOS	E					

Intersection Level Of Service Report
Intersection 800: Shamrock Road at Condor Road

Control Type:	Two-way stop	Delay (sec / veh):	42.7
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.731

Intersection Setup

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Base Volume Input [veh/h]	5	1	0	1	0	226	147	219	0	0	474	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	1	0	1	0	226	147	219	0	0	474	6
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	0	0	57	37	55	0	0	119	2
Total Analysis Volume [veh/h]	5	1	0	1	0	226	147	219	0	0	474	6
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.73	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.14	17.21	16.57	35.85	42.06	42.70	0.00	0.00	8.28	0.00	0.00	8.01
Movement LOS	B	C	C	E	E	E	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.04	5.39	5.39	5.39	0.00	0.00	0.00	0.02	0.02	0.02
95th-Percentile Queue Length [ft/ln]	0.89	0.89	0.89	134.82	134.82	134.82	0.00	0.00	0.00	0.38	0.38	0.38
d_A, Approach Delay [s/veh]	12.15			42.67			0.00			0.10		
Approach LOS	B			E			A			A		
d_I, Intersection Delay [s/veh]	9.09											
Intersection LOS	E											

Intersection Level Of Service Report
Intersection 902: Bodden Town Road at Bodden Town Bypass

Control Type:	Two-way stop	Delay (sec / veh):	29.7
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.124

Intersection Setup

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	94	19	12	224	414	230
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	94	19	12	224	414	230
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	5	3	60	110	61
Total Analysis Volume [veh/h]	100	20	13	238	440	245
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.12	0.00	0.00	0.00	0.18
d_M, Delay for Movement [s/veh]	11.96	29.74	0.00	0.00	0.00	8.33
Movement LOS	B	D	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.97	0.97	0.00	0.00	0.68	0.68
95th-Percentile Queue Length [ft/ln]	24.33	24.33	0.00	0.00	16.91	16.91
d_A, Approach Delay [s/veh]	14.93		0.00		2.98	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	3.63					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 1000: Bodden Town Road at Long Fellow Drive

Control Type:	Two-way stop	Delay (sec / veh):	17.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	0	1	0	248	612	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1	0	248	612	0
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	68	168	0
Total Analysis Volume [veh/h]	0	1	0	273	673	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	9.71	17.34	0.00	0.00	0.00	7.77
Movement LOS	A	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.26	0.26	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	17.34		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.02					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1100: Frank Sound Road at Bodden Town Road

Control Type:	Roundabout	Delay (sec / veh):	10.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Base Volume Input [veh/h]	908	63	124	124	545	680
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	908	63	124	124	545	680
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	244	17	33	33	147	183
Total Analysis Volume [veh/h]	976	68	133	133	586	731
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	133		731		68	
Exiting Flow Rate [veh/h]	864		654		1109	
Demand Flow Rate [veh/h]	908	63	124	124	545	680
Adjusted Demand Flow Rate [veh/h]	976	68	133	133	586	731

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00091	0.00091	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	976	68	133	133	586	731
Capacity of Entry and Bypass Lanes [veh/h]	1259	1259	731	731	1335	1335
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1259	1259	731	731	1335	1335
X, volume / capacity	0.78	0.05	0.18	0.18	0.44	0.55

Movement, Approach, & Intersection Results

Lane LOS	C	A	A	A	A	A
95th-Percentile Queue Length [veh]	8.38	0.17	0.66	0.66	2.29	3.47
95th-Percentile Queue Length [ft]	209.62	4.28	16.56	16.56	57.29	86.81
Approach Delay [s/veh]	15.01		6.94		7.91	
Approach LOS	C		A		A	
Intersection Delay [s/veh]	10.63					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1200: Frank Sound Road at Clifton Hunter High School

Control Type:	Roundabout	Delay (sec / veh):	11.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd		Clifton Hunter HS	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	1	0	0	0	0	0
Exit Pocket Length [ft]	100.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		20.00		20.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Frank Sound Rd		Clifton Hunter HS	
Base Volume Input [veh/h]	373	541	1277	315	447	253
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	373	541	1277	315	447	253
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	93	135	319	79	112	63
Total Analysis Volume [veh/h]	373	541	1277	315	447	253
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	2		2		2	
Circulating Flow Rate [veh/h]	315		253		541	
Exiting Flow Rate [veh/h]	1530		988		688	
Demand Flow Rate [veh/h]	373	541	1277	315	447	253
Adjusted Demand Flow Rate [veh/h]	373	541	1277	315	447	253

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1350.00	1420.00	1350.00	1420.00	1350.00
B (coefficient)	0.00085	0.00092	0.00085	0.00092	0.00085	0.00092
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	373	541	844	749	447	253
Capacity of Entry and Bypass Lanes [veh/h]	1087	1011	1146	1070	897	821
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1087	1011	1146	1070	897	821
X, volume / capacity	0.34	0.54	0.74	0.70	0.50	0.31

Movement, Approach, & Intersection Results

Lane LOS	A	B	C	B	B	A
95th-Percentile Queue Length [veh]	1.54	3.28	7.07	6.07	2.84	1.31
95th-Percentile Queue Length [ft]	38.55	81.88	176.75	151.69	70.99	32.82
Approach Delay [s/veh]	8.83		14.69		9.51	
Approach LOS	A		B		A	
Intersection Delay [s/veh]	11.89					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1300: Frank Sound Road at North Side Road/Old Robin Road

Control Type:	Two-way stop	Delay (sec / veh):	14.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Base Volume Input [veh/h]	187	47	8	299	57	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	187	47	8	299	57	1
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	53	13	2	84	16	0
Total Analysis Volume [veh/h]	210	53	9	336	64	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.04	0.00	0.00	0.09	0.00
d_M, Delay for Movement [s/veh]	0.00	8.07	0.00	0.00	10.62	14.27
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.14	0.14	0.00	0.00	0.31	0.31
95th-Percentile Queue Length [ft/ln]	3.39	3.39	0.00	0.00	7.66	7.66
d_A, Approach Delay [s/veh]	1.63		0.00		10.68	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	1.67					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1400: East-West Arterial at Agricola Drive Connector

Control Type:	Roundabout	Delay (sec / veh):	5.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			25.00			25.00			
Grade [%]	0.00			0.00			0.00			0.00			
Crosswalk	Yes			Yes			Yes			Yes			

Volumes

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Base Volume Input [veh/h]	250	18	28	31	84	39	2	0	384	13	0	23	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	250	18	28	31	84	39	2	0	384	13	0	23	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	63	5	7	8	21	10	1	0	96	3	0	6	0
Total Analysis Volume [veh/h]	250	18	28	31	84	39	2	0	384	13	0	23	0
Pedestrian Volume [ped/h]	0			0			0			0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1			
Circulating Flow Rate [veh/h]	62			412			69			507			
Exiting Flow Rate [veh/h]	481			43			289			59			
Demand Flow Rate [veh/h]	250	18	28	31	84	39	2	0	384	13	0	23	0
Adjusted Demand Flow Rate [veh/h]	250	18	28	31	84	39	2	0	384	13	0	23	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	296	154	386	36
Capacity of Entry and Bypass Lanes [veh/h]	1296	907	1287	823
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1296	907	1287	823
X, volume / capacity	0.23	0.17	0.30	0.04

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.88	0.61	1.27	0.14
95th-Percentile Queue Length [ft]	22.06	15.25	31.80	3.43
Approach Delay [s/veh]	4.74	5.63	5.50	4.79
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	5.23			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1501: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	10.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name							East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name							East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	72	0	34	0	0	0	0	1624	19	0	1	1907	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	72	0	34	0	0	0	0	1624	19	0	1	1907	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	18	0	9	0	0	0	0	406	5	0	0	477	0	0
Total Analysis Volume [veh/h]	72	0	34	0	0	0	0	1624	19	0	1	1907	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1				1			
Circulating Flow Rate [veh/h]	1907			1677			34				19			
Exiting Flow Rate [veh/h]	20			0			1979				1658			
Demand Flow Rate [veh/h]	72	0	34	0	0	0	0	1624	19	0	1	1907	0	0
Adjusted Demand Flow Rate [veh/h]	72	0	34	0	0	0	0	1624	19	0	1	1907	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1350.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00092	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	57	50	0	871	773	1012	897
Capacity of Entry and Bypass Lanes [veh/h]	281	234	342	1377	1377	1396	1396
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	281	234	342	1377	1377	1396	1396
X, volume / capacity	0.20	0.21	0.00	0.63	0.56	0.72	0.64

Movement, Approach, & Intersection Results

Lane LOS	C	C	B	B	A	B	B
95th-Percentile Queue Length [veh]	0.73	0.79	0.00	4.80	3.66	6.90	4.99
95th-Percentile Queue Length [ft]	18.29	19.66	0.00	119.98	91.38	172.52	124.82
Approach Delay [s/veh]	18.70		10.55	9.48		11.55	
Approach LOS	C		B	A		B	
Intersection Delay [s/veh]	10.82						
Intersection LOS	B						

Intersection Level Of Service Report
Intersection 1502: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	10.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name			East-West Arterial			East-West Arterial		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	Thru	Right	U-turn	Left	Thru	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00			50.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	Yes		Yes			Yes		

Volumes

Name			East-West Arterial			East-West Arterial		
Base Volume Input [veh/h]	234	4	1654	4	0	1	1673	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	234	4	1654	4	0	1	1673	13
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	59	1	414	1	0	0	418	3
Total Analysis Volume [veh/h]	234	4	1654	4	0	1	1673	13
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	2		1			1		
Circulating Flow Rate [veh/h]	1686		17			4		
Exiting Flow Rate [veh/h]	5		1907			1671		
Demand Flow Rate [veh/h]	234	4	1654	4	0	1	1673	13
Adjusted Demand Flow Rate [veh/h]	234	4	1654	4	0	1	1673	13

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1350.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00092	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	127	112	879	780	895	793
Capacity of Entry and Bypass Lanes [veh/h]	339	287	1399	1399	1415	1415
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	339	287	1399	1399	1415	1415
X, volume / capacity	0.37	0.39	0.63	0.56	0.63	0.56

Movement, Approach, & Intersection Results

Lane LOS	C	C	A	A	A	A
95th-Percentile Queue Length [veh]	1.67	1.78	4.73	3.61	4.80	3.65
95th-Percentile Queue Length [ft]	41.86	44.49	118.26	90.22	119.94	91.32
Approach Delay [s/veh]	20.41		9.30		9.29	
Approach LOS	C		A		A	
Intersection Delay [s/veh]	10.04					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1600: East-West Arterial at Northward Rd

Control Type:	Two-way stop	Delay (sec / veh):	19.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.266

Intersection Setup

Name	Northward Rd		East-West Arterial		East-West Arterial	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		East-West Arterial		East-West Arterial	
Base Volume Input [veh/h]	88	0	1670	0	8	1599
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	88	0	1670	0	8	1599
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	0	418	0	2	400
Total Analysis Volume [veh/h]	88	0	1670	0	8	1599
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.27	0.00	0.02	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	19.80	0.00	0.00	0.00	0.00	0.00
Movement LOS	C		A		A	A
95th-Percentile Queue Length [veh/ln]	1.05	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	26.31	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	19.80		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.52					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1700: East-West Arterial at Lookout Rd

Control Type:	Roundabout	Delay (sec / veh):	9.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Lookout Rd			Lookout Rd			East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Lookout Rd			Lookout Rd			East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	115	0	6	0	0	0	0	1574	35	62	6	1475	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	115	0	6	0	0	0	0	1574	35	62	6	1475	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	29	0	2	0	0	0	0	394	9	16	2	369	0	0
Total Analysis Volume [veh/h]	115	0	6	0	0	0	0	1574	35	62	6	1475	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1				1				
Circulating Flow Rate [veh/h]	1537			1677			6				97				
Exiting Flow Rate [veh/h]	41			0			1652				1580				
Demand Flow Rate [veh/h]	115	0	6	0	0	0	0	1574	35	62	6	1475	0	0	
Adjusted Demand Flow Rate [veh/h]	115	0	6	0	0	0	0	1574	35	62	6	1475	0	0	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	121	0	886	786	785	697
Capacity of Entry and Bypass Lanes [veh/h]	385	342	1413	1413	1301	1301
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	385	342	1413	1413	1301	1301
X, volume / capacity	0.31	0.00	0.63	0.56	0.60	0.54

Movement, Approach, & Intersection Results

Lane LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh]	1.32	0.00	4.71	3.59	4.29	3.31
95th-Percentile Queue Length [ft]	33.11	0.00	117.71	89.84	107.15	82.81
Approach Delay [s/veh]	15.18	10.55	9.21		9.29	
Approach LOS	C	B	A		A	
Intersection Delay [s/veh]	9.47					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1800: East-West Arterial at Longfellow Rd

Control Type:	Roundabout	Delay (sec / veh):	8.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Longfellow Rd			Longfellow Rd			East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Longfellow Rd			Longfellow Rd			East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	12	0	0	0	0	0	0	1574	0	6	0	1380	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	0	0	0	0	0	0	1574	0	6	0	1380	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	3	0	0	0	0	0	0	394	0	2	0	345	0	0
Total Analysis Volume [veh/h]	12	0	0	0	0	0	0	1574	0	6	0	1380	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1				1					
Circulating Flow Rate [veh/h]	1386			1580			0				6					
Exiting Flow Rate [veh/h]	0			0			1398				1574					
Demand Flow Rate [veh/h]	12	0	0	0	0	0	0	1574	0	6	0	1380	0	0		
Adjusted Demand Flow Rate [veh/h]	12	0	0	0	0	0	0	1574	0	6	0	1380	0	0		

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	12	0	838	743	732	649
Capacity of Entry and Bypass Lanes [veh/h]	438	371	1420	1420	1413	1413
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	438	371	1420	1420	1413	1413
X, volume / capacity	0.03	0.00	0.59	0.52	0.52	0.46

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.08	0.00	4.08	3.17	3.11	2.48
95th-Percentile Queue Length [ft]	2.11	0.00	102.08	79.25	77.73	62.08
Approach Delay [s/veh]	8.60	9.71	8.51		7.44	
Approach LOS	A	A	A		A	
Intersection Delay [s/veh]	8.02					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1900: East West Arterial North/South Spurs

Control Type:	Roundabout	Delay (sec / veh):	9.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	East-West Arterial			East-West Arterial			East-West Arterial	
Approach	Northbound			Eastbound			Westbound	
Lane Configuration								
Turning Movement	Left	Right	U-turn	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			50.00			40.00	
Grade [%]	0.00			0.00			0.00	
Crosswalk	Yes			Yes			Yes	

Volumes

Name	East-West Arterial			East-West Arterial			East-West Arterial	
Base Volume Input [veh/h]	1127	12	1	134	1440	0	0	253
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1127	12	1	134	1440	0	0	253
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	282	3	0	34	360	0	0	63
Total Analysis Volume [veh/h]	1127	12	1	134	1440	0	0	253
Pedestrian Volume [ped/h]	0			0			0	

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			2	
Circulating Flow Rate [veh/h]	253			13			1441	
Exiting Flow Rate [veh/h]	1441			1380			146	
Demand Flow Rate [veh/h]	1127	12	1	134	1440	0	0	253
Adjusted Demand Flow Rate [veh/h]	1127	12	1	134	1440	0	0	253

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1350.00	1420.00	1350.00	1420.00	1350.00
B (coefficient)	0.00085	0.00092	0.00085	0.00092	0.00085	0.00092
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	605	536	740	835	135	119
Capacity of Entry and Bypass Lanes [veh/h]	1146	1070	1405	1334	418	359
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1146	1070	1405	1334	418	359
X, volume / capacity	0.53	0.50	0.53	0.63	0.32	0.33

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	B	B	C
95th-Percentile Queue Length [veh]	3.20	2.89	3.21	4.66	1.37	1.42
95th-Percentile Queue Length [ft]	79.97	72.15	80.37	116.51	34.20	35.53
Approach Delay [s/veh]	9.22		9.18		15.36	
Approach LOS	A		A		C	
Intersection Delay [s/veh]	9.72					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 2000: Frank Sound Road at East-West Arterial

Control Type:	Roundabout	Delay (sec / veh):	4.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd		East-West Arterial		
Approach	Northbound		Southbound		Eastbound		
Lane Configuration							
Turning Movement	Left	Thru	Thru	Right	Left	Right	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		40.00		
Grade [%]	0.00		0.00		0.00		
Crosswalk	Yes		Yes		Yes		

Volumes

Name	Frank Sound Rd		Frank Sound Rd		East-West Arterial		
Base Volume Input [veh/h]	8	107	145	244	137	9	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	107	145	244	137	9	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	27	36	61	34	2	0
Total Analysis Volume [veh/h]	8	107	145	244	137	9	0
Pedestrian Volume [ped/h]	0		0		0		

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1		
Circulating Flow Rate [veh/h]	244		9		107		
Exiting Flow Rate [veh/h]	154		244		252		
Demand Flow Rate [veh/h]	8	107	145	244	137	9	0
Adjusted Demand Flow Rate [veh/h]	8	107	145	244	137	9	0

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	115	389	146
Capacity of Entry and Bypass Lanes [veh/h]	1076	1368	1238
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1076	1368	1238
X, volume / capacity	0.11	0.28	0.12

Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	0.36	1.18	0.40
95th-Percentile Queue Length [ft]	8.95	29.53	10.00
Approach Delay [s/veh]	4.28	5.10	3.89
Approach LOS	A	A	A
Intersection Delay [s/veh]	4.68		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 2100: Frank Sound Road at East-West Arterial

Control Type:	Roundabout	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd			Frank Sound Rd			East-West Arterial							
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00				40.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Frank Sound Rd			Frank Sound Rd			East-West Arterial							
Base Volume Input [veh/h]	873	116	0	0	184	26	4	4	1408	41	0	8	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	873	116	0	0	184	26	4	4	1408	41	0	8	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	218	29	0	0	46	7	1	1	352	10	0	2	0	0
Total Analysis Volume [veh/h]	873	116	0	0	184	26	4	4	1408	41	0	8	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1				2			
Circulating Flow Rate [veh/h]	75			1453			116				1659			
Exiting Flow Rate [veh/h]	1592			120			948				4			
Demand Flow Rate [veh/h]	873	116	0	0	184	26	4	4	1408	41	0	8	0	0
Adjusted Demand Flow Rate [veh/h]	873	116	0	0	184	26	4	4	1408	41	0	8	0	0

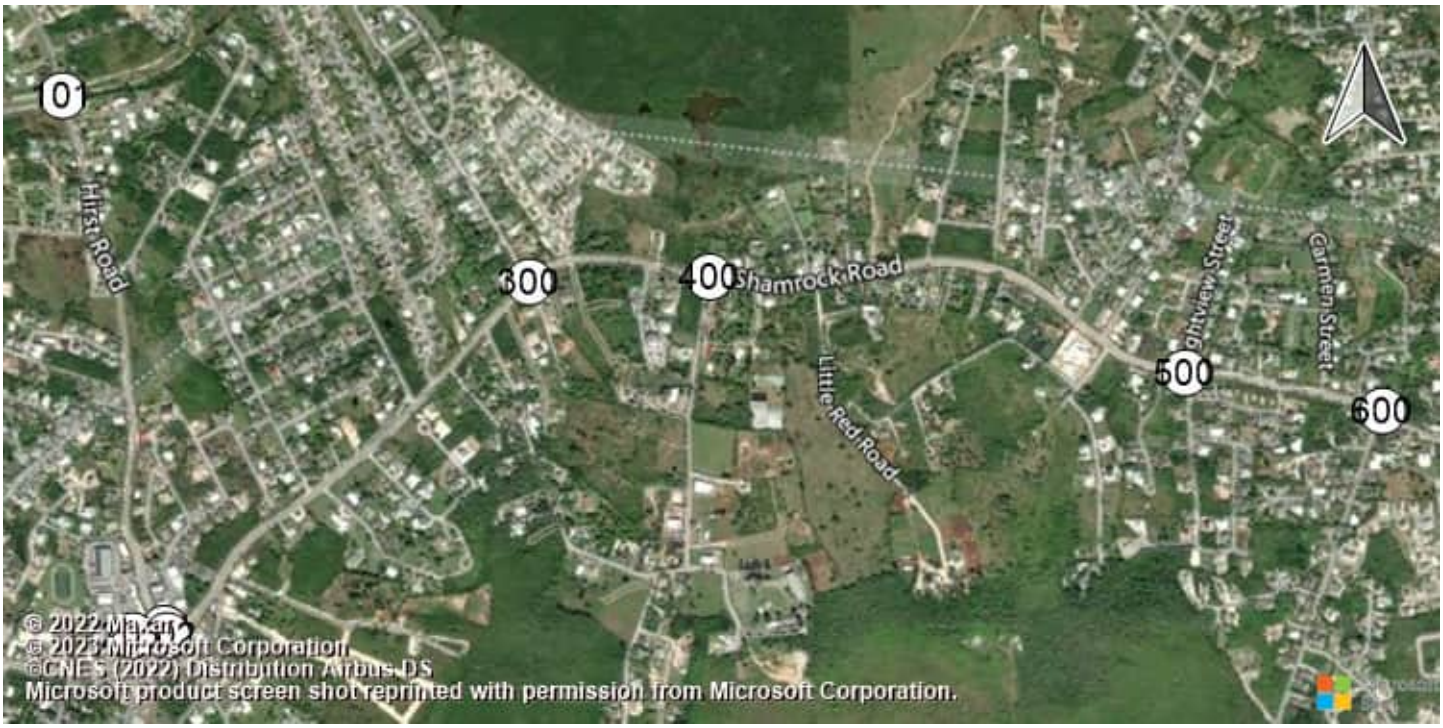
Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1350.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00092	0.00085	0.00091	0.00091	0.00085
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	525	465	210	685	773	8
Capacity of Entry and Bypass Lanes [veh/h]	1333	1260	413	1278	1278	347
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1333	1260	413	1278	1278	347
X, volume / capacity	0.39	0.37	0.51	0.54	0.60	0.02

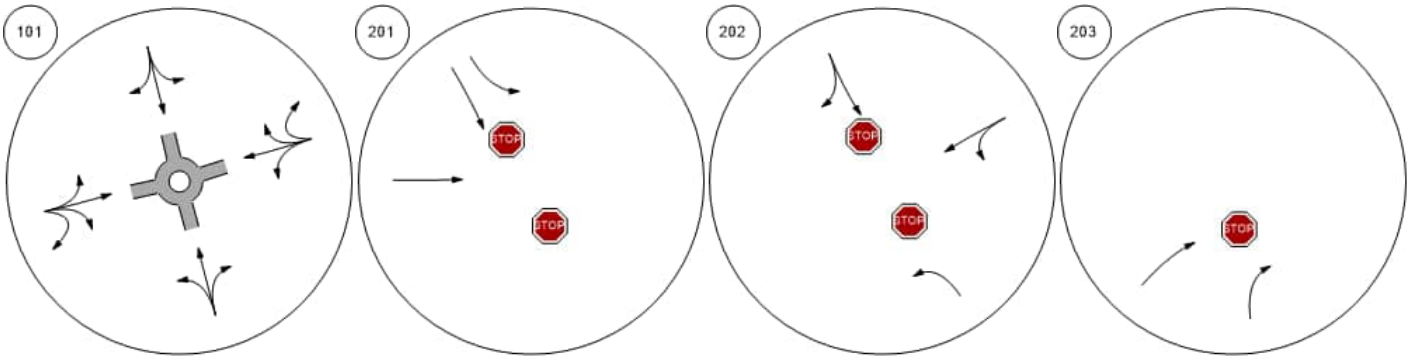
Movement, Approach, & Intersection Results

Lane LOS	A	A	C	A	B	B
95th-Percentile Queue Length [veh]	1.91	1.72	2.80	3.32	4.29	0.07
95th-Percentile Queue Length [ft]	47.74	43.10	69.90	82.91	107.28	1.77
Approach Delay [s/veh]	6.39		19.94	9.41		10.75
Approach LOS	A		C	A		B
Intersection Delay [s/veh]	9.12					
Intersection LOS	A					

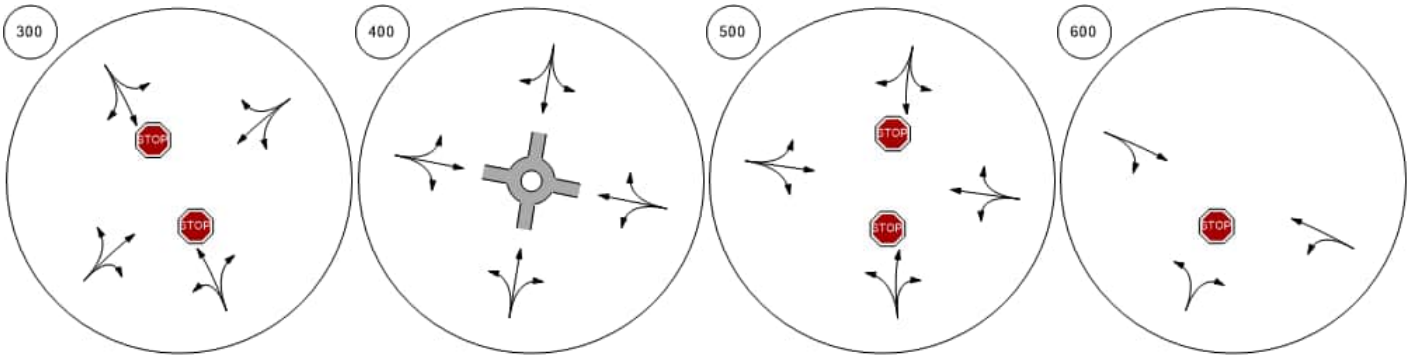
Lane Configuration and Traffic Control



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



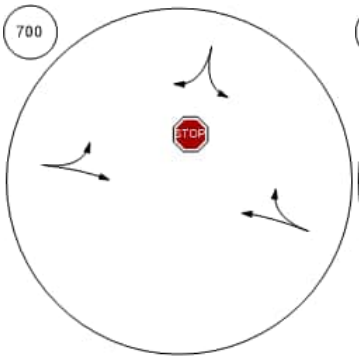
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



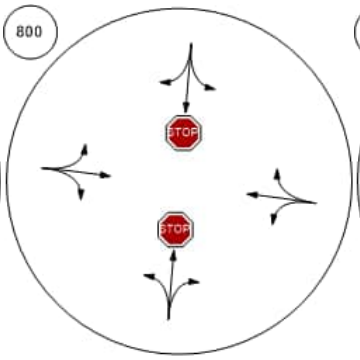
Lane Configuration and Traffic Control



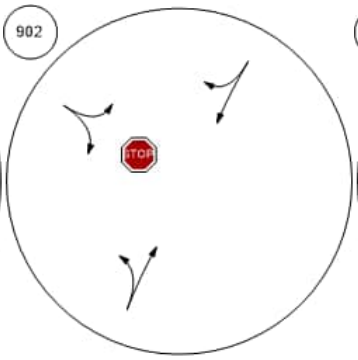
Shamrock Road at Northward



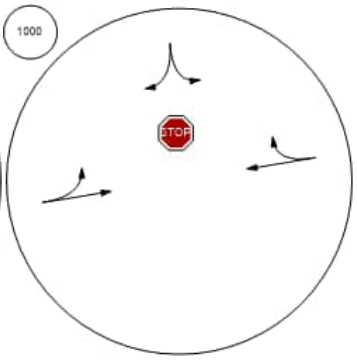
Shamrock Road at Condor R



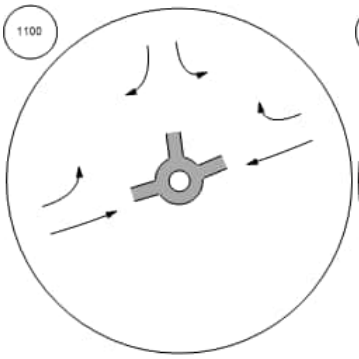
Bodden Town Road at Bodde



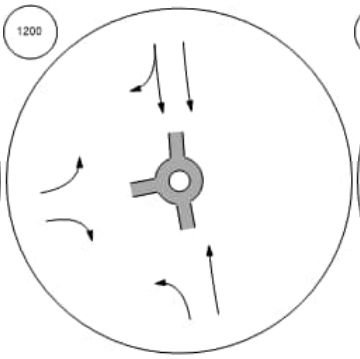
Bodden Town Road at Long



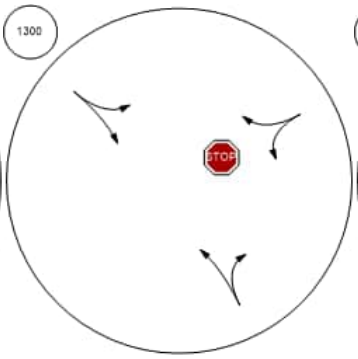
Frank Sound Road at Bodde



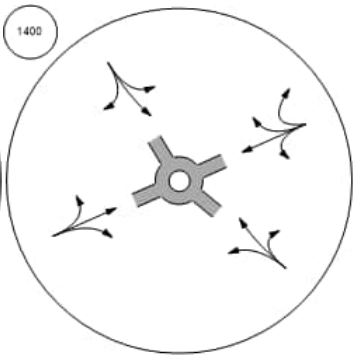
Frank Sound Road at Clifton



Frank Sound Road at North S



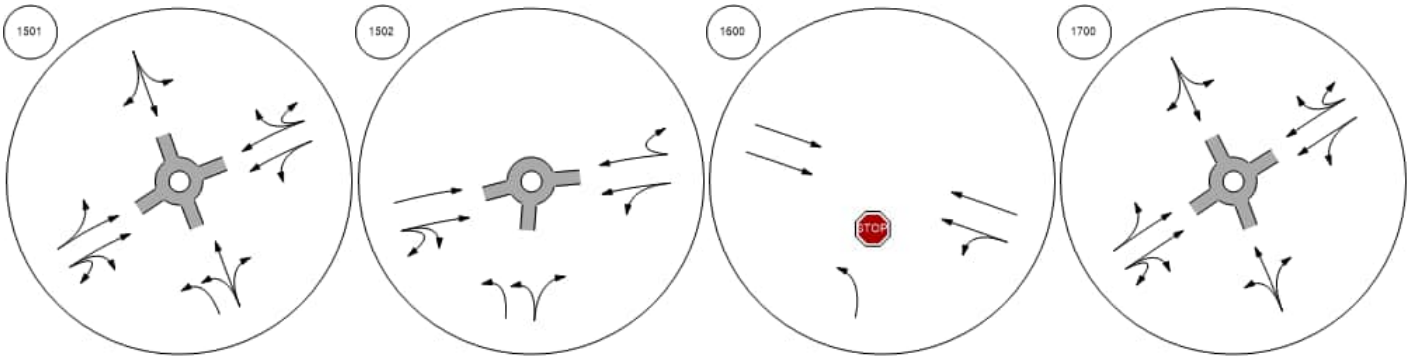
East-West Arterial at Agricola



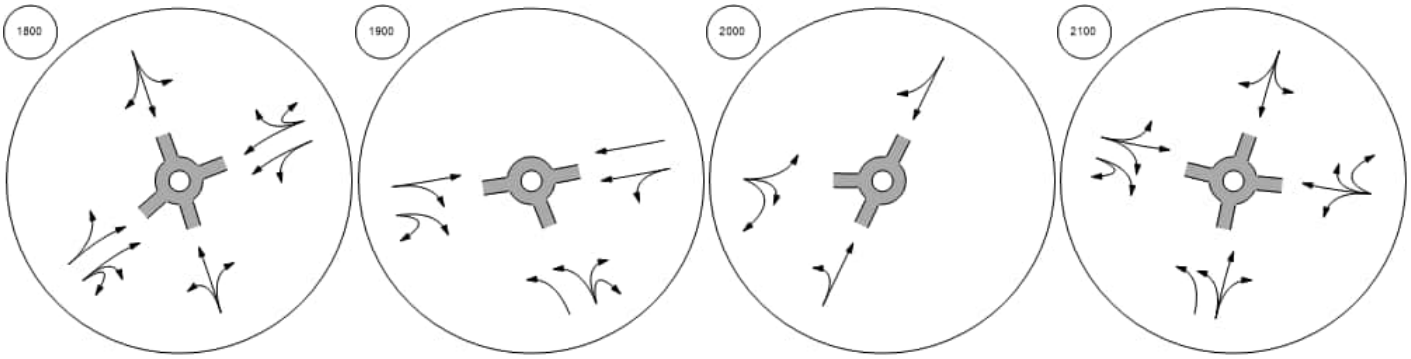
Lane Configuration and Traffic Control



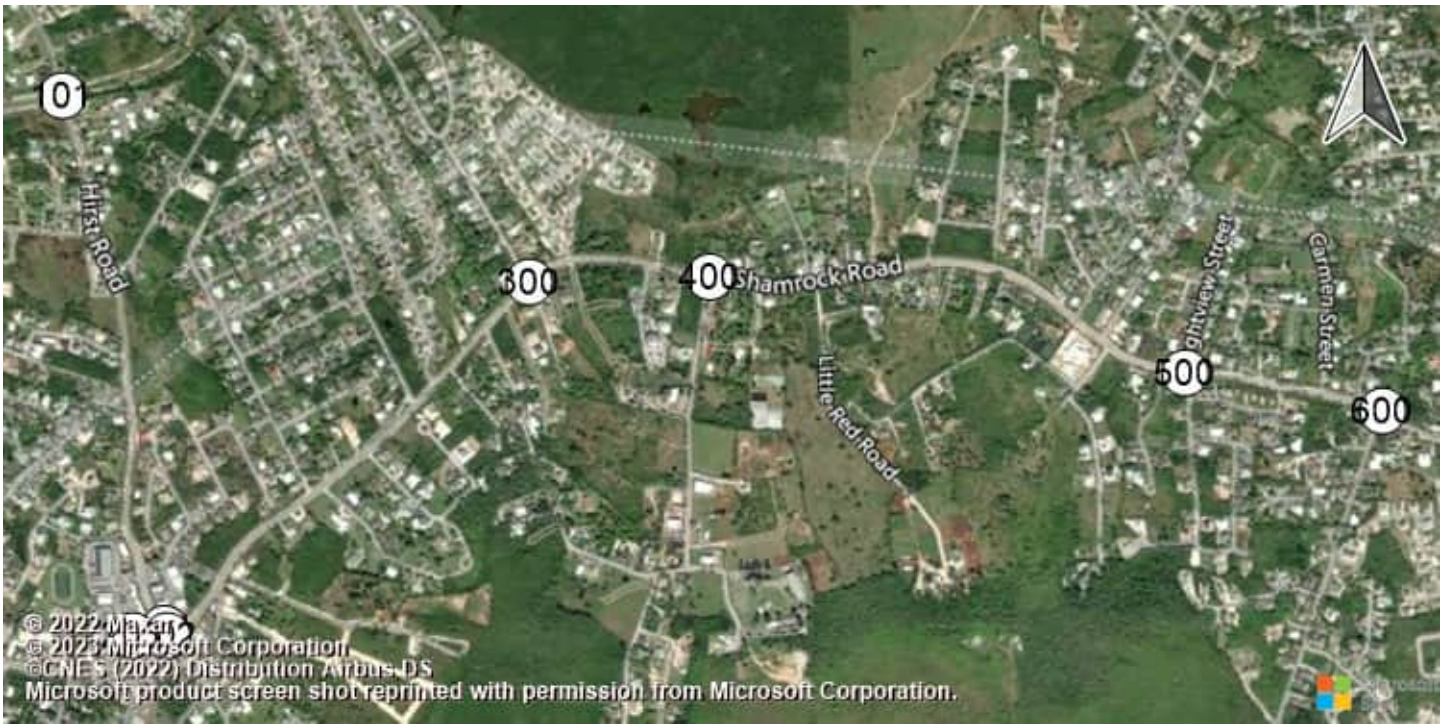
East-West Arterial at Will T C East-West Arterial at Will T C East-West Arterial at Northwa East-West Arterial at Lookout



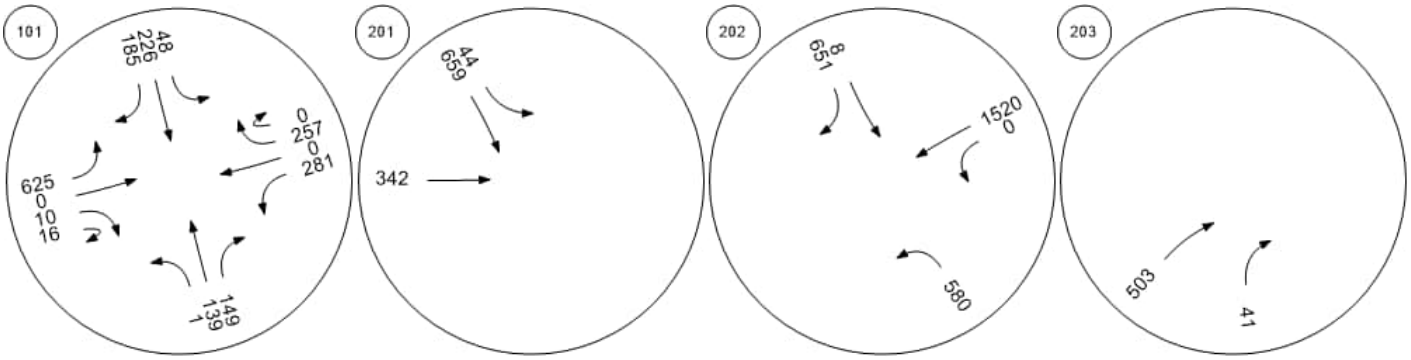
East-West Arterial at Longfell East West Arterial North/Sout Frank Sound Road at East-W Frank Sound Road at East-W



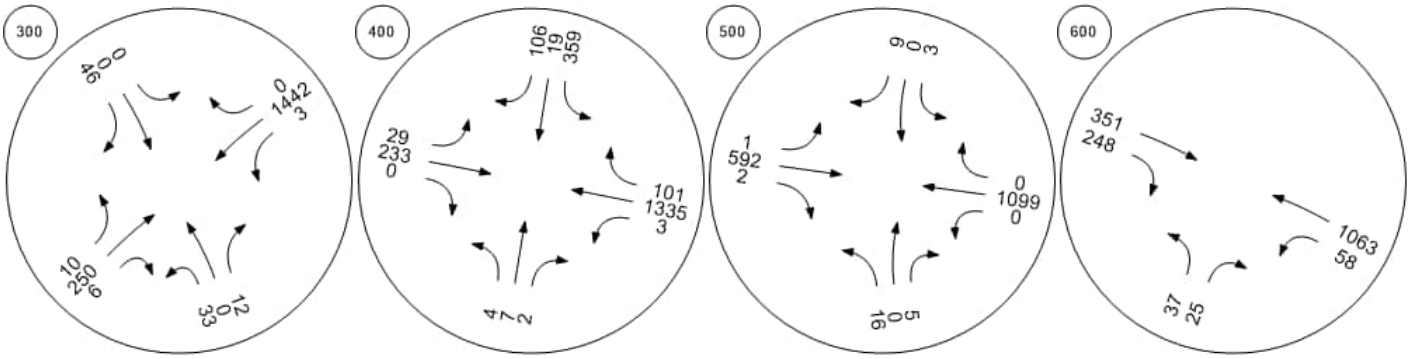
Traffic Volume - Base Volume



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



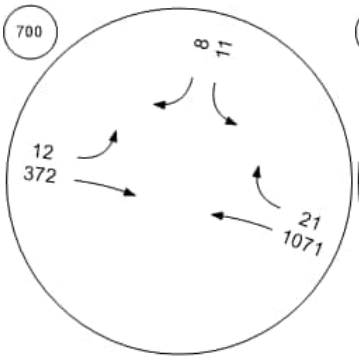
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



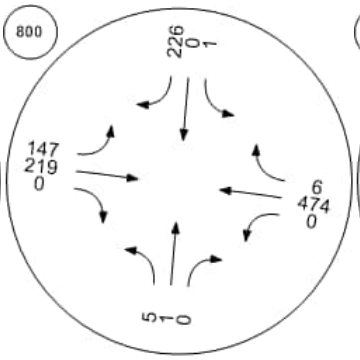
Traffic Volume - Base Volume



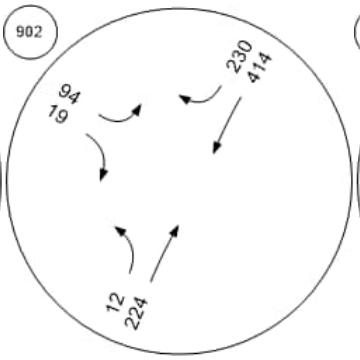
Shamrock Road at Northward



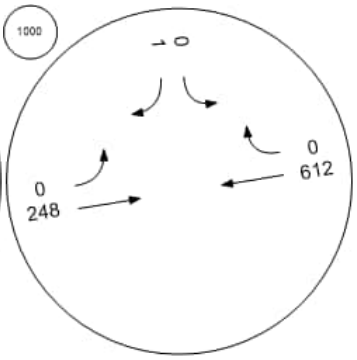
Shamrock Road at Condor R



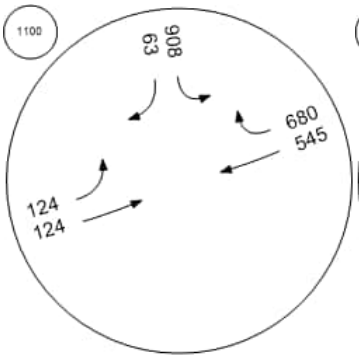
Bodden Town Road at Bodde



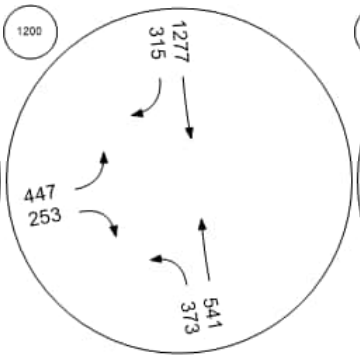
Bodden Town Road at Long



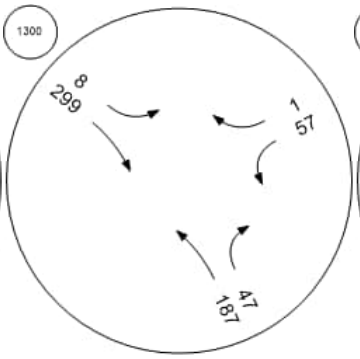
Frank Sound Road at Bodde



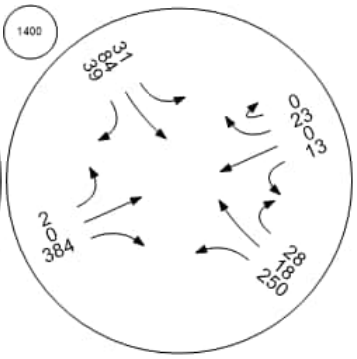
Frank Sound Road at Clifton



Frank Sound Road at North S



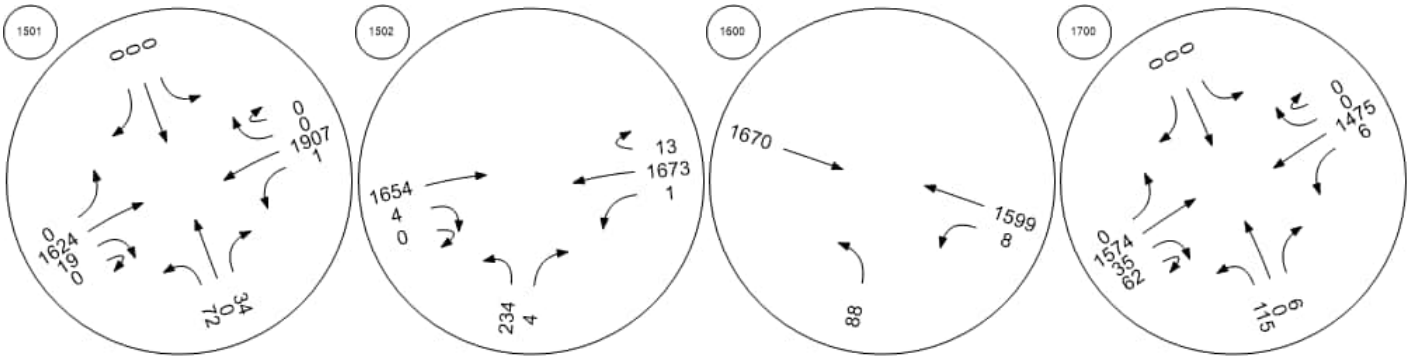
East-West Arterial at Agricola



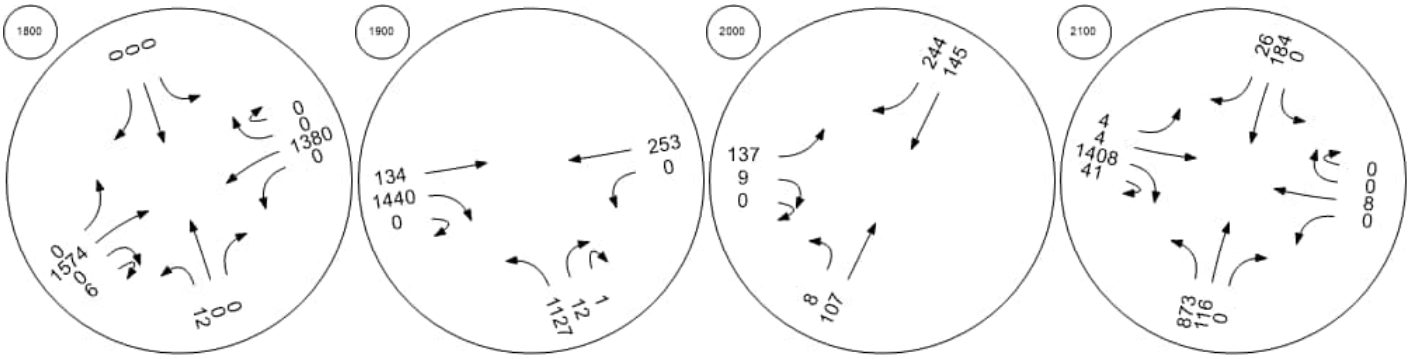
Traffic Volume - Base Volume



East-West Arterial at Will T C East-West Arterial at Will T C East-West Arterial at Northwa East-West Arterial at Lookout



East-West Arterial at Longfell East West Arterial North/Sout Frank Sound Road at East-W Frank Sound Road at East-W



Intersection Level Of Service Report
Intersection 101: East-West Arterial Road at Hirst Road

Control Type:	Roundabout	Delay (sec / veh):	23.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes		

Intersection Setup

Name									East-West Arterial				East-West Arterial				
Approach	Northbound				Southbound				Eastbound				Westbound				
Lane Configuration																	
Turning Movement	Left	Left	Thru	Right	Left	Thru	Right	Right	Left	Thru	Right	U-tu	Left	Thr	Thr	Rig	U-t
Lane Width [ft]	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.	12.	12.	12.	12.
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100	100	100	100	100
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Speed [mph]	30.00				30.00				25.00				25.00				
Grade [%]	0.00				0.00				0.00				0.00				
Crosswalk	Yes				Yes				Yes				Yes				

Volumes

Name									East-West Arterial				East-West Arterial				
Base Volume Input [veh/h]	77	0	253	207	104	269	0	481	317	58	86	2	182	0	0	185	0
Base Volume Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	77	0	253	207	104	269	0	481	317	58	86	2	182	0	0	185	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Other Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Total 15-Minute Volume [veh/h]	19	0	63	52	26	67	0	120	79	15	22	1	46	0	0	46	0
Total Analysis Volume [veh/h]	77	0	253	207	104	269	0	481	317	58	86	2	182	0	0	185	0
Pedestrian Volume [ped/h]	0				0				0				0				

Intersection Settings

Number of Conflicting Circulating Lanes	1				1				1				1				
Circulating Flow Rate [veh/h]	668				353				645				838				
Exiting Flow Rate [veh/h]	537				755				560				369				
Demand Flow Rate [veh/h]	77	0	253	207	104	269	0	481	317	58	86	2	182	0	0	185	0
Adjusted Demand Flow Rate [veh/h]	77	0	253	207	104	269	0	481	317	58	86	2	182	0	0	185	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	537	854	463	367
Capacity of Entry and Bypass Lanes [veh/h]	699	963	715	588
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	699	963	715	588
X, volume / capacity	0.77	0.89	0.65	0.63

Movement, Approach, & Intersection Results

Lane LOS	C	D	C	C
95th-Percentile Queue Length [veh]	7.33	12.35	4.79	4.32
95th-Percentile Queue Length [ft]	183.22	308.66	119.72	108.10
Approach Delay [s/veh]	24.01	29.01	17.05	18.93
Approach LOS	C	D	C	C
Intersection Delay [s/veh]	23.64			
Intersection LOS	C			

Intersection Level Of Service Report
Intersection 201: Shamrock Road at Hirst Rd (1)

Control Type:	Two-way stop	Delay (sec / veh):	765.4
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.599

Intersection Setup

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	0	0	0	110	547	0	0	985	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	110	547	0	0	985	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	30	147	0	0	265	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	118	588	0	0	1059	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.43	2.60	0.00	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	27.56	765.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS				D	F			A				
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	2.04	49.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	51.01	1241.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			642.12			0.00			0.00		
Approach LOS	A			F			A			A		
d_I, Intersection Delay [s/veh]	256.85											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 202: Shamrock Road at Hirst Rd (2)

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.329

Intersection Setup

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	341	0	0	0	72	474	0	0	0	13	948	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	341	0	0	0	72	474	0	0	0	13	948	0
Peak Hour Factor	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	92	0	0	0	19	127	0	0	0	3	255	0
Total Analysis Volume [veh/h]	367	0	0	0	77	510	0	0	0	14	1019	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	1.28	0.00	0.00	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	184.81	0.00	0.00	0.00	10000.	10000.	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	F				F	F				A	A	
95th-Percentile Queue Length [veh/ln]	17.70	0.00	0.00	0.00	76.26	76.26	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	442.60	0.00	0.00	0.00	1906.5	1906.5	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	184.81			10000.00			0.00			0.00		
Approach LOS	F			F			A			A		
d_I, Intersection Delay [s/veh]	2988.34											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 203: Shamrock Road atHirst Road Jughandle

Control Type:	Two-way stop	Delay (sec / veh):	50.4
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.397

Intersection Setup

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	0	47	1432	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	47	1432	0	0	0
Peak Hour Factor	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	13	385	0	0	0
Total Analysis Volume [veh/h]	0	51	1540	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.40	0.02	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	50.41	0.00	0.00	0.00	0.00
Movement LOS		F	A			
95th-Percentile Queue Length [veh/ln]	0.00	1.68	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	42.10	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	50.41		0.00		0.00	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	1.62					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 300: Shamrock Road at Woodland Drive

Control Type:	Two-way stop	Delay (sec / veh):	216.6
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.956

Intersection Setup

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	11	0	4	6	0	54	28	740	26	8	968	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	0	4	6	0	54	28	740	26	8	968	0
Peak Hour Factor	0.9700	0.9700	1.0000	1.0000	0.9700	0.9700	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	1	2	0	14	7	185	7	2	242	0
Total Analysis Volume [veh/h]	11	0	4	6	0	56	29	740	27	8	968	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.00	0.07	0.01	0.00	0.96	0.00	0.01	0.04	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	19.42	55.20	67.64	163.96	201.95	216.65	0.00	0.00	10.23	0.00	0.00	9.21
Movement LOS	C	F	F	F	F	F	A	A	B	A	A	A
95th-Percentile Queue Length [veh/ln]	0.33	0.33	0.33	4.70	4.70	4.70	0.12	0.12	0.12	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	8.36	8.36	8.36	117.59	117.59	117.59	2.94	2.94	2.94	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	32.28			211.55			0.35			0.00		
Approach LOS	D			F			A			A		
d_I, Intersection Delay [s/veh]	7.50											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 400: Shamrock Road at Agricola Drive

Control Type:	Roundabout	Delay (sec / veh):	14.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	2	2	1	235	26	109	53	694	4	8	865	77
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	2	1	235	26	109	53	694	4	8	865	77
Peak Hour Factor	1.0000	1.0000	0.9200	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9200	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	0	59	7	27	13	174	1	2	216	19
Total Analysis Volume [veh/h]	2	2	1	235	26	109	53	694	4	9	865	77
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1			
Circulating Flow Rate [veh/h]	1051			699			80			139			
Exiting Flow Rate [veh/h]	39			132			976			930			
Demand Flow Rate [veh/h]	2	2	1	235	26	109	53	694	4	8	865	77	
Adjusted Demand Flow Rate [veh/h]	2	2	1	235	26	109	53	694	4	9	865	77	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	5	370	751	951
Capacity of Entry and Bypass Lanes [veh/h]	473	677	1272	1198
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	473	677	1272	1198
X, volume / capacity	0.01	0.55	0.59	0.79

Movement, Approach, & Intersection Results

Lane LOS	A	B	A	C
95th-Percentile Queue Length [veh]	0.03	3.33	4.07	8.96
95th-Percentile Queue Length [ft]	0.80	83.31	101.77	224.09
Approach Delay [s/veh]	7.76	14.29	9.78	17.40
Approach LOS	A	B	A	C
Intersection Delay [s/veh]	14.07			
Intersection LOS	B			

Intersection Level Of Service Report

Intersection 500: Shamrock Road at Brightview Drive / Calla Lily Drive

Control Type:	Two-way stop	Delay (sec / veh):	61.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.045

Intersection Setup

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			20.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	5	0	1	0	0	3	14	755	27	49	796	26
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	0	1	0	0	3	14	755	27	49	796	26
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	0	0	1	4	189	7	12	199	7
Total Analysis Volume [veh/h]	5	0	1	0	0	3	14	755	27	49	796	26
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.01	0.00	0.00	0.04	0.00	0.01	0.03	0.00	0.01	0.03
d_M, Delay for Movement [s/veh]	15.01	48.86	58.09	16.31	51.95	61.02	0.00	0.00	9.66	0.00	0.00	9.35
Movement LOS	C	E	F	C	F	F	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.09	0.09	0.09	0.14	0.14	0.14	0.10	0.10	0.10	0.09	0.09	0.09
95th-Percentile Queue Length [ft/ln]	2.14	2.14	2.14	3.44	3.44	3.44	2.62	2.62	2.62	2.35	2.35	2.35
d_A, Approach Delay [s/veh]	22.19			61.02			0.33			0.28		
Approach LOS	C			F			A			A		
d_I, Intersection Delay [s/veh]	0.49											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 600: Shamrock Road at Beach Bay Road

Control Type:	Two-way stop	Delay (sec / veh):	251.6
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.021

Intersection Setup

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	27	51	640	116	26	845
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	27	51	640	116	26	845
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	14	176	32	7	232
Total Analysis Volume [veh/h]	30	56	703	127	29	929
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	1.02	0.01	0.17	0.00	0.01
d_M, Delay for Movement [s/veh]	197.14	251.57	0.00	11.01	0.00	0.00
Movement LOS	F	F	A	B	A	A
95th-Percentile Queue Length [veh/ln]	6.26	6.26	0.63	0.63	0.00	0.00
95th-Percentile Queue Length [ft/ln]	156.46	156.46	15.77	15.77	0.00	0.00
d_A, Approach Delay [s/veh]	232.59		1.68		0.00	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	11.42					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 700: Shamrock Road at Northward Road

Control Type:	Two-way stop	Delay (sec / veh):	43.0
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.259

Intersection Setup

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	13	31	12	587	873	16
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	31	12	587	873	16
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	8	3	151	225	4
Total Analysis Volume [veh/h]	13	32	12	605	900	16
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.26	0.00	0.01	0.01	0.02
d_M, Delay for Movement [s/veh]	21.08	42.96	0.00	0.00	0.00	8.76
Movement LOS	C	E	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.11	1.11	0.00	0.00	0.05	0.05
95th-Percentile Queue Length [ft/ln]	27.71	27.71	0.00	0.00	1.25	1.25
d_A, Approach Delay [s/veh]	36.64		0.00		0.15	
Approach LOS	E		A		A	
d_I, Intersection Delay [s/veh]	1.13					
Intersection LOS	E					

Intersection Level Of Service Report
Intersection 800: Shamrock Road at Condor Road

Control Type:	Two-way stop	Delay (sec / veh):	30.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.521

Intersection Setup

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Base Volume Input [veh/h]	1	0	0	4	0	148	164	292	2	0	435	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	0	4	0	148	164	292	2	0	435	12
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	1	0	37	41	73	1	0	109	3
Total Analysis Volume [veh/h]	1	0	0	4	0	148	164	292	2	0	435	12
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.00	0.52	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	10.77	18.40	17.76	23.40	30.08	30.75	0.00	0.00	8.18	0.00	0.00	8.26
Movement LOS	B	C	C	C	D	D	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	2.86	2.86	2.86	0.01	0.01	0.01	0.03	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.12	0.12	0.12	71.50	71.50	71.50	0.13	0.13	0.13	0.82	0.82	0.82
d_A, Approach Delay [s/veh]	10.77			30.56			0.04			0.22		
Approach LOS	B			D			A			A		
d_I, Intersection Delay [s/veh]	4.51											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 902: Bodden Town Road at Bodden Town Bypass

Control Type:	Two-way stop	Delay (sec / veh):	45.5
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.369

Intersection Setup

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	77	43	28	245	376	291
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	77	43	28	245	376	291
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	11	7	65	100	77
Total Analysis Volume [veh/h]	82	46	30	261	400	310
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.37	0.00	0.00	0.00	0.24
d_M, Delay for Movement [s/veh]	21.30	45.52	0.00	0.00	0.00	8.70
Movement LOS	C	E	A	A	A	A
95th-Percentile Queue Length [veh/ln]	2.40	2.40	0.00	0.00	0.95	0.95
95th-Percentile Queue Length [ft/ln]	60.02	60.02	0.00	0.00	23.73	23.73
d_A, Approach Delay [s/veh]	30.01		0.00		3.80	
Approach LOS	D		A		A	
d_I, Intersection Delay [s/veh]	5.79					
Intersection LOS	E					

Intersection Level Of Service Report
Intersection 1000: Bodden Town Road at Long Fellow Drive

Control Type:	Two-way stop	Delay (sec / veh):	18.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	0	3	4	256	648	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	3	4	256	648	0
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	1	70	178	0
Total Analysis Volume [veh/h]	0	3	4	281	712	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	9.88	18.30	0.00	0.00	0.00	7.79
Movement LOS	A	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.83	0.83	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	18.30		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.05					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1100: Frank Sound Road at Bodden Town Road

Control Type:	Roundabout	Delay (sec / veh):	15.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Base Volume Input [veh/h]	1020	93	83	164	546	538
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1020	93	83	164	546	538
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	274	25	22	44	147	145
Total Analysis Volume [veh/h]	1097	100	89	176	587	578
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	176		578		100	
Exiting Flow Rate [veh/h]	667		687		1273	
Demand Flow Rate [veh/h]	1020	93	83	164	546	538
Adjusted Demand Flow Rate [veh/h]	1097	100	89	176	587	578

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00091	0.00091	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	1097	100	89	176	587	578
Capacity of Entry and Bypass Lanes [veh/h]	1210	1210	840	840	1297	1297
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1210	1210	840	840	1297	1297
X, volume / capacity	0.91	0.08	0.11	0.21	0.45	0.45

Movement, Approach, & Intersection Results

Lane LOS	D	A	A	A	A	A
95th-Percentile Queue Length [veh]	14.42	0.27	0.35	0.79	2.42	2.35
95th-Percentile Queue Length [ft]	360.51	6.74	8.86	19.72	60.41	58.80
Approach Delay [s/veh]	25.23		6.09		7.27	
Approach LOS	D		A		A	
Intersection Delay [s/veh]	15.33					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1200: Frank Sound Road at Clifton Hunter High School

Control Type:	Roundabout	Delay (sec / veh):	22.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd		Clifton Hunter HS	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	1	0	0	0	0	0
Exit Pocket Length [ft]	100.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		20.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Frank Sound Rd		Clifton Hunter HS	
Base Volume Input [veh/h]	232	902	1008	419	334	302
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	232	902	1008	419	334	302
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	58	226	252	105	84	76
Total Analysis Volume [veh/h]	232	902	1008	419	334	302
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	2		2		2	
Circulating Flow Rate [veh/h]	419		302		902	
Exiting Flow Rate [veh/h]	1310		1236		651	
Demand Flow Rate [veh/h]	232	902	1008	419	334	302
Adjusted Demand Flow Rate [veh/h]	232	902	1008	419	334	302

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1350.00	1420.00	1350.00	1420.00	1350.00
B (coefficient)	0.00085	0.00092	0.00085	0.00092	0.00085	0.00092
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	232	902	757	671	334	302
Capacity of Entry and Bypass Lanes [veh/h]	995	919	1099	1023	660	589
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	995	919	1099	1023	660	589
X, volume / capacity	0.23	0.98	0.69	0.66	0.51	0.51

Movement, Approach, & Intersection Results

Lane LOS	A	E	B	B	B	B
95th-Percentile Queue Length [veh]	0.90	17.41	5.83	5.12	2.87	2.92
95th-Percentile Queue Length [ft]	22.60	435.22	145.86	128.06	71.85	73.03
Approach Delay [s/veh]	38.34		13.44		14.16	
Approach LOS	E		B		B	
Intersection Delay [s/veh]	22.42					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1300: Frank Sound Road at North Side Road/Old Robin Road

Control Type:	Two-way stop	Delay (sec / veh):	16.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.067

Intersection Setup

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Base Volume Input [veh/h]	318	50	31	236	86	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	318	50	31	236	86	21
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	89	14	9	66	24	6
Total Analysis Volume [veh/h]	357	56	35	265	97	24
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.04	0.00	0.00	0.13	0.07
d_M, Delay for Movement [s/veh]	0.00	7.96	0.00	0.00	11.11	16.38
Movement LOS	A	A	A	A	B	C
95th-Percentile Queue Length [veh/ln]	0.14	0.14	0.00	0.00	0.71	0.71
95th-Percentile Queue Length [ft/ln]	3.45	3.45	0.00	0.00	17.86	17.86
d_A, Approach Delay [s/veh]	1.08		0.00		12.16	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	2.30					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1400: East-West Arterial at Agricola Drive Connector

Control Type:	Roundabout	Delay (sec / veh):	6.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			25.00			25.00			
Grade [%]	0.00			0.00			0.00			0.00			
Crosswalk	Yes			Yes			Yes			Yes			

Volumes

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Base Volume Input [veh/h]	73	20	10	83	115	5	0	143	372	51	0	12	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	73	20	10	83	115	5	0	143	372	51	0	12	5
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	18	5	3	21	29	1	0	36	93	13	0	3	1
Total Analysis Volume [veh/h]	73	20	10	83	115	5	0	143	372	51	0	12	5
Pedestrian Volume [ped/h]	0			0			0			0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1			
Circulating Flow Rate [veh/h]	22			530			47			492			
Exiting Flow Rate [veh/h]	538			32			78			241			
Demand Flow Rate [veh/h]	73	20	10	83	115	5	0	143	372	51	0	12	5
Adjusted Demand Flow Rate [veh/h]	73	20	10	83	115	5	0	143	372	51	0	12	5

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	103	203	515	68
Capacity of Entry and Bypass Lanes [veh/h]	1350	804	1316	836
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1350	804	1316	836
X, volume / capacity	0.08	0.25	0.39	0.08

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.25	1.00	1.89	0.27
95th-Percentile Queue Length [ft]	6.19	25.01	47.36	6.63
Approach Delay [s/veh]	3.27	7.25	6.44	5.10
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	6.16			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1501: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	14.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name							East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name							East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	13	0	8	0	0	0	0	2036	246	0	26	1389	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	0	8	0	0	0	0	2036	246	0	26	1389	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	3	0	2	0	0	0	0	509	62	0	7	347	0	0
Total Analysis Volume [veh/h]	13	0	8	0	0	0	0	2036	246	0	26	1389	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1				1			
Circulating Flow Rate [veh/h]	1389			2290			8				246			
Exiting Flow Rate [veh/h]	272			0			1402				2044			
Demand Flow Rate [veh/h]	13	0	8	0	0	0	0	2036	246	0	26	1389	0	0
Adjusted Demand Flow Rate [veh/h]	13	0	8	0	0	0	0	2036	246	0	26	1389	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1350.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00092	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	12	10	0	1210	1073	750	666
Capacity of Entry and Bypass Lanes [veh/h]	437	377	203	1410	1410	1136	1136
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	437	377	203	1410	1410	1136	1136
X, volume / capacity	0.03	0.03	0.00	0.86	0.76	0.66	0.59

Movement, Approach, & Intersection Results

Lane LOS	A	A	C	C	B	B	B
95th-Percentile Queue Length [veh]	0.08	0.08	0.00	12.19	8.02	5.26	3.97
95th-Percentile Queue Length [ft]	1.96	2.02	0.00	304.67	200.45	131.62	99.37
Approach Delay [s/veh]	9.24		17.76	16.99		11.51	
Approach LOS	A		C	C		B	
Intersection Delay [s/veh]	14.86						
Intersection LOS	B						

Intersection Level Of Service Report
Intersection 1502: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	11.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name			East-West Arterial			East-West Arterial		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	Thru	Right	U-turn	Left	Thru	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00			50.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	Yes		Yes			Yes		

Volumes

Name			East-West Arterial			East-West Arterial		
Base Volume Input [veh/h]	19	1	2009	35	0	1	1395	35
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	19	1	2009	35	0	1	1395	35
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	0	502	9	0	0	349	9
Total Analysis Volume [veh/h]	19	1	2009	35	0	1	1395	35
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	2		1			1		
Circulating Flow Rate [veh/h]	1430		36			35		
Exiting Flow Rate [veh/h]	36		1414			2045		
Demand Flow Rate [veh/h]	19	1	2009	35	0	1	1395	35
Adjusted Demand Flow Rate [veh/h]	19	1	2009	35	0	1	1395	35

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1350.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00092	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	11	10	1084	961	759	673
Capacity of Entry and Bypass Lanes [veh/h]	422	363	1375	1375	1376	1376
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	422	363	1375	1375	1376	1376
X, volume / capacity	0.03	0.03	0.79	0.70	0.55	0.49

Movement, Approach, & Intersection Results

Lane LOS	A	B	C	B	A	A
95th-Percentile Queue Length [veh]	0.08	0.08	8.96	6.22	3.53	2.78
95th-Percentile Queue Length [ft]	1.93	1.99	224.06	155.51	88.15	69.56
Approach Delay [s/veh]	9.57		13.82		8.07	
Approach LOS	A		B		A	
Intersection Delay [s/veh]	11.44					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1600: East-West Arterial at Northward Rd

Control Type:	Two-way stop	Delay (sec / veh):	15.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.061

Intersection Setup

Name	Northward Rd		East-West Arterial		East-West Arterial	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		East-West Arterial		East-West Arterial	
Base Volume Input [veh/h]	23	0	2045	0	14	1409
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	23	0	2045	0	14	1409
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	0	511	0	4	352
Total Analysis Volume [veh/h]	23	0	2045	0	14	1409
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.00	0.02	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	15.09	0.00	0.00	0.00	0.00	0.00
Movement LOS	C		A		A	A
95th-Percentile Queue Length [veh/ln]	0.19	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	4.81	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	15.09		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.10					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1700: East-West Arterial at Lookout Rd

Control Type:	Roundabout	Delay (sec / veh):	12.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Lookout Rd			Lookout Rd			East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Lookout Rd			Lookout Rd			East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	47	0	13	0	0	0	0	1744	173	129	19	1307	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	47	0	13	0	0	0	0	1744	173	129	19	1307	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	12	0	3	0	0	0	0	436	43	32	5	327	0	0
Total Analysis Volume [veh/h]	47	0	13	0	0	0	0	1744	173	129	19	1307	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1				1			
Circulating Flow Rate [veh/h]	1436			2059			13				302			
Exiting Flow Rate [veh/h]	192			0			1483				1757			
Demand Flow Rate [veh/h]	47	0	13	0	0	0	0	1744	173	129	19	1307	0	0
Adjusted Demand Flow Rate [veh/h]	47	0	13	0	0	0	0	1744	173	129	19	1307	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	60	0	1085	962	703	624
Capacity of Entry and Bypass Lanes [veh/h]	419	247	1404	1404	1079	1079
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	419	247	1404	1404	1079	1079
X, volume / capacity	0.14	0.00	0.77	0.69	0.65	0.58

Movement, Approach, & Intersection Results

Lane LOS	B	B	B	B	B	B
95th-Percentile Queue Length [veh]	0.50	0.00	8.42	5.90	5.06	3.84
95th-Percentile Queue Length [ft]	12.40	0.00	210.54	147.52	126.55	96.11
Approach Delay [s/veh]	10.74	14.59	13.04		11.70	
Approach LOS	B	B	B		B	
Intersection Delay [s/veh]	12.48					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1800: East-West Arterial at Longfellow Rd

Control Type:	Roundabout	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Longfellow Rd			Longfellow Rd			East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Longfellow Rd			Longfellow Rd			East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	9	0	0	0	0	0	0	1697	21	38	0	1262	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	0	0	0	0	0	0	1697	21	38	0	1262	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	2	0	0	0	0	0	0	424	5	10	0	316	0	0
Total Analysis Volume [veh/h]	9	0	0	0	0	0	0	1697	21	38	0	1262	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1				1				
Circulating Flow Rate [veh/h]	1300			1756			0				59				
Exiting Flow Rate [veh/h]	21			0			1309				1697				
Demand Flow Rate [veh/h]	9	0	0	0	0	0	0	1697	21	38	0	1262	0	0	
Adjusted Demand Flow Rate [veh/h]	9	0	0	0	0	0	0	1697	21	38	0	1262	0	0	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	9	0	931	826	669	594
Capacity of Entry and Bypass Lanes [veh/h]	471	320	1420	1420	1346	1346
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	471	320	1420	1420	1346	1346
X, volume / capacity	0.02	0.00	0.66	0.58	0.50	0.44

Movement, Approach, & Intersection Results

Lane LOS	A	B	B	A	A	A
95th-Percentile Queue Length [veh]	0.06	0.00	5.25	3.95	2.87	2.31
95th-Percentile Queue Length [ft]	1.46	0.00	131.36	98.83	71.68	57.69
Approach Delay [s/veh]	7.90	11.28	9.74		7.40	
Approach LOS	A	B	A		A	
Intersection Delay [s/veh]	8.76					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1900: East West Arterial North/South Spurs

Control Type:	Roundabout	Delay (sec / veh):	9.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	East-West Arterial			East-West Arterial			East-West Arterial	
Approach	Northbound			Eastbound			Westbound	
Lane Configuration								
Turning Movement	Left	Right	U-turn	Thru	Right	U-turn	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			50.00			40.00	
Grade [%]	0.00			0.00			0.00	
Crosswalk	Yes			Yes			Yes	

Volumes

Name	East-West Arterial			East-West Arterial			East-West Arterial	
Base Volume Input [veh/h]	1077	1	4	253	1444	0	0	184
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1077	1	4	253	1444	0	0	184
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	269	0	1	63	361	0	0	46
Total Analysis Volume [veh/h]	1077	1	4	253	1444	0	0	184
Pedestrian Volume [ped/h]	0			0			0	

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			2	
Circulating Flow Rate [veh/h]	184			5			1448	
Exiting Flow Rate [veh/h]	1448			1261			254	
Demand Flow Rate [veh/h]	1077	1	4	253	1444	0	0	184
Adjusted Demand Flow Rate [veh/h]	1077	1	4	253	1444	0	0	184

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1350.00	1420.00	1350.00	1420.00	1350.00
B (coefficient)	0.00085	0.00092	0.00085	0.00092	0.00085	0.00092
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	574	509	798	900	98	87
Capacity of Entry and Bypass Lanes [veh/h]	1215	1140	1414	1344	415	357
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1215	1140	1414	1344	415	357
X, volume / capacity	0.47	0.45	0.56	0.67	0.24	0.24

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	B	B	B
95th-Percentile Queue Length [veh]	2.60	2.35	3.70	5.52	0.90	0.94
95th-Percentile Queue Length [ft]	64.99	58.68	92.60	138.07	22.54	23.39
Approach Delay [s/veh]	7.93		10.01		13.46	
Approach LOS	A		B		B	
Intersection Delay [s/veh]	9.47					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 2000: Frank Sound Road at East-West Arterial

Control Type:	Roundabout	Delay (sec / veh):	4.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd		East-West Arterial		
Approach	Northbound		Southbound		Eastbound		
Lane Configuration							
Turning Movement	Left	Thru	Thru	Right	Left	Right	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		40.00		
Grade [%]	0.00		0.00		0.00		
Crosswalk	Yes		Yes		Yes		

Volumes

Name	Frank Sound Rd		Frank Sound Rd		East-West Arterial		
Base Volume Input [veh/h]	10	169	175	175	237	17	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	169	175	175	237	17	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	42	44	44	59	4	0
Total Analysis Volume [veh/h]	10	169	175	175	237	17	0
Pedestrian Volume [ped/h]	0		0		0		

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1		
Circulating Flow Rate [veh/h]	175		17		169		
Exiting Flow Rate [veh/h]	192		406		185		
Demand Flow Rate [veh/h]	10	169	175	175	237	17	0
Adjusted Demand Flow Rate [veh/h]	10	169	175	175	237	17	0

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00
Entry Flow Rate [veh/h]	179	350	254
Capacity of Entry and Bypass Lanes [veh/h]	1155	1357	1162
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1155	1357	1162
X, volume / capacity	0.16	0.26	0.22

Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	0.55	1.03	0.83
95th-Percentile Queue Length [ft]	13.70	25.87	20.84
Approach Delay [s/veh]	4.47	4.87	5.06
Approach LOS	A	A	A
Intersection Delay [s/veh]	4.84		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 2100: Frank Sound Road at East-West Arterial

Control Type:	Roundabout	Delay (sec / veh):	10.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd			Frank Sound Rd			East-West Arterial							
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00			50.00			40.00				40.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Frank Sound Rd			Frank Sound Rd			East-West Arterial							
Base Volume Input [veh/h]	1037	200	0	0	188	19	15	0	1239	186	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1037	200	0	0	188	19	15	0	1239	186	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	259	50	0	0	47	5	4	0	310	47	0	0	0	0
Total Analysis Volume [veh/h]	1037	200	0	0	188	19	15	0	1239	186	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1				2			
Circulating Flow Rate [veh/h]	205			1425			200				1632			
Exiting Flow Rate [veh/h]	1427			215			1242				0			
Demand Flow Rate [veh/h]	1037	200	0	0	188	19	15	0	1239	186	0	0	0	0
Adjusted Demand Flow Rate [veh/h]	1037	200	0	0	188	19	15	0	1239	186	0	0	0	0

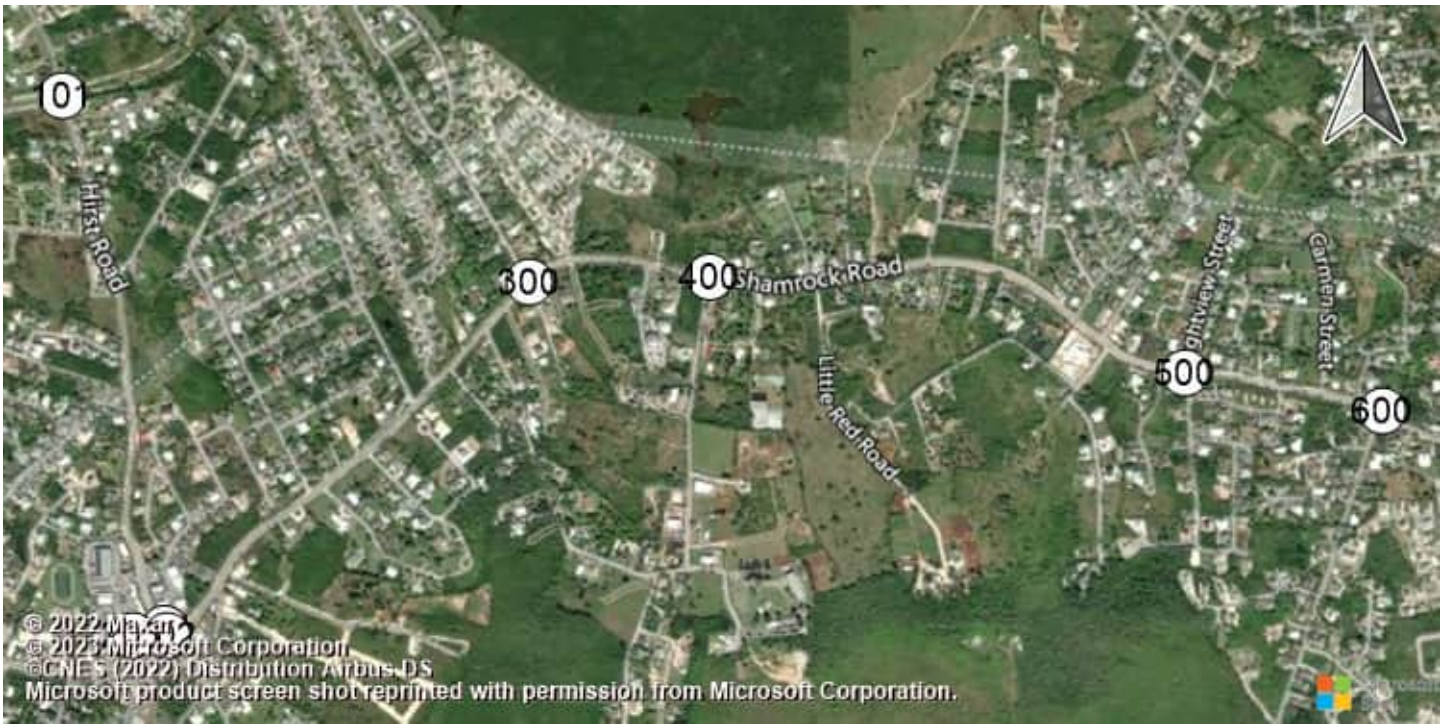
Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1350.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00092	0.00085	0.00091	0.00091	0.00085
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	656	582	207	677	764	0
Capacity of Entry and Bypass Lanes [veh/h]	1193	1118	423	1184	1184	355
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1193	1118	423	1184	1184	355
X, volume / capacity	0.55	0.52	0.49	0.57	0.64	0.00

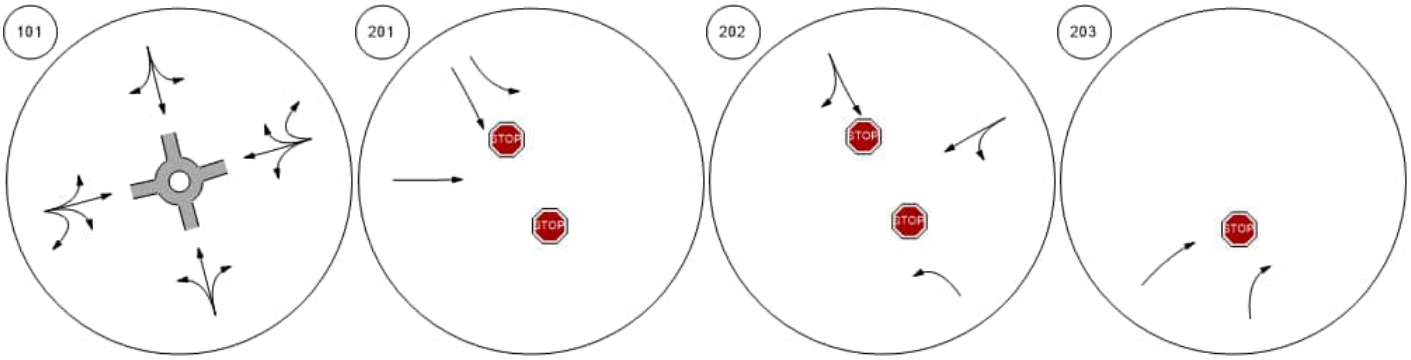
Movement, Approach, & Intersection Results

Lane LOS	A	A	C	A	B	B
95th-Percentile Queue Length [veh]	3.48	3.11	2.62	3.78	4.97	0.00
95th-Percentile Queue Length [ft]	87.00	77.67	65.54	94.50	124.35	0.00
Approach Delay [s/veh]	9.32		18.85	10.79		10.15
Approach LOS	A		C	B		B
Intersection Delay [s/veh]	10.74					
Intersection LOS	B					

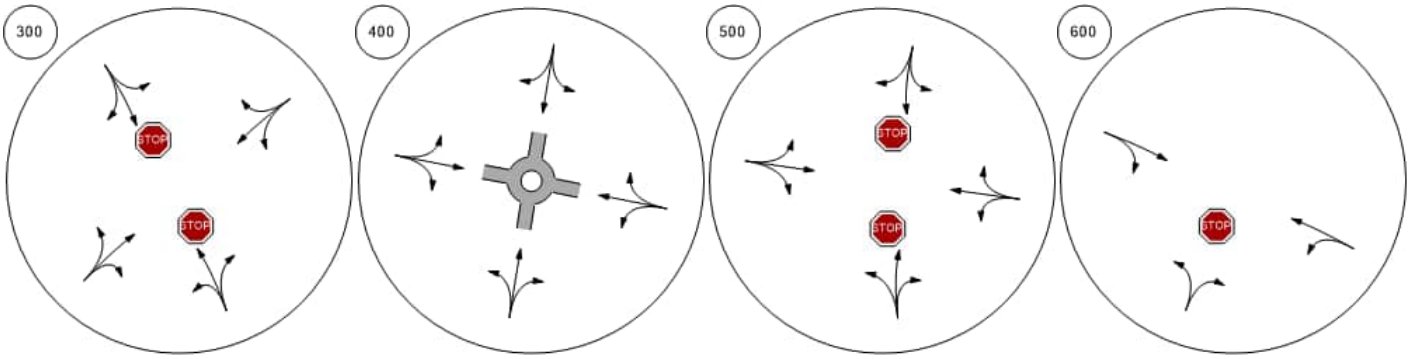
Lane Configuration and Traffic Control



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



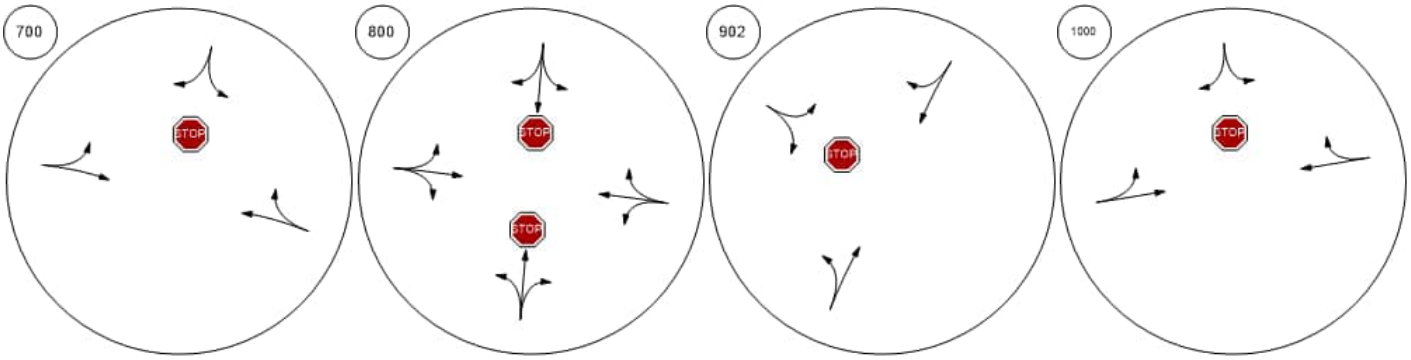
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



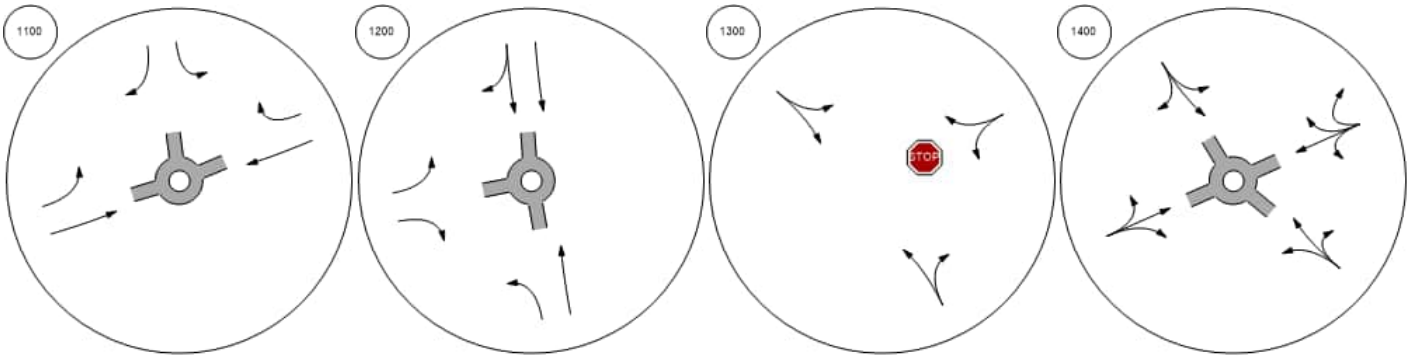
Lane Configuration and Traffic Control



Shamrock Road at Northward | Shamrock Road at Condor R | Bodden Town Road at Bodde | Bodden Town Road at Long



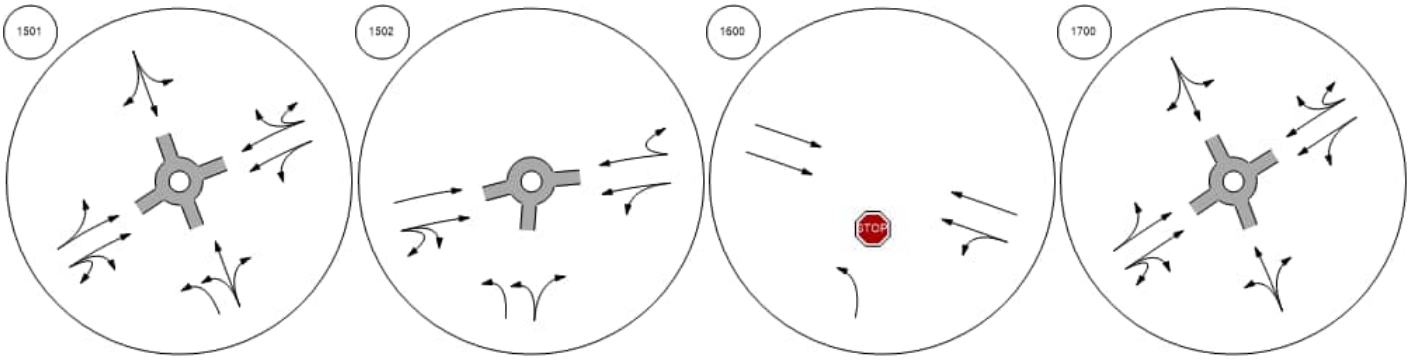
Frank Sound Road at Bodde | Frank Sound Road at Clifton | Frank Sound Road at North S | East-West Arterial at Agricola



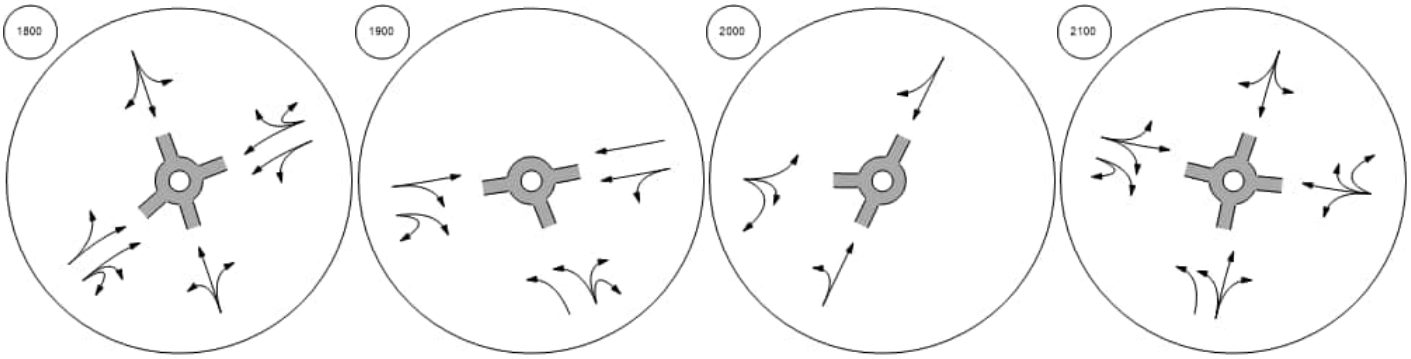
Lane Configuration and Traffic Control



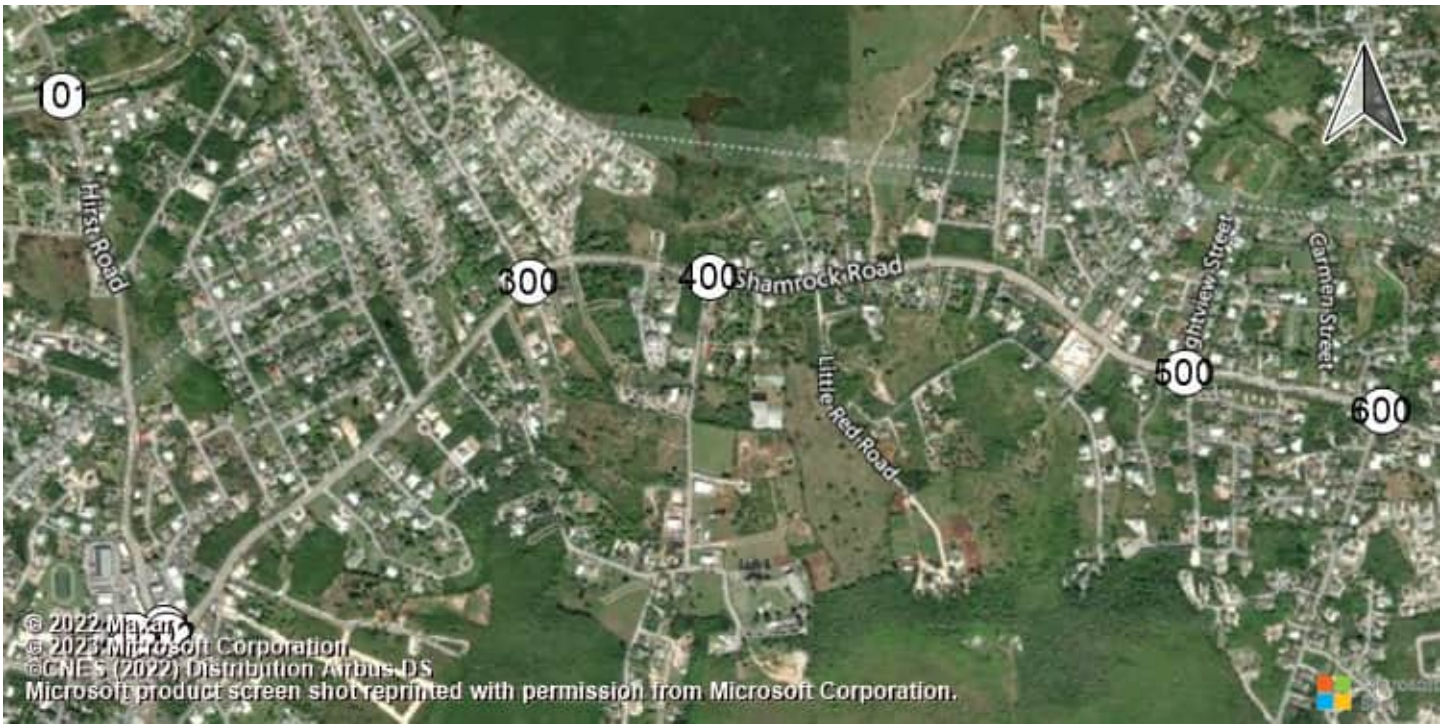
East-West Arterial at Will T C East-West Arterial at Will T C East-West Arterial at Northwa East-West Arterial at Lookout



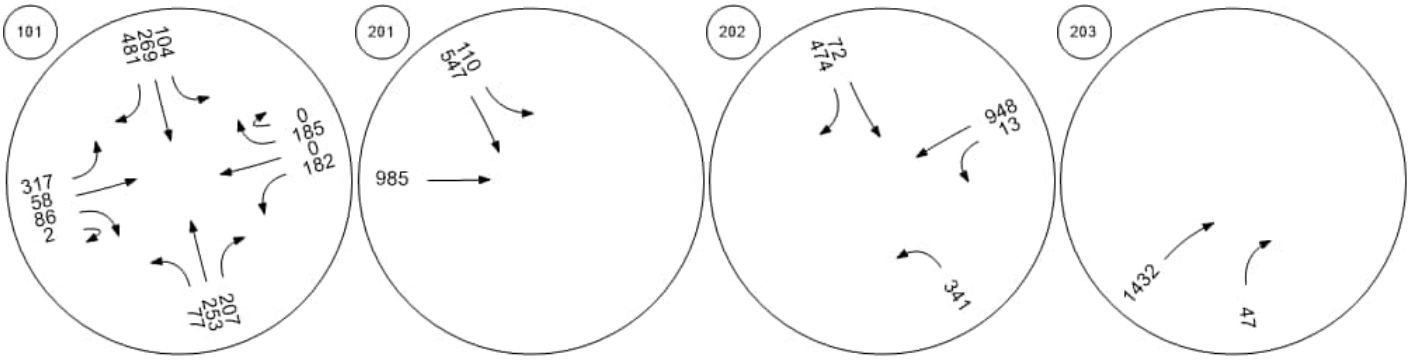
East-West Arterial at Longfell East West Arterial North/Sout Frank Sound Road at East-W Frank Sound Road at East-W



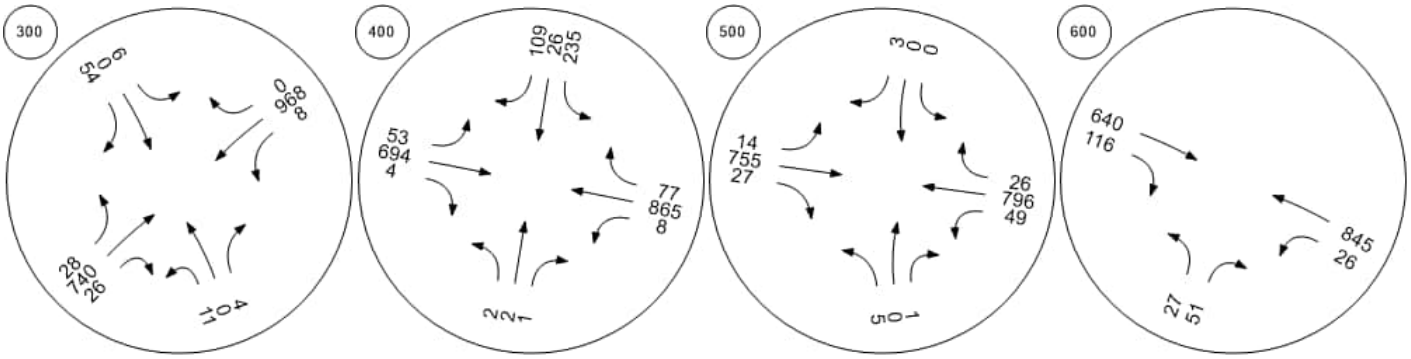
Traffic Volume - Base Volume



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



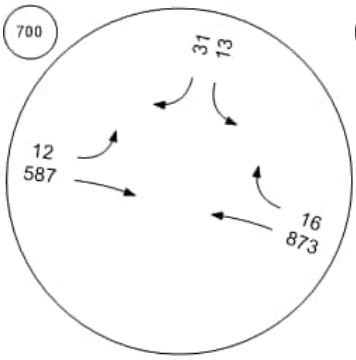
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



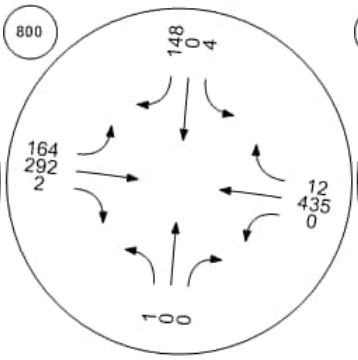
Traffic Volume - Base Volume



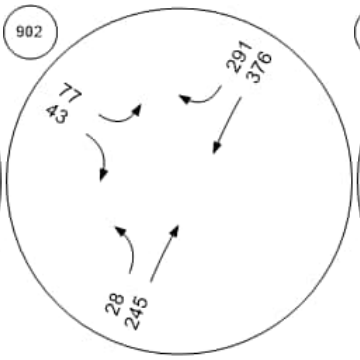
Shamrock Road at Northward



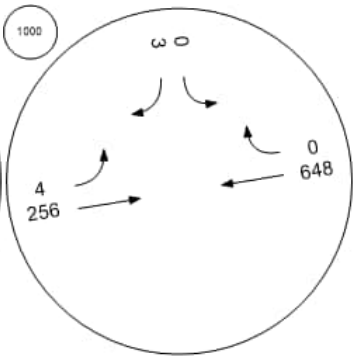
Shamrock Road at Condor R



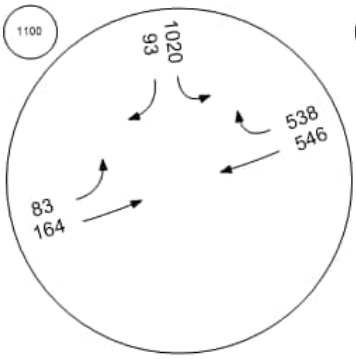
Bodden Town Road at Bodde



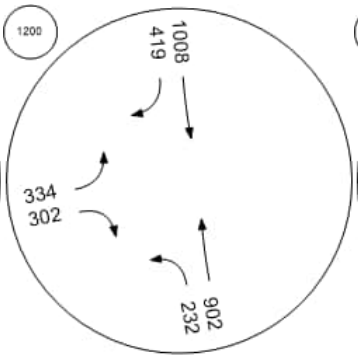
Bodden Town Road at Long



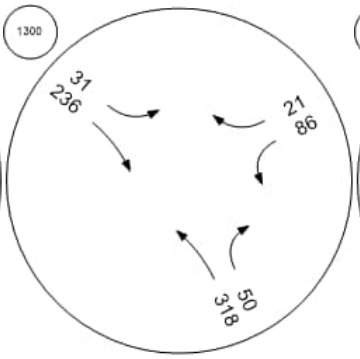
Frank Sound Road at Bodde



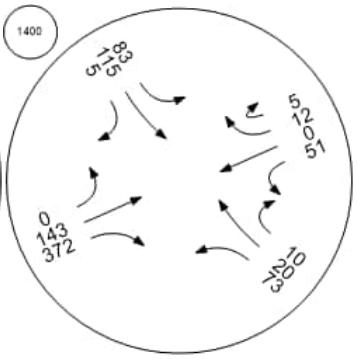
Frank Sound Road at Clifton



Frank Sound Road at North S



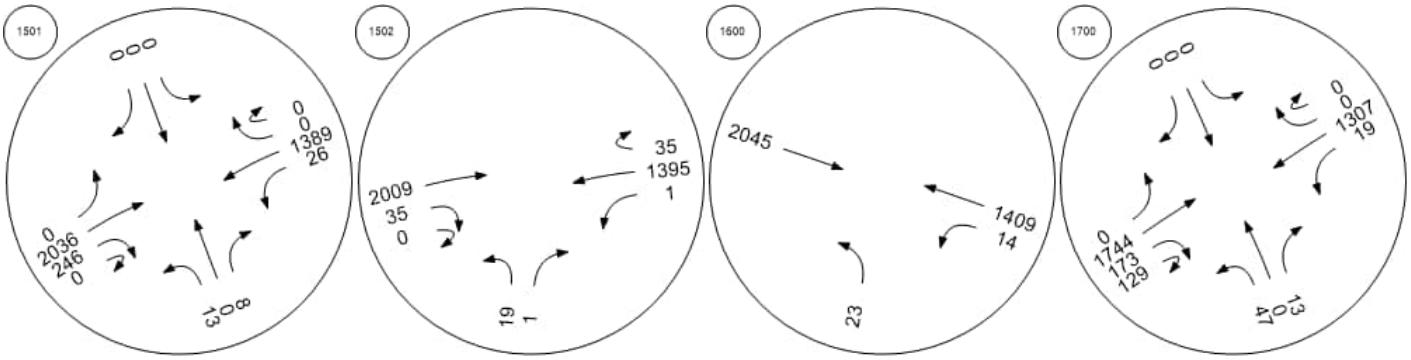
East-West Arterial at Agricola



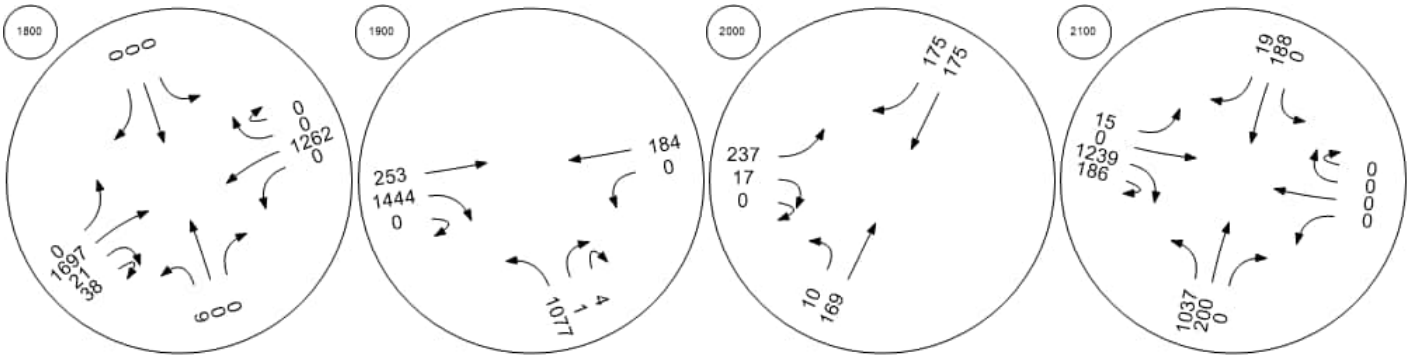
Traffic Volume - Base Volume



East-West Arterial at Will T C East-West Arterial at Will T C East-West Arterial at Northwa East-West Arterial at Lookout



East-West Arterial at Longfell East West Arterial North/Sout Frank Sound Road at East-W Frank Sound Road at East-W



Intersection Level Of Service Report
Intersection 101: East-West Arterial Road at Hirst Road

Control Type:	Roundabout	Delay (sec / veh):	15.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes		

Intersection Setup

Name									East-West Arterial				East-West Arterial				
Approach	Northbound				Southbound				Eastbound				Westbound				
Lane Configuration																	
Turning Movement	Left	Left	Thru	Right	Left	Thru	Right	Right	Left	Thru	Right	U-tu	Left	Thr	Thr	Rig	U-t
Lane Width [ft]	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.	12.	12.	12.	12.
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100	100	100	100	100
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Speed [mph]	30.00				30.00				25.00				25.00				
Grade [%]	0.00				0.00				0.00				0.00				
Crosswalk	Yes				Yes				Yes				Yes				

Volumes

Name									East-West Arterial				East-West Arterial				
Base Volume Input [veh/h]	1	0	138	167	49	253	0	167	626	0	11	15	249	0	0	258	0
Base Volume Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	138	167	49	253	0	167	626	0	11	15	249	0	0	258	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Other Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Total 15-Minute Volume [veh/h]	0	0	35	42	12	63	0	42	157	0	3	4	62	0	0	65	0
Total Analysis Volume [veh/h]	1	0	138	167	49	253	0	167	626	0	11	15	249	0	0	258	0
Pedestrian Volume [ped/h]	0				0				0				0				

Intersection Settings

Number of Conflicting Circulating Lanes	1				3				1				1				
Circulating Flow Rate [veh/h]	440				193				563				446				
Exiting Flow Rate [veh/h]	513				1022				183				216				
Demand Flow Rate [veh/h]	1	0	138	167	49	253	0	167	626	0	11	15	249	0	0	258	0
Adjusted Demand Flow Rate [veh/h]	1	0	138	167	49	253	0	167	626	0	11	15	249	0	0	258	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1420.00	1380.00	1380.00
B (coefficient)	0.00102	0.00085	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	306	469	652	507
Capacity of Entry and Bypass Lanes [veh/h]	881	1206	778	876
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	881	1206	778	876
X, volume / capacity	0.35	0.39	0.84	0.58

Movement, Approach, & Intersection Results

Lane LOS	A	A	D	B
95th-Percentile Queue Length [veh]	1.56	1.87	9.66	3.81
95th-Percentile Queue Length [ft]	39.06	46.83	241.58	95.28
Approach Delay [s/veh]	7.98	6.82	27.93	12.50
Approach LOS	A	A	D	B
Intersection Delay [s/veh]	15.61			
Intersection LOS	C			

Intersection Level Of Service Report
Intersection 201: Shamrock Road at Hirst Rd (1)

Control Type:	Two-way stop	Delay (sec / veh):	189.6
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.343

Intersection Setup

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	0	0	0	46	655	0	0	395	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	46	655	0	0	395	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	12	176	0	0	106	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	49	704	0	0	425	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop			Stop			Free			Free			
Flared Lane													
Storage Area [veh]	0			0			0			0			
Two-Stage Gap Acceptance				No									
Number of Storage Spaces in Median	0			0			0			0			

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.08	1.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	11.16	189.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Movement LOS				B	F			A					
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.25	30.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	6.27	774.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
d_A, Approach Delay [s/veh]	0.00			177.96			0.00			0.00			
Approach LOS	A			F			A			A			
d_I, Intersection Delay [s/veh]	113.76												
Intersection LOS	F												

Intersection Level Of Service Report
Intersection 202: Shamrock Road at Hirst Rd (2)

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.076

Intersection Setup

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	585	0	0	0	7	648	0	0	0	0	1499	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	585	0	0	0	7	648	0	0	0	0	1499	0
Peak Hour Factor	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	157	0	0	0	2	174	0	0	0	0	403	0
Total Analysis Volume [veh/h]	629	0	0	0	8	697	0	0	0	0	1612	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	4.84	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	1793.1	0.00	0.00	0.00	10000.	10000.	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	F				F	F				A	A	
95th-Percentile Queue Length [veh/ln]	65.94	0.00	0.00	0.00	91.03	91.03	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1648.6	0.00	0.00	0.00	2275.7	2275.7	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	1793.19			10000.00			0.00			0.00		
Approach LOS	F			F			A			A		
d_I, Intersection Delay [s/veh]	2775.94											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 203: Shamrock Road atHirst Road Jughandle

Control Type:	Two-way stop	Delay (sec / veh):	13.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.094

Intersection Setup

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	0	40	575	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	40	575	0	0	0
Peak Hour Factor	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	11	155	0	0	0
Total Analysis Volume [veh/h]	0	43	618	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.09	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	13.71	0.00	0.00	0.00	0.00
Movement LOS		B	A			
95th-Percentile Queue Length [veh/ln]	0.00	0.31	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	7.76	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.71		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.89					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 300: Shamrock Road at Woodland Drive

Control Type:	Two-way stop	Delay (sec / veh):	302.9
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.173

Intersection Setup

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	33	0	12	0	0	61	10	306	6	3	1409	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	33	0	12	0	0	61	10	306	6	3	1409	0
Peak Hour Factor	0.9700	0.9700	1.0000	1.0000	0.9700	0.9700	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	0	3	0	0	16	3	77	2	1	352	0
Total Analysis Volume [veh/h]	34	0	12	0	0	63	10	306	6	3	1409	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.20	0.00	0.17	0.00	0.00	1.17	0.00	0.00	0.01	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	42.39	62.86	73.63	240.75	277.13	302.85	0.00	0.00	12.45	0.00	0.00	7.87
Movement LOS	E	F	F	F	F	F	A	A	B	A	A	A
95th-Percentile Queue Length [veh/ln]	1.54	1.54	1.54	5.47	5.47	5.47	0.04	0.04	0.04	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	38.45	38.45	38.45	136.87	136.87	136.87	0.93	0.93	0.93	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	50.54			302.85			0.23			0.00		
Approach LOS	F			F			A			A		
d_I, Intersection Delay [s/veh]	11.65											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 400: Shamrock Road at Agricola Drive

Control Type:	Roundabout	Delay (sec / veh):	65.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	4	7	2	286	17	109	31	286	2	3	1298	101
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	7	2	286	17	109	31	286	2	3	1298	101
Peak Hour Factor	1.0000	1.0000	0.9200	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9200	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	1	72	4	27	8	72	1	1	325	25
Total Analysis Volume [veh/h]	4	7	2	286	17	109	31	286	2	3	1298	101
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	1508			290			110			128		
Exiting Flow Rate [veh/h]	22			139			1411			574		
Demand Flow Rate [veh/h]	4	7	2	286	17	109	31	286	2	3	1298	101
Adjusted Demand Flow Rate [veh/h]	4	7	2	286	17	109	31	286	2	3	1298	101

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	13	412	319	1402
Capacity of Entry and Bypass Lanes [veh/h]	297	1027	1234	1212
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	297	1027	1234	1212
X, volume / capacity	0.04	0.40	0.26	1.16

Movement, Approach, & Intersection Results

Lane LOS	B	A	A	F
95th-Percentile Queue Length [veh]	0.14	1.96	1.04	37.78
95th-Percentile Queue Length [ft]	3.43	49.02	25.93	944.49
Approach Delay [s/veh]	12.92	7.84	5.23	96.42
Approach LOS	B	A	A	F
Intersection Delay [s/veh]	65.35			
Intersection LOS	F			

Intersection Level Of Service Report

Intersection 500: Shamrock Road at Brightview Drive / Calla Lily Drive

Control Type:	Two-way stop	Delay (sec / veh):	57.2
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.118

Intersection Setup

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			20.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	16	0	5	3	0	9	1	571	2	0	1053	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	16	0	5	3	0	9	1	571	2	0	1053	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	0	1	1	0	2	0	143	1	0	263	0
Total Analysis Volume [veh/h]	16	0	5	3	0	9	1	571	2	0	1053	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.00	0.06	0.01	0.00	0.12	0.00	0.01	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	20.71	42.89	51.85	17.01	45.27	57.17	0.00	0.00	10.40	0.00	0.00	8.56
Movement LOS	C	E	F	C	E	F	A	A	B	A	A	A
95th-Percentile Queue Length [veh/ln]	0.40	0.40	0.40	0.41	0.41	0.41	0.01	0.01	0.01	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	9.92	9.92	9.92	10.16	10.16	10.16	0.22	0.22	0.22	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	28.13			47.13			0.04			0.00		
Approach LOS	D			E			A			A		
d_I, Intersection Delay [s/veh]	0.71											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 600: Shamrock Road at Beach Bay Road

Control Type:	Two-way stop	Delay (sec / veh):	416.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.134

Intersection Setup

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	35	27	332	247	59	1017
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	35	27	332	247	59	1017
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	7	91	68	16	279
Total Analysis Volume [veh/h]	38	30	365	271	65	1118
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane	No					
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance	No					
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.16	1.13	0.00	0.45	0.00	0.01
d_M, Delay for Movement [s/veh]	294.69	415.99	0.00	15.93	0.00	0.00
Movement LOS	F	F	A	C	A	A
95th-Percentile Queue Length [veh/ln]	6.10	6.10	2.35	2.35	0.00	0.00
95th-Percentile Queue Length [ft/ln]	152.39	152.39	58.86	58.86	0.00	0.00
d_A, Approach Delay [s/veh]	348.20		6.79		0.00	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	14.84					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 700: Shamrock Road at Northward Road

Control Type:	Two-way stop	Delay (sec / veh):	33.0
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.060

Intersection Setup

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	8	8	12	355	1027	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	8	12	355	1027	21
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	2	3	91	265	5
Total Analysis Volume [veh/h]	8	8	12	366	1059	22
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.06	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	11.54	33.02	0.00	0.00	0.00	8.08
Movement LOS	B	D	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.23	0.23	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	5.71	5.71	0.00	0.00	1.41	1.41
d_A, Approach Delay [s/veh]	22.28		0.00		0.16	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.36					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 800: Shamrock Road at Condor Road

Control Type:	Two-way stop	Delay (sec / veh):	36.7
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.694

Intersection Setup

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Base Volume Input [veh/h]	5	1	0	1	0	234	148	199	0	0	438	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	1	0	1	0	234	148	199	0	0	438	6
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	0	0	59	37	50	0	0	110	2
Total Analysis Volume [veh/h]	5	1	0	1	0	234	148	199	0	0	438	6
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.69	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	10.85	16.34	15.61	30.72	36.25	36.72	0.00	0.00	8.18	0.00	0.00	7.96
Movement LOS	B	C	C	D	E	E	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.03	4.94	4.94	4.94	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.85	0.85	0.85	123.57	123.57	123.57	0.00	0.00	0.00	0.37	0.37	0.37
d_A, Approach Delay [s/veh]	11.77			36.69			0.00			0.11		
Approach LOS	B			E			A			A		
d_I, Intersection Delay [s/veh]	8.47											
Intersection LOS	E											

Intersection Level Of Service Report
Intersection 902: Bodden Town Road at Bodden Town Bypass

Control Type:	Two-way stop	Delay (sec / veh):	24.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.097

Intersection Setup

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	92	19	12	204	390	190
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	92	19	12	204	390	190
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	5	3	54	104	51
Total Analysis Volume [veh/h]	98	20	13	217	415	202
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.10	0.00	0.00	0.00	0.15
d_M, Delay for Movement [s/veh]	11.19	24.24	0.00	0.00	0.00	8.14
Movement LOS	B	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.82	0.82	0.00	0.00	0.53	0.53
95th-Percentile Queue Length [ft/ln]	20.38	20.38	0.00	0.00	13.15	13.15
d_A, Approach Delay [s/veh]	13.41		0.00		2.66	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	3.34					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1000: Bodden Town Road at Long Fellow Drive

Control Type:	Two-way stop	Delay (sec / veh):	15.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.032

Intersection Setup

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	0	10	6	216	539	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	10	6	216	539	0
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	3	2	59	148	0
Total Analysis Volume [veh/h]	0	11	7	237	592	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.03	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	9.83	15.89	0.00	0.00	0.00	7.70
Movement LOS	A	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.10	0.10	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	2.49	2.49	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	15.89		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.21					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1100: Frank Sound Road at Bodden Town Road

Control Type:	Roundabout	Delay (sec / veh):	10.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Base Volume Input [veh/h]	908	51	97	123	488	731
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	908	51	97	123	488	731
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	244	14	26	33	131	197
Total Analysis Volume [veh/h]	976	55	104	132	525	786
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	132		786		55	
Exiting Flow Rate [veh/h]	890		580		1108	
Demand Flow Rate [veh/h]	908	51	97	123	488	731
Adjusted Demand Flow Rate [veh/h]	976	55	104	132	525	786

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00091	0.00091	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	976	55	104	132	525	786
Capacity of Entry and Bypass Lanes [veh/h]	1260	1260	695	695	1351	1351
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1260	1260	695	695	1351	1351
X, volume / capacity	0.78	0.04	0.15	0.19	0.39	0.58

Movement, Approach, & Intersection Results

Lane LOS	C	A	A	A	A	A
95th-Percentile Queue Length [veh]	8.36	0.14	0.52	0.70	1.87	3.95
95th-Percentile Queue Length [ft]	209.04	3.42	13.12	17.43	46.84	98.86
Approach Delay [s/veh]	15.11		7.12		8.04	
Approach LOS	C		A		A	
Intersection Delay [s/veh]	10.78					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1200: Frank Sound Road at Clifton Hunter High School

Control Type:	Roundabout	Delay (sec / veh):	12.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd		Clifton Hunter HS	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	1	0	0	0	0	0
Exit Pocket Length [ft]	100.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		20.00		20.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Frank Sound Rd		Clifton Hunter HS	
Base Volume Input [veh/h]	368	605	1304	322	452	249
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	368	605	1304	322	452	249
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	92	151	326	81	113	62
Total Analysis Volume [veh/h]	368	605	1304	322	452	249
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	2		2		2	
Circulating Flow Rate [veh/h]	322		249		605	
Exiting Flow Rate [veh/h]	1553		1057		690	
Demand Flow Rate [veh/h]	368	605	1304	322	452	249
Adjusted Demand Flow Rate [veh/h]	368	605	1304	322	452	249

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1350.00	1420.00	1350.00	1420.00	1350.00
B (coefficient)	0.00085	0.00092	0.00085	0.00092	0.00085	0.00092
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	368	605	862	765	452	249
Capacity of Entry and Bypass Lanes [veh/h]	1080	1004	1150	1074	850	774
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1080	1004	1150	1074	850	774
X, volume / capacity	0.34	0.60	0.75	0.71	0.53	0.32

Movement, Approach, & Intersection Results

Lane LOS	A	B	C	B	B	A
95th-Percentile Queue Length [veh]	1.52	4.20	7.45	6.36	3.21	1.39
95th-Percentile Queue Length [ft]	38.11	104.93	186.28	159.08	80.19	34.85
Approach Delay [s/veh]	9.94		15.19		10.50	
Approach LOS	A		C		B	
Intersection Delay [s/veh]	12.65					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1300: Frank Sound Road at North Side Road/Old Robin Road

Control Type:	Two-way stop	Delay (sec / veh):	14.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Base Volume Input [veh/h]	184	47	8	296	57	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	184	47	8	296	57	1
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	52	13	2	83	16	0
Total Analysis Volume [veh/h]	207	53	9	333	64	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.04	0.00	0.00	0.09	0.00
d_M, Delay for Movement [s/veh]	0.00	8.06	0.00	0.00	10.60	14.19
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.14	0.14	0.00	0.00	0.31	0.31
95th-Percentile Queue Length [ft/ln]	3.38	3.38	0.00	0.00	7.63	7.63
d_A, Approach Delay [s/veh]	1.64		0.00		10.65	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	1.68					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1400: East-West Arterial at Agricola Drive Connector

Control Type:	Roundabout	Delay (sec / veh):	4.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			25.00			25.00			
Grade [%]	0.00			0.00			0.00			0.00			
Crosswalk	Yes			Yes			Yes			Yes			

Volumes

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Base Volume Input [veh/h]	238	18	29	32	84	34	2	0	309	13	0	23	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	238	18	29	32	84	34	2	0	309	13	0	23	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	60	5	7	8	21	9	1	0	77	3	0	6	0
Total Analysis Volume [veh/h]	238	18	29	32	84	34	2	0	309	13	0	23	0
Pedestrian Volume [ped/h]	0			0			0			0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1			
Circulating Flow Rate [veh/h]	57			338			70			427			
Exiting Flow Rate [veh/h]	406			43			272			61			
Demand Flow Rate [veh/h]	238	18	29	32	84	34	2	0	309	13	0	23	0
Adjusted Demand Flow Rate [veh/h]	238	18	29	32	84	34	2	0	309	13	0	23	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	285	150	311	36
Capacity of Entry and Bypass Lanes [veh/h]	1303	978	1285	893
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1303	978	1285	893
X, volume / capacity	0.22	0.15	0.24	0.04

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.84	0.54	0.95	0.13
95th-Percentile Queue Length [ft]	20.88	13.52	23.76	3.15
Approach Delay [s/veh]	4.63	5.12	4.90	4.40
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	4.82			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1501: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	11.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name							East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name							East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	64	0	35	0	0	0	0	1663	19	0	1	1956	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	64	0	35	0	0	0	0	1663	19	0	1	1956	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	16	0	9	0	0	0	0	416	5	0	0	489	0	0
Total Analysis Volume [veh/h]	64	0	35	0	0	0	0	1663	19	0	1	1956	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1				1			
Circulating Flow Rate [veh/h]	1956			1717			35				19			
Exiting Flow Rate [veh/h]	20			0			2020				1698			
Demand Flow Rate [veh/h]	64	0	35	0	0	0	0	1663	19	0	1	1956	0	0
Adjusted Demand Flow Rate [veh/h]	64	0	35	0	0	0	0	1663	19	0	1	1956	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1350.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00092	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	53	47	0	892	791	1038	920
Capacity of Entry and Bypass Lanes [veh/h]	270	224	330	1376	1376	1396	1396
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	270	224	330	1376	1376	1396	1396
X, volume / capacity	0.19	0.21	0.00	0.65	0.57	0.74	0.66

Movement, Approach, & Intersection Results

Lane LOS	C	C	B	B	A	B	B
95th-Percentile Queue Length [veh]	0.71	0.76	0.00	5.10	3.85	7.44	5.32
95th-Percentile Queue Length [ft]	17.69	19.09	0.00	127.40	96.29	186.10	133.06
Approach Delay [s/veh]	19.34		10.91	9.80		12.10	
Approach LOS	C		B	A		B	
Intersection Delay [s/veh]	11.26						
Intersection LOS	B						

Intersection Level Of Service Report
Intersection 1502: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	10.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name			East-West Arterial			East-West Arterial		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	Thru	Right	U-turn	Left	Thru	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00			50.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	Yes		Yes			Yes		

Volumes

Name			East-West Arterial			East-West Arterial		
Base Volume Input [veh/h]	233	4	1693	4	0	1	1724	16
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	233	4	1693	4	0	1	1724	16
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	58	1	423	1	0	0	431	4
Total Analysis Volume [veh/h]	233	4	1693	4	0	1	1724	16
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	2		1			1		
Circulating Flow Rate [veh/h]	1740		20			4		
Exiting Flow Rate [veh/h]	5		1957			1713		
Demand Flow Rate [veh/h]	233	4	1693	4	0	1	1724	16
Adjusted Demand Flow Rate [veh/h]	233	4	1693	4	0	1	1724	16

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1350.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00092	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	126	112	900	798	923	819
Capacity of Entry and Bypass Lanes [veh/h]	324	273	1395	1395	1415	1415
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	324	273	1395	1395	1415	1415
X, volume / capacity	0.39	0.41	0.65	0.57	0.65	0.58

Movement, Approach, & Intersection Results

Lane LOS	C	C	B	A	B	A
95th-Percentile Queue Length [veh]	1.78	1.90	5.04	3.81	5.19	3.91
95th-Percentile Queue Length [ft]	44.40	47.43	126.01	95.36	129.69	97.75
Approach Delay [s/veh]	21.91		9.65		9.70	
Approach LOS	C		A		A	
Intersection Delay [s/veh]	10.46					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1600: East-West Arterial at Northward Rd

Control Type:	Two-way stop	Delay (sec / veh):	20.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.283

Intersection Setup

Name	Northward Rd		East-West Arterial		East-West Arterial	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		East-West Arterial		East-West Arterial	
Base Volume Input [veh/h]	90	0	1713	0	8	1651
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	90	0	1713	0	8	1651
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	0	428	0	2	413
Total Analysis Volume [veh/h]	90	0	1713	0	8	1651
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.28	0.00	0.02	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	20.75	0.00	0.00	0.00	0.00	0.00
Movement LOS	C		A		A	A
95th-Percentile Queue Length [veh/ln]	1.14	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	28.50	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	20.75		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.54					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1700: East-West Arterial at Lookout Rd

Control Type:	Roundabout	Delay (sec / veh):	9.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Lookout Rd			Lookout Rd			East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Lookout Rd			Lookout Rd			East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	86	0	7	0	0	0	0	1617	35	61	6	1556	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	86	0	7	0	0	0	0	1617	35	61	6	1556	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	22	0	2	0	0	0	0	404	9	15	2	389	0	0
Total Analysis Volume [veh/h]	86	0	7	0	0	0	0	1617	35	61	6	1556	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1				1				
Circulating Flow Rate [veh/h]	1617			1720			7				96				
Exiting Flow Rate [veh/h]	41			0			1703				1624				
Demand Flow Rate [veh/h]	86	0	7	0	0	0	0	1617	35	61	6	1556	0	0	
Adjusted Demand Flow Rate [veh/h]	86	0	7	0	0	0	0	1617	35	61	6	1556	0	0	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	93	0	908	806	828	735
Capacity of Entry and Bypass Lanes [veh/h]	360	330	1411	1411	1302	1302
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	360	330	1411	1411	1302	1302
X, volume / capacity	0.26	0.00	0.64	0.57	0.64	0.56

Movement, Approach, & Intersection Results

Lane LOS	B	B	B	A	B	A
95th-Percentile Queue Length [veh]	1.02	0.00	5.01	3.80	4.85	3.69
95th-Percentile Queue Length [ft]	25.42	0.00	125.35	94.91	121.23	92.29
Approach Delay [s/veh]	14.78	10.94	9.54		9.93	
Approach LOS	B	B	A		A	
Intersection Delay [s/veh]	9.86					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1800: East-West Arterial at Longfellow Rd

Control Type:	Roundabout	Delay (sec / veh):	8.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Longfellow Rd			Longfellow Rd			East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Longfellow Rd			Longfellow Rd			East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	13	0	9	0	0	0	0	1617	7	0	10	1462	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	0	9	0	0	0	0	1617	7	0	10	1462	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	3	0	2	0	0	0	0	404	2	0	3	366	0	0
Total Analysis Volume [veh/h]	13	0	9	0	0	0	0	1617	7	0	10	1462	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1				1			
Circulating Flow Rate [veh/h]	1462			1633			9				7			
Exiting Flow Rate [veh/h]	17			0			1475				1626			
Demand Flow Rate [veh/h]	13	0	9	0	0	0	0	1617	7	0	10	1462	0	0
Adjusted Demand Flow Rate [veh/h]	13	0	9	0	0	0	0	1617	7	0	10	1462	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	22	0	861	764	781	692
Capacity of Entry and Bypass Lanes [veh/h]	410	355	1409	1409	1411	1411
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	410	355	1409	1409	1411	1411
X, volume / capacity	0.05	0.00	0.61	0.54	0.55	0.49

Movement, Approach, & Intersection Results

Lane LOS	A	B	A	A	A	A
95th-Percentile Queue Length [veh]	0.17	0.00	4.43	3.41	3.55	2.80
95th-Percentile Queue Length [ft]	4.24	0.00	110.70	85.14	88.76	69.97
Approach Delay [s/veh]	9.55	10.16	8.93		7.96	
Approach LOS	A	B	A		A	
Intersection Delay [s/veh]	8.48					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1900: East West Arterial

Control Type:	Roundabout	Delay (sec / veh):	8.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name							East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			50.00				40.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name							East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	0	0	0	0	0	11	1	1599	26	0	0	1403	0	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	0	11	1	1599	26	0	0	1403	0	12
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	0	0	0	0	0	3	0	400	7	0	0	351	0	3
Total Analysis Volume [veh/h]	0	0	0	0	0	11	1	1599	26	0	0	1403	0	12
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1				1				
Circulating Flow Rate [veh/h]	1426			1637			12				37				
Exiting Flow Rate [veh/h]	26			1			1414				1611				
Demand Flow Rate [veh/h]	0	0	0	0	0	11	1	1599	26	0	0	1403	0	12	
Adjusted Demand Flow Rate [veh/h]	0	0	0	0	0	11	1	1599	26	0	0	1403	0	12	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	0	11	862	765	750	666
Capacity of Entry and Bypass Lanes [veh/h]	423	354	1405	1405	1373	1373
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	423	354	1405	1405	1373	1373
X, volume / capacity	0.00	0.03	0.61	0.54	0.55	0.48

Movement, Approach, & Intersection Results

Lane LOS	A	B	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.10	4.47	3.43	3.46	2.73
95th-Percentile Queue Length [ft]	0.00	2.41	111.72	85.83	86.44	68.35
Approach Delay [s/veh]	8.52	10.68	8.99		8.00	
Approach LOS	A	B	A		A	
Intersection Delay [s/veh]	8.54					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 2000: Frank Sound Road at East-West Arterial

Control Type:	Unknown	Delay (sec / veh):	?
Analysis Method:	?	Level Of Service:	?
Analysis Period:	15 minutes	Volume to Capacity (v/c):	?

Intersection Setup

Name	Frank Sound Rd	Frank Sound Rd
Approach	Northbound	Southbound
Lane Configuration		
Turning Movement	Thru	Thru
Crosswalk	Yes	Yes

Volumes

Name	Frank Sound Rd	Frank Sound Rd
Base Volume Input [veh/h]	242	387
Base Volume Adjustment Factor	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00
Growth Factor	1.0000	1.0000
In-Process Volume [veh/h]	0	0
Site-Generated Trips [veh/h]	0	0
Diverted Trips [veh/h]	0	0
Pass-by Trips [veh/h]	0	0
Existing Site Adjustment Volume [veh/h]	0	0
Other Volume [veh/h]	0	0
Left-Turn on Red Volume [veh/h]	0	0
Total Hourly Volume [veh/h]	242	387
Peak Hour Factor	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000
Total 15-Minute Volume [veh/h]	61	97
Total Analysis Volume [veh/h]	242	387
Presence of On-Street Parking	No	No
On-Street Parking Maneuver Rate [/h]	0	0
Local Bus Stopping Rate [/h]	0	0
Pedestrian Volume [ped/h]	0	0

Intersection Level Of Service Report
Intersection 2100: Frank Sound Road at East-West Arterial

Control Type:	Roundabout	Delay (sec / veh):	13.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd			Frank Sound Rd			East-West Arterial							
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	1	0	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00				40.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Frank Sound Rd			Frank Sound Rd			East-West Arterial							
Base Volume Input [veh/h]	947	109	0	0	177	283	154	4	1449	10	0	11	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	947	109	0	0	177	283	154	4	1449	10	0	11	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	237	27	0	0	44	71	39	1	362	3	0	3	0	0
Total Analysis Volume [veh/h]	947	109	0	0	177	283	154	4	1449	10	0	11	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1				2			
Circulating Flow Rate [veh/h]	304			1463			109				1919			
Exiting Flow Rate [veh/h]	1626			263			1251				4			
Demand Flow Rate [veh/h]	947	109	0	0	177	283	154	4	1449	10	0	11	0	0
Adjusted Demand Flow Rate [veh/h]	947	109	0	0	177	283	154	4	1449	10	0	11	0	0

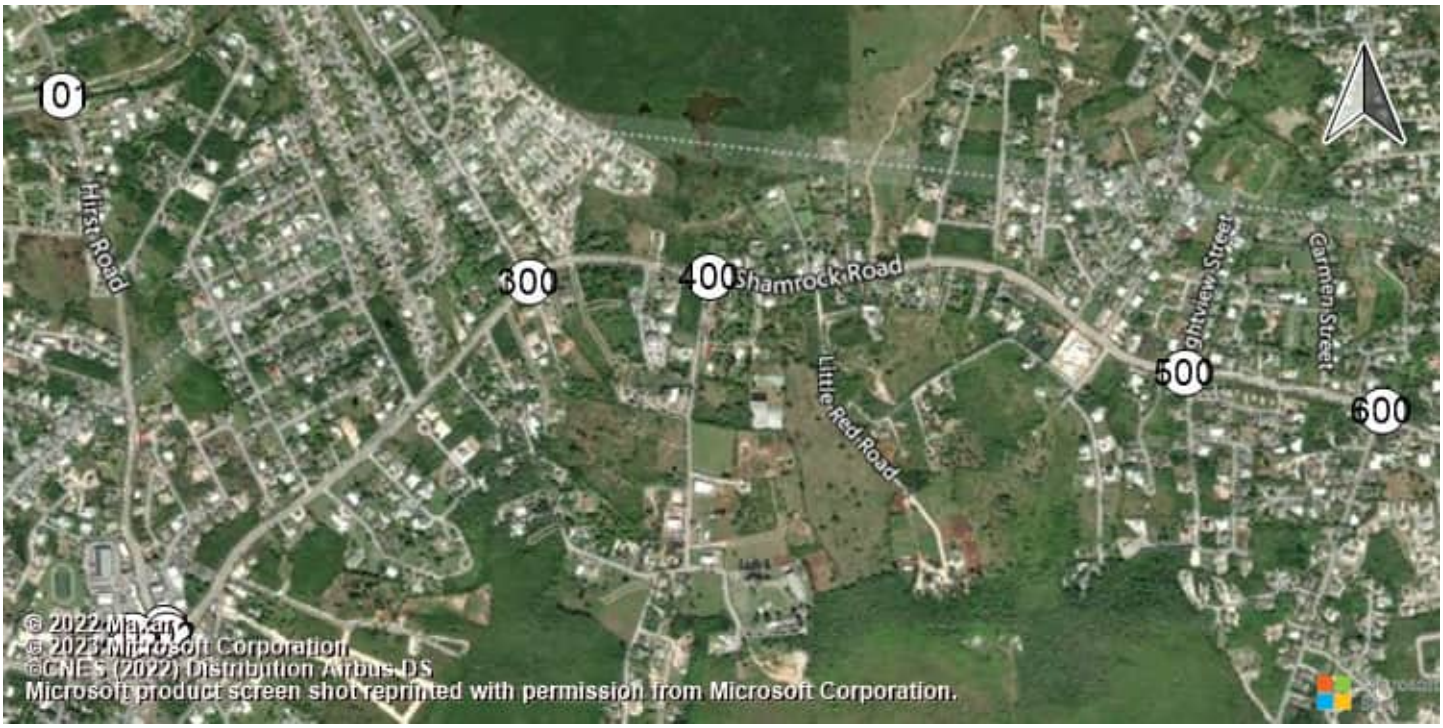
Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1350.00	1420.00	1350.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00092	0.00085	0.00092	0.00091	0.00091	0.00085
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	560	497	177	283	760	858	11
Capacity of Entry and Bypass Lanes [veh/h]	1097	1021	410	352	1286	1286	278
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1097	1021	410	352	1286	1286	278
X, volume / capacity	0.51	0.49	0.43	0.81	0.59	0.67	0.04

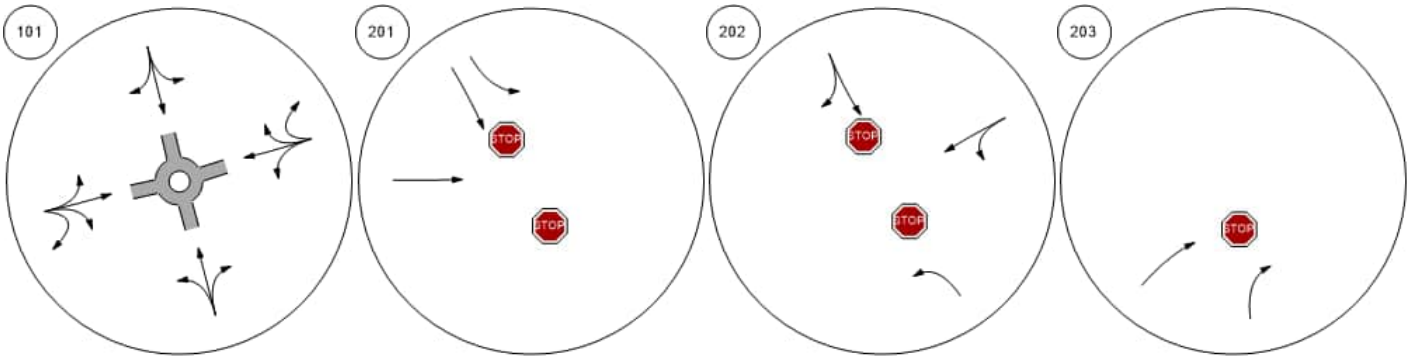
Movement, Approach, & Intersection Results

Lane LOS	A	A	C	E	A	B	B
95th-Percentile Queue Length [veh]	2.99	2.73	2.13	6.88	4.08	5.44	0.12
95th-Percentile Queue Length [ft]	74.84	68.16	53.21	171.97	102.04	136.05	3.08
Approach Delay [s/veh]	9.23		34.73		10.68		13.69
Approach LOS	A		D		B		B
Intersection Delay [s/veh]	13.72						
Intersection LOS	B						

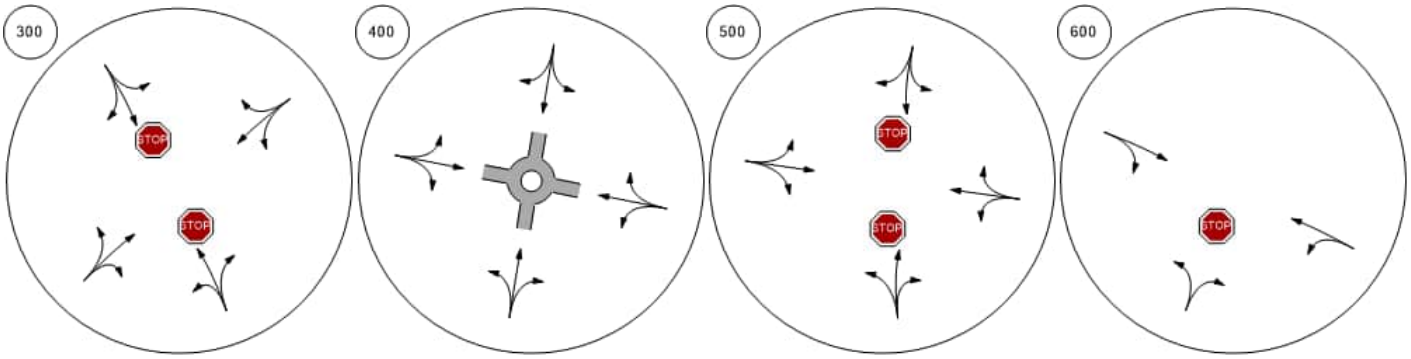
Lane Configuration and Traffic Control



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



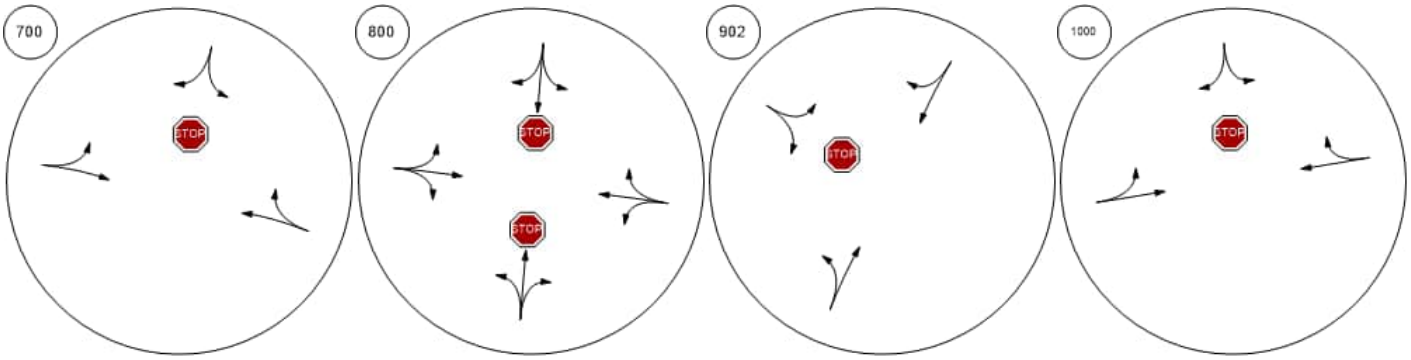
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



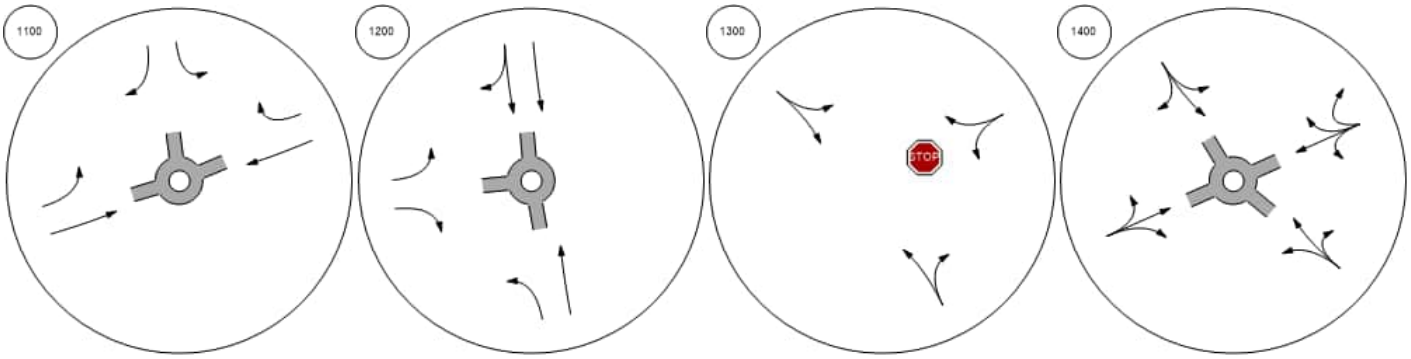
Lane Configuration and Traffic Control



Shamrock Road at Northward | Shamrock Road at Condor R | Bodden Town Road at Bodde | Bodden Town Road at Long



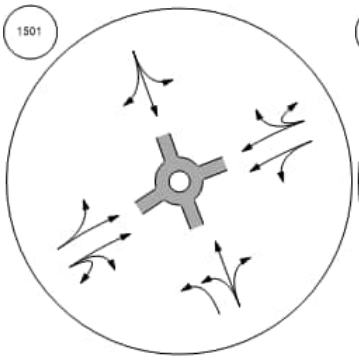
Frank Sound Road at Bodde | Frank Sound Road at Clifton | Frank Sound Road at North S | East-West Arterial at Agricola



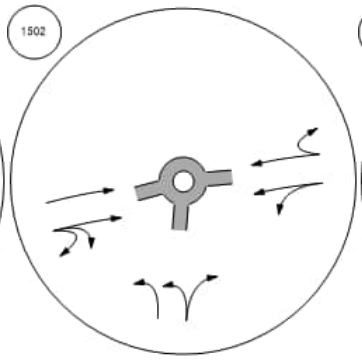
Lane Configuration and Traffic Control



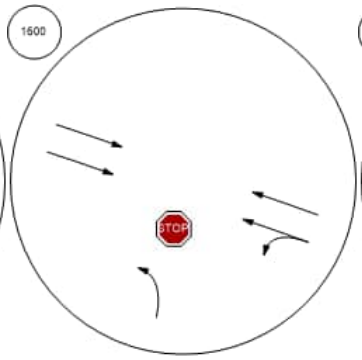
East-West Arterial at Will T C



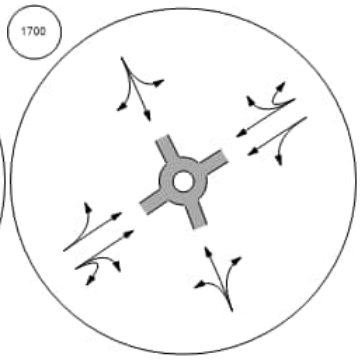
East-West Arterial at Will T C



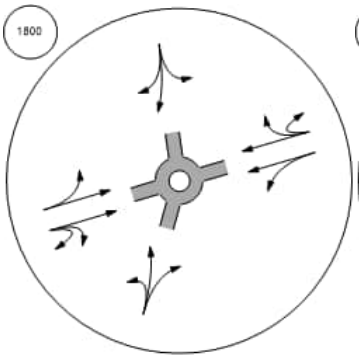
East-West Arterial at Northwa



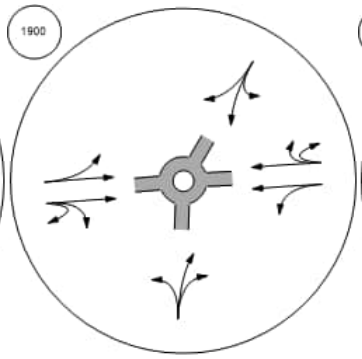
East-West Arterial at Lookout



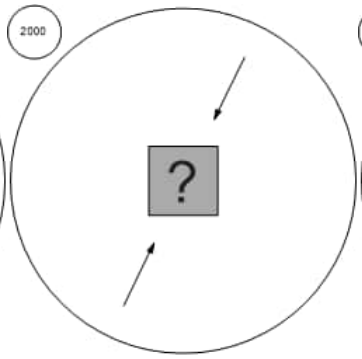
East-West Arterial at Longfell



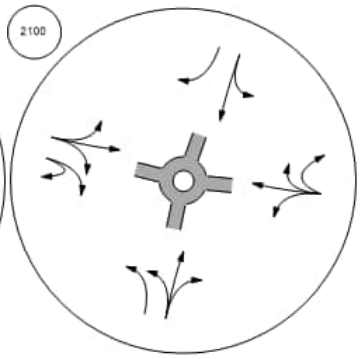
East West Arterial



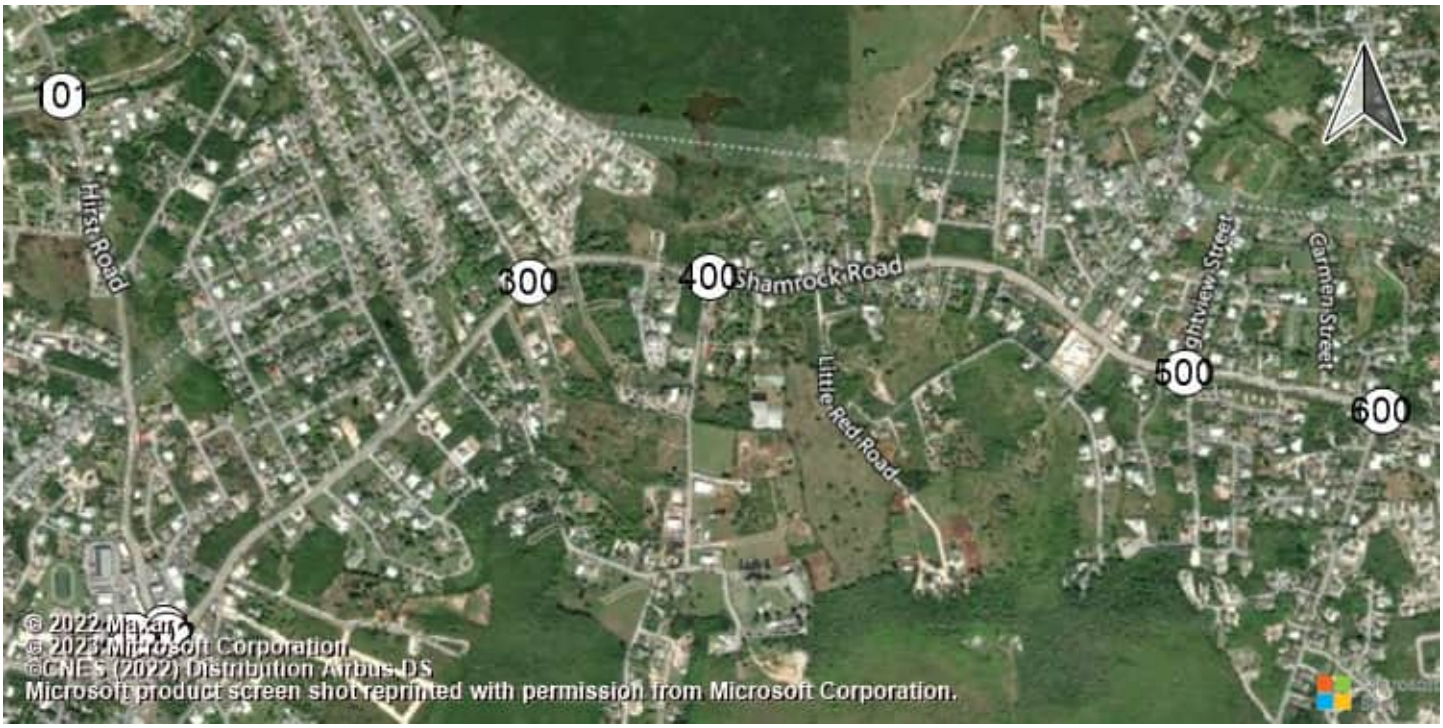
Frank Sound Road at East-W



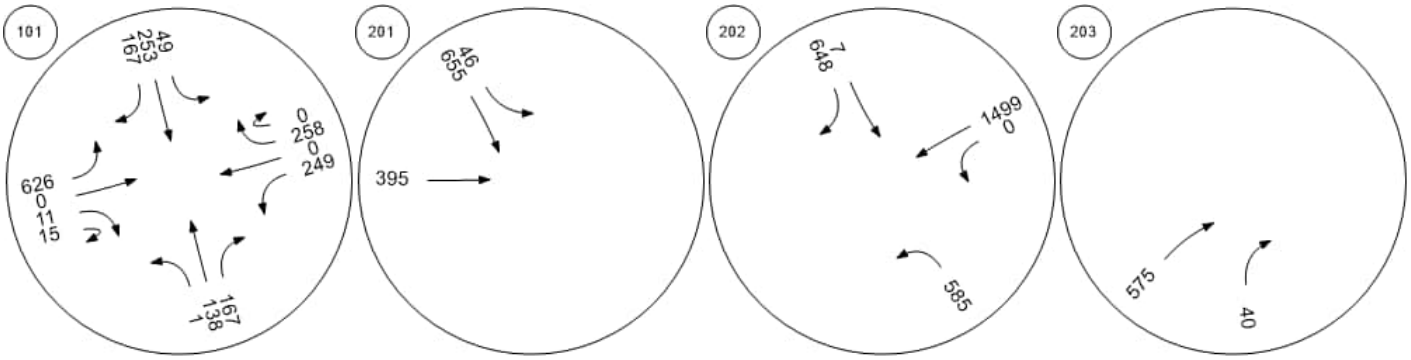
Frank Sound Road at East-W



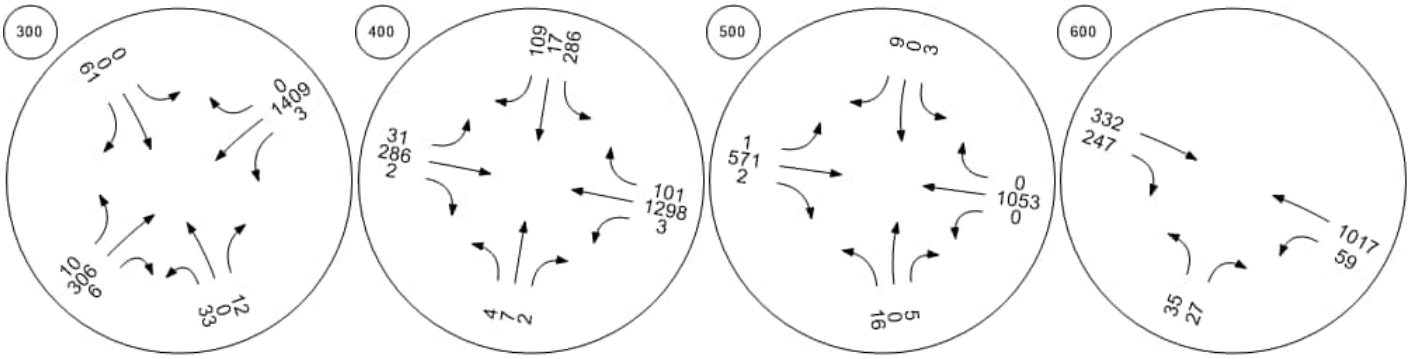
Traffic Volume - Base Volume



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



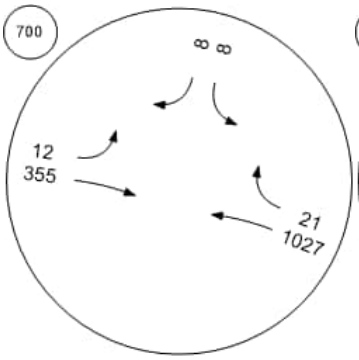
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



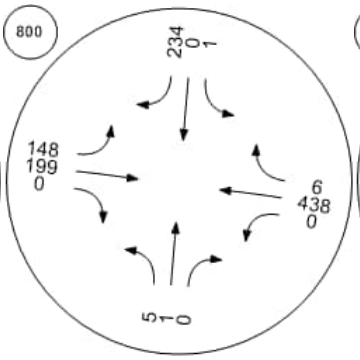
Traffic Volume - Base Volume



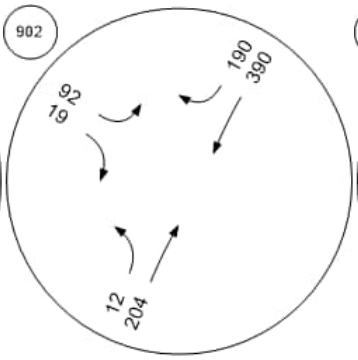
Shamrock Road at Northward



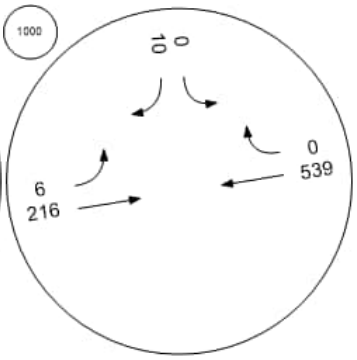
Shamrock Road at Condor R



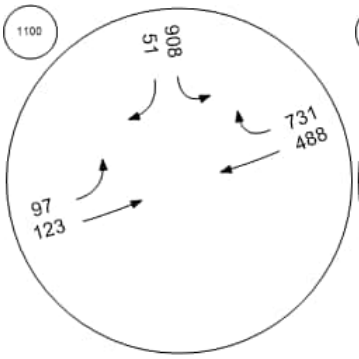
Bodden Town Road at Bodde



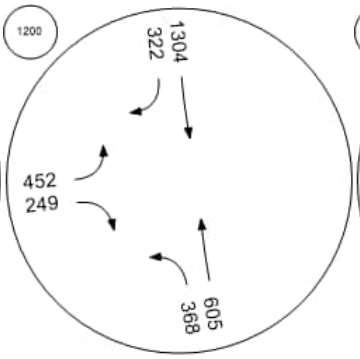
Bodden Town Road at Long



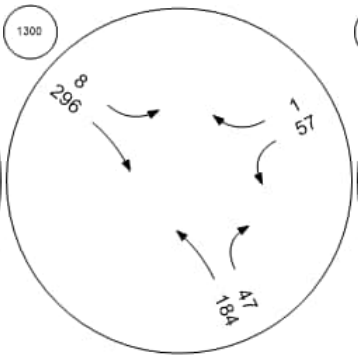
Frank Sound Road at Bodde



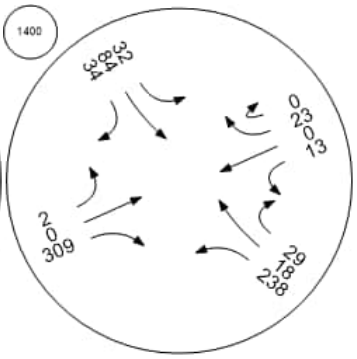
Frank Sound Road at Clifton



Frank Sound Road at North S



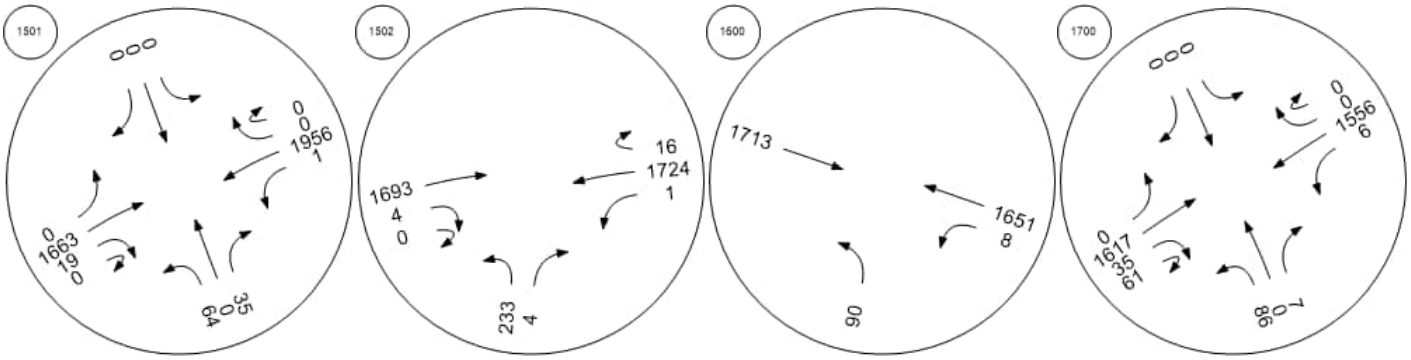
East-West Arterial at Agricola



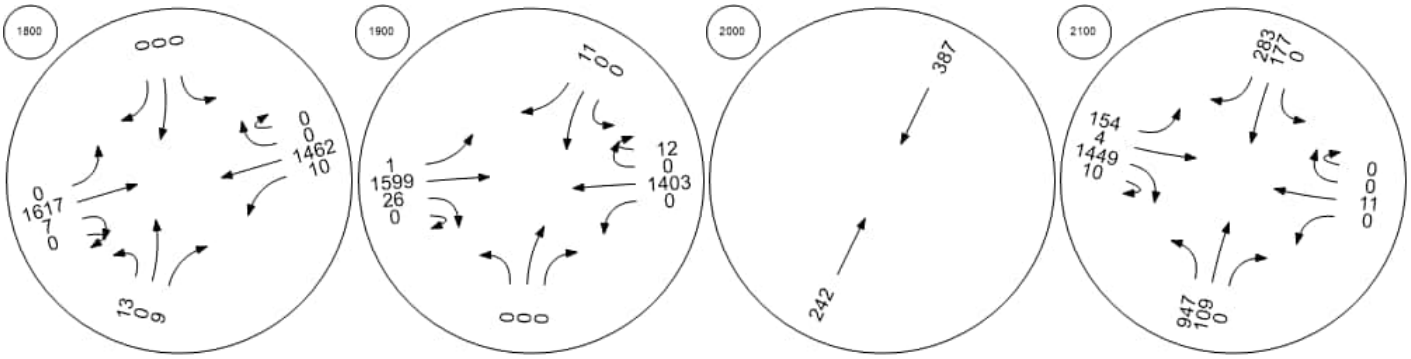
Traffic Volume - Base Volume



East-West Arterial at Will T C East-West Arterial at Will T C East-West Arterial at Northwa East-West Arterial at Lookout



East-West Arterial at Longfell East West Arterial Frank Sound Road at East-W Frank Sound Road at East-W



Intersection Level Of Service Report
Intersection 101: East-West Arterial Road at Hirst Road

Control Type:	Roundabout	Delay (sec / veh):	25.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes		

Intersection Setup

Name									East-West Arterial				East-West Arterial				
Approach	Northbound				Southbound				Eastbound				Westbound				
Lane Configuration																	
Turning Movement	Left	Left	Thru	Right	Left	Thru	Right	Right	Left	Thru	Right	U-tu	Left	Thru	Thru	Righ	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				30.00				25.00				25.00				
Grade [%]	0.00				0.00				0.00				0.00				
Crosswalk	Yes				Yes				Yes				Yes				

Volumes

Name									East-West Arterial				East-West Arterial				
Base Volume Input [veh/h]	74	0	253	256	143	337	0	453	316	44	99	3	184	0	0	152	0
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	74	0	253	256	143	337	0	453	316	44	99	3	184	0	0	152	0
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	19	0	63	64	36	84	0	113	79	11	25	1	46	0	0	38	0
Total Analysis Volume [veh/h]	74	0	253	256	143	337	0	453	316	44	99	3	184	0	0	152	0
Pedestrian Volume [ped/h]	0				0				0				0				

Intersection Settings

Number of Conflicting Circulating Lanes	1				3				1				1					
Circulating Flow Rate [veh/h]	608				402				661				892					
Exiting Flow Rate [veh/h]	620				721				530				443					
Demand Flow Rate [veh/h]	74	0	253	256	143	337	0	453	316	44	99	3	184	0	0	152	0	
Adjusted Demand Flow Rate [veh/h]	74	0	253	256	143	337	0	453	316	44	99	3	184	0	0	152	0	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1420.00	1380.00	1380.00
B (coefficient)	0.00102	0.00085	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	583	933	462	336
Capacity of Entry and Bypass Lanes [veh/h]	743	1009	704	556
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	743	1009	704	556
X, volume / capacity	0.79	0.92	0.66	0.60

Movement, Approach, & Intersection Results

Lane LOS	C	D	C	C
95th-Percentile Queue Length [veh]	7.87	14.55	4.94	4.01
95th-Percentile Queue Length [ft]	196.77	363.72	123.45	100.15
Approach Delay [s/veh]	24.10	33.34	17.66	18.92
Approach LOS	C	D	C	C
Intersection Delay [s/veh]	25.79			
Intersection LOS	D			

Intersection Level Of Service Report
Intersection 201: Shamrock Road at Hirst Rd (1)

Control Type:	Two-way stop	Delay (sec / veh):	875.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.845

Intersection Setup

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	0	0	0	81	597	0	0	987	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	81	597	0	0	987	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	22	160	0	0	265	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	87	642	0	0	1061	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.32	2.85	0.00	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	24.09	875.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS				C	F			A				
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	1.32	56.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	32.96	1408.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			773.70			0.00			0.00		
Approach LOS	A			F			A			A		
d_I, Intersection Delay [s/veh]	315.10											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 202: Shamrock Road at Hirst Rd (2)

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.279

Intersection Setup

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	341	0	0	0	72	525	0	0	0	14	833	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	341	0	0	0	72	525	0	0	0	14	833	0
Peak Hour Factor	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	92	0	0	0	19	141	0	0	0	4	224	0
Total Analysis Volume [veh/h]	367	0	0	0	77	565	0	0	0	15	896	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	1.08	0.00	0.00	0.00	0.28	0.00	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	109.10	0.00	0.00	0.00	10000.0	10000.0	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	F				F	F				A	A	
95th-Percentile Queue Length [veh/ln]	13.65	0.00	0.00	0.00	83.15	83.15	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	341.24	0.00	0.00	0.00	2078.64	2078.64	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	109.10			10000.00			0.00			0.00		
Approach LOS	F			F			A			A		
d_I, Intersection Delay [s/veh]	3364.60											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 203: Shamrock Road atHirst Road Jughandle

Control Type:	Two-way stop	Delay (sec / veh):	48.9
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.374

Intersection Setup

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	0	45	1432	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	45	1432	0	0	0
Peak Hour Factor	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	12	385	0	0	0
Total Analysis Volume [veh/h]	0	48	1540	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.37	0.02	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	48.89	0.00	0.00	0.00	0.00
Movement LOS		E	A			
95th-Percentile Queue Length [veh/ln]	0.00	1.55	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	38.79	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	48.89		0.00		0.00	
Approach LOS	E		A		A	
d_I, Intersection Delay [s/veh]	1.48					
Intersection LOS	E					

Intersection Level Of Service Report
Intersection 300: Shamrock Road at Woodland Drive

Control Type:	Two-way stop	Delay (sec / veh):	121.8
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.712

Intersection Setup

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	11	0	4	6	0	54	25	698	26	8	838	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	0	4	6	0	54	25	698	26	8	838	0
Peak Hour Factor	0.9700	0.9700	1.0000	1.0000	0.9700	0.9700	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	1	2	0	14	6	175	7	2	210	0
Total Analysis Volume [veh/h]	11	0	4	6	0	56	26	698	27	8	838	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.00	0.05	0.01	0.00	0.71	0.00	0.01	0.03	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	16.46	43.30	51.52	84.21	112.14	121.76	0.00	0.00	9.66	0.00	0.00	9.05
Movement LOS	C	E	F	F	F	F	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.26	0.26	0.26	3.58	3.58	3.58	0.10	0.10	0.10	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	6.43	6.43	6.43	89.43	89.43	89.43	2.62	2.62	2.62	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	25.81			118.12			0.35			0.00		
Approach LOS	D			F			A			A		
d_I, Intersection Delay [s/veh]	4.76											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 400: Shamrock Road at Agricola Drive

Control Type:	Roundabout	Delay (sec / veh):	11.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	2	2	1	229	26	92	40	664	4	8	752	78
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	2	1	229	26	92	40	664	4	8	752	78
Peak Hour Factor	1.0000	1.0000	0.9200	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9200	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	0	57	7	23	10	166	1	2	188	20
Total Analysis Volume [veh/h]	2	2	1	229	26	92	40	664	4	9	752	78
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	922			669			81			122		
Exiting Flow Rate [veh/h]	39			120			846			894		
Demand Flow Rate [veh/h]	2	2	1	229	26	92	40	664	4	8	752	78
Adjusted Demand Flow Rate [veh/h]	2	2	1	229	26	92	40	664	4	9	752	78

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	5	347	708	839
Capacity of Entry and Bypass Lanes [veh/h]	539	698	1271	1219
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	539	698	1271	1219
X, volume / capacity	0.01	0.50	0.56	0.69

Movement, Approach, & Intersection Results

Lane LOS	A	B	A	B
95th-Percentile Queue Length [veh]	0.03	2.79	3.59	5.90
95th-Percentile Queue Length [ft]	0.70	69.81	89.80	147.46
Approach Delay [s/veh]	6.79	12.65	9.12	12.65
Approach LOS	A	B	A	B
Intersection Delay [s/veh]	11.32			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 500: Shamrock Road at Brightview Drive / Calla Lily Drive

Control Type:	Two-way stop	Delay (sec / veh):	46.9
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.034

Intersection Setup

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			20.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	5	0	1	0	0	3	15	718	29	47	667	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	0	1	0	0	3	15	718	29	47	667	25
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	0	0	1	4	180	7	12	167	6
Total Analysis Volume [veh/h]	5	0	1	0	0	3	15	718	29	47	667	25
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.01	0.00	0.00	0.03	0.00	0.01	0.03	0.00	0.01	0.03
d_M, Delay for Movement [s/veh]	13.33	39.21	45.22	14.82	41.08	46.94	0.00	0.00	9.15	0.00	0.00	9.21
Movement LOS	B	E	E	B	E	E	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.07	0.07	0.07	0.10	0.10	0.10	0.10	0.10	0.10	0.09	0.09	0.09
95th-Percentile Queue Length [ft/ln]	1.70	1.70	1.70	2.60	2.60	2.60	2.51	2.51	2.51	2.19	2.19	2.19
d_A, Approach Delay [s/veh]	18.65			46.94			0.35			0.31		
Approach LOS	C			E			A			A		
d_I, Intersection Delay [s/veh]	0.50											
Intersection LOS	E											

Intersection Level Of Service Report
Intersection 600: Shamrock Road at Beach Bay Road

Control Type:	Two-way stop	Delay (sec / veh):	129.8
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.737

Intersection Setup

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	26	51	602	116	25	713
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	26	51	602	116	25	713
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	14	165	32	7	196
Total Analysis Volume [veh/h]	29	56	662	127	27	784
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.74	0.01	0.15	0.00	0.01
d_M, Delay for Movement [s/veh]	91.69	129.84	0.00	10.16	0.00	0.00
Movement LOS	F	F	A	B	A	A
95th-Percentile Queue Length [veh/ln]	4.55	4.55	0.54	0.54	0.00	0.00
95th-Percentile Queue Length [ft/ln]	113.66	113.66	13.58	13.58	0.00	0.00
d_A, Approach Delay [s/veh]	116.82		1.64		0.00	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	6.66					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 700: Shamrock Road at Northward Road

Control Type:	Two-way stop	Delay (sec / veh):	32.9
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.202

Intersection Setup

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	12	31	12	550	741	16
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	31	12	550	741	16
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	8	3	142	191	4
Total Analysis Volume [veh/h]	12	32	12	567	764	16
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane	No					
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance	No					
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.20	0.00	0.01	0.01	0.02
d_M, Delay for Movement [s/veh]	17.13	32.93	0.00	0.00	0.00	8.64
Movement LOS	C	D	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.83	0.83	0.00	0.00	0.05	0.05
95th-Percentile Queue Length [ft/ln]	20.82	20.82	0.00	0.00	1.21	1.21
d_A, Approach Delay [s/veh]	28.62		0.00		0.18	
Approach LOS	D		A		A	
d_I, Intersection Delay [s/veh]	1.00					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 800: Shamrock Road at Condor Road

Control Type:	Two-way stop	Delay (sec / veh):	24.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.450

Intersection Setup

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Base Volume Input [veh/h]	1	0	0	4	0	149	164	254	2	0	375	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	0	4	0	149	164	254	2	0	375	12
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	1	0	37	41	64	1	0	94	3
Total Analysis Volume [veh/h]	1	0	0	4	0	149	164	254	2	0	375	12
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.00	0.45	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	10.33	16.74	15.95	18.74	24.19	24.55	0.00	0.00	8.02	0.00	0.00	8.16
Movement LOS	B	C	C	C	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	2.28	2.28	2.28	0.01	0.01	0.01	0.03	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.11	0.11	0.11	57.09	57.09	57.09	0.13	0.13	0.13	0.79	0.79	0.79
d_A, Approach Delay [s/veh]	10.33			24.39			0.04			0.25		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	4.01											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 902: Bodden Town Road at Bodden Town Bypass

Control Type:	Two-way stop	Delay (sec / veh):	26.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.224

Intersection Setup

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	75	43	28	207	314	216
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	75	43	28	207	314	216
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	11	7	55	84	57
Total Analysis Volume [veh/h]	80	46	30	220	334	230
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane	No					
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance	No					
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.22	0.00	0.00	0.00	0.17
d_M, Delay for Movement [s/veh]	13.78	26.83	0.00	0.00	0.00	8.28
Movement LOS	B	D	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.37	1.37	0.00	0.00	0.63	0.63
95th-Percentile Queue Length [ft/ln]	34.29	34.29	0.00	0.00	15.65	15.65
d_A, Approach Delay [s/veh]	18.54		0.00		3.38	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	4.51					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 1000: Bodden Town Road at Long Fellow Drive

Control Type:	Two-way stop	Delay (sec / veh):	15.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.014

Intersection Setup

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	0	5	3	215	498	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	5	3	215	498	0
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	1	59	137	0
Total Analysis Volume [veh/h]	0	5	3	236	547	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane	No					
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance	No					
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	9.60	15.01	0.00	0.00	0.00	7.69
Movement LOS	A	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.04	1.04	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	15.01		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.09					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1100: Frank Sound Road at Bodden Town Road

Control Type:	Roundabout	Delay (sec / veh):	15.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Base Volume Input [veh/h]	1049	93	81	134	406	675
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1049	93	81	134	406	675
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	282	25	22	36	109	181
Total Analysis Volume [veh/h]	1128	100	87	144	437	726
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	144		726		100	
Exiting Flow Rate [veh/h]	813		537		1272	
Demand Flow Rate [veh/h]	1049	93	81	134	406	675
Adjusted Demand Flow Rate [veh/h]	1128	100	87	144	437	726

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00091	0.00091	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	1128	100	87	144	437	726
Capacity of Entry and Bypass Lanes [veh/h]	1246	1246	734	734	1297	1297
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1246	1246	734	734	1297	1297
X, volume / capacity	0.91	0.08	0.12	0.20	0.34	0.56

Movement, Approach, & Intersection Results

Lane LOS	D	A	A	A	A	A
95th-Percentile Queue Length [veh]	14.49	0.26	0.40	0.73	1.50	3.63
95th-Percentile Queue Length [ft]	362.27	6.53	10.04	18.14	37.61	90.82
Approach Delay [s/veh]	24.66		6.74		7.85	
Approach LOS	C		A		A	
Intersection Delay [s/veh]	15.63					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1200: Frank Sound Road at Clifton Hunter High School

Control Type:	Roundabout	Delay (sec / veh):	15.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd		Clifton Hunter HS	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	1	0	1	0	0	0
Exit Pocket Length [ft]	100.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	50.00		50.00		20.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Frank Sound Rd		Clifton Hunter HS	
Base Volume Input [veh/h]	231	1047	1047	421	319	320
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	231	1047	1047	421	319	320
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	58	262	262	105	80	80
Total Analysis Volume [veh/h]	231	1047	1047	421	319	320
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	2		2		2	
Circulating Flow Rate [veh/h]	421		320		1047	
Exiting Flow Rate [veh/h]	1367		1366		652	
Demand Flow Rate [veh/h]	231	1047	1047	421	319	320
Adjusted Demand Flow Rate [veh/h]	231	1047	1047	421	319	320

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1350.00	1420.00	1350.00	1420.00	1350.00
B (coefficient)	0.00085	0.00092	0.00085	0.00092	0.00085	0.00092
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	678	601	779	690	319	320
Capacity of Entry and Bypass Lanes [veh/h]	993	917	1082	1006	584	516
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	993	917	1082	1006	584	516
X, volume / capacity	0.68	0.66	0.72	0.69	0.55	0.62

Movement, Approach, & Intersection Results

Lane LOS	B	B	B	B	C	C
95th-Percentile Queue Length [veh]	5.64	5.06	6.55	5.72	3.29	4.20
95th-Percentile Queue Length [ft]	140.89	126.44	163.81	143.12	82.35	104.90
Approach Delay [s/veh]	14.40		14.70		18.49	
Approach LOS	B		B		C	
Intersection Delay [s/veh]	15.30					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1300: Frank Sound Road at North Side Road/Old Robin Road

Control Type:	Two-way stop	Delay (sec / veh):	16.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.066

Intersection Setup

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Base Volume Input [veh/h]	314	49	31	233	86	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	314	49	31	233	86	21
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	88	14	9	65	24	6
Total Analysis Volume [veh/h]	353	55	35	262	97	24
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.04	0.00	0.00	0.13	0.07
d_M, Delay for Movement [s/veh]	0.00	7.95	0.00	0.00	11.07	16.22
Movement LOS	A	A	A	A	B	C
95th-Percentile Queue Length [veh/ln]	0.14	0.14	0.00	0.00	0.71	0.71
95th-Percentile Queue Length [ft/ln]	3.38	3.38	0.00	0.00	17.70	17.70
d_A, Approach Delay [s/veh]	1.07		0.00		12.10	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	2.30					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1400: East-West Arterial at Agricola Drive Connector

Control Type:	Roundabout	Delay (sec / veh):	6.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			25.00			25.00			
Grade [%]	0.00			0.00			0.00			0.00			
Crosswalk	Yes			Yes			Yes			Yes			

Volumes

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Base Volume Input [veh/h]	72	20	10	51	103	5	0	201	380	44	0	47	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	72	20	10	51	103	5	0	201	380	44	0	47	5
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	18	5	3	13	26	1	0	50	95	11	0	12	1
Total Analysis Volume [veh/h]	72	20	10	51	103	5	0	201	380	44	0	47	5
Pedestrian Volume [ped/h]	0			0			0			0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1			
Circulating Flow Rate [veh/h]	57			596			82			488			
Exiting Flow Rate [veh/h]	527			67			77			267			
Demand Flow Rate [veh/h]	72	20	10	51	103	5	0	201	380	44	0	47	5
Adjusted Demand Flow Rate [veh/h]	72	20	10	51	103	5	0	201	380	44	0	47	5

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	102	159	581	96
Capacity of Entry and Bypass Lanes [veh/h]	1303	752	1270	839
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1303	752	1270	839
X, volume / capacity	0.08	0.21	0.46	0.11

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.25	0.80	2.46	0.39
95th-Percentile Queue Length [ft]	6.36	19.92	61.55	9.65
Approach Delay [s/veh]	3.39	7.13	7.50	5.42
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	6.78			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1501: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	16.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes		

Intersection Setup

Name							East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name							East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	13	0	10	0	0	0	0	2084	244	0	29	1514	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	0	10	0	0	0	0	2084	244	0	29	1514	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	3	0	3	0	0	0	0	521	61	0	7	379	0	0
Total Analysis Volume [veh/h]	13	0	10	0	0	0	0	2084	244	0	29	1514	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1				1			
Circulating Flow Rate [veh/h]	1514			2338			10				244			
Exiting Flow Rate [veh/h]	273			0			1527				2094			
Demand Flow Rate [veh/h]	13	0	10	0	0	0	0	2084	244	0	29	1514	0	0
Adjusted Demand Flow Rate [veh/h]	13	0	10	0	0	0	0	2084	244	0	29	1514	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1350.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00092	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	13	11	0	1234	1095	818	726
Capacity of Entry and Bypass Lanes [veh/h]	393	336	195	1408	1408	1138	1138
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	393	336	195	1408	1408	1138	1138
X, volume / capacity	0.03	0.03	0.00	0.88	0.78	0.72	0.64

Movement, Approach, & Intersection Results

Lane LOS	A	B	C	C	B	B	B
95th-Percentile Queue Length [veh]	0.10	0.10	0.00	13.25	8.60	6.59	4.83
95th-Percentile Queue Length [ft]	2.40	2.49	0.00	331.30	214.96	164.79	120.69
Approach Delay [s/veh]	10.39		18.50	18.25		13.15	
Approach LOS	B		C	C		B	
Intersection Delay [s/veh]	16.18						
Intersection LOS	C						

Intersection Level Of Service Report
Intersection 1502: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	12.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name			East-West Arterial			East-West Arterial		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	Thru	Right	U-turn	Left	Thru	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00			50.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	Yes		Yes			Yes		

Volumes

Name			East-West Arterial			East-West Arterial		
Base Volume Input [veh/h]	19	1	2059	35	0	2	1523	37
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	19	1	2059	35	0	2	1523	37
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	0	515	9	0	1	381	9
Total Analysis Volume [veh/h]	19	1	2059	35	0	2	1523	37
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	2		1			1		
Circulating Flow Rate [veh/h]	1560		38			35		
Exiting Flow Rate [veh/h]	37		1542			2097		
Demand Flow Rate [veh/h]	19	1	2059	35	0	2	1523	37
Adjusted Demand Flow Rate [veh/h]	19	1	2059	35	0	2	1523	37

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1350.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00092	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	11	10	1110	985	828	735
Capacity of Entry and Bypass Lanes [veh/h]	378	322	1372	1372	1376	1376
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	378	322	1372	1372	1376	1376
X, volume / capacity	0.03	0.03	0.81	0.72	0.60	0.53

Movement, Approach, & Intersection Results

Lane LOS	A	B	C	B	A	A
95th-Percentile Queue Length [veh]	0.09	0.09	9.79	6.69	4.27	3.30
95th-Percentile Queue Length [ft]	2.17	2.25	244.66	167.34	106.72	82.46
Approach Delay [s/veh]	10.77		14.72		8.91	
Approach LOS	B		B		A	
Intersection Delay [s/veh]	12.23					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1600: East-West Arterial at Northward Rd

Control Type:	Two-way stop	Delay (sec / veh):	16.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.044

Intersection Setup

Name	Northward Rd		East-West Arterial		East-West Arterial	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		East-West Arterial		East-West Arterial	
Base Volume Input [veh/h]	15	0	2097	0	15	1546
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	0	2097	0	15	1546
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	0	524	0	4	387
Total Analysis Volume [veh/h]	15	0	2097	0	15	1546
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.00	0.02	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	16.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	C		A		A	A
95th-Percentile Queue Length [veh/ln]	0.14	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	3.43	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	16.00		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.07					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1700: East-West Arterial at Lookout Rd

Control Type:	Roundabout	Delay (sec / veh):	13.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Lookout Rd			Lookout Rd			East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Lookout Rd			Lookout Rd			East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	45	0	14	0	0	0	0	1796	172	129	21	1456	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	45	0	14	0	0	0	0	1796	172	129	21	1456	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	11	0	4	0	0	0	0	449	43	32	5	364	0	0
Total Analysis Volume [veh/h]	45	0	14	0	0	0	0	1796	172	129	21	1456	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1				1			
Circulating Flow Rate [veh/h]	1585			2111			14				301			
Exiting Flow Rate [veh/h]	193			0			1630				1810			
Demand Flow Rate [veh/h]	45	0	14	0	0	0	0	1796	172	129	21	1456	0	0
Adjusted Demand Flow Rate [veh/h]	45	0	14	0	0	0	0	1796	172	129	21	1456	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	59	0	1112	986	783	695
Capacity of Entry and Bypass Lanes [veh/h]	370	237	1403	1403	1080	1080
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	370	237	1403	1403	1080	1080
X, volume / capacity	0.16	0.00	0.79	0.70	0.72	0.64

Movement, Approach, & Intersection Results

Lane LOS	B	C	C	B	C	B
95th-Percentile Queue Length [veh]	0.56	0.00	9.16	6.33	6.70	4.90
95th-Percentile Queue Length [ft]	14.06	0.00	229.05	158.26	167.48	122.56
Approach Delay [s/veh]	12.40	15.25	13.81		13.86	
Approach LOS	B	C	B		B	
Intersection Delay [s/veh]	13.80					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1800: East-West Arterial at Longfellow Rd

Control Type:	Roundabout	Delay (sec / veh):	9.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Longfellow Rd			Longfellow Rd			East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Longfellow Rd			Longfellow Rd			East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	11	0	4	0	0	0	0	1750	60	0	10	1417	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	0	4	0	0	0	0	1750	60	0	10	1417	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	3	0	1	0	0	0	0	438	15	0	3	354	0	0
Total Analysis Volume [veh/h]	11	0	4	0	0	0	0	1750	60	0	10	1417	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1				1			
Circulating Flow Rate [veh/h]	1417			1814			4				60			
Exiting Flow Rate [veh/h]	70			0			1428				1754			
Demand Flow Rate [veh/h]	11	0	4	0	0	0	0	1750	60	0	10	1417	0	0
Adjusted Demand Flow Rate [veh/h]	11	0	4	0	0	0	0	1750	60	0	10	1417	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	15	0	960	851	757	671
Capacity of Entry and Bypass Lanes [veh/h]	426	304	1415	1415	1345	1345
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	426	304	1415	1415	1345	1345
X, volume / capacity	0.04	0.00	0.68	0.60	0.56	0.50

Movement, Approach, & Intersection Results

Lane LOS	A	B	B	A	A	A
95th-Percentile Queue Length [veh]	0.11	0.00	5.74	4.27	3.67	2.89
95th-Percentile Queue Length [ft]	2.73	0.00	143.48	106.65	91.84	72.17
Approach Delay [s/veh]	8.94	11.85	10.26		8.37	
Approach LOS	A	B	B		A	
Intersection Delay [s/veh]	9.43					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1900: East West Arterial

Control Type:	Roundabout	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name							East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			50.00				40.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name							East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	0	0	1	0	0	2	8	1669	75	0	0	1373	4	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	1	0	0	2	8	1669	75	0	0	1373	4	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	1	2	417	19	0	0	343	1	0
Total Analysis Volume [veh/h]	0	0	1	0	0	2	8	1669	75	0	0	1373	4	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1				1			
Circulating Flow Rate [veh/h]	1379			1745			5				77			
Exiting Flow Rate [veh/h]	75			12			1375				1670			
Demand Flow Rate [veh/h]	0	0	1	0	0	2	8	1669	75	0	0	1373	4	0
Adjusted Demand Flow Rate [veh/h]	0	0	1	0	0	2	8	1669	75	0	0	1373	4	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	1	2	929	824	730	648
Capacity of Entry and Bypass Lanes [veh/h]	440	323	1414	1414	1324	1324
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	440	323	1414	1414	1324	1324
X, volume / capacity	0.00	0.01	0.66	0.58	0.55	0.49

Movement, Approach, & Intersection Results

Lane LOS	A	B	B	A	A	A
95th-Percentile Queue Length [veh]	0.01	0.02	5.28	3.97	3.52	2.78
95th-Percentile Queue Length [ft]	0.17	0.47	132.08	99.31	87.96	69.45
Approach Delay [s/veh]	8.22	11.27	9.80		8.28	
Approach LOS	A	B	A		A	
Intersection Delay [s/veh]	9.13					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 2100: Frank Sound Road at East-West Arterial

Control Type:	Roundabout	Delay (sec / veh):	14.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd			Frank Sound Rd			East-West Arterial							
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. of Lanes in Exit Pocket	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00			50.00			40.00				40.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Frank Sound Rd			Frank Sound Rd			East-West Arterial							
Base Volume Input [veh/h]	1169	197	0	0	187	202	268	0	1281	122	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1169	197	0	0	187	202	268	0	1281	122	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	292	49	0	0	47	51	67	0	320	31	0	0	0	0
Total Analysis Volume [veh/h]	1169	197	0	0	187	202	268	0	1281	122	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1				2			
Circulating Flow Rate [veh/h]	324			1403			197				1792			
Exiting Flow Rate [veh/h]	1468			465			1493				0			
Demand Flow Rate [veh/h]	1169	197	0	0	187	202	268	0	1281	122	0	0	0	0
Adjusted Demand Flow Rate [veh/h]	1169	197	0	0	187	202	268	0	1281	122	0	0	0	0

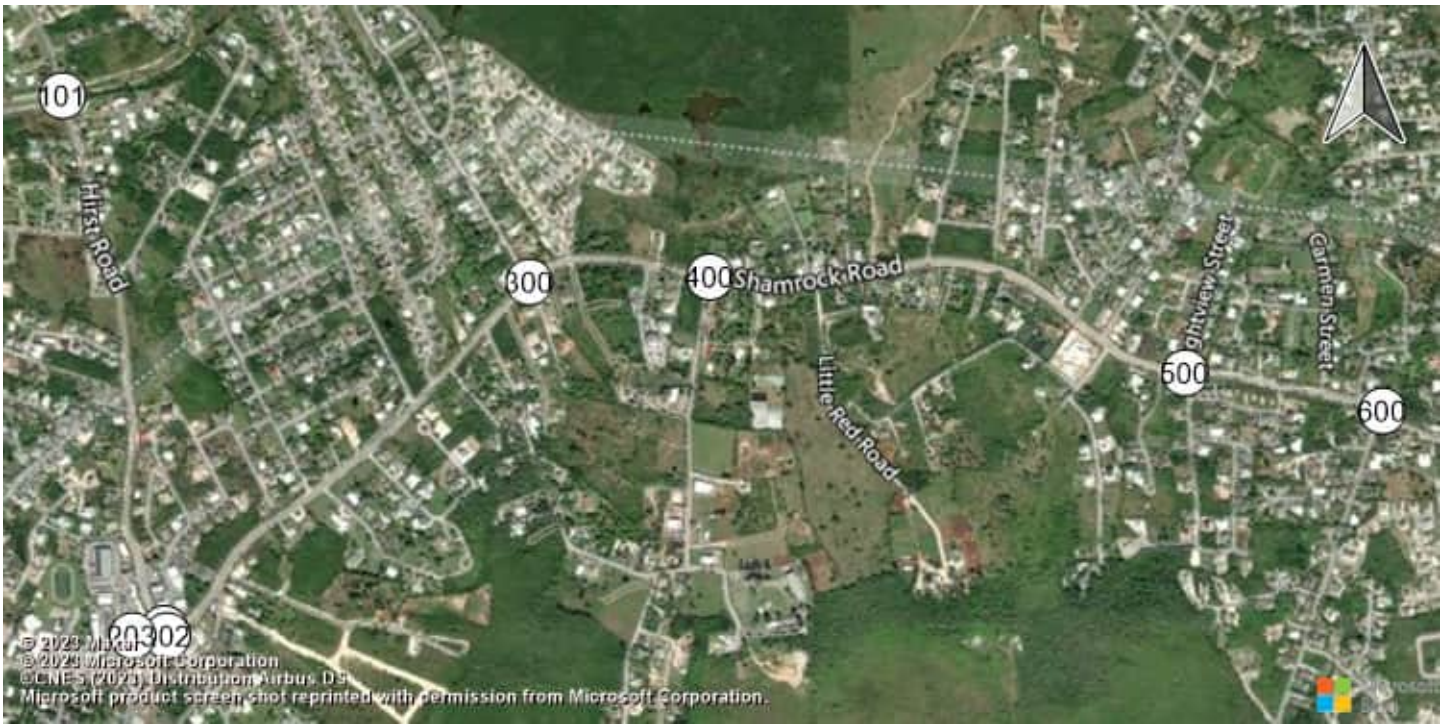
Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1350.00	1420.00	1350.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00092	0.00085	0.00092	0.00091	0.00091	0.00085
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	724	643	187	202	786	886	0
Capacity of Entry and Bypass Lanes [veh/h]	1079	1003	431	372	1187	1187	310
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1079	1003	431	372	1187	1187	310
X, volume / capacity	0.67	0.64	0.43	0.54	0.66	0.75	0.00

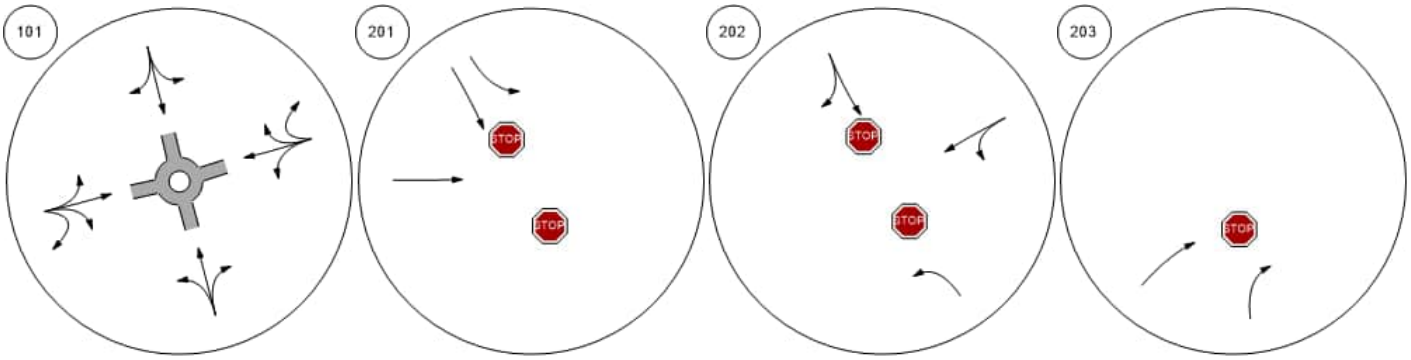
Movement, Approach, & Intersection Results

Lane LOS	B	B	C	C	B	C	B
95th-Percentile Queue Length [veh]	5.46	4.83	2.15	3.12	5.31	7.37	0.00
95th-Percentile Queue Length [ft]	136.48	120.78	53.72	77.98	132.66	184.35	0.00
Approach Delay [s/veh]	13.11		20.21		13.66		11.63
Approach LOS	B		C		B		B
Intersection Delay [s/veh]	14.18						
Intersection LOS	B						

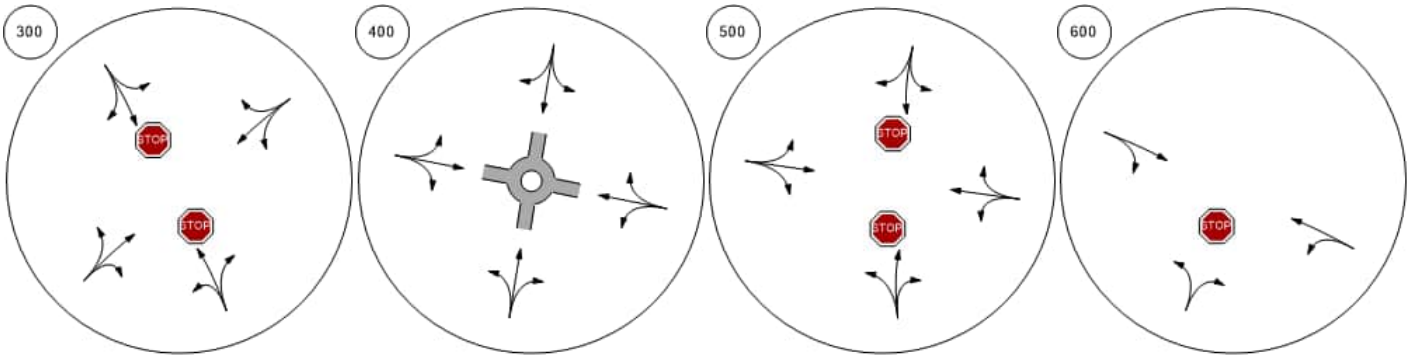
Lane Configuration and Traffic Control



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



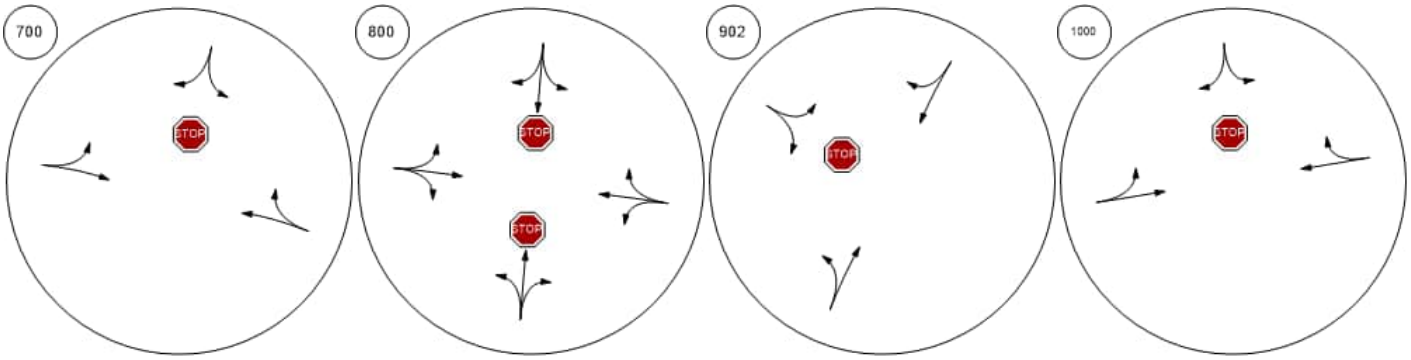
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



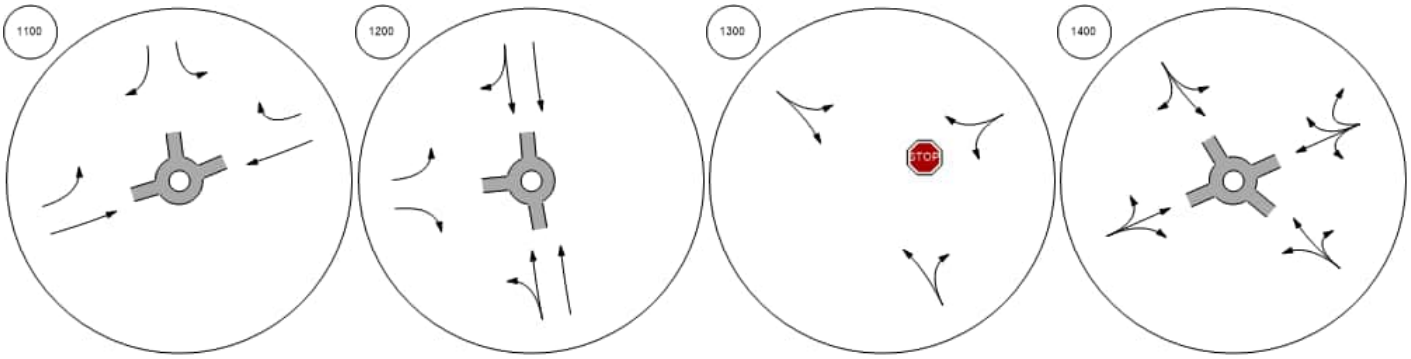
Lane Configuration and Traffic Control



Shamrock Road at Northward | Shamrock Road at Condor R | Bodden Town Road at Bodde | Bodden Town Road at Long



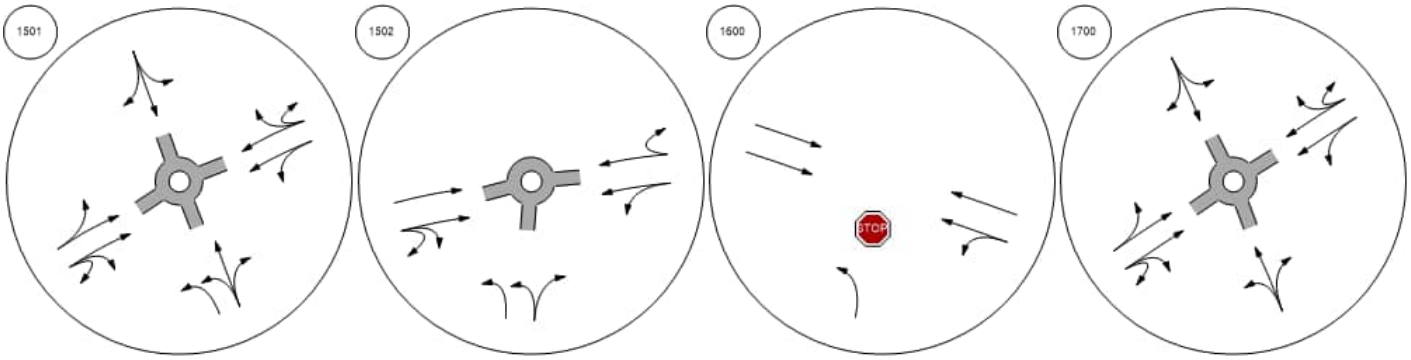
Frank Sound Road at Bodde | Frank Sound Road at Clifton | Frank Sound Road at North S | East-West Arterial at Agricola



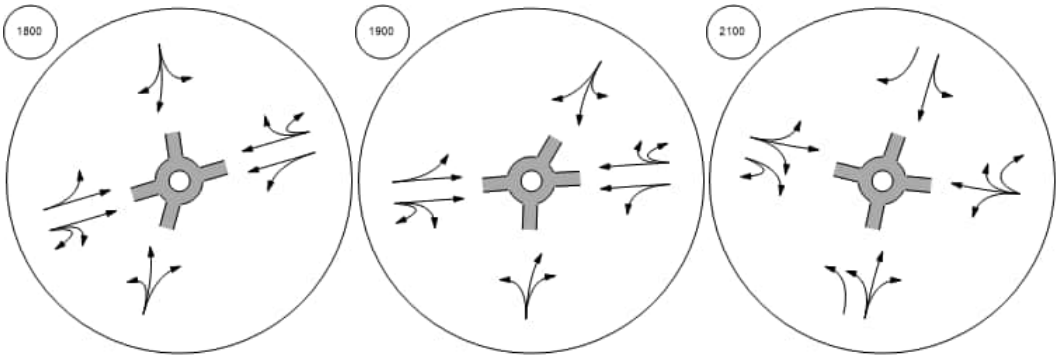
Lane Configuration and Traffic Control



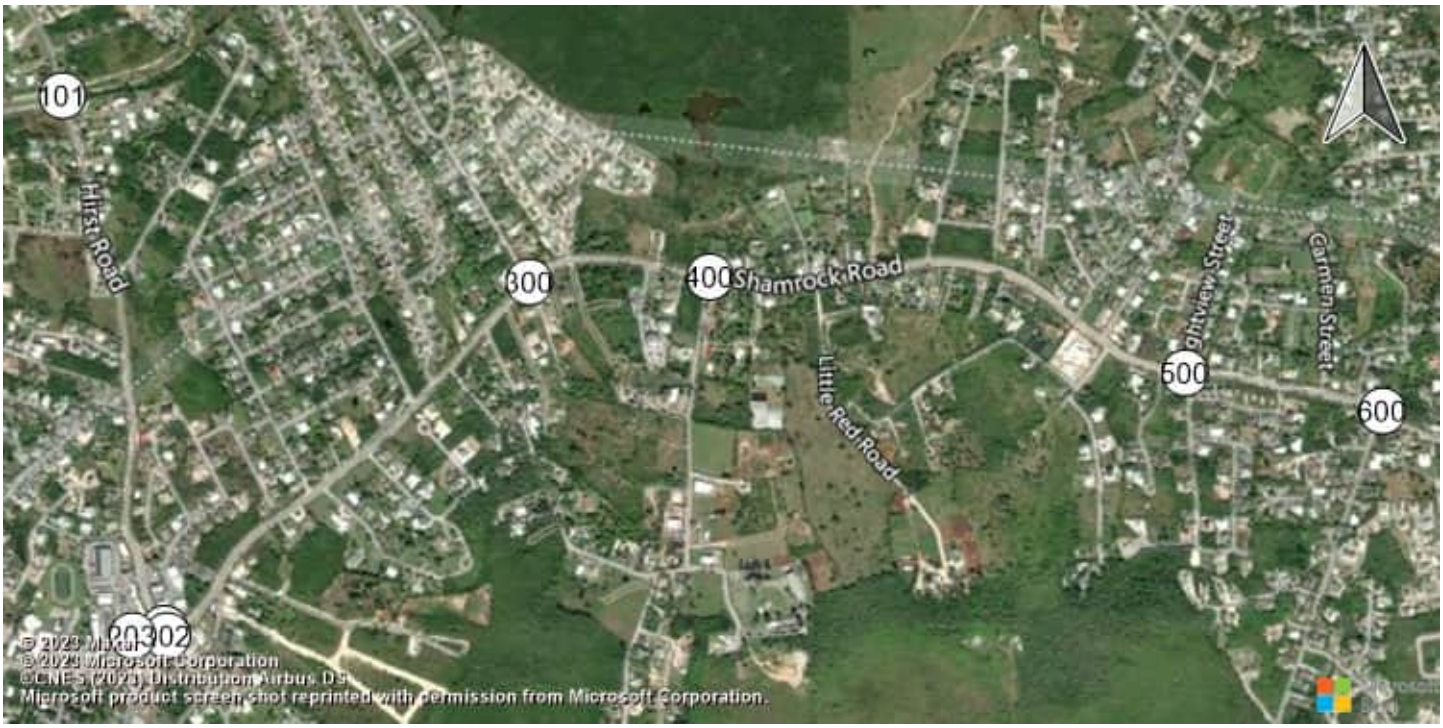
East-West Arterial at Will T C East-West Arterial at Will T C East-West Arterial at NorthwaEast-West Arterial at Lookout



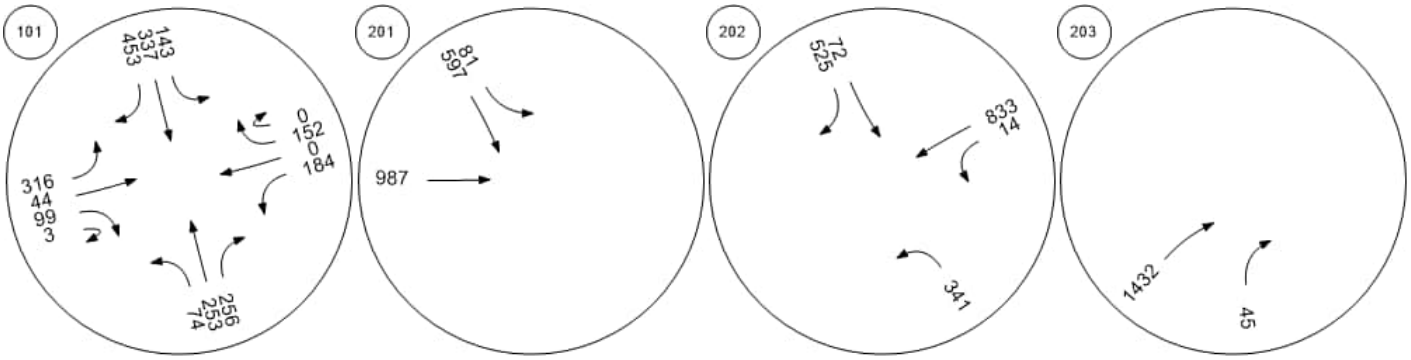
East-West Arterial at Longfell East West Arterial Frank Sound Road at East-W



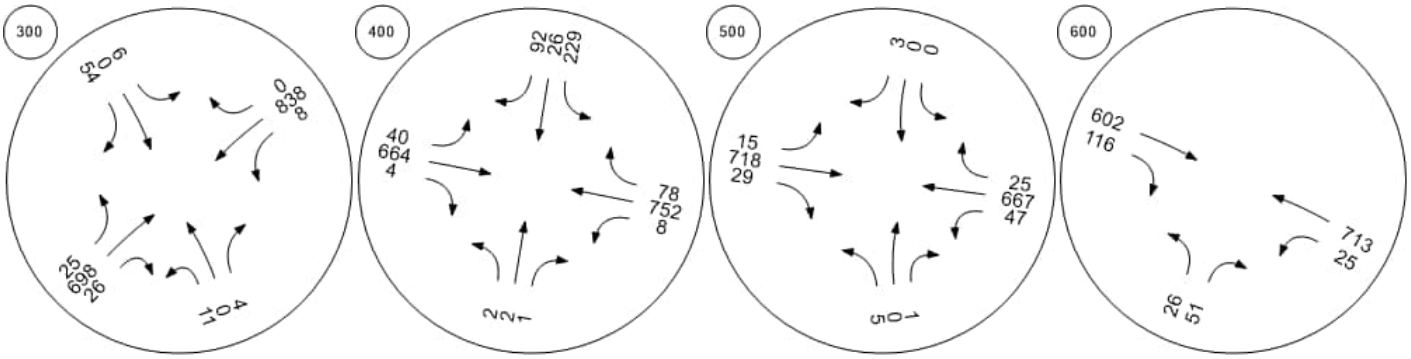
Traffic Volume - Base Volume



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



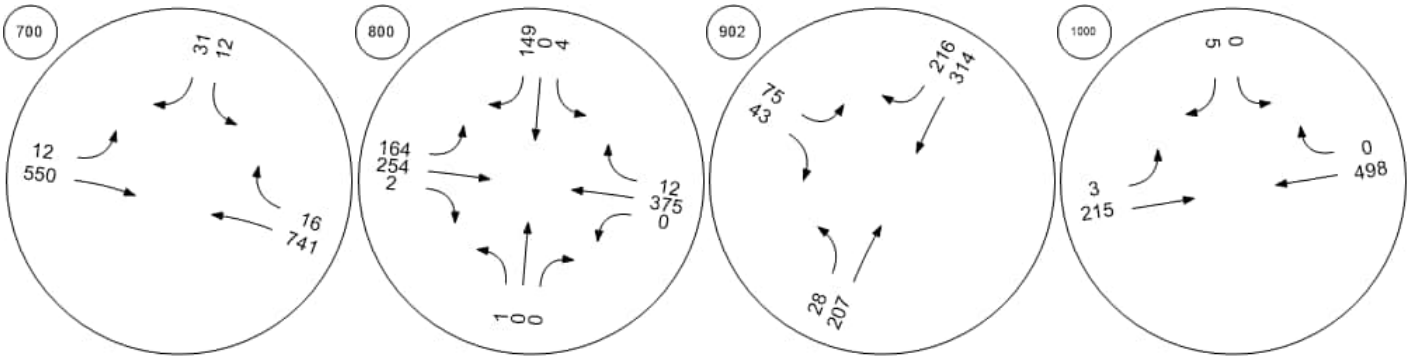
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



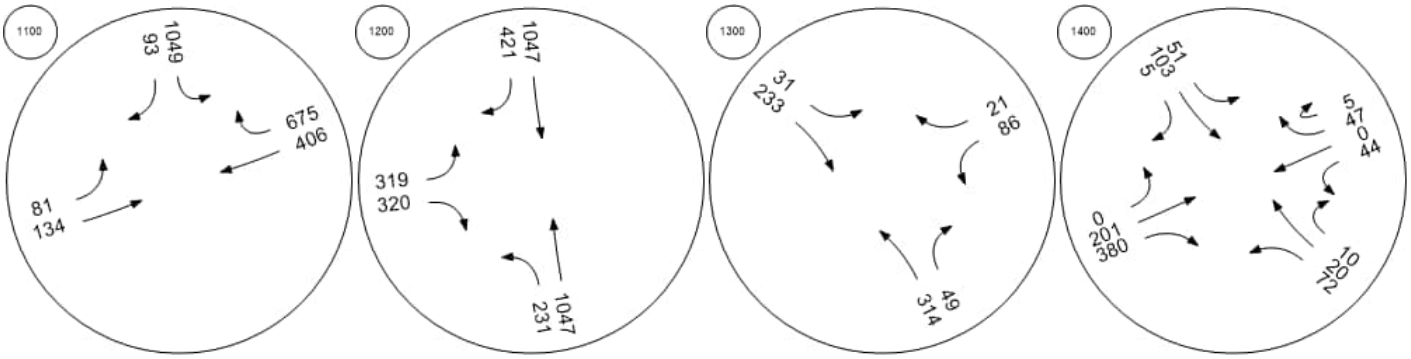
Traffic Volume - Base Volume



Shamrock Road at Northward | Shamrock Road at Condor R | Bodden Town Road at Bodde | Bodden Town Road at Long



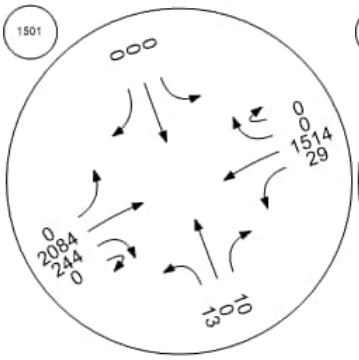
Frank Sound Road at Bodde | Frank Sound Road at Clifton | Frank Sound Road at North S | East-West Arterial at Agricola



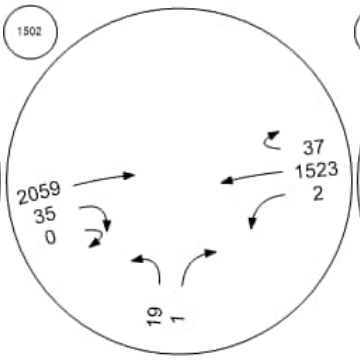
Traffic Volume - Base Volume



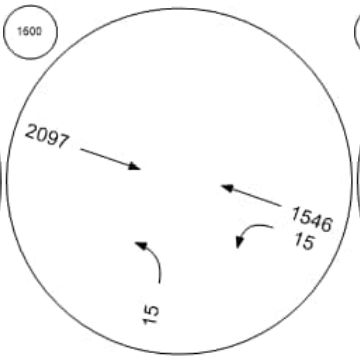
East-West Arterial at Will T C



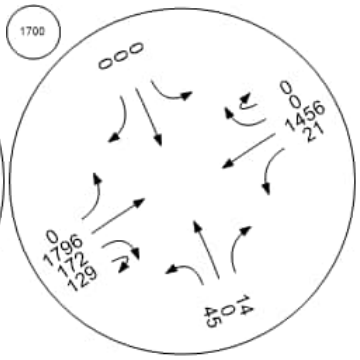
East-West Arterial at Will T C



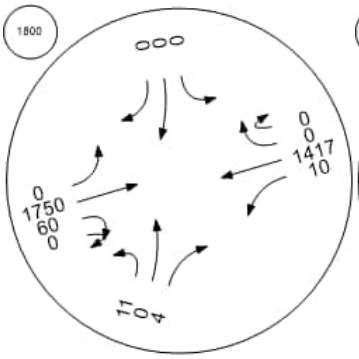
East-West Arterial at Northwa



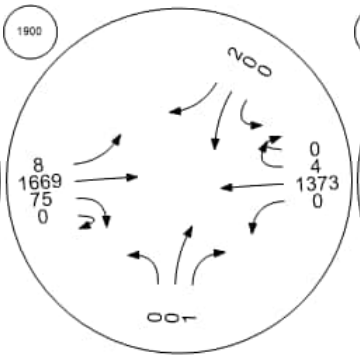
East-West Arterial at Lookout



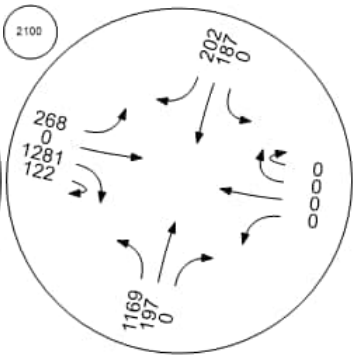
East-West Arterial at Longfell



East West Arterial



Frank Sound Road at East-W



Intersection Level Of Service Report
Intersection 101: East-West Arterial Road at Hirst Road

Control Type:	Roundabout	Delay (sec / veh):	15.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes		

Intersection Setup

Name									East-West Arterial				East-West Arterial				
Approach	Northbound				Southbound				Eastbound				Westbound				
Lane Configuration																	
Turning Movement	Left	Left	Thru	Right	Left	Thru	Right	Right	Left	Thru	Right	U-tu	Left	Thr	Thr	Rig	U-t
Lane Width [ft]	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.	12.	12.	12.	12.
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100	100	100	100	100
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Speed [mph]	30.00				30.00				25.00				25.00				
Grade [%]	0.00				0.00				0.00				0.00				
Crosswalk	Yes				Yes				Yes				Yes				

Volumes

Name									East-West Arterial				East-West Arterial				
Base Volume Input [veh/h]	1	0	140	150	48	231	0	187	623	0	17	16	274	0	0	258	0
Base Volume Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	140	150	48	231	0	187	623	0	17	16	274	0	0	258	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Other Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Total 15-Minute Volume [veh/h]	0	0	35	38	12	58	0	47	156	0	4	4	69	0	0	65	0
Total Analysis Volume [veh/h]	1	0	140	150	48	231	0	187	623	0	17	16	274	0	0	258	0
Pedestrian Volume [ped/h]	0				0				0				0				

Intersection Settings

Number of Conflicting Circulating Lanes	1				1				1				1				
Circulating Flow Rate [veh/h]	461				183				548				451				
Exiting Flow Rate [veh/h]	522				1021				204				198				
Demand Flow Rate [veh/h]	1	0	140	150	48	231	0	187	623	0	17	16	274	0	0	258	0
Adjusted Demand Flow Rate [veh/h]	1	0	140	150	48	231	0	187	623	0	17	16	274	0	0	258	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	291	466	656	532
Capacity of Entry and Bypass Lanes [veh/h]	863	1146	790	872
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	863	1146	790	872
X, volume / capacity	0.34	0.41	0.83	0.61

Movement, Approach, & Intersection Results

Lane LOS	A	A	D	B
95th-Percentile Queue Length [veh]	1.50	2.01	9.44	4.27
95th-Percentile Queue Length [ft]	37.42	50.28	235.89	106.87
Approach Delay [s/veh]	7.97	7.32	26.87	13.44
Approach LOS	A	A	D	B
Intersection Delay [s/veh]	15.69			
Intersection LOS	C			

Intersection Level Of Service Report
Intersection 201: Shamrock Road at Hirst Rd (1)

Control Type:	Two-way stop	Delay (sec / veh):	147.7
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.245

Intersection Setup

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	0	0	0	46	660	0	0	335	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	46	660	0	0	335	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	12	177	0	0	90	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	49	710	0	0	360	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop			Stop			Free			Free			
Flared Lane													
Storage Area [veh]	0			0			0			0			
Two-Stage Gap Acceptance				No									
Number of Storage Spaces in Median	0			0			0			0			

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.07	1.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	10.62	147.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Movement LOS				B	F			A					
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.23	27.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	5.73	681.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
d_A, Approach Delay [s/veh]	0.00			138.88			0.00			0.00			
Approach LOS	A			F			A			A			
d_I, Intersection Delay [s/veh]	94.20												
Intersection LOS	F												

Intersection Level Of Service Report
Intersection 202: Shamrock Road at Hirst Rd (2)

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.087

Intersection Setup

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	581	0	0	0	8	652	0	0	0	0	1513	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	581	0	0	0	8	652	0	0	0	0	1513	0
Peak Hour Factor	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	156	0	0	0	2	175	0	0	0	0	407	0
Total Analysis Volume [veh/h]	625	0	0	0	9	701	0	0	0	0	1627	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	4.91	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	1825.5	0.00	0.00	0.00	10000.	10000.	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	F				F	F				A	A	
95th-Percentile Queue Length [veh/ln]	65.76	0.00	0.00	0.00	91.65	91.65	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1644.0	0.00	0.00	0.00	2291.3	2291.3	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	1825.52			10000.00			0.00			0.00		
Approach LOS	F			F			A			A		
d_I, Intersection Delay [s/veh]	2782.23											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 203: Shamrock Road atHirst Road Jughandle

Control Type:	Two-way stop	Delay (sec / veh):	12.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.087

Intersection Setup

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	0	42	491	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	42	491	0	0	0
Peak Hour Factor	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	11	132	0	0	0
Total Analysis Volume [veh/h]	0	45	528	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.09	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	12.67	0.00	0.00	0.00	0.00
Movement LOS		B	A			
95th-Percentile Queue Length [veh/ln]	0.00	0.29	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	7.16	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.67		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.99					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 300: Shamrock Road at Woodland Drive

Control Type:	Two-way stop	Delay (sec / veh):	235.9
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.998

Intersection Setup

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	33	0	12	0	0	55	10	246	6	2	1428	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	33	0	12	0	0	55	10	246	6	2	1428	0
Peak Hour Factor	0.9700	0.9700	1.0000	1.0000	0.9700	0.9700	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	0	3	0	0	14	3	62	2	1	357	0
Total Analysis Volume [veh/h]	34	0	12	0	0	57	10	246	6	2	1428	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.20	0.00	0.16	0.00	0.00	1.00	0.00	0.00	0.01	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	42.27	59.82	69.56	177.40	211.74	235.89	0.00	0.00	12.57	0.00	0.00	7.73
Movement LOS	E	F	F	F	F	F	A	A	B	A	A	A
95th-Percentile Queue Length [veh/ln]	1.51	1.51	1.51	4.62	4.62	4.62	0.04	0.04	0.04	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	37.66	37.66	37.66	115.42	115.42	115.42	0.95	0.95	0.95	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	49.39			235.89			0.29			0.00		
Approach LOS	E			F			A			A		
d_I, Intersection Delay [s/veh]	8.80											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 400: Shamrock Road at Agricola Drive

Control Type:	Roundabout	Delay (sec / veh):	68.7
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	4	7	2	367	19	106	30	228	0	3	1320	100
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	7	2	367	19	106	30	228	0	3	1320	100
Peak Hour Factor	1.0000	1.0000	0.9200	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9200	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	1	92	5	27	8	57	0	1	330	25
Total Analysis Volume [veh/h]	4	7	2	367	19	106	30	228	0	3	1320	100
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	1526			230			109			125		
Exiting Flow Rate [veh/h]	22			137			1430			597		
Demand Flow Rate [veh/h]	4	7	2	367	19	106	30	228	0	3	1320	100
Adjusted Demand Flow Rate [veh/h]	4	7	2	367	19	106	30	228	0	3	1320	100

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	13	492	258	1423
Capacity of Entry and Bypass Lanes [veh/h]	291	1092	1235	1215
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	291	1092	1235	1215
X, volume / capacity	0.04	0.45	0.21	1.17

Movement, Approach, & Intersection Results

Lane LOS	B	A	A	F
95th-Percentile Queue Length [veh]	0.14	2.39	0.79	39.53
95th-Percentile Queue Length [ft]	3.49	59.66	19.68	988.13
Approach Delay [s/veh]	13.17	8.23	4.73	101.74
Approach LOS	B	A	A	F
Intersection Delay [s/veh]	68.72			
Intersection LOS	F			

Intersection Level Of Service Report

Intersection 500: Shamrock Road at Brightview Drive / Calla Lily Drive

Control Type:	Two-way stop	Delay (sec / veh):	61.6
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.126

Intersection Setup

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			20.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	16	0	5	3	0	9	1	593	2	0	1075	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	16	0	5	3	0	9	1	593	2	0	1075	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	0	1	1	0	2	0	148	1	0	269	0
Total Analysis Volume [veh/h]	16	0	5	3	0	9	1	593	2	0	1075	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.00	0.07	0.01	0.00	0.13	0.00	0.01	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	21.41	45.47	55.41	18.04	48.36	61.56	0.00	0.00	10.50	0.00	0.00	8.63
Movement LOS	C	E	F	C	E	F	A	A	B	A	A	A
95th-Percentile Queue Length [veh/ln]	0.42	0.42	0.42	0.44	0.44	0.44	0.01	0.01	0.01	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	10.49	10.49	10.49	10.95	10.95	10.95	0.23	0.23	0.23	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	29.51			50.68			0.04			0.00		
Approach LOS	D			F			A			A		
d_I, Intersection Delay [s/veh]	0.73											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 600: Shamrock Road at Beach Bay Road

Control Type:	Two-way stop	Delay (sec / veh):	504.1
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.285

Intersection Setup

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	34	27	354	247	58	1041
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	34	27	354	247	58	1041
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	7	97	68	16	286
Total Analysis Volume [veh/h]	37	30	389	271	64	1144
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.16	1.29	0.00	0.46	0.00	0.01
d_M, Delay for Movement [s/veh]	365.22	504.12	0.00	16.37	0.00	0.00
Movement LOS	F	F	A	C	A	A
95th-Percentile Queue Length [veh/ln]	6.46	6.46	2.44	2.44	0.00	0.00
95th-Percentile Queue Length [ft/ln]	161.47	161.47	61.01	61.01	0.00	0.00
d_A, Approach Delay [s/veh]	427.41		6.72		0.00	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	17.09					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 700: Shamrock Road at Northward Road

Control Type:	Two-way stop	Delay (sec / veh):	34.9
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.056

Intersection Setup

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	8	7	12	377	1051	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	7	12	377	1051	21
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	2	3	97	271	5
Total Analysis Volume [veh/h]	8	7	12	389	1084	22
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.06	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	11.65	34.93	0.00	0.00	0.00	8.14
Movement LOS	B	D	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.22	0.22	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	5.43	5.43	0.00	0.00	1.44	1.44
d_A, Approach Delay [s/veh]	22.51		0.00		0.16	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.34					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 800: Shamrock Road at Condor Road

Control Type:	Two-way stop	Delay (sec / veh):	37.7
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.693

Intersection Setup

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Base Volume Input [veh/h]	5	1	0	1	0	226	148	221	0	0	438	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	1	0	1	0	226	148	221	0	0	438	6
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	0	0	57	37	55	0	0	110	2
Total Analysis Volume [veh/h]	5	1	0	1	0	226	148	221	0	0	438	6
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.69	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	10.86	16.68	15.98	31.46	37.16	37.69	0.00	0.00	8.18	0.00	0.00	8.01
Movement LOS	B	C	C	D	E	E	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.03	4.90	4.90	4.90	0.00	0.00	0.00	0.02	0.02	0.02
95th-Percentile Queue Length [ft/ln]	0.85	0.85	0.85	122.50	122.50	122.50	0.00	0.00	0.00	0.38	0.38	0.38
d_A, Approach Delay [s/veh]	11.83			37.67			0.00			0.11		
Approach LOS	B			E			A			A		
d_I, Intersection Delay [s/veh]	8.29											
Intersection LOS	E											

Intersection Level Of Service Report
Intersection 902: Bodden Town Road at Bodden Town Bypass

Control Type:	Two-way stop	Delay (sec / veh):	29.6
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.123

Intersection Setup

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	92	19	12	225	381	242
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	92	19	12	225	381	242
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	5	3	60	101	64
Total Analysis Volume [veh/h]	98	20	13	239	405	257
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.12	0.00	0.00	0.00	0.19
d_M, Delay for Movement [s/veh]	11.94	29.58	0.00	0.00	0.00	8.37
Movement LOS	B	D	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.96	0.96	0.00	0.00	0.72	0.72
95th-Percentile Queue Length [ft/ln]	23.94	23.94	0.00	0.00	17.95	17.95
d_A, Approach Delay [s/veh]	14.93		0.00		3.25	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	3.79					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 1000: Bodden Town Road at Long Fellow Drive

Control Type:	Two-way stop	Delay (sec / veh):	16.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	0	1	0	246	591	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1	0	246	591	0
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	68	162	0
Total Analysis Volume [veh/h]	0	1	0	270	649	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	9.69	16.90	0.00	0.00	0.00	7.76
Movement LOS	A	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.25	0.25	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	16.90		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.02					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1100: Frank Sound Road at Bodden Town Road

Control Type:	Roundabout	Delay (sec / veh):	10.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Base Volume Input [veh/h]	908	57	124	127	530	694
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	908	57	124	127	530	694
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	244	15	33	34	142	187
Total Analysis Volume [veh/h]	976	61	133	137	570	746
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	137		746		61	
Exiting Flow Rate [veh/h]	879		631		1113	
Demand Flow Rate [veh/h]	908	57	124	127	530	694
Adjusted Demand Flow Rate [veh/h]	976	61	133	137	570	746

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00091	0.00091	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	976	61	133	137	570	746
Capacity of Entry and Bypass Lanes [veh/h]	1254	1254	721	721	1344	1344
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1254	1254	721	721	1344	1344
X, volume / capacity	0.78	0.05	0.18	0.19	0.42	0.56

Movement, Approach, & Intersection Results

Lane LOS	C	A	A	A	A	A
95th-Percentile Queue Length [veh]	8.48	0.15	0.67	0.70	2.16	3.58
95th-Percentile Queue Length [ft]	211.94	3.83	16.83	17.45	54.07	89.39
Approach Delay [s/veh]	15.26		7.09		7.89	
Approach LOS	C		A		A	
Intersection Delay [s/veh]	10.72					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1200: Frank Sound Road at Clifton Hunter High School

Control Type:	Roundabout	Delay (sec / veh):	12.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	1	0	0	0	0	0
Exit Pocket Length [ft]	100.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		20.00		20.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	371	573	1291	317	449	250
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	371	573	1291	317	449	250
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	93	143	323	79	112	63
Total Analysis Volume [veh/h]	371	573	1291	317	449	250
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	2		2		2	
Circulating Flow Rate [veh/h]	317		250		573	
Exiting Flow Rate [veh/h]	1541		1022		688	
Demand Flow Rate [veh/h]	371	573	1291	317	449	250
Adjusted Demand Flow Rate [veh/h]	371	573	1291	317	449	250

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1350.00	1420.00	1350.00	1420.00	1350.00
B (coefficient)	0.00085	0.00092	0.00085	0.00092	0.00085	0.00092
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	371	573	853	756	449	250
Capacity of Entry and Bypass Lanes [veh/h]	1085	1009	1149	1073	873	797
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1085	1009	1149	1073	873	797
X, volume / capacity	0.34	0.57	0.74	0.70	0.51	0.31

Movement, Approach, & Intersection Results

Lane LOS	A	B	C	B	B	A
95th-Percentile Queue Length [veh]	1.53	3.70	7.23	6.19	3.01	1.34
95th-Percentile Queue Length [ft]	38.33	92.41	180.69	154.71	75.24	33.62
Approach Delay [s/veh]	9.33		14.88		9.97	
Approach LOS	A		B		A	
Intersection Delay [s/veh]	12.21					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1300: Frank Sound Road at North Side Road/Old Robin Road

Control Type:	Two-way stop	Delay (sec / veh):	14.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Base Volume Input [veh/h]	184	46	8	296	56	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	184	46	8	296	56	1
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	52	13	2	83	16	0
Total Analysis Volume [veh/h]	207	52	9	333	63	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.04	0.00	0.00	0.09	0.00
d_M, Delay for Movement [s/veh]	0.00	8.06	0.00	0.00	10.59	14.15
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.13	0.13	0.00	0.00	0.30	0.30
95th-Percentile Queue Length [ft/ln]	3.31	3.31	0.00	0.00	7.50	7.50
d_A, Approach Delay [s/veh]	1.62		0.00		10.65	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	1.65					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1400: East-West Arterial at Agricola Drive Connector

Control Type:	Roundabout	Delay (sec / veh):	5.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			25.00			25.00			
Grade [%]	0.00			0.00			0.00			0.00			
Crosswalk	Yes			Yes			Yes			Yes			

Volumes

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Base Volume Input [veh/h]	242	18	28	31	84	37	2	0	391	13	0	23	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	242	18	28	31	84	37	2	0	391	13	0	23	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	61	5	7	8	21	9	1	0	98	3	0	6	0
Total Analysis Volume [veh/h]	242	18	28	31	84	37	2	0	391	13	0	23	0
Pedestrian Volume [ped/h]	0			0			0			0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1			
Circulating Flow Rate [veh/h]	60			419			69			512			
Exiting Flow Rate [veh/h]	488			43			279			59			
Demand Flow Rate [veh/h]	242	18	28	31	84	37	2	0	391	13	0	23	0
Adjusted Demand Flow Rate [veh/h]	242	18	28	31	84	37	2	0	391	13	0	23	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	288	152	393	36
Capacity of Entry and Bypass Lanes [veh/h]	1299	901	1287	819
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1299	901	1287	819
X, volume / capacity	0.22	0.17	0.31	0.04

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.85	0.61	1.30	0.14
95th-Percentile Queue Length [ft]	21.24	15.14	32.62	3.45
Approach Delay [s/veh]	4.67	5.66	5.55	4.82
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	5.25			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1501: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	11.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name							East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name							East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	64	0	34	0	0	0	0	1632	19	0	1	1933	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	64	0	34	0	0	0	0	1632	19	0	1	1933	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	16	0	9	0	0	0	0	408	5	0	0	483	0	0
Total Analysis Volume [veh/h]	64	0	34	0	0	0	0	1632	19	0	1	1933	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1				1			
Circulating Flow Rate [veh/h]	1933			1685			34				19			
Exiting Flow Rate [veh/h]	20			0			1997				1666			
Demand Flow Rate [veh/h]	64	0	34	0	0	0	0	1632	19	0	1	1933	0	0
Adjusted Demand Flow Rate [veh/h]	64	0	34	0	0	0	0	1632	19	0	1	1933	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1350.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00092	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	52	47	0	876	776	1026	909
Capacity of Entry and Bypass Lanes [veh/h]	275	229	340	1377	1377	1396	1396
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	275	229	340	1377	1377	1396	1396
X, volume / capacity	0.19	0.20	0.00	0.64	0.56	0.73	0.65

Movement, Approach, & Intersection Results

Lane LOS	C	C	B	B	A	B	B
95th-Percentile Queue Length [veh]	0.68	0.74	0.00	4.86	3.69	7.18	5.16
95th-Percentile Queue Length [ft]	17.08	18.39	0.00	121.41	92.33	179.57	129.12
Approach Delay [s/veh]	18.81		10.62	9.54		11.83	
Approach LOS	C		B	A		B	
Intersection Delay [s/veh]	10.99						
Intersection LOS	B						

Intersection Level Of Service Report
Intersection 1502: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	10.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name			East-West Arterial			East-West Arterial		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	Thru	Right	U-turn	Left	Thru	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00			50.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	Yes		Yes			Yes		

Volumes

Name			East-West Arterial			East-West Arterial		
Base Volume Input [veh/h]	234	4	1662	4	0	1	1700	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	234	4	1662	4	0	1	1700	15
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	59	1	416	1	0	0	425	4
Total Analysis Volume [veh/h]	234	4	1662	4	0	1	1700	15
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	2		1			1		
Circulating Flow Rate [veh/h]	1715		19			4		
Exiting Flow Rate [veh/h]	5		1934			1681		
Demand Flow Rate [veh/h]	234	4	1662	4	0	1	1700	15
Adjusted Demand Flow Rate [veh/h]	234	4	1662	4	0	1	1700	15

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1350.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00092	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	127	112	883	784	910	807
Capacity of Entry and Bypass Lanes [veh/h]	331	279	1396	1396	1415	1415
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	331	279	1396	1396	1415	1415
X, volume / capacity	0.38	0.40	0.63	0.56	0.64	0.57

Movement, Approach, & Intersection Results

Lane LOS	C	C	B	A	B	A
95th-Percentile Queue Length [veh]	1.73	1.85	4.81	3.66	5.00	3.79
95th-Percentile Queue Length [ft]	43.35	46.20	120.16	91.49	125.07	94.72
Approach Delay [s/veh]	21.23		9.39		9.51	
Approach LOS	C		A		A	
Intersection Delay [s/veh]	10.23					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1600: East-West Arterial at Northward Rd

Control Type:	Two-way stop	Delay (sec / veh):	20.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.278

Intersection Setup

Name	Northward Rd		East-West Arterial		East-West Arterial	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		East-West Arterial		East-West Arterial	
Base Volume Input [veh/h]	90	0	1681	0	7	1626
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	90	0	1681	0	7	1626
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	0	420	0	2	407
Total Analysis Volume [veh/h]	90	0	1681	0	7	1626
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.28	0.00	0.02	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	20.33	0.00	0.00	0.00	0.00	0.00
Movement LOS	C		A		A	A
95th-Percentile Queue Length [veh/ln]	1.11	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	27.79	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	20.33		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.54					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1700: East-West Arterial at Lookout Rd

Control Type:	Roundabout	Delay (sec / veh):	9.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Lookout Rd			Lookout Rd			East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Lookout Rd			Lookout Rd			East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	115	0	7	0	0	0	0	1585	35	61	6	1502	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	115	0	7	0	0	0	0	1585	35	61	6	1502	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	29	0	2	0	0	0	0	396	9	15	2	376	0	0
Total Analysis Volume [veh/h]	115	0	7	0	0	0	0	1585	35	61	6	1502	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1				1				
Circulating Flow Rate [veh/h]	1563			1688			7				96				
Exiting Flow Rate [veh/h]	41			0			1678				1592				
Demand Flow Rate [veh/h]	115	0	7	0	0	0	0	1585	35	61	6	1502	0	0	
Adjusted Demand Flow Rate [veh/h]	115	0	7	0	0	0	0	1585	35	61	6	1502	0	0	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	122	0	891	791	800	709
Capacity of Entry and Bypass Lanes [veh/h]	377	339	1411	1411	1302	1302
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	377	339	1411	1411	1302	1302
X, volume / capacity	0.32	0.00	0.63	0.56	0.61	0.54

Movement, Approach, & Intersection Results

Lane LOS	C	B	A	A	B	A
95th-Percentile Queue Length [veh]	1.38	0.00	4.79	3.65	4.46	3.43
95th-Percentile Queue Length [ft]	34.51	0.00	119.67	91.15	111.49	85.75
Approach Delay [s/veh]	15.72	10.64	9.30		9.48	
Approach LOS	C	B	A		A	
Intersection Delay [s/veh]	9.62					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1800: East-West Arterial at Longfellow Rd

Control Type:	Roundabout	Delay (sec / veh):	8.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Longfellow Rd			Longfellow Rd			East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Longfellow Rd			Longfellow Rd			East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	12	0	0	0	0	0	0	1585	0	6	0	1408	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	0	0	0	0	0	0	1585	0	6	0	1408	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	3	0	0	0	0	0	0	396	0	2	0	352	0	0
Total Analysis Volume [veh/h]	12	0	0	0	0	0	0	1585	0	6	0	1408	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1				1					
Circulating Flow Rate [veh/h]	1414			1591			0				6					
Exiting Flow Rate [veh/h]	0			0			1426				1585					
Demand Flow Rate [veh/h]	12	0	0	0	0	0	0	1585	0	6	0	1408	0	0		
Adjusted Demand Flow Rate [veh/h]	12	0	0	0	0	0	0	1585	0	6	0	1408	0	0		

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	12	0	844	748	747	662
Capacity of Entry and Bypass Lanes [veh/h]	427	368	1420	1420	1413	1413
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	427	368	1420	1420	1413	1413
X, volume / capacity	0.03	0.00	0.59	0.53	0.53	0.47

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.09	0.00	4.15	3.21	3.24	2.57
95th-Percentile Queue Length [ft]	2.17	0.00	103.68	80.35	80.89	64.36
Approach Delay [s/veh]	8.82	9.80	8.58		7.59	
Approach LOS	A	A	A		A	
Intersection Delay [s/veh]	8.12					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1900: East West Arterial

Control Type:	Roundabout	Delay (sec / veh):	8.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name							East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			50.00				40.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name							East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	53	0	0	0	0	11	1	1559	25	0	0	1344	1	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	53	0	0	0	0	11	1	1559	25	0	0	1344	1	14
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	13	0	0	0	0	3	0	390	6	0	0	336	0	4
Total Analysis Volume [veh/h]	53	0	0	0	0	11	1	1559	25	0	0	1344	1	14
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1				1				
Circulating Flow Rate [veh/h]	1370			1598			15				36				
Exiting Flow Rate [veh/h]	25			2			1408				1573				
Demand Flow Rate [veh/h]	53	0	0	0	0	11	1	1559	25	0	0	1344	1	14	
Adjusted Demand Flow Rate [veh/h]	53	0	0	0	0	11	1	1559	25	0	0	1344	1	14	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	53	11	841	745	721	639
Capacity of Entry and Bypass Lanes [veh/h]	444	366	1401	1401	1375	1375
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	444	366	1401	1401	1375	1375
X, volume / capacity	0.12	0.03	0.60	0.53	0.52	0.46

Movement, Approach, & Intersection Results

Lane LOS	A	B	A	A	A	A
95th-Percentile Queue Length [veh]	0.40	0.09	4.24	3.28	3.18	2.54
95th-Percentile Queue Length [ft]	10.10	2.33	105.96	81.92	79.51	63.38
Approach Delay [s/veh]	9.82	10.32	8.76		7.67	
Approach LOS	A	B	A		A	
Intersection Delay [s/veh]	8.29					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 2000: Frank Sound Road at East-West Arterial

Control Type:	Unknown	Delay (sec / veh):	?
Analysis Method:	?	Level Of Service:	?
Analysis Period:	15 minutes	Volume to Capacity (v/c):	?

Intersection Setup

Name	Frank Sound Rd	Frank Sound Rd
Approach	Northeastbound	Southwestbound
Lane Configuration		
Turning Movement	Thru	Thru
Crosswalk	Yes	Yes

Volumes

Name	Frank Sound Rd	Frank Sound Rd
Base Volume Input [veh/h]	241	386
Base Volume Adjustment Factor	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00
Growth Factor	1.0000	1.0000
In-Process Volume [veh/h]	0	0
Site-Generated Trips [veh/h]	0	0
Diverted Trips [veh/h]	0	0
Pass-by Trips [veh/h]	0	0
Existing Site Adjustment Volume [veh/h]	0	0
Other Volume [veh/h]	0	0
Left-Turn on Red Volume [veh/h]	0	0
Total Hourly Volume [veh/h]	241	386
Peak Hour Factor	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000
Total 15-Minute Volume [veh/h]	60	97
Total Analysis Volume [veh/h]	241	386
Presence of On-Street Parking	No	No
On-Street Parking Maneuver Rate [/h]	0	0
Local Bus Stopping Rate [/h]	0	0
Pedestrian Volume [ped/h]	0	0

Intersection Level Of Service Report
Intersection 2100: Frank Sound Road at East-West Arterial

Control Type:	Roundabout	Delay (sec / veh):	12.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd			Frank Sound Rd			East-West Arterial							
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	1	0	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00				40.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Frank Sound Rd			Frank Sound Rd			East-West Arterial							
Base Volume Input [veh/h]	906	117	0	0	190	271	146	4	1418	11	0	8	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	906	117	0	0	190	271	146	4	1418	11	0	8	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	227	29	0	0	48	68	37	1	355	3	0	2	0	0
Total Analysis Volume [veh/h]	906	117	0	0	190	271	146	4	1418	11	0	8	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1				2			
Circulating Flow Rate [veh/h]	290			1433			117				1890			
Exiting Flow Rate [veh/h]	1608			263			1196				4			
Demand Flow Rate [veh/h]	906	117	0	0	190	271	146	4	1418	11	0	8	0	0
Adjusted Demand Flow Rate [veh/h]	906	117	0	0	190	271	146	4	1418	11	0	8	0	0

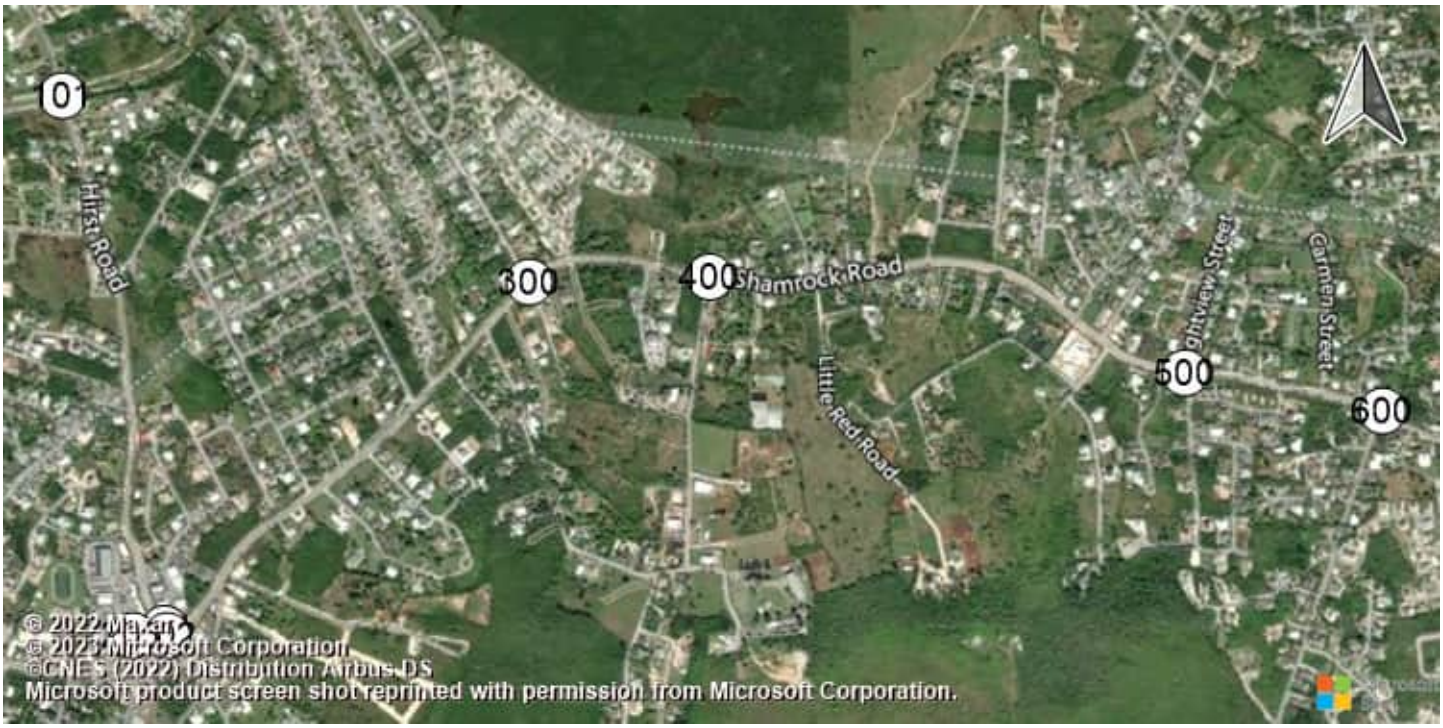
Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1350.00	1420.00	1350.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00092	0.00085	0.00092	0.00091	0.00091	0.00085
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	543	481	190	271	743	837	8
Capacity of Entry and Bypass Lanes [veh/h]	1110	1034	421	362	1277	1277	285
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1110	1034	421	362	1277	1277	285
X, volume / capacity	0.49	0.47	0.45	0.75	0.58	0.66	0.03

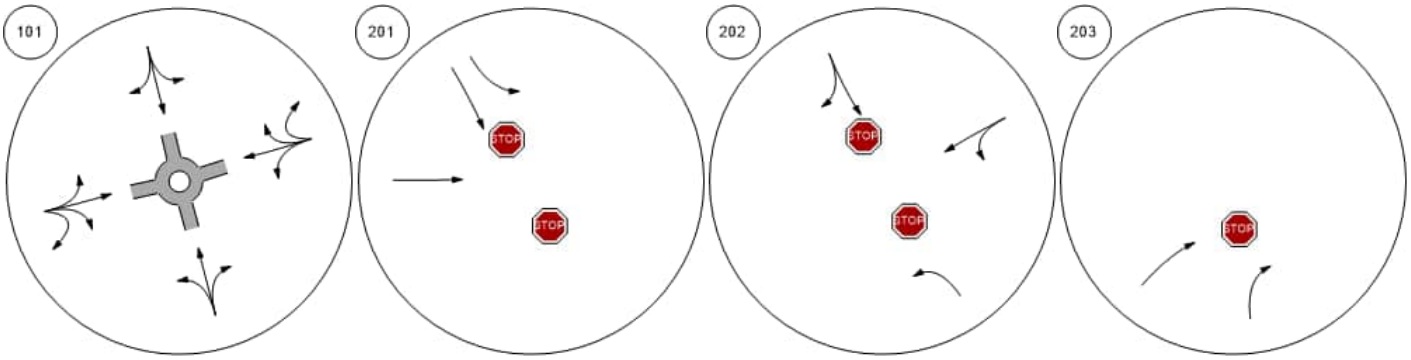
Movement, Approach, & Intersection Results

Lane LOS	A	A	C	E	A	B	B
95th-Percentile Queue Length [veh]	2.76	2.52	2.29	5.91	3.93	5.21	0.09
95th-Percentile Queue Length [ft]	68.96	62.91	57.37	147.80	98.35	130.37	2.16
Approach Delay [s/veh]	8.77		29.81		10.48		13.14
Approach LOS	A		D		B		B
Intersection Delay [s/veh]	12.82						
Intersection LOS	B						

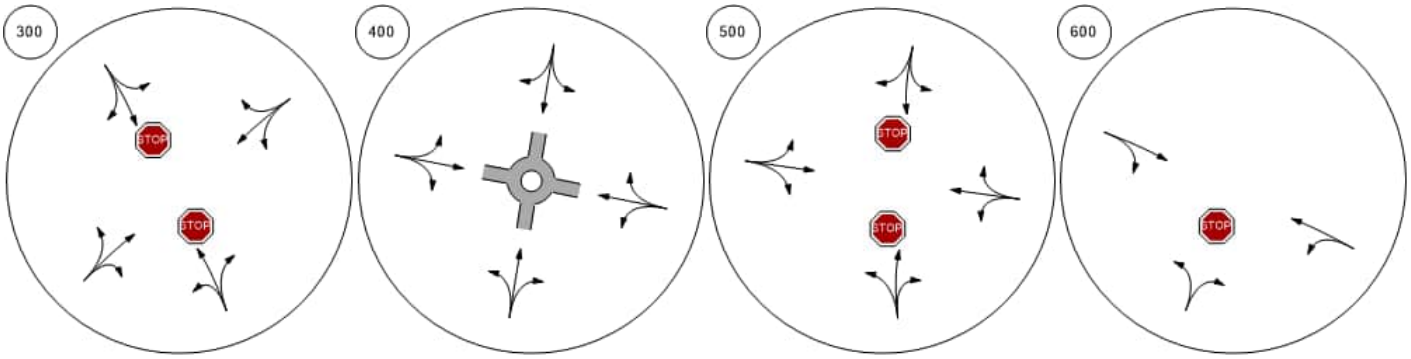
Lane Configuration and Traffic Control



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



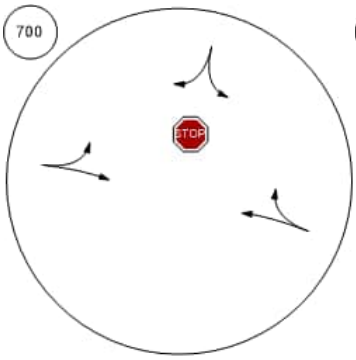
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



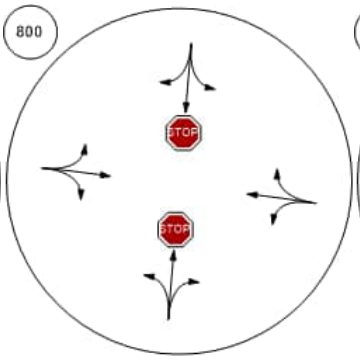
Lane Configuration and Traffic Control



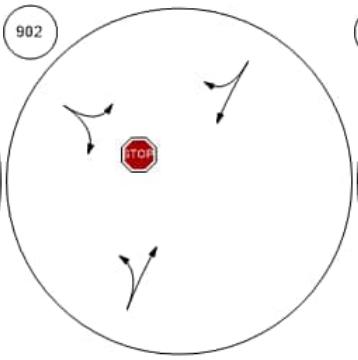
Shamrock Road at Northward



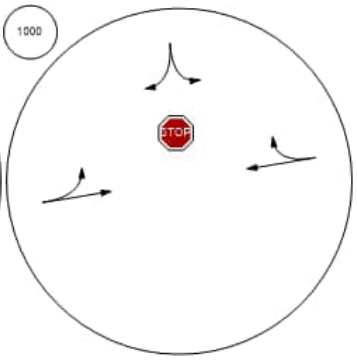
Shamrock Road at Condor R



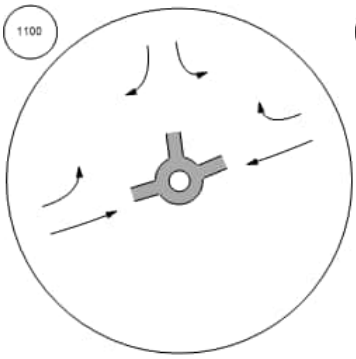
Bodden Town Road at Bodde



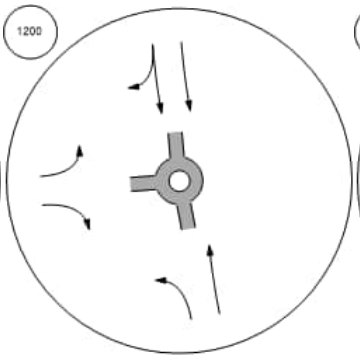
Bodden Town Road at Long



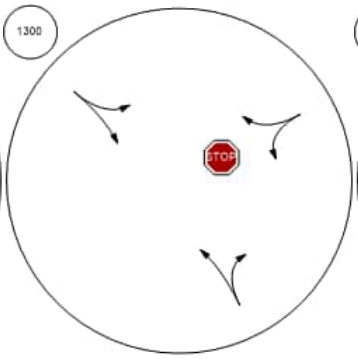
Frank Sound Road at Bodde



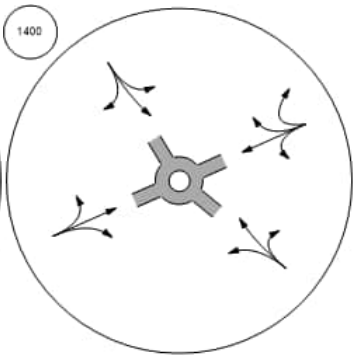
Frank Sound Road at Clifton



Frank Sound Road at North S



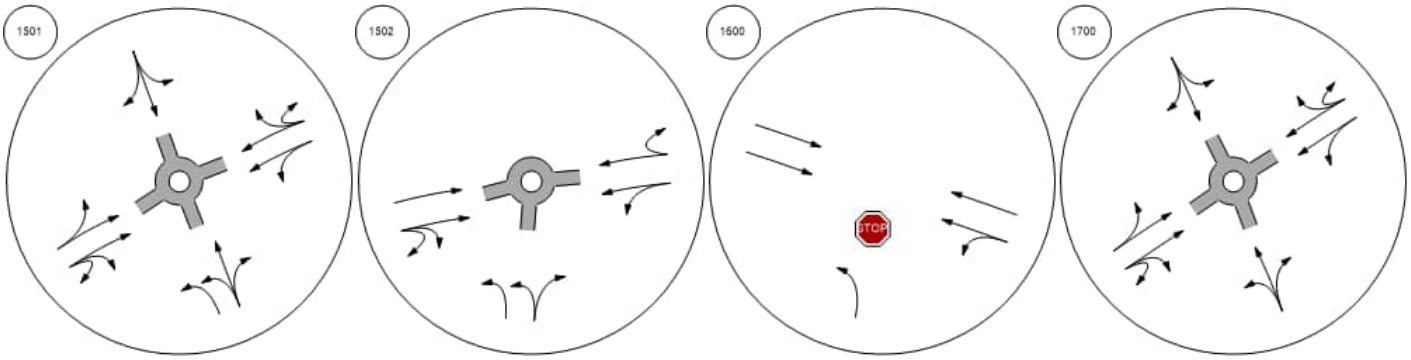
East-West Arterial at Agricola



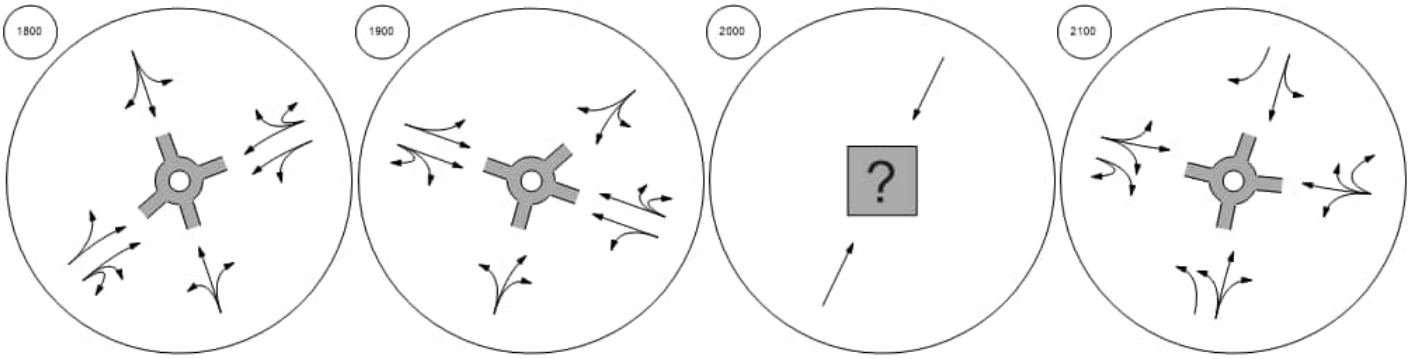
Lane Configuration and Traffic Control



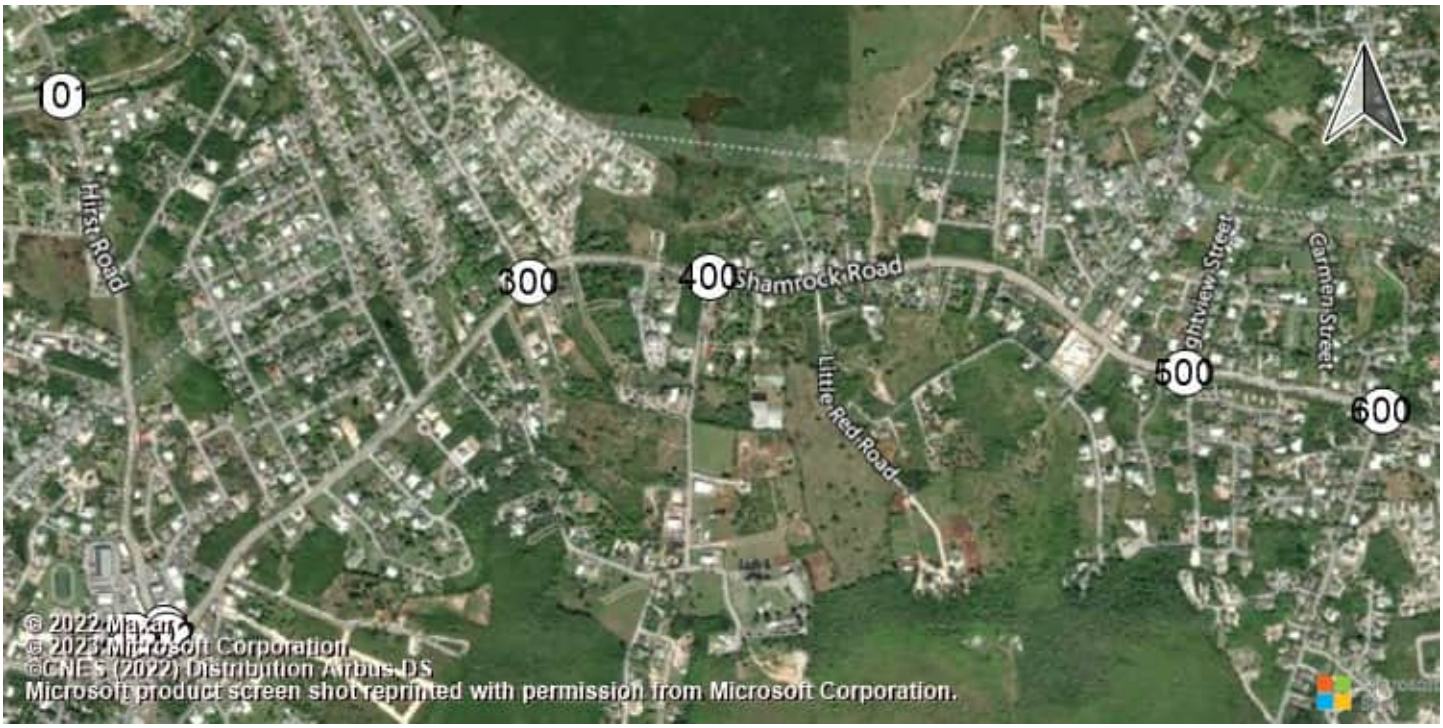
East-West Arterial at Will T C East-West Arterial at Will T C East-West Arterial at Northwa East-West Arterial at Lookout



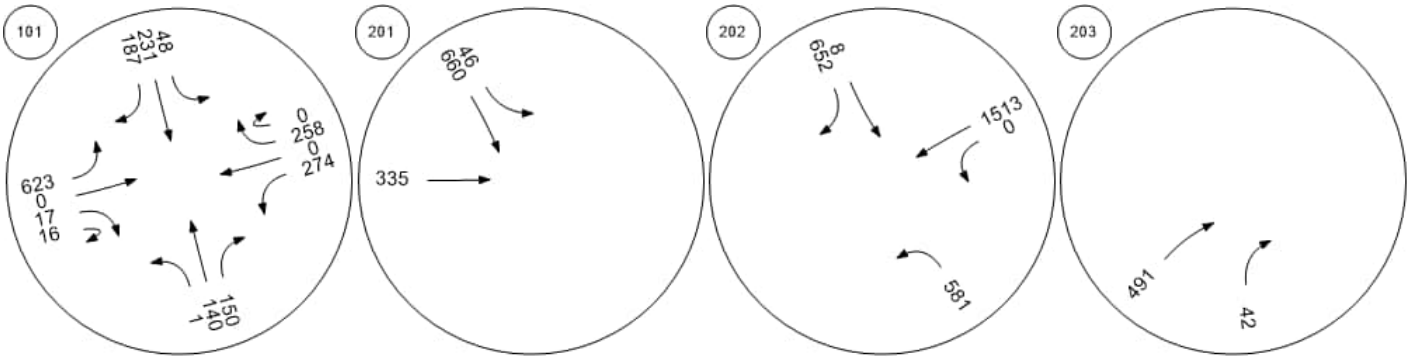
East-West Arterial at Longfell East West Arterial Frank Sound Road at East-W Frank Sound Road at East-W



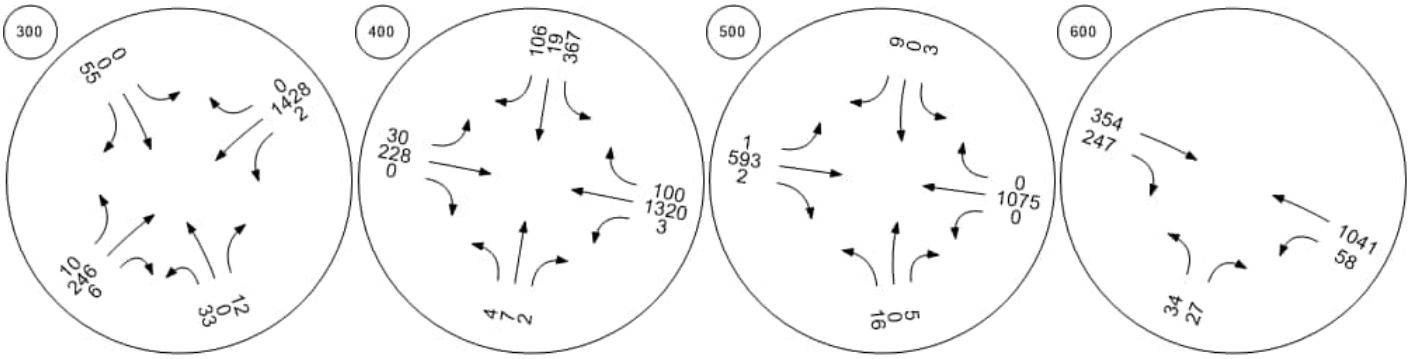
Traffic Volume - Base Volume



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



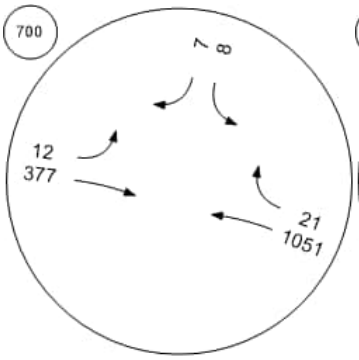
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



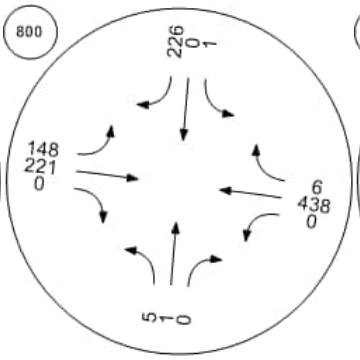
Traffic Volume - Base Volume



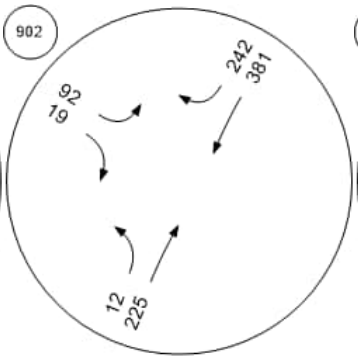
Shamrock Road at Northward



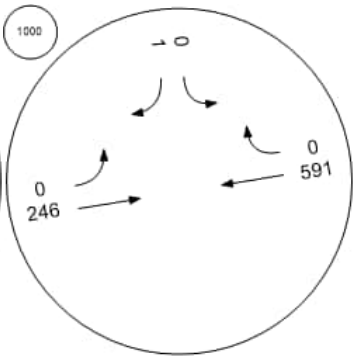
Shamrock Road at Condor R



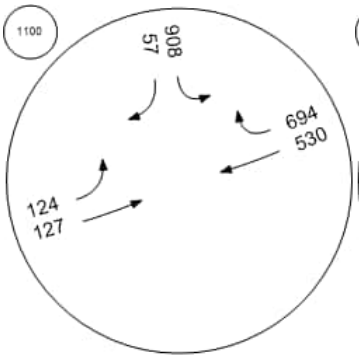
Bodden Town Road at Bodde



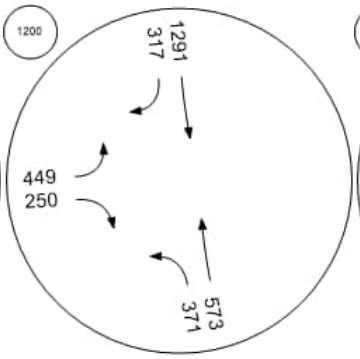
Bodden Town Road at Long



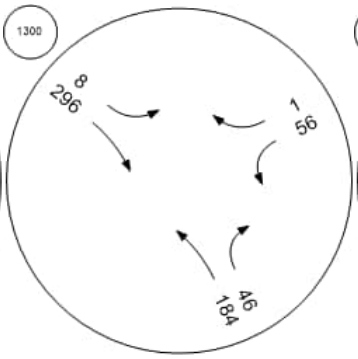
Frank Sound Road at Bodde



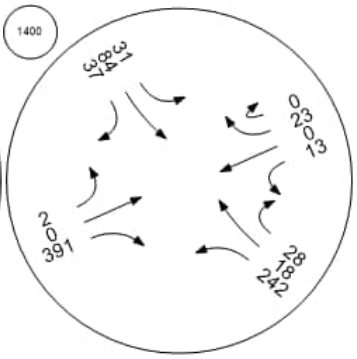
Frank Sound Road at Clifton



Frank Sound Road at North S



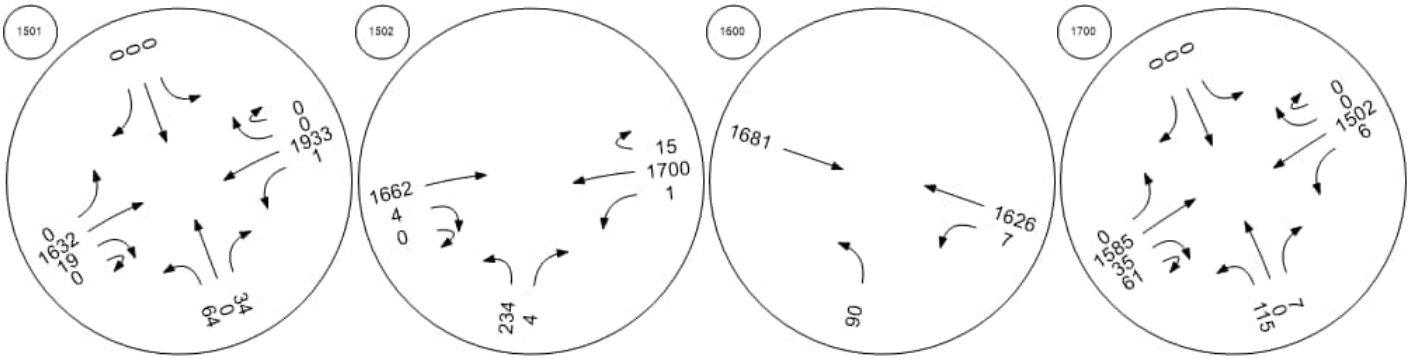
East-West Arterial at Agricola



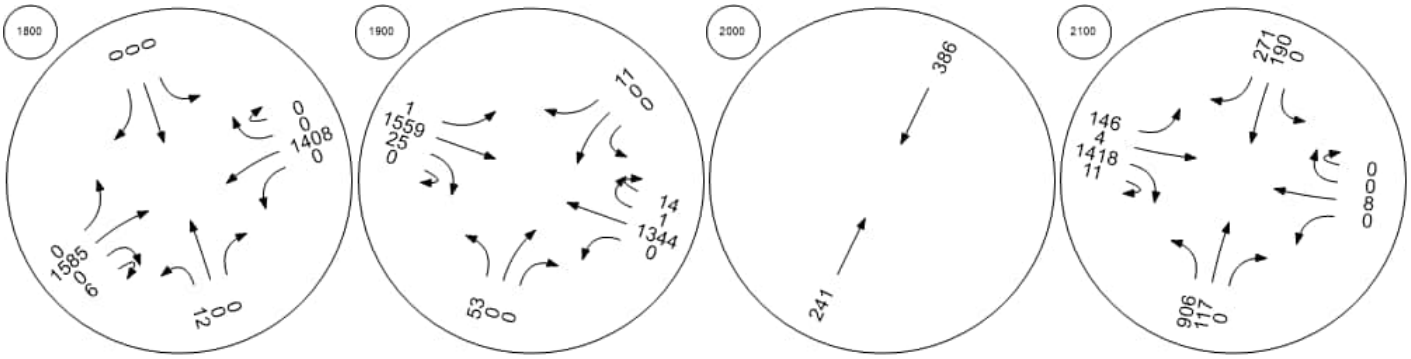
Traffic Volume - Base Volume



East-West Arterial at Will T C East-West Arterial at Will T C East-West Arterial at Northwa East-West Arterial at Lookout



East-West Arterial at Longfell East West Arterial Frank Sound Road at East-W Frank Sound Road at East-W



Intersection Level Of Service Report
Intersection 101: East-West Arterial Road at Hirst Road

Control Type:	Roundabout	Delay (sec / veh):	20.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes		

Intersection Setup

Name									East-West Arterial				East-West Arterial				
Approach	Northbound				Southbound				Eastbound				Westbound				
Lane Configuration																	
Turning Movement	Left	Left	Thru	Right	Left	Thru	Right	Right	Left	Thru	Right	U-tu	Left	Thr	Thr	Rig	U-t
Lane Width [ft]	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.	12.	12.	12.	12.
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100	100	100	100	100
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Speed [mph]	30.00				30.00				25.00				25.00				
Grade [%]	0.00				0.00				0.00				0.00				
Crosswalk	Yes				Yes				Yes				Yes				

Volumes

Name									East-West Arterial				East-West Arterial				
Base Volume Input [veh/h]	78	0	253	215	42	294	0	445	314	56	91	2	146	0	0	193	0
Base Volume Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	78	0	253	215	42	294	0	445	314	56	91	2	146	0	0	193	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Other Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Total 15-Minute Volume [veh/h]	20	0	63	54	11	74	0	111	79	14	23	1	37	0	0	48	0
Total Analysis Volume [veh/h]	78	0	253	215	42	294	0	445	314	56	91	2	146	0	0	193	0
Pedestrian Volume [ped/h]	0				0				0				0				

Intersection Settings

Number of Conflicting Circulating Lanes	1				1				1				1					
Circulating Flow Rate [veh/h]	640				364				661				832					
Exiting Flow Rate [veh/h]	531				760				525				313					
Demand Flow Rate [veh/h]	78	0	253	215	42	294	0	445	314	56	91	2	146	0	0	193	0	
Adjusted Demand Flow Rate [veh/h]	78	0	253	215	42	294	0	445	314	56	91	2	146	0	0	193	0	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	546	781	463	339
Capacity of Entry and Bypass Lanes [veh/h]	719	952	704	591
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	719	952	704	591
X, volume / capacity	0.76	0.82	0.66	0.57

Movement, Approach, & Intersection Results

Lane LOS	C	C	C	C
95th-Percentile Queue Length [veh]	7.14	9.49	4.96	3.62
95th-Percentile Queue Length [ft]	178.43	237.23	124.07	90.60
Approach Delay [s/veh]	22.85	22.51	17.72	16.85
Approach LOS	C	C	C	C
Intersection Delay [s/veh]	20.65			
Intersection LOS	C			

Intersection Level Of Service Report
Intersection 201: Shamrock Road at Hirst Rd (1)

Control Type:	Two-way stop	Delay (sec / veh):	693.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.437

Intersection Setup

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	0	0	0	106	516	0	0	980	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	106	516	0	0	980	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	28	139	0	0	263	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	114	555	0	0	1054	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop			Stop			Free			Free			
Flared Lane													
Storage Area [veh]	0			0			0			0			
Two-Stage Gap Acceptance				No									
Number of Storage Spaces in Median	0			0			0			0			

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.41	2.44	0.00	0.00	0.01	0.00	0.00	0.00	0.00	
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	26.79	693.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Movement LOS				D	F			A					
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	1.92	45.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	47.94	1136.9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
d_A, Approach Delay [s/veh]	0.00			579.50			0.00			0.00			
Approach LOS	A			F			A			A			
d_I, Intersection Delay [s/veh]	225.01												
Intersection LOS	F												

Intersection Level Of Service Report
Intersection 202: Shamrock Road at Hirst Rd (2)

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.296

Intersection Setup

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	342	0	0	0	73	444	0	0	0	13	867	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	342	0	0	0	73	444	0	0	0	13	867	0
Peak Hour Factor	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	92	0	0	0	20	119	0	0	0	3	233	0
Total Analysis Volume [veh/h]	368	0	0	0	78	477	0	0	0	14	932	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	1.14	0.00	0.00	0.00	0.30	0.00	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	129.48	0.00	0.00	0.00	10000.	10000.	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	F				F	F				A	A	
95th-Percentile Queue Length [veh/ln]	14.90	0.00	0.00	0.00	72.26	72.26	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	372.52	0.00	0.00	0.00	1806.3	1806.3	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	129.48			10000.00			0.00			0.00		
Approach LOS	F			F			A			A		
d_I, Intersection Delay [s/veh]	2995.00											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 203: Shamrock Road atHirst Road Jughandle

Control Type:	Two-way stop	Delay (sec / veh):	49.5
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.392

Intersection Setup

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	0	47	1424	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	47	1424	0	0	0
Peak Hour Factor	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	13	383	0	0	0
Total Analysis Volume [veh/h]	0	51	1531	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.39	0.02	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	49.52	0.00	0.00	0.00	0.00
Movement LOS		E	A			
95th-Percentile Queue Length [veh/ln]	0.00	1.66	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	41.45	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	49.52		0.00		0.00	
Approach LOS	E		A		A	
d_I, Intersection Delay [s/veh]	1.60					
Intersection LOS	E					

Intersection Level Of Service Report
Intersection 300: Shamrock Road at Woodland Drive

Control Type:	Two-way stop	Delay (sec / veh):	160.8
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.821

Intersection Setup

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	11	0	4	6	0	54	26	732	26	8	888	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	0	4	6	0	54	26	732	26	8	888	0
Peak Hour Factor	0.9700	0.9700	1.0000	1.0000	0.9700	0.9700	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	1	2	0	14	7	183	7	2	222	0
Total Analysis Volume [veh/h]	11	0	4	6	0	56	27	732	27	8	888	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.00	0.06	0.01	0.00	0.82	0.00	0.01	0.04	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	17.57	48.61	58.72	116.63	148.96	160.77	0.00	0.00	9.87	0.00	0.00	9.18
Movement LOS	C	E	F	F	F	F	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.29	0.29	0.29	4.12	4.12	4.12	0.11	0.11	0.11	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	7.25	7.25	7.25	102.96	102.96	102.96	2.74	2.74	2.74	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	28.54			156.50			0.34			0.00		
Approach LOS	D			F			A			A		
d_I, Intersection Delay [s/veh]	5.91											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 400: Shamrock Road at Agricola Drive

Control Type:	Roundabout	Delay (sec / veh):	12.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	2	2	1	236	26	101	54	685	4	8	792	79
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	2	1	236	26	101	54	685	4	8	792	79
Peak Hour Factor	1.0000	1.0000	0.9200	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9200	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	0	59	7	25	14	171	1	2	198	20
Total Analysis Volume [veh/h]	2	2	1	236	26	101	54	685	4	9	792	79
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1			
Circulating Flow Rate [veh/h]	972			690			82			131			
Exiting Flow Rate [veh/h]	39			135			895			922			
Demand Flow Rate [veh/h]	2	2	1	236	26	101	54	685	4	8	792	79	
Adjusted Demand Flow Rate [veh/h]	2	2	1	236	26	101	54	685	4	9	792	79	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	5	363	743	880
Capacity of Entry and Bypass Lanes [veh/h]	513	683	1270	1208
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	513	683	1270	1208
X, volume / capacity	0.01	0.53	0.59	0.73

Movement, Approach, & Intersection Results

Lane LOS	A	B	A	B
95th-Percentile Queue Length [veh]	0.03	3.16	3.99	6.90
95th-Percentile Queue Length [ft]	0.74	78.93	99.83	172.51
Approach Delay [s/veh]	7.15	13.76	9.69	14.17
Approach LOS	A	B	A	B
Intersection Delay [s/veh]	12.41			
Intersection LOS	B			

Intersection Level Of Service Report

Intersection 500: Shamrock Road at Brightview Drive / Calla Lily Drive

Control Type:	Two-way stop	Delay (sec / veh):	53.6
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.039

Intersection Setup

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			20.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	5	0	1	0	0	3	15	747	29	47	722	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	0	1	0	0	3	15	747	29	47	722	25
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	0	0	1	4	187	7	12	181	6
Total Analysis Volume [veh/h]	5	0	1	0	0	3	15	747	29	47	722	25
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.01	0.00	0.00	0.04	0.00	0.01	0.03	0.00	0.01	0.03
d_M, Delay for Movement [s/veh]	14.01	43.85	51.35	15.62	46.23	53.60	0.00	0.00	9.36	0.00	0.00	9.31
Movement LOS	B	E	F	C	E	F	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.08	0.08	0.08	0.12	0.12	0.12	0.11	0.11	0.11	0.09	0.09	0.09
95th-Percentile Queue Length [ft/ln]	1.90	1.90	1.90	3.00	3.00	3.00	2.63	2.63	2.63	2.25	2.25	2.25
d_A, Approach Delay [s/veh]	20.23			53.60			0.34			0.29		
Approach LOS	C			F			A			A		
d_I, Intersection Delay [s/veh]	0.49											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 600: Shamrock Road at Beach Bay Road

Control Type:	Two-way stop	Delay (sec / veh):	182.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.871

Intersection Setup

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	26	51	631	117	24	768
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	26	51	631	117	24	768
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	14	173	32	7	211
Total Analysis Volume [veh/h]	29	56	693	129	26	844
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.87	0.01	0.16	0.00	0.01
d_M, Delay for Movement [s/veh]	135.96	181.96	0.00	10.50	0.00	0.00
Movement LOS	F	F	A	B	A	A
95th-Percentile Queue Length [veh/ln]	5.38	5.38	0.59	0.59	0.00	0.00
95th-Percentile Queue Length [ft/ln]	134.56	134.56	14.68	14.68	0.00	0.00
d_A, Approach Delay [s/veh]	166.27		1.65		0.00	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	8.72					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 700: Shamrock Road at Northward Road

Control Type:	Two-way stop	Delay (sec / veh):	37.4
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.228

Intersection Setup

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	13	31	12	579	795	16
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	31	12	579	795	16
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	8	3	149	205	4
Total Analysis Volume [veh/h]	13	32	12	597	820	16
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.23	0.00	0.01	0.01	0.02
d_M, Delay for Movement [s/veh]	18.94	37.43	0.00	0.00	0.00	8.74
Movement LOS	C	E	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.96	0.96	0.00	0.00	0.05	0.05
95th-Percentile Queue Length [ft/ln]	24.11	24.11	0.00	0.00	1.25	1.25
d_A, Approach Delay [s/veh]	32.08		0.00		0.17	
Approach LOS	D		A		A	
d_I, Intersection Delay [s/veh]	1.06					
Intersection LOS	E					

Intersection Level Of Service Report
Intersection 800: Shamrock Road at Condor Road

Control Type:	Two-way stop	Delay (sec / veh):	26.7
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.477

Intersection Setup

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Base Volume Input [veh/h]	1	0	0	4	0	149	164	282	2	0	384	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	0	4	0	149	164	282	2	0	384	12
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	1	0	37	41	71	1	0	96	3
Total Analysis Volume [veh/h]	1	0	0	4	0	149	164	282	2	0	384	12
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.00	0.48	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	10.40	17.34	16.60	20.40	26.21	26.67	0.00	0.00	8.04	0.00	0.00	8.23
Movement LOS	B	C	C	C	D	D	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	2.49	2.49	2.49	0.01	0.01	0.01	0.03	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.11	0.11	0.11	62.37	62.37	62.37	0.13	0.13	0.13	0.81	0.81	0.81
d_A, Approach Delay [s/veh]	10.40			26.50			0.04			0.25		
Approach LOS	B			D			A			A		
d_I, Intersection Delay [s/veh]	4.19											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 902: Bodden Town Road at Bodden Town Bypass

Control Type:	Two-way stop	Delay (sec / veh):	34.5
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.288

Intersection Setup

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Bodden Town Bypass		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	76	43	28	235	325	259
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	76	43	28	235	325	259
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	11	7	63	86	69
Total Analysis Volume [veh/h]	81	46	30	250	346	276
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.29	0.00	0.00	0.00	0.21
d_M, Delay for Movement [s/veh]	16.60	34.49	0.00	0.00	0.00	8.53
Movement LOS	C	D	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.80	1.80	0.00	0.00	0.81	0.81
95th-Percentile Queue Length [ft/ln]	45.02	45.02	0.00	0.00	20.20	20.20
d_A, Approach Delay [s/veh]	23.08		0.00		3.79	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	5.14					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 1000: Bodden Town Road at Long Fellow Drive

Control Type:	Two-way stop	Delay (sec / veh):	16.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.009

Intersection Setup

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Longfellow Dr		Bodden Town Rd		Bodden Town Rd	
Base Volume Input [veh/h]	0	3	4	245	558	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	3	4	245	558	0
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	1	67	153	0
Total Analysis Volume [veh/h]	0	3	4	269	613	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	9.77	16.41	0.00	0.00	0.00	7.77
Movement LOS	A	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.71	0.71	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	16.41		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.06					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1100: Frank Sound Road at Bodden Town Road

Control Type:	Roundabout	Delay (sec / veh):	15.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Base Volume Input [veh/h]	1022	92	83	162	462	623
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1022	92	83	162	462	623
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	275	25	22	44	124	167
Total Analysis Volume [veh/h]	1099	99	89	174	497	670
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	174		670		99	
Exiting Flow Rate [veh/h]	759		596		1273	
Demand Flow Rate [veh/h]	1022	92	83	162	462	623
Adjusted Demand Flow Rate [veh/h]	1099	99	89	174	497	670

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00091	0.00091	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	1099	99	89	174	497	670
Capacity of Entry and Bypass Lanes [veh/h]	1213	1213	772	772	1298	1298
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1213	1213	772	772	1298	1298
X, volume / capacity	0.91	0.08	0.12	0.23	0.38	0.52

Movement, Approach, & Intersection Results

Lane LOS	D	A	A	A	A	A
95th-Percentile Queue Length [veh]	14.43	0.27	0.39	0.86	1.83	3.08
95th-Percentile Queue Length [ft]	360.74	6.66	9.73	21.58	45.72	77.03
Approach Delay [s/veh]	25.22		6.71		7.48	
Approach LOS	D		A		A	
Intersection Delay [s/veh]	15.49					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1200: Frank Sound Road at Clifton Hunter High School

Control Type:	Roundabout	Delay (sec / veh):	14.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	1	0	1	0	0	0
Exit Pocket Length [ft]	100.00	0.00	49.21	0.00	0.00	0.00
Speed [mph]	50.00		50.00		20.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	232	1002	1026	418	327	310
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	232	1002	1026	418	327	310
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	58	251	257	105	82	78
Total Analysis Volume [veh/h]	232	1002	1026	418	327	310
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	2		2		2	
Circulating Flow Rate [veh/h]	418		310		1002	
Exiting Flow Rate [veh/h]	1336		1329		650	
Demand Flow Rate [veh/h]	232	1002	1026	418	327	310
Adjusted Demand Flow Rate [veh/h]	232	1002	1026	418	327	310

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1350.00	1420.00	1350.00	1420.00	1350.00
B (coefficient)	0.00085	0.00092	0.00085	0.00092	0.00085	0.00092
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	655	580	766	679	327	310
Capacity of Entry and Bypass Lanes [veh/h]	996	920	1092	1016	606	538
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	996	920	1092	1016	606	538
X, volume / capacity	0.66	0.63	0.70	0.67	0.54	0.58

Movement, Approach, & Intersection Results

Lane LOS	B	B	B	B	C	C
95th-Percentile Queue Length [veh]	5.13	4.63	6.13	5.37	3.22	3.63
95th-Percentile Queue Length [ft]	128.27	115.67	153.16	134.20	80.50	90.80
Approach Delay [s/veh]	13.54		13.96		16.82	
Approach LOS	B		B		C	
Intersection Delay [s/veh]	14.35					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1300: Frank Sound Road at North Side Road/Old Robin Road

Control Type:	Two-way stop	Delay (sec / veh):	16.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.066

Intersection Setup

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Base Volume Input [veh/h]	316	50	31	235	87	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	316	50	31	235	87	21
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	89	14	9	66	24	6
Total Analysis Volume [veh/h]	355	56	35	264	98	24
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.04	0.00	0.00	0.13	0.07
d_M, Delay for Movement [s/veh]	0.00	7.96	0.00	0.00	11.11	16.34
Movement LOS	A	A	A	A	B	C
95th-Percentile Queue Length [veh/ln]	0.14	0.14	0.00	0.00	0.72	0.72
95th-Percentile Queue Length [ft/ln]	3.45	3.45	0.00	0.00	17.95	17.95
d_A, Approach Delay [s/veh]	1.08		0.00		12.14	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	2.32					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1400: East-West Arterial at Agricola Drive Connector

Control Type:	Roundabout	Delay (sec / veh):	6.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			25.00			25.00			
Grade [%]	0.00			0.00			0.00			0.00			
Crosswalk	Yes			Yes			Yes			Yes			

Volumes

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Base Volume Input [veh/h]	75	20	10	146	115	5	0	99	373	44	0	6	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	75	20	10	146	115	5	0	99	373	44	0	6	5
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	19	5	3	37	29	1	0	25	93	11	0	2	1
Total Analysis Volume [veh/h]	75	20	10	146	115	5	0	99	373	44	0	6	5
Pedestrian Volume [ped/h]	0			0			0			0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1			
Circulating Flow Rate [veh/h]	16			487			41			493			
Exiting Flow Rate [veh/h]	532			26			80			260			
Demand Flow Rate [veh/h]	75	20	10	146	115	5	0	99	373	44	0	6	5
Adjusted Demand Flow Rate [veh/h]	75	20	10	146	115	5	0	99	373	44	0	6	5

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	105	266	472	55
Capacity of Entry and Bypass Lanes [veh/h]	1358	840	1324	835
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1358	840	1324	835
X, volume / capacity	0.08	0.32	0.36	0.07

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.25	1.36	1.64	0.21
95th-Percentile Queue Length [ft]	6.28	34.12	40.94	5.28
Approach Delay [s/veh]	3.26	7.85	6.00	4.95
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	6.16			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1501: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	15.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes		

Intersection Setup

Name							East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name							East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	13	0	9	0	0	0	0	2047	245	0	28	1465	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	0	9	0	0	0	0	2047	245	0	28	1465	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	3	0	2	0	0	0	0	512	61	0	7	366	0	0
Total Analysis Volume [veh/h]	13	0	9	0	0	0	0	2047	245	0	28	1465	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1				1			
Circulating Flow Rate [veh/h]	1465			2301			9				245			
Exiting Flow Rate [veh/h]	273			0			1478				2056			
Demand Flow Rate [veh/h]	13	0	9	0	0	0	0	2047	245	0	28	1465	0	0
Adjusted Demand Flow Rate [veh/h]	13	0	9	0	0	0	0	2047	245	0	28	1465	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1350.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00092	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	12	11	0	1215	1078	792	702
Capacity of Entry and Bypass Lanes [veh/h]	409	351	201	1409	1409	1137	1137
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	409	351	201	1409	1409	1137	1137
X, volume / capacity	0.03	0.03	0.00	0.86	0.76	0.70	0.62

Movement, Approach, & Intersection Results

Lane LOS	A	B	C	C	B	B	B
95th-Percentile Queue Length [veh]	0.09	0.09	0.00	12.43	8.15	6.04	4.48
95th-Percentile Queue Length [ft]	2.20	2.27	0.00	310.82	203.82	150.92	111.90
Approach Delay [s/veh]	9.92		17.92	17.28		12.47	
Approach LOS	A		C	C		B	
Intersection Delay [s/veh]	15.35						
Intersection LOS	C						

Intersection Level Of Service Report
Intersection 1502: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	11.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name			East-West Arterial			East-West Arterial		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	Thru	Right	U-turn	Left	Thru	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00			50.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	Yes		Yes			Yes		

Volumes

Name			East-West Arterial			East-West Arterial		
Base Volume Input [veh/h]	19	1	2021	35	0	2	1475	36
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	19	1	2021	35	0	2	1475	36
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	0	505	9	0	1	369	9
Total Analysis Volume [veh/h]	19	1	2021	35	0	2	1475	36
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	2		1			1		
Circulating Flow Rate [veh/h]	1511		37			35		
Exiting Flow Rate [veh/h]	37		1494			2058		
Demand Flow Rate [veh/h]	19	1	2021	35	0	2	1475	36
Adjusted Demand Flow Rate [veh/h]	19	1	2021	35	0	2	1475	36

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1350.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00092	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	11	10	1090	967	802	712
Capacity of Entry and Bypass Lanes [veh/h]	394	337	1373	1373	1376	1376
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	394	337	1373	1373	1376	1376
X, volume / capacity	0.03	0.03	0.79	0.70	0.58	0.52

Movement, Approach, & Intersection Results

Lane LOS	A	B	C	B	A	A
95th-Percentile Queue Length [veh]	0.08	0.09	9.17	6.34	3.97	3.10
95th-Percentile Queue Length [ft]	2.07	2.15	229.16	158.46	99.34	77.39
Approach Delay [s/veh]	10.30		14.05		8.58	
Approach LOS	B		B		A	
Intersection Delay [s/veh]	11.72					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1600: East-West Arterial at Northward Rd

Control Type:	Two-way stop	Delay (sec / veh):	15.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.053

Intersection Setup

Name	Northward Rd		East-West Arterial		East-West Arterial	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		East-West Arterial		East-West Arterial	
Base Volume Input [veh/h]	19	0	2058	0	14	1493
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	19	0	2058	0	14	1493
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	0	515	0	4	373
Total Analysis Volume [veh/h]	19	0	2058	0	14	1493
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.00	0.02	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	15.67	0.00	0.00	0.00	0.00	0.00
Movement LOS	C		A		A	A
95th-Percentile Queue Length [veh/ln]	0.17	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	4.21	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	15.67		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.08					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1700: East-West Arterial at Lookout Rd

Control Type:	Roundabout	Delay (sec / veh):	13.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Lookout Rd			Lookout Rd			East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Lookout Rd			Lookout Rd			East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	45	0	12	0	0	0	0	1758	172	128	21	1394	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	45	0	12	0	0	0	0	1758	172	128	21	1394	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	11	0	3	0	0	0	0	440	43	32	5	349	0	0
Total Analysis Volume [veh/h]	45	0	12	0	0	0	0	1758	172	128	21	1394	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1				1			
Circulating Flow Rate [veh/h]	1522			2070			12				300			
Exiting Flow Rate [veh/h]	193			0			1567				1770			
Demand Flow Rate [veh/h]	45	0	12	0	0	0	0	1758	172	128	21	1394	0	0
Adjusted Demand Flow Rate [veh/h]	45	0	12	0	0	0	0	1758	172	128	21	1394	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	57	0	1091	968	750	666
Capacity of Entry and Bypass Lanes [veh/h]	390	245	1405	1405	1081	1081
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	390	245	1405	1405	1081	1081
X, volume / capacity	0.15	0.00	0.78	0.69	0.69	0.62

Movement, Approach, & Intersection Results

Lane LOS	B	B	B	B	B	B
95th-Percentile Queue Length [veh]	0.51	0.00	8.56	5.98	5.95	4.42
95th-Percentile Queue Length [ft]	12.70	0.00	213.98	149.53	148.65	110.57
Approach Delay [s/veh]	11.55	14.73	13.17		12.85	
Approach LOS	B	B	B		B	
Intersection Delay [s/veh]	13.02					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1800: East-West Arterial at Longfellow Rd

Control Type:	Roundabout	Delay (sec / veh):	9.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Longfellow Rd			Longfellow Rd			East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Longfellow Rd			Longfellow Rd			East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	9	0	0	0	0	0	0	1711	21	38	0	1357	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	0	0	0	0	0	0	1711	21	38	0	1357	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	2	0	0	0	0	0	0	428	5	10	0	339	0	0
Total Analysis Volume [veh/h]	9	0	0	0	0	0	0	1711	21	38	0	1357	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1				1				
Circulating Flow Rate [veh/h]	1395			1770			0				59				
Exiting Flow Rate [veh/h]	21			0			1404				1711				
Demand Flow Rate [veh/h]	9	0	0	0	0	0	0	1711	21	38	0	1357	0	0	
Adjusted Demand Flow Rate [veh/h]	9	0	0	0	0	0	0	1711	21	38	0	1357	0	0	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	9	0	939	832	720	638
Capacity of Entry and Bypass Lanes [veh/h]	434	316	1420	1420	1346	1346
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	434	316	1420	1420	1346	1346
X, volume / capacity	0.02	0.00	0.66	0.59	0.53	0.47

Movement, Approach, & Intersection Results

Lane LOS	A	B	B	A	A	A
95th-Percentile Queue Length [veh]	0.06	0.00	5.36	4.02	3.30	2.62
95th-Percentile Queue Length [ft]	1.59	0.00	134.07	100.59	82.61	65.62
Approach Delay [s/veh]	8.58	11.41	9.85		7.93	
Approach LOS	A	B	A		A	
Intersection Delay [s/veh]	9.02					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1900: East West Arterial

Control Type:	Roundabout	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name							East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			50.00				40.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name							East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	48	0	1	0	0	2	8	1632	72	0	0	1307	4	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	48	0	1	0	0	2	8	1632	72	0	0	1307	4	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	12	0	0	0	0	1	2	408	18	0	0	327	1	0
Total Analysis Volume [veh/h]	48	0	1	0	0	2	8	1632	72	0	0	1307	4	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1				1			
Circulating Flow Rate [veh/h]	1313			1705			5				74			
Exiting Flow Rate [veh/h]	72			12			1357				1633			
Demand Flow Rate [veh/h]	48	0	1	0	0	2	8	1632	72	0	0	1307	4	0
Adjusted Demand Flow Rate [veh/h]	48	0	1	0	0	2	8	1632	72	0	0	1307	4	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	49	2	908	805	695	617
Capacity of Entry and Bypass Lanes [veh/h]	466	334	1414	1414	1328	1328
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	466	334	1414	1414	1328	1328
X, volume / capacity	0.11	0.01	0.64	0.57	0.52	0.46

Movement, Approach, & Intersection Results

Lane LOS	A	B	B	A	A	A
95th-Percentile Queue Length [veh]	0.35	0.02	4.98	3.78	3.17	2.53
95th-Percentile Queue Length [ft]	8.77	0.45	124.62	94.42	79.19	63.17
Approach Delay [s/veh]	9.18	10.89	9.50		7.84	
Approach LOS	A	B	A		A	
Intersection Delay [s/veh]	8.79					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 2000: Frank Sound Road at East-West Arterial

Control Type:	Unknown	Delay (sec / veh):	?
Analysis Method:	?	Level Of Service:	?
Analysis Period:	15 minutes	Volume to Capacity (v/c):	?

Intersection Setup

Name	Frank Sound Rd	Frank Sound Rd
Approach	Northbound	Southbound
Lane Configuration		
Turning Movement	Thru	Thru
Crosswalk	Yes	Yes

Volumes

Name	Frank Sound Rd	Frank Sound Rd
Base Volume Input [veh/h]	404	349
Base Volume Adjustment Factor	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00
Growth Factor	1.0000	1.0000
In-Process Volume [veh/h]	0	0
Site-Generated Trips [veh/h]	0	0
Diverted Trips [veh/h]	0	0
Pass-by Trips [veh/h]	0	0
Existing Site Adjustment Volume [veh/h]	0	0
Other Volume [veh/h]	0	0
Left-Turn on Red Volume [veh/h]	0	0
Total Hourly Volume [veh/h]	404	349
Peak Hour Factor	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000
Total 15-Minute Volume [veh/h]	101	87
Total Analysis Volume [veh/h]	404	349
Presence of On-Street Parking	No	No
On-Street Parking Maneuver Rate [/h]	0	0
Local Bus Stopping Rate [/h]	0	0
Pedestrian Volume [ped/h]	0	0

Intersection Level Of Service Report
Intersection 2100: Frank Sound Road at East-West Arterial

Control Type:	Roundabout	Delay (sec / veh):	13.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd			Frank Sound Rd			East-West Arterial							
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	1	0	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00			50.00			40.00				40.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name	Frank Sound Rd			Frank Sound Rd			East-West Arterial							
Base Volume Input [veh/h]	1123	206	0	0	194	198	262	0	1250	122	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1123	206	0	0	194	198	262	0	1250	122	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	281	52	0	0	49	50	66	0	313	31	0	0	0	0
Total Analysis Volume [veh/h]	1123	206	0	0	194	198	262	0	1250	122	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1				2			
Circulating Flow Rate [veh/h]	320			1372			206				1764			
Exiting Flow Rate [veh/h]	1444			468			1443				0			
Demand Flow Rate [veh/h]	1123	206	0	0	194	198	262	0	1250	122	0	0	0	0
Adjusted Demand Flow Rate [veh/h]	1123	206	0	0	194	198	262	0	1250	122	0	0	0	0

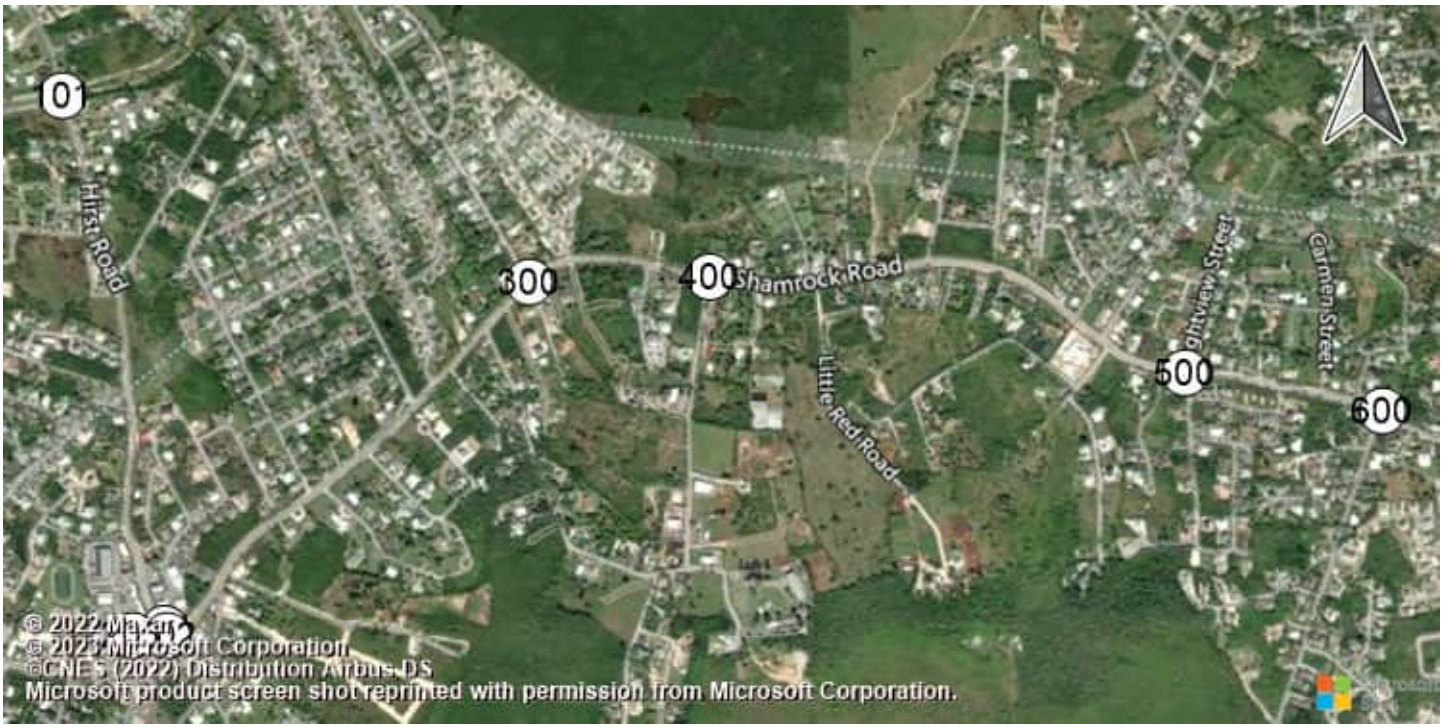
Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1350.00	1420.00	1350.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00092	0.00085	0.00092	0.00091	0.00091	0.00085
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	705	625	194	198	768	867	0
Capacity of Entry and Bypass Lanes [veh/h]	1082	1006	443	383	1178	1178	318
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1082	1006	443	383	1178	1178	318
X, volume / capacity	0.65	0.62	0.44	0.52	0.65	0.74	0.00

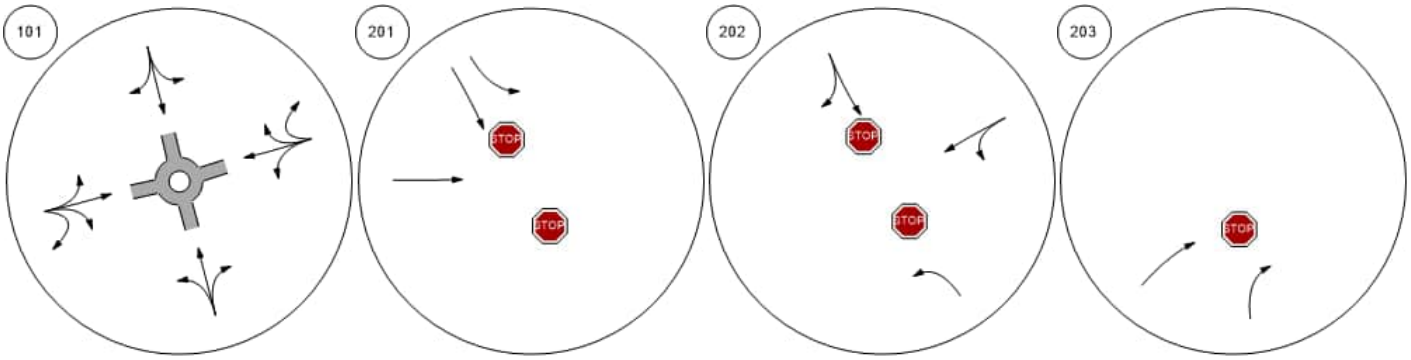
Movement, Approach, & Intersection Results

Lane LOS	B	B	C	C	B	B	B
95th-Percentile Queue Length [veh]	5.06	4.49	2.19	2.87	5.12	7.06	0.00
95th-Percentile Queue Length [ft]	126.41	112.33	54.72	71.73	127.93	176.61	0.00
Approach Delay [s/veh]	12.47		19.15		13.37		11.36
Approach LOS	B		C		B		B
Intersection Delay [s/veh]	13.69						
Intersection LOS	B						

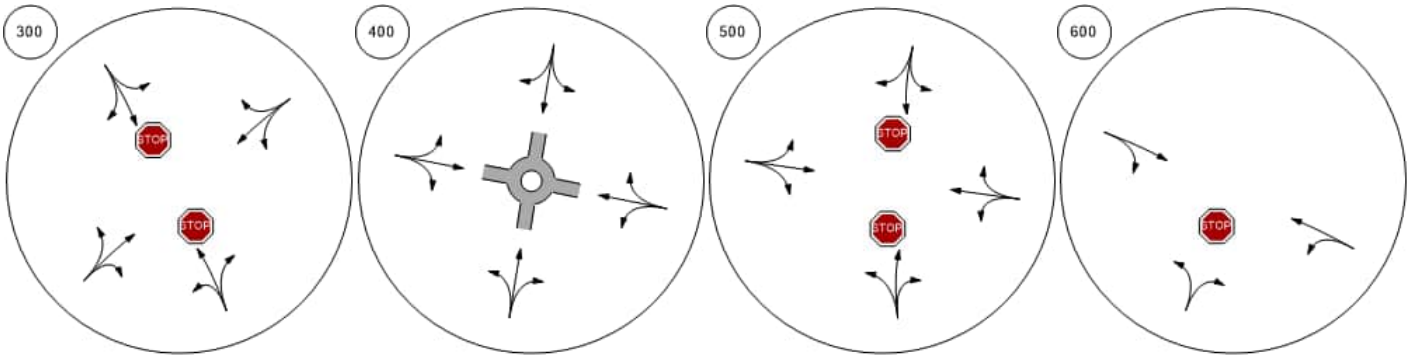
Lane Configuration and Traffic Control



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



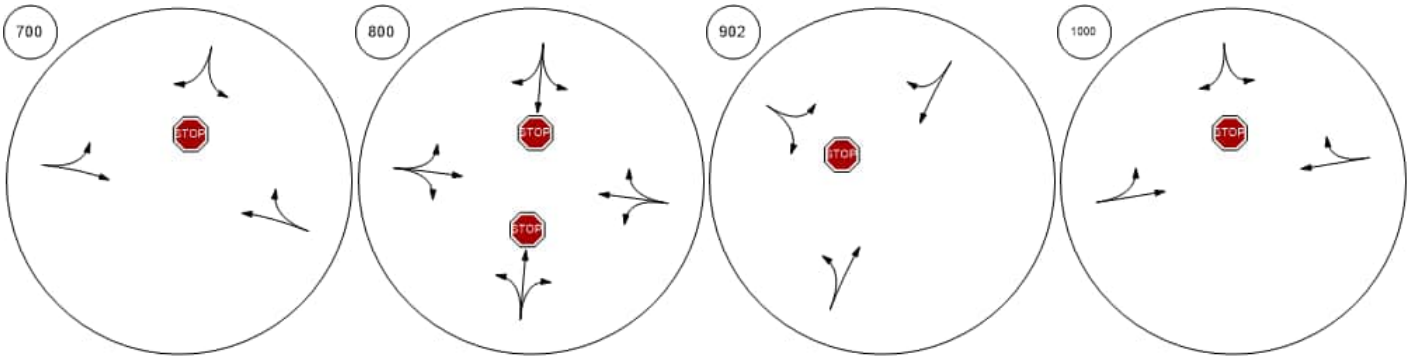
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



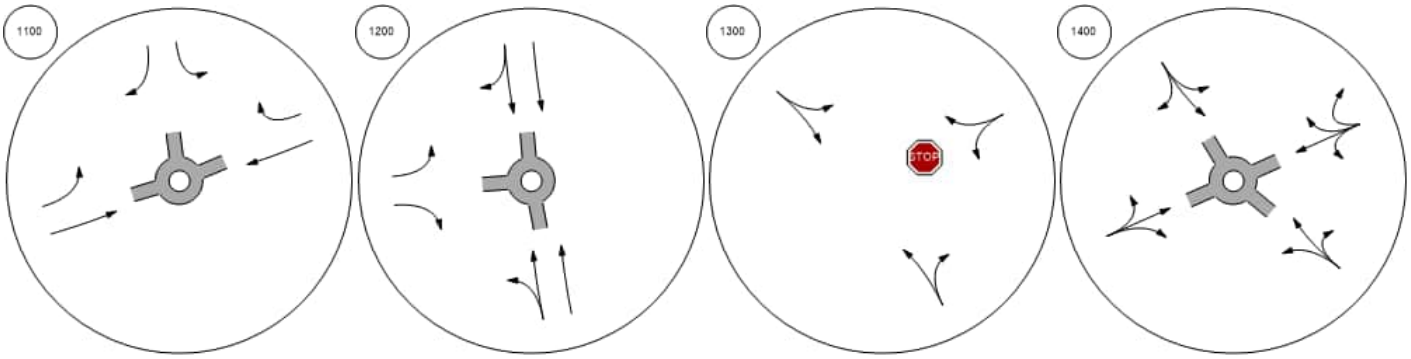
Lane Configuration and Traffic Control



Shamrock Road at Northward | Shamrock Road at Condor R | Bodden Town Road at Bodde | Bodden Town Road at Long



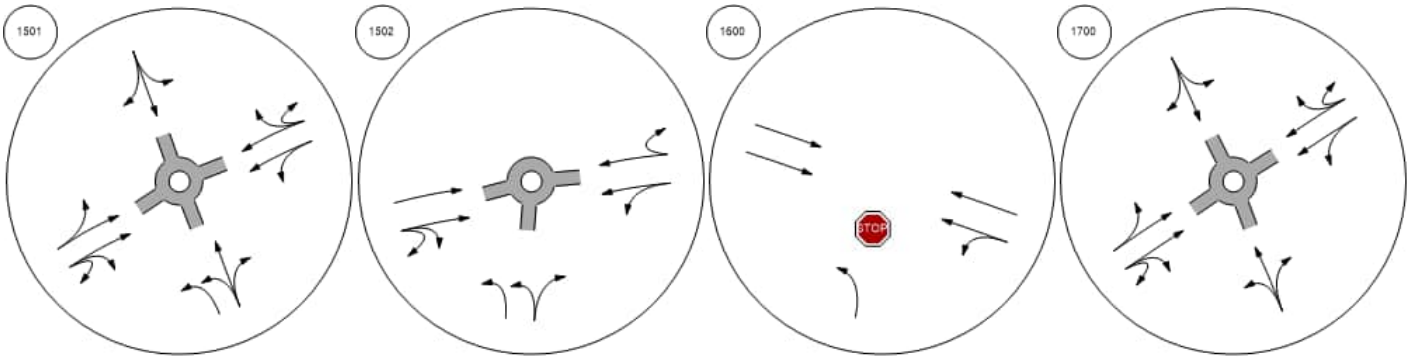
Frank Sound Road at Bodde | Frank Sound Road at Clifton | Frank Sound Road at North S | East-West Arterial at Agricola



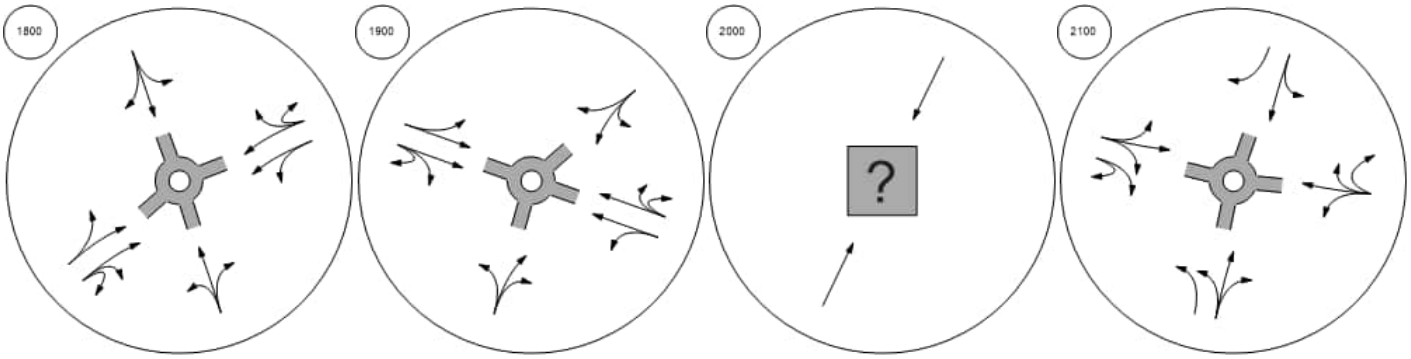
Lane Configuration and Traffic Control



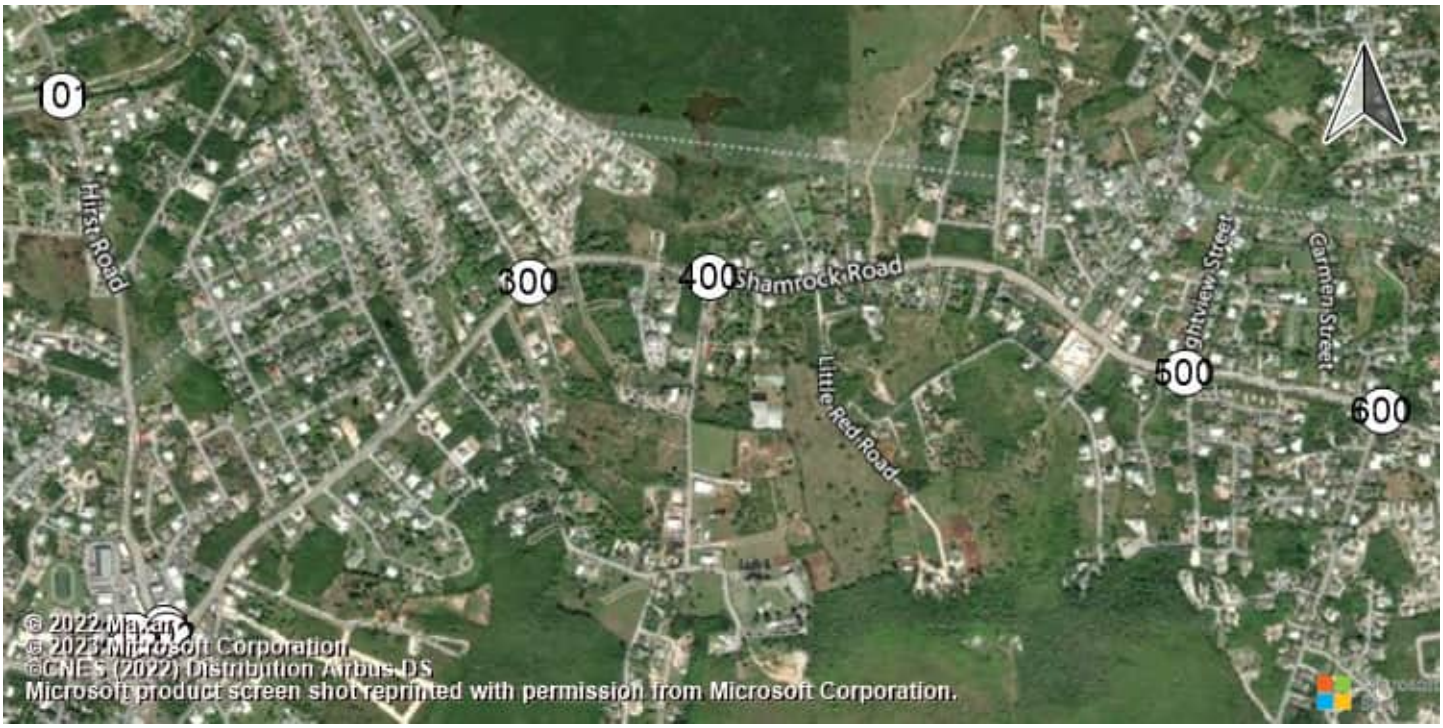
East-West Arterial at Will T C East-West Arterial at Will T C East-West Arterial at Northwa East-West Arterial at Lookout



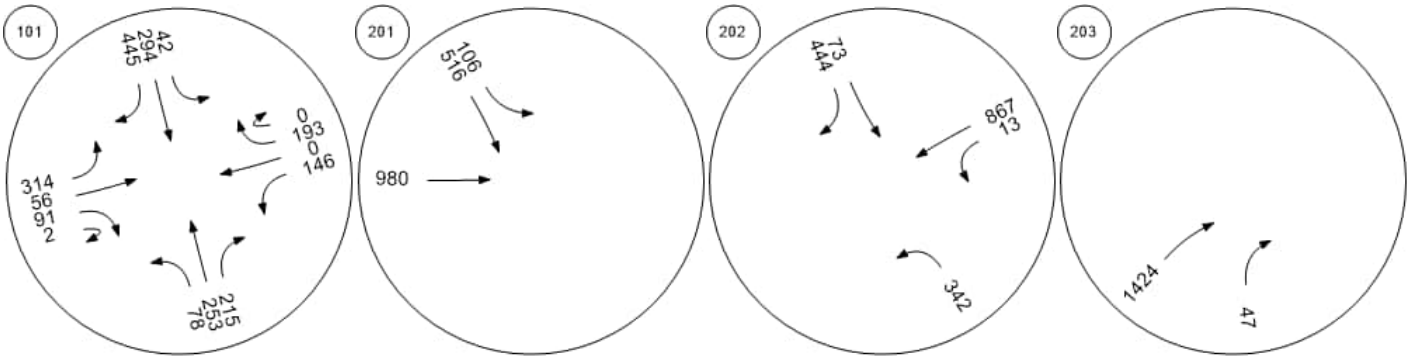
East-West Arterial at Longfell East West Arterial Frank Sound Road at East-W Frank Sound Road at East-W



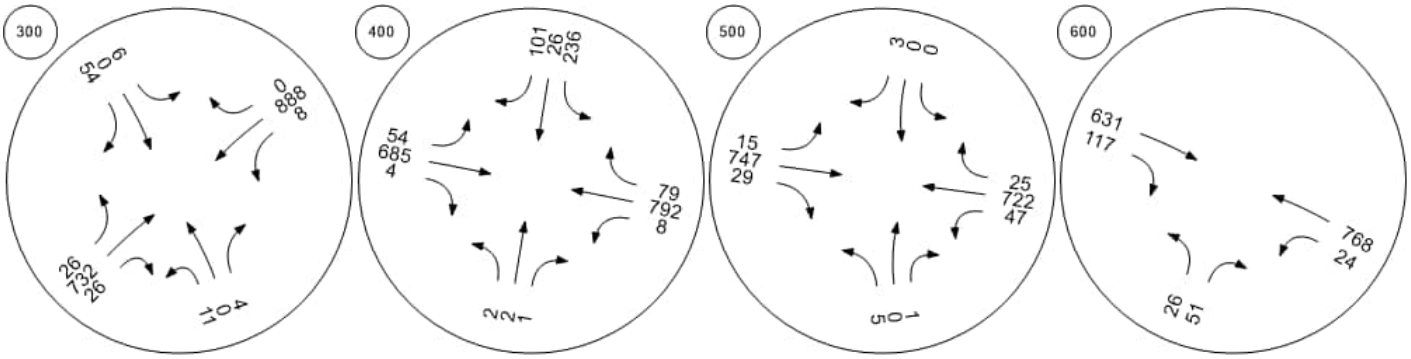
Traffic Volume - Base Volume



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



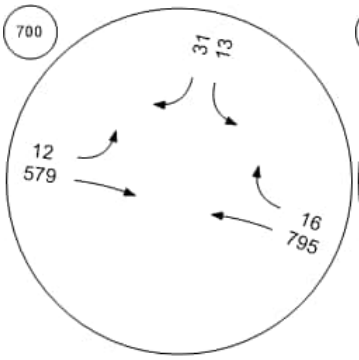
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



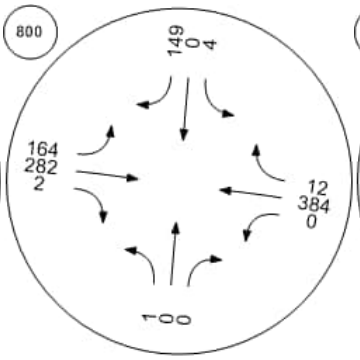
Traffic Volume - Base Volume



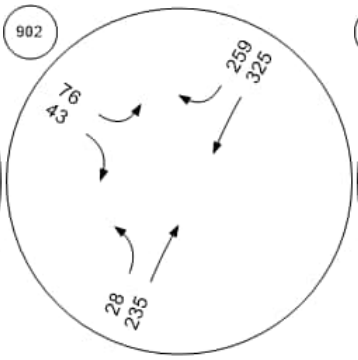
Shamrock Road at Northward



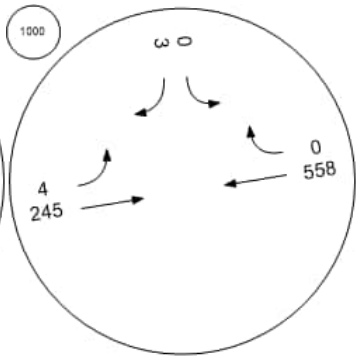
Shamrock Road at Condor R



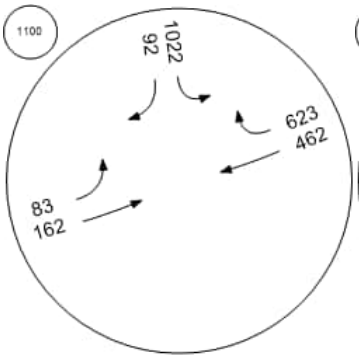
Bodden Town Road at Bodde



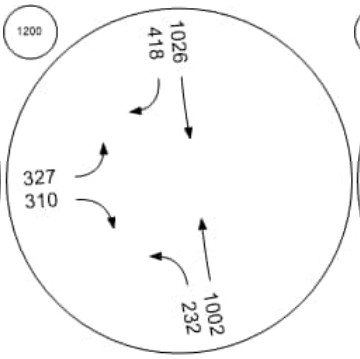
Bodden Town Road at Long



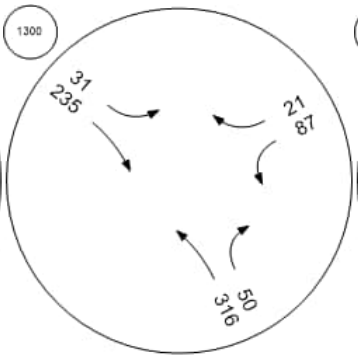
Frank Sound Road at Bodde



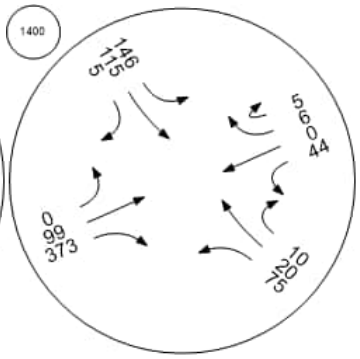
Frank Sound Road at Clifton



Frank Sound Road at North S



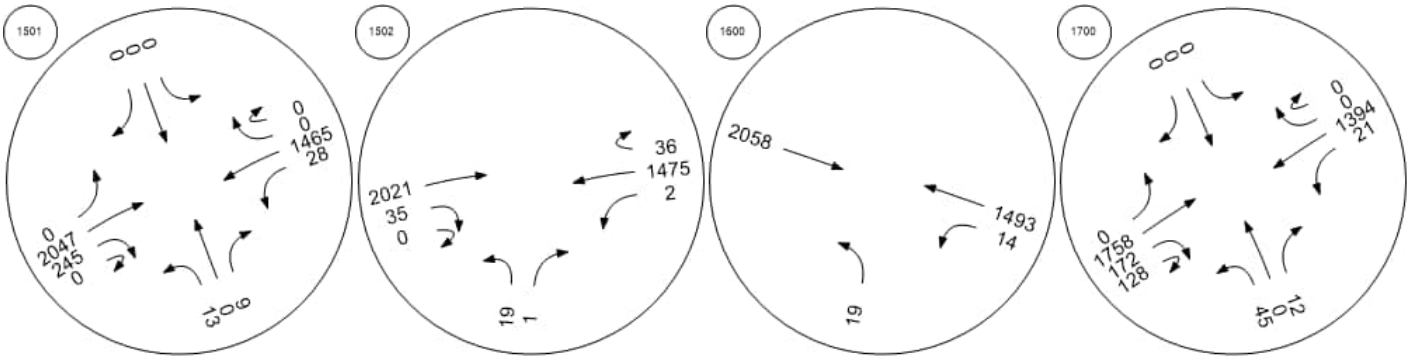
East-West Arterial at Agricola



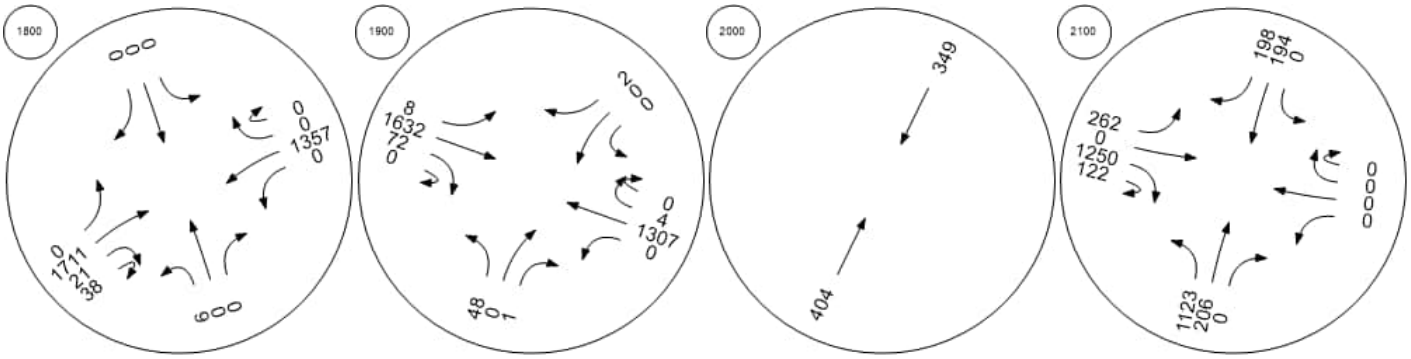
Traffic Volume - Base Volume



East-West Arterial at Will T C East-West Arterial at Will T C East-West Arterial at Northwa East-West Arterial at Lookout



East-West Arterial at Longfell East West Arterial Frank Sound Road at East-W Frank Sound Road at East-W



Intersection Level Of Service Report
Intersection 101: East-West Arterial Road at Hirst Road

Control Type:	Roundabout	Delay (sec / veh):	15.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes		

Intersection Setup

Name									East-West Arterial				East-West Arterial				
Approach	Northbound				Southbound				Eastbound				Westbound				
Lane Configuration																	
Turning Movement	Left	Left	Thru	Right	Left	Thru	Right	Right	Left	Thru	Right	U-tu	Left	Thr	Thr	Rig	U-t
Lane Width [ft]	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.	12.	12.	12.	12.
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100	100	100	100	100
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Speed [mph]	30.00				30.00				25.00				25.00				
Grade [%]	0.00				0.00				0.00				0.00				
Crosswalk	Yes				Yes				Yes				Yes				

Volumes

Name									East-West Arterial				East-West Arterial				
Base Volume Input [veh/h]	1	0	141	147	58	231	0	217	618	0	19	15	174	0	0	270	0
Base Volume Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	141	147	58	231	0	217	618	0	19	15	174	0	0	270	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Other Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Total 15-Minute Volume [veh/h]	0	0	35	37	15	58	0	54	155	0	5	4	44	0	0	68	0
Total Analysis Volume [veh/h]	1	0	141	147	58	231	0	217	618	0	19	15	174	0	0	270	0
Pedestrian Volume [ped/h]	0				0				0				0				

Intersection Settings

Number of Conflicting Circulating Lanes	1				1				1				1						
Circulating Flow Rate [veh/h]	502				181				558				482						
Exiting Flow Rate [veh/h]	424				1029				233				205						
Demand Flow Rate [veh/h]	1	0	141	147	58	231	0	217	618	0	19	15	174	0	0	270	0		
Adjusted Demand Flow Rate [veh/h]	1	0	141	147	58	231	0	217	618	0	19	15	174	0	0	270	0		

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	289	506	652	444
Capacity of Entry and Bypass Lanes [veh/h]	827	1148	782	845
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	827	1148	782	845
X, volume / capacity	0.35	0.44	0.83	0.53

Movement, Approach, & Intersection Results

Lane LOS	A	A	D	B
95th-Percentile Queue Length [veh]	1.57	2.30	9.53	3.13
95th-Percentile Queue Length [ft]	39.37	57.52	238.19	78.33
Approach Delay [s/veh]	8.42	7.79	27.40	11.53
Approach LOS	A	A	D	B
Intersection Delay [s/veh]	15.53			
Intersection LOS	C			

Intersection Level Of Service Report
Intersection 201: Shamrock Road at Hirst Rd (1)

Control Type:	Two-way stop	Delay (sec / veh):	200.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.358

Intersection Setup

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	0	0	0	21	575	0	0	497	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	21	575	0	0	497	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	6	155	0	0	134	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	23	618	0	0	534	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.04	1.36	0.00	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	11.83	199.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS				B	F			A				
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.13	28.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	3.27	712.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			193.24			0.00			0.00		
Approach LOS	A			F			A			A		
d_I, Intersection Delay [s/veh]	105.42											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 202: Shamrock Road at Hirst Rd (2)

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.080

Intersection Setup

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	591	0	0	0	8	567	0	0	0	0	1459	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	591	0	0	0	8	567	0	0	0	0	1459	0
Peak Hour Factor	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	159	0	0	0	2	152	0	0	0	0	392	0
Total Analysis Volume [veh/h]	635	0	0	0	9	610	0	0	0	0	1569	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	4.60	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	1685.0	0.00	0.00	0.00	10000.	10000.	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	F				F	F				A	A	
95th-Percentile Queue Length [veh/ln]	65.75	0.00	0.00	0.00	80.27	80.27	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1643.7	0.00	0.00	0.00	2006.6	2006.6	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	1685.00			10000.00			0.00			0.00		
Approach LOS	F			F			A			A		
d_I, Intersection Delay [s/veh]	2571.72											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 203: Shamrock Road atHirst Road Jughandle

Control Type:	Two-way stop	Delay (sec / veh):	14.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.115

Intersection Setup

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	0	46	622	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	46	622	0	0	0
Peak Hour Factor	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	12	167	0	0	0
Total Analysis Volume [veh/h]	0	49	669	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.12	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	14.55	0.00	0.00	0.00	0.00
Movement LOS		B	A			
95th-Percentile Queue Length [veh/ln]	0.00	0.39	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	9.67	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	14.55		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.99					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 300: Shamrock Road at Woodland Drive

Control Type:	Two-way stop	Delay (sec / veh):	292.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.105

Intersection Setup

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	36	0	9	0	0	53	9	383	6	2	1373	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	0	9	0	0	53	9	383	6	2	1373	0
Peak Hour Factor	0.9700	0.9700	1.0000	1.0000	0.9700	0.9700	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	0	2	0	0	14	2	96	2	1	343	0
Total Analysis Volume [veh/h]	37	0	9	0	0	55	9	383	6	2	1373	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.21	0.00	0.14	0.00	0.00	1.10	0.00	0.00	0.01	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	38.59	62.48	74.35	225.09	263.35	291.99	0.00	0.00	12.21	0.00	0.00	8.06
Movement LOS	E	F	F	F	F	F	A	A	B	A	A	A
95th-Percentile Queue Length [veh/ln]	1.40	1.40	1.40	4.88	4.88	4.88	0.04	0.04	0.04	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	35.01	35.01	35.01	121.99	121.99	121.99	0.90	0.90	0.90	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	45.59			291.99			0.18			0.00		
Approach LOS	E			F			A			A		
d_I, Intersection Delay [s/veh]	9.73											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 400: Shamrock Road at Agricola Drive

Control Type:	Roundabout	Delay (sec / veh):	57.9
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	4	7	2	215	20	297	27	364	0	2	1074	74
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	7	2	215	20	297	27	364	0	2	1074	74
Peak Hour Factor	1.0000	1.0000	0.9200	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9200	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	1	54	5	74	7	91	0	1	269	19
Total Analysis Volume [veh/h]	4	7	2	215	20	297	27	364	0	2	1074	74
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1			
Circulating Flow Rate [veh/h]	1445			366			83			317			
Exiting Flow Rate [veh/h]	22			108			1375			581			
Demand Flow Rate [veh/h]	4	7	2	215	20	297	27	364	0	2	1074	74	
Adjusted Demand Flow Rate [veh/h]	4	7	2	215	20	297	27	364	0	2	1074	74	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	13	532	391	1150
Capacity of Entry and Bypass Lanes [veh/h]	317	951	1268	999
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	317	951	1268	999
X, volume / capacity	0.04	0.56	0.31	1.15

Movement, Approach, & Intersection Results

Lane LOS	B	B	A	F
95th-Percentile Queue Length [veh]	0.13	3.57	1.32	32.27
95th-Percentile Queue Length [ft]	3.21	89.33	33.04	806.76
Approach Delay [s/veh]	12.08	11.30	5.64	97.71
Approach LOS	B	B	A	F
Intersection Delay [s/veh]	57.88			
Intersection LOS	F			

Intersection Level Of Service Report

Intersection 500: Shamrock Road at Brightview Drive / Calla Lily Drive

Control Type:	Two-way stop	Delay (sec / veh):	44.4
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.091

Intersection Setup

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			20.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	15	0	5	3	0	9	1	608	2	0	865	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	0	5	3	0	9	1	608	2	0	865	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	0	1	1	0	2	0	152	1	0	216	0
Total Analysis Volume [veh/h]	15	0	5	3	0	9	1	608	2	0	865	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.00	0.05	0.01	0.00	0.09	0.00	0.01	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	16.71	35.04	41.22	15.29	36.50	44.35	0.00	0.00	9.59	0.00	0.00	8.68
Movement LOS	C	E	E	C	E	E	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.29	0.29	0.29	0.31	0.31	0.31	0.01	0.01	0.01	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	7.35	7.35	7.35	7.85	7.85	7.85	0.19	0.19	0.19	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	22.84			37.09			0.03			0.00		
Approach LOS	C			E			A			A		
d_I, Intersection Delay [s/veh]	0.61											
Intersection LOS	E											

Intersection Level Of Service Report
Intersection 600: Shamrock Road at Beach Bay Road

Control Type:	Two-way stop	Delay (sec / veh):	212.2
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.789

Intersection Setup

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	53	30	372	244	62	812
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	53	30	372	244	62	812
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	8	102	67	17	223
Total Analysis Volume [veh/h]	58	33	409	268	68	892
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.18	0.79	0.00	0.37	0.00	0.01
d_M, Delay for Movement [s/veh]	137.14	212.21	0.00	12.85	0.00	0.00
Movement LOS	F	F	A	B	A	A
95th-Percentile Queue Length [veh/ln]	5.64	5.64	1.71	1.71	0.00	0.00
95th-Percentile Queue Length [ft/ln]	141.00	141.00	42.72	42.72	0.00	0.00
d_A, Approach Delay [s/veh]	164.36		5.09		0.00	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	10.65					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 700: Shamrock Road at Northward Road

Control Type:	Two-way stop	Delay (sec / veh):	26.0
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.023

Intersection Setup

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	12	4	12	399	831	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	4	12	399	831	14
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	1	3	103	214	4
Total Analysis Volume [veh/h]	12	4	12	411	857	14
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.02	0.00	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	11.03	25.98	0.00	0.00	0.00	8.18
Movement LOS	B	D	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.13	0.13	0.00	0.00	0.04	0.04
95th-Percentile Queue Length [ft/ln]	3.25	3.25	0.00	0.00	0.93	0.93
d_A, Approach Delay [s/veh]	14.77		0.00		0.13	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.27					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 800: Shamrock Road at Condor Road

Control Type:	Two-way stop	Delay (sec / veh):	18.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.507

Intersection Setup

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Base Volume Input [veh/h]	5	0	0	1	0	271	140	106	0	0	238	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	0	0	1	0	271	140	106	0	0	238	6
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	0	0	68	35	27	0	0	60	2
Total Analysis Volume [veh/h]	5	0	0	1	0	271	140	106	0	0	238	6
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.51	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.49	12.60	11.71	15.86	18.65	18.47	0.00	0.00	7.68	0.00	0.00	7.72
Movement LOS	A	B	B	C	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.02	2.85	2.85	2.85	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.47	0.47	0.47	71.26	71.26	71.26	0.00	0.00	0.00	0.34	0.34	0.34
d_A, Approach Delay [s/veh]	9.49			18.46			0.00			0.19		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	6.67											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 901: Lookout Road at Bodden Town Bypass

Control Type:	Roundabout	Delay (sec / veh):	17.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes		

Intersection Setup

Name				Lookout Rd				An/Bo				An/Bo			
Approach	Northbound			Southbound				Eastbound				Westbound			
Lane Configuration															
Turning Movement	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			35.00				30.00				35.00			
Grade [%]	0.00			0.00				0.00				0.00			
Crosswalk	Yes			Yes				Yes				Yes			

Volumes

Name				Lookout Rd				An/Bo				An/Bo			
Base Volume Input [veh/h]	4	5	4	1478	1	40	118	2	233	1	0	0	259	1619	9
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	5	4	1478	1	40	118	2	233	1	0	0	259	1619	9
Peak Hour Factor	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	1	1	1	370	0	10	30	1	58	0	0	0	65	405	2
Total Analysis Volume [veh/h]	4	5	4	1478	1	40	118	2	233	1	0	0	259	1619	9
Pedestrian Volume [ped/h]	0			0				0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2				2				2				
Circulating Flow Rate [veh/h]	2045			247				1755				160				
Exiting Flow Rate [veh/h]	2			1744				303				1724				
Demand Flow Rate [veh/h]	4	5	4	1478	1	40	118	2	233	1	0	0	259	1619	9	
Adjusted Demand Flow Rate [veh/h]	4	5	4	1478	1	40	118	2	233	1	0	0	259	1619	9	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1350.00	1420.00	1350.00	1420.00	1350.00
B (coefficient)	0.00085	0.00085	0.00092	0.00085	0.00092	0.00085	0.00092
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	13	868	770	126	111	887	1001
Capacity of Entry and Bypass Lanes [veh/h]	250	1152	1076	320	269	1240	1166
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	250	1152	1076	320	269	1240	1166
X, volume / capacity	0.05	0.75	0.72	0.39	0.41	0.72	0.86

Movement, Approach, & Intersection Results

Lane LOS	C	C	B	C	C	B	C
95th-Percentile Queue Length [veh]	0.16	7.57	6.45	1.80	1.92	6.57	11.62
95th-Percentile Queue Length [ft]	4.10	189.16	161.27	44.93	48.07	164.20	290.62
Approach Delay [s/veh]	15.47	15.33		22.31		18.23	
Approach LOS	C	C		C		C	
Intersection Delay [s/veh]	17.22						
Intersection LOS	C						

Intersection Level Of Service Report
Intersection 902: Bodden Town Road at Bodden Town Bypass

Control Type:	Roundabout	Delay (sec / veh):	17.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes		

Intersection Setup

Name	Bodden Town Bypass			Bodden Town Rd			Bodden Town Rd		
Approach	Southbound			Eastbound			Westbound		
Lane Configuration									
Turning Movement	Left	Right	U-turn	Left	Thru	U-turn	Thru	Right	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Bodden Town Bypass			Bodden Town Rd			Bodden Town Rd		
Base Volume Input [veh/h]	1732	24	0	21	120	0	229	1866	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1732	24	0	21	120	0	229	1866	6
Peak Hour Factor	0.9400	0.9400	1.0000	0.9400	0.9400	1.0000	0.9400	0.9400	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	461	6	0	6	32	0	61	496	2
Total Analysis Volume [veh/h]	1843	26	0	22	128	0	244	1985	6
Pedestrian Volume [ped/h]	0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			2		
Circulating Flow Rate [veh/h]	134			1991			26		
Exiting Flow Rate [veh/h]	2007			270			1977		
Demand Flow Rate [veh/h]	1732	24	0	21	120	0	229	1866	6
Adjusted Demand Flow Rate [veh/h]	1843	26	0	22	128	0	244	1985	6

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1350.00	1420.00	1350.00	1420.00	1350.00
B (coefficient)	0.00085	0.00092	0.00085	0.00092	0.00085	0.00092
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	991	879	80	71	1051	1185
Capacity of Entry and Bypass Lanes [veh/h]	1268	1194	262	217	1389	1319
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1268	1194	262	217	1389	1319
X, volume / capacity	0.78	0.74	0.30	0.33	0.76	0.90

Movement, Approach, & Intersection Results

Lane LOS	C	B	C	D	B	C
95th-Percentile Queue Length [veh]	8.60	7.09	1.24	1.35	7.85	14.32
95th-Percentile Queue Length [ft]	215.10	177.24	31.08	33.79	196.31	358.06
Approach Delay [s/veh]	15.36		23.52		19.64	
Approach LOS	C		C		C	
Intersection Delay [s/veh]	17.90					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1000: Bodden Town Road at Long Fellow Drive

Control Type:	Roundabout	Delay (sec / veh):	14.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Longfellow Dr		Bodden Town Rd			Bodden Town Rd		
Approach	Southbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	Left	Thru	U-turn	Thru	Right	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		45.00			45.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	Yes		Yes			Yes		

Volumes

Name	Longfellow Dr		Bodden Town Rd			Bodden Town Rd		
Base Volume Input [veh/h]	0	14	1	1777	0	1967	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	14	1	1777	0	1967	0	0
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	1.0000	0.9100	0.9100	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	4	0	488	0	540	0	0
Total Analysis Volume [veh/h]	0	15	1	1953	0	2162	0	0
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	2		2			2		
Circulating Flow Rate [veh/h]	1953		0			15		
Exiting Flow Rate [veh/h]	1		2177			1953		
Demand Flow Rate [veh/h]	0	14	1	1777	0	1967	0	0
Adjusted Demand Flow Rate [veh/h]	0	15	1	1953	0	2162	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1350.00	1420.00	1350.00
B (coefficient)	0.00085	0.00085	0.00092	0.00085	0.00092
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	15	1036	919	1146	1017
Capacity of Entry and Bypass Lanes [veh/h]	270	1420	1350	1403	1332
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	270	1420	1350	1403	1332
X, volume / capacity	0.06	0.73	0.68	0.82	0.76

Movement, Approach, & Intersection Results

Lane LOS	B	B	B	C	B
95th-Percentile Queue Length [veh]	0.18	7.05	5.77	10.18	8.03
95th-Percentile Queue Length [ft]	4.39	176.22	144.17	254.55	200.76
Approach Delay [s/veh]	14.39	12.13		15.81	
Approach LOS	B	B		C	
Intersection Delay [s/veh]	14.07				
Intersection LOS	B				

Intersection Level Of Service Report
Intersection 1100: Frank Sound Road at Bodden Town Road

Control Type:	Roundabout	Delay (sec / veh):	32.5
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	1	0	0	0	1
Entry Pocket Length [ft]	200.00	200.00	100.00	100.00	100.00	200.00
No. of Lanes in Exit Pocket	1	0	0	0	0	0
Exit Pocket Length [ft]	200.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		45.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Base Volume Input [veh/h]	282	1063	986	768	855	392
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	282	1063	986	768	855	392
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	76	286	265	206	230	105
Total Analysis Volume [veh/h]	303	1143	1060	826	919	422
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	2		1		2	
Circulating Flow Rate [veh/h]	826		422		1143	
Exiting Flow Rate [veh/h]	1482		1143		1129	
Demand Flow Rate [veh/h]	282	1063	986	768	855	392
Adjusted Demand Flow Rate [veh/h]	303	1143	1060	826	919	422

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1350.00	1350.00	1420.00	1420.00	0.00	1420.00
B (coefficient)	0.00085	0.00092	0.00092	0.00091	0.00091	0.00000	0.00085
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	303	572	572	1000	887	0	422
Capacity of Entry and Bypass Lanes [veh/h]	704	632	632	968	968	100000	538
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	704	632	632	968	968	100000	538
X, volume / capacity	0.43	0.91	0.91	1.03	0.92	0.01	0.79

Movement, Approach, & Intersection Results

Lane LOS	B	E	E	F	D	A	D
95th-Percentile Queue Length [veh]	2.17	11.37	11.37	21.49	13.87	0.00	7.29
95th-Percentile Queue Length [ft]	54.36	284.17	284.17	537.27	346.75	0.00	182.15
Approach Delay [s/veh]	35.20			46.52		9.71	
Approach LOS	E			E		A	
Intersection Delay [s/veh]	32.45						
Intersection LOS	D						

Intersection Level Of Service Report
Intersection 1200: Frank Sound Road at Clifton Hunter High School

Control Type:	Roundabout	Delay (sec / veh):	12.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd			
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		20.00		20.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Frank Sound Rd			
Base Volume Input [veh/h]	585	208	380	96	47	653
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	585	208	380	96	47	653
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	146	52	95	24	12	163
Total Analysis Volume [veh/h]	585	208	380	96	47	653
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	96		653		208	
Exiting Flow Rate [veh/h]	1033		255		681	
Demand Flow Rate [veh/h]	585	208	380	96	47	653
Adjusted Demand Flow Rate [veh/h]	585	208	380	96	47	653

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1420.00	1420.00
B (coefficient)	0.00102	0.00102	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	793	476	47	653
Capacity of Entry and Bypass Lanes [veh/h]	1252	709	1176	1176
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1252	709	1176	1176
X, volume / capacity	0.63	0.67	0.04	0.56

Movement, Approach, & Intersection Results

Lane LOS	B	C	A	A
95th-Percentile Queue Length [veh]	4.79	5.20	0.12	3.56
95th-Percentile Queue Length [ft]	119.76	130.03	3.12	88.95
Approach Delay [s/veh]	10.88	18.17	9.19	
Approach LOS	B	C	A	
Intersection Delay [s/veh]	12.04			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1300: Frank Sound Road at North Side Road/Old Robin Road

Control Type:	Two-way stop	Delay (sec / veh):	13.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Base Volume Input [veh/h]	180	42	9	294	56	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	180	42	9	294	56	1
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	51	12	3	83	16	0
Total Analysis Volume [veh/h]	202	47	10	330	63	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.04	0.00	0.00	0.09	0.00
d_M, Delay for Movement [s/veh]	0.00	8.04	0.00	0.00	10.57	13.90
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.12	0.12	0.00	0.00	0.30	0.30
95th-Percentile Queue Length [ft/ln]	2.98	2.98	0.00	0.00	7.47	7.47
d_A, Approach Delay [s/veh]	1.52		0.00		10.62	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	1.62					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1400: East-West Arterial at Agricola Drive Connector

Control Type:	Roundabout	Delay (sec / veh):	4.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			25.00			25.00			
Grade [%]	0.00			0.00			0.00			0.00			
Crosswalk	Yes			Yes			Yes			Yes			

Volumes

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Base Volume Input [veh/h]	102	17	4	31	70	47	2	0	231	16	0	12	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	102	17	4	31	70	47	2	0	231	16	0	12	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	26	4	1	8	18	12	1	0	58	4	0	3	0
Total Analysis Volume [veh/h]	102	17	4	31	70	47	2	0	231	16	0	12	0
Pedestrian Volume [ped/h]	0			0			0			0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1			
Circulating Flow Rate [veh/h]	59			235			33			348			
Exiting Flow Rate [veh/h]	317			31			149			35			
Demand Flow Rate [veh/h]	102	17	4	31	70	47	2	0	231	16	0	12	0
Adjusted Demand Flow Rate [veh/h]	102	17	4	31	70	47	2	0	231	16	0	12	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	123	148	233	28
Capacity of Entry and Bypass Lanes [veh/h]	1300	1086	1335	968
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1300	1086	1335	968
X, volume / capacity	0.09	0.14	0.17	0.03

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.31	0.47	0.63	0.09
95th-Percentile Queue Length [ft]	7.83	11.79	15.79	2.23
Approach Delay [s/veh]	3.53	4.52	4.14	3.98
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	4.10			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1501: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	11.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name							East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name							East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	117	0	2	0	0	0	0	1567	19	0	0	2081	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	117	0	2	0	0	0	0	1567	19	0	0	2081	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	29	0	1	0	0	0	0	392	5	0	0	520	0	0
Total Analysis Volume [veh/h]	117	0	2	0	0	0	0	1567	19	0	0	2081	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1				1				
Circulating Flow Rate [veh/h]	2081			1588			2				19				
Exiting Flow Rate [veh/h]	19			0			2198				1569				
Demand Flow Rate [veh/h]	117	0	2	0	0	0	0	1567	19	0	0	2081	0	0	
Adjusted Demand Flow Rate [veh/h]	117	0	2	0	0	0	0	1567	19	0	0	2081	0	0	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1350.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00092	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	64	56	0	841	746	1103	979
Capacity of Entry and Bypass Lanes [veh/h]	243	200	369	1418	1418	1396	1396
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	243	200	369	1418	1418	1396	1396
X, volume / capacity	0.26	0.28	0.00	0.59	0.53	0.79	0.70

Movement, Approach, & Intersection Results

Lane LOS	C	D	A	A	A	C	B
95th-Percentile Queue Length [veh]	1.01	1.10	0.00	4.13	3.21	9.06	6.27
95th-Percentile Queue Length [ft]	25.27	27.61	0.00	103.36	80.14	226.50	156.82
Approach Delay [s/veh]	23.72		9.78	8.58		13.75	
Approach LOS	C		A	A		B	
Intersection Delay [s/veh]	11.90						
Intersection LOS	B						

Intersection Level Of Service Report
Intersection 1502: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	10.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name			East-West Arterial			East-West Arterial		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	Thru	Right	U-turn	Left	Thru	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00			50.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	Yes		Yes			Yes		

Volumes

Name			East-West Arterial			East-West Arterial		
Base Volume Input [veh/h]	240	3	1565	4	0	1	1841	19
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	240	3	1565	4	0	1	1841	19
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	60	1	391	1	0	0	460	5
Total Analysis Volume [veh/h]	240	3	1565	4	0	1	1841	19
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	2		1			1		
Circulating Flow Rate [veh/h]	1860		22			4		
Exiting Flow Rate [veh/h]	5		2081			1587		
Demand Flow Rate [veh/h]	240	3	1565	4	0	1	1841	19
Adjusted Demand Flow Rate [veh/h]	240	3	1565	4	0	1	1841	19

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1350.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00092	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	129	115	832	738	987	875
Capacity of Entry and Bypass Lanes [veh/h]	293	244	1392	1392	1415	1415
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	293	244	1392	1392	1415	1415
X, volume / capacity	0.44	0.47	0.60	0.53	0.70	0.62

Movement, Approach, & Intersection Results

Lane LOS	C	D	A	A	B	A
95th-Percentile Queue Length [veh]	2.14	2.31	4.20	3.25	6.19	4.55
95th-Percentile Queue Length [ft]	53.51	57.81	105.02	81.28	154.75	113.78
Approach Delay [s/veh]	26.51		8.76		10.72	
Approach LOS	D		A		B	
Intersection Delay [s/veh]	10.93					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1600: East-West Arterial at Northward Rd

Control Type:	Two-way stop	Delay (sec / veh):	22.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.310

Intersection Setup

Name	Northward Rd		East-West Arterial		East-West Arterial	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		East-West Arterial		East-West Arterial	
Base Volume Input [veh/h]	90	0	1587	0	5	1771
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	90	0	1587	0	5	1771
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	0	397	0	1	443
Total Analysis Volume [veh/h]	90	0	1587	0	5	1771
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.31	0.00	0.02	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	22.84	0.00	0.00	0.00	0.00	0.00
Movement LOS	C		A		A	A
95th-Percentile Queue Length [veh/ln]	1.28	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	32.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	22.84		0.00		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.60					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1700: East-West Arterial at Lookout Rd

Control Type:	Roundabout	Delay (sec / veh):	10.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Lookout Rd		East-West Arterial			Lookout Rd	
Approach	Southbound		Eastbound			Westbound	
Lane Configuration							
Turning Movement	Left	Right	Left	Thru	U-turn	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		35.00			35.00	
Grade [%]	0.00		0.00			0.00	
Crosswalk	Yes		Yes			Yes	

Volumes

Name	Lookout Rd		East-West Arterial			Lookout Rd	
Base Volume Input [veh/h]	0	0	0	1504	83	1763	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	1504	83	1763	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	376	21	441	0
Total Analysis Volume [veh/h]	0	0	0	1504	83	1763	0
Pedestrian Volume [ped/h]	0		0			0	

Intersection Settings

Number of Conflicting Circulating Lanes	2		1			1	
Circulating Flow Rate [veh/h]	1587		0			83	
Exiting Flow Rate [veh/h]	0		1846			1504	
Demand Flow Rate [veh/h]	0	0	0	1504	83	1763	0
Adjusted Demand Flow Rate [veh/h]	0	0	0	1504	83	1763	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	0	842	746	935	829
Capacity of Entry and Bypass Lanes [veh/h]	369	1420	1420	1317	1317
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	369	1420	1420	1317	1317
X, volume / capacity	0.00	0.59	0.53	0.71	0.63

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	B	B
95th-Percentile Queue Length [veh]	0.00	4.12	3.20	6.46	4.73
95th-Percentile Queue Length [ft]	0.00	103.10	79.95	161.48	118.17
Approach Delay [s/veh]	9.77	8.56		11.59	
Approach LOS	A	A		B	
Intersection Delay [s/veh]	10.15				
Intersection LOS	B				

Intersection Level Of Service Report
Intersection 2000: Frank Sound Road at East-West Arterial

Control Type:	Unknown	Delay (sec / veh):	?
Analysis Method:	?	Level Of Service:	?
Analysis Period:	15 minutes	Volume to Capacity (v/c):	?

Intersection Setup

Name	Frank Sound Rd	Frank Sound Rd
Approach	Northbound	Southbound
Lane Configuration		
Turning Movement	Thru	Thru
Crosswalk	Yes	Yes

Volumes

Name	Frank Sound Rd	Frank Sound Rd
Base Volume Input [veh/h]	233	384
Base Volume Adjustment Factor	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00
Growth Factor	1.0000	1.0000
In-Process Volume [veh/h]	0	0
Site-Generated Trips [veh/h]	0	0
Diverted Trips [veh/h]	0	0
Pass-by Trips [veh/h]	0	0
Existing Site Adjustment Volume [veh/h]	0	0
Other Volume [veh/h]	0	0
Left-Turn on Red Volume [veh/h]	0	0
Total Hourly Volume [veh/h]	233	384
Peak Hour Factor	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000
Total 15-Minute Volume [veh/h]	58	96
Total Analysis Volume [veh/h]	233	384
Presence of On-Street Parking	No	No
On-Street Parking Maneuver Rate [/h]	0	0
Local Bus Stopping Rate [/h]	0	0
Pedestrian Volume [ped/h]	0	0

Intersection Level Of Service Report
Intersection 2100: Frank Sound Road at East-West Arterial

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd			
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		20.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Frank Sound Rd			
Base Volume Input [veh/h]	255	0	0	476	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	255	0	0	476	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	64	0	0	119	0	0
Total Analysis Volume [veh/h]	255	0	0	476	0	0
Pedestrian Volume [ped/h]	0		0		0	

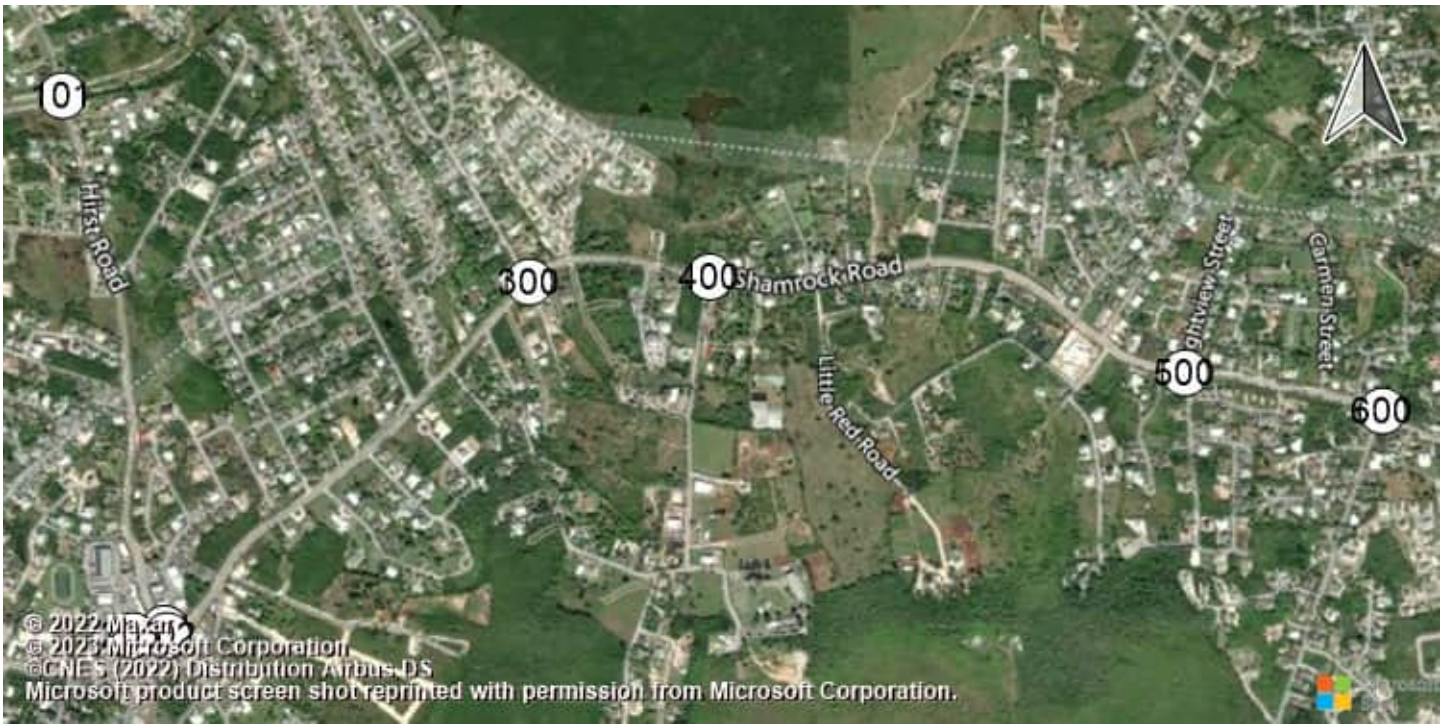
Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

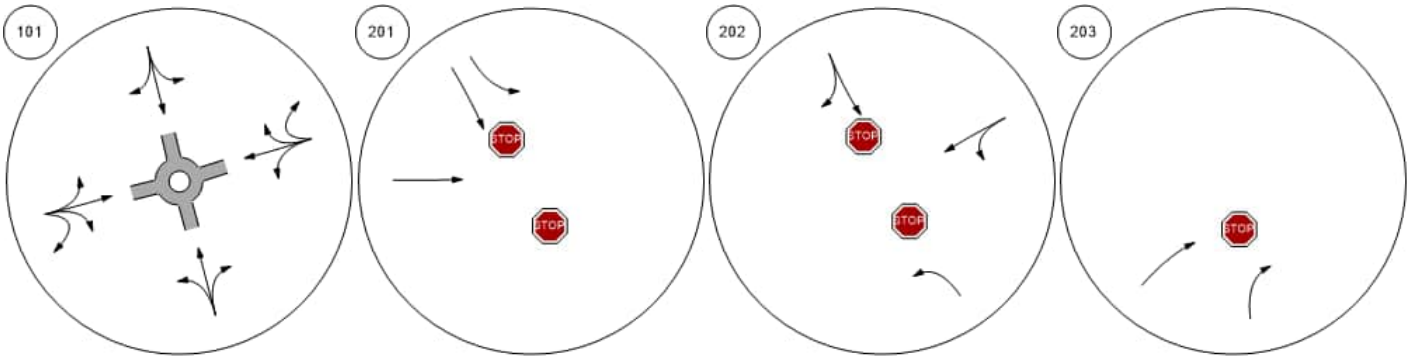
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	8.28	0.00	0.00	11.07	14.19
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		12.63	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

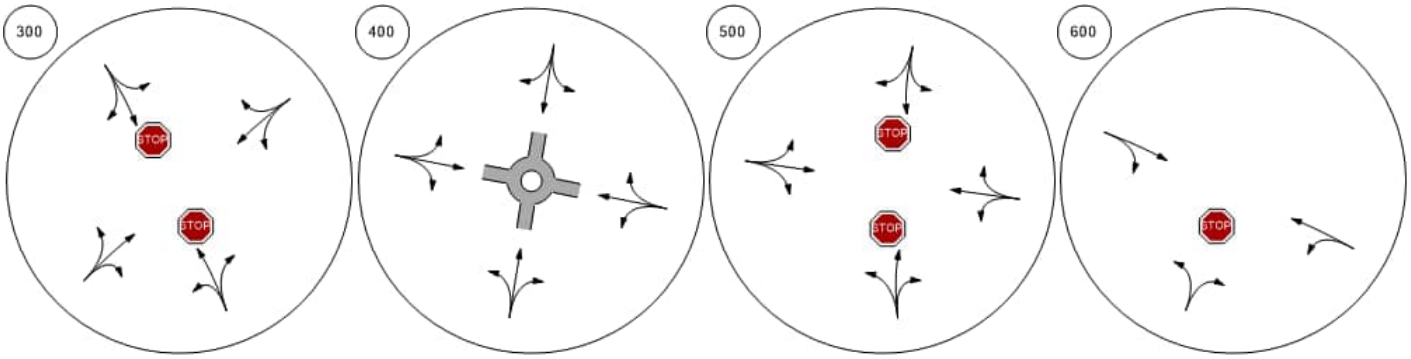
Lane Configuration and Traffic Control



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



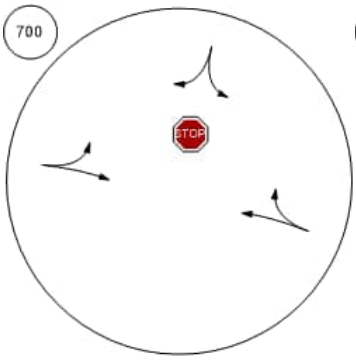
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



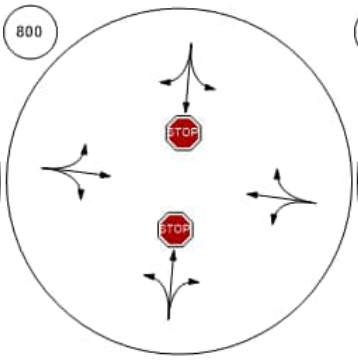
Lane Configuration and Traffic Control



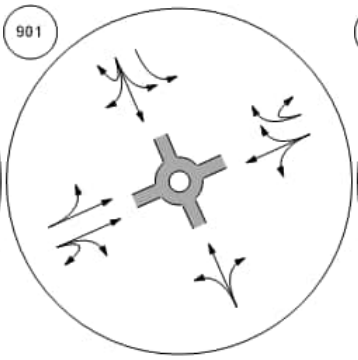
Shamrock Road at Northward



Shamrock Road at Condor R



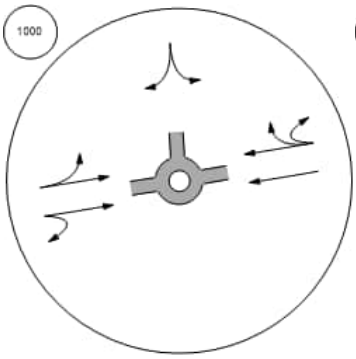
Lookout Road at Bodden To



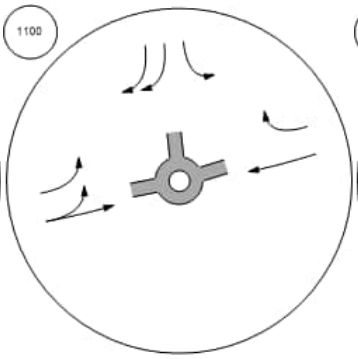
Bodden Town Road at Bodde



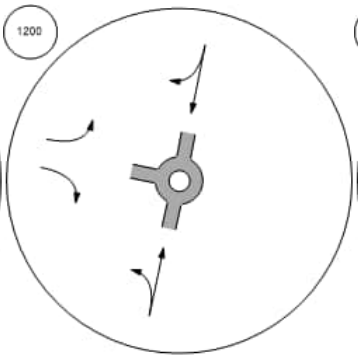
Bodden Town Road at Long



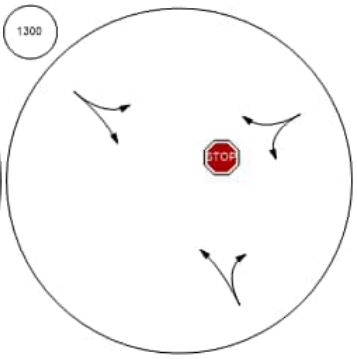
Frank Sound Road at Bodde



Frank Sound Road at Clifton



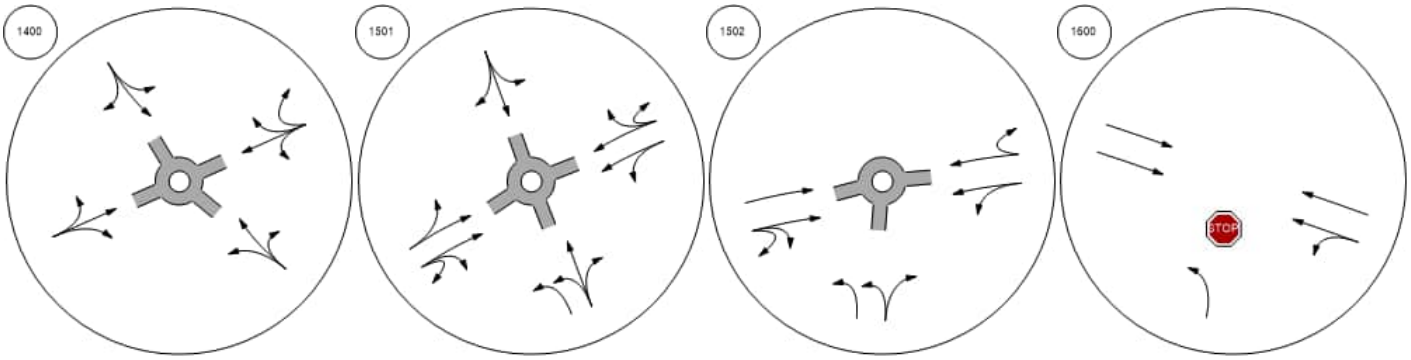
Frank Sound Road at North S



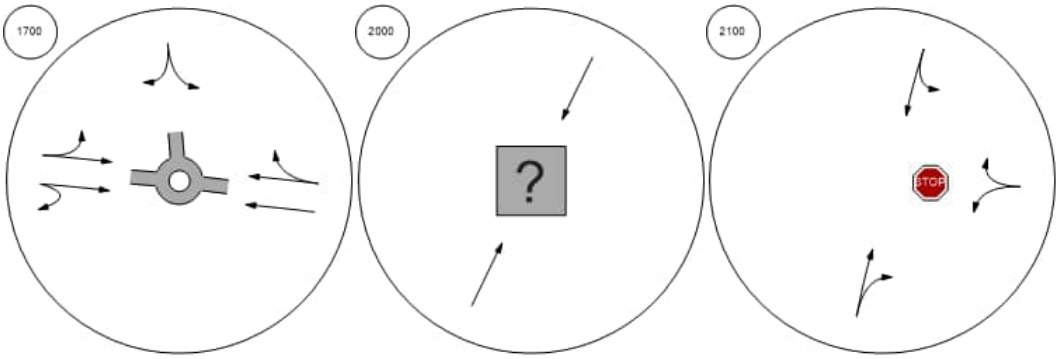
Lane Configuration and Traffic Control



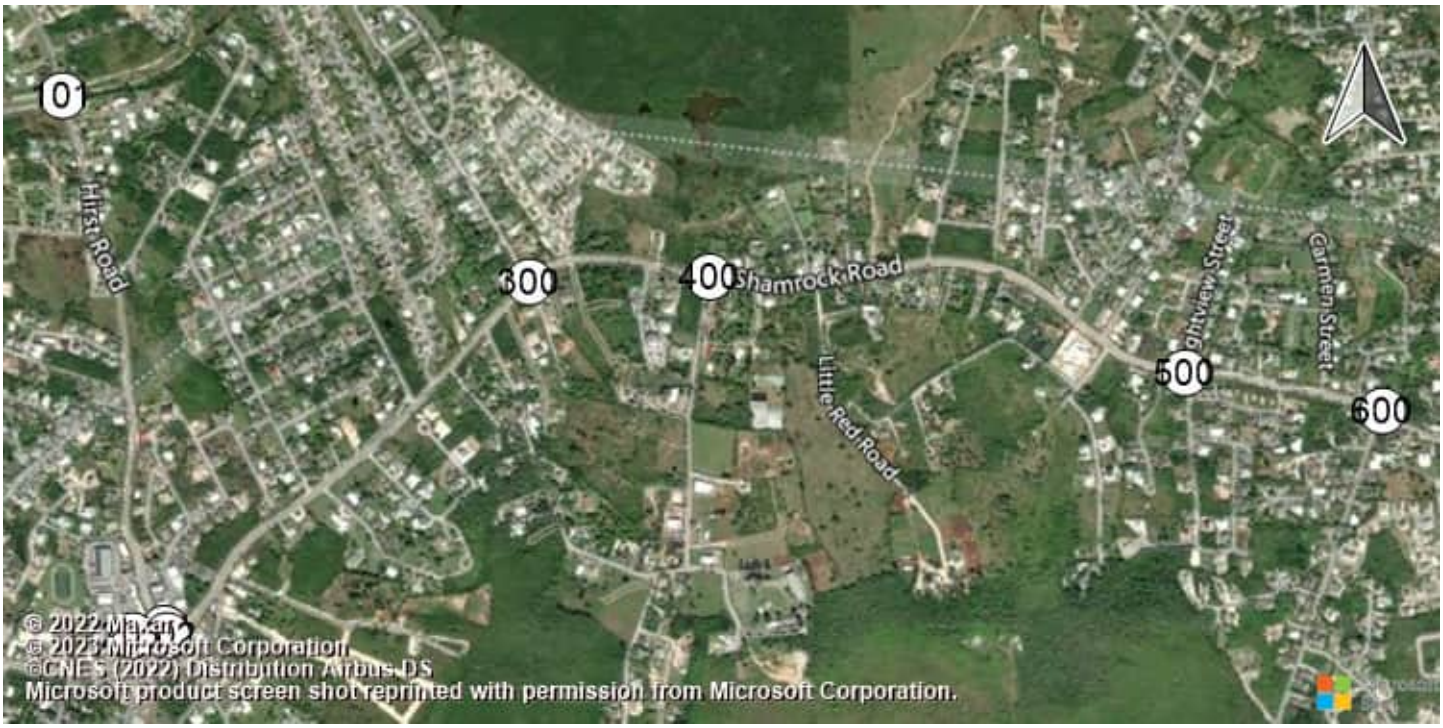
East-West Arterial at Agricola | East-West Arterial at Will T C | East-West Arterial at Will T C | East-West Arterial at Northwa



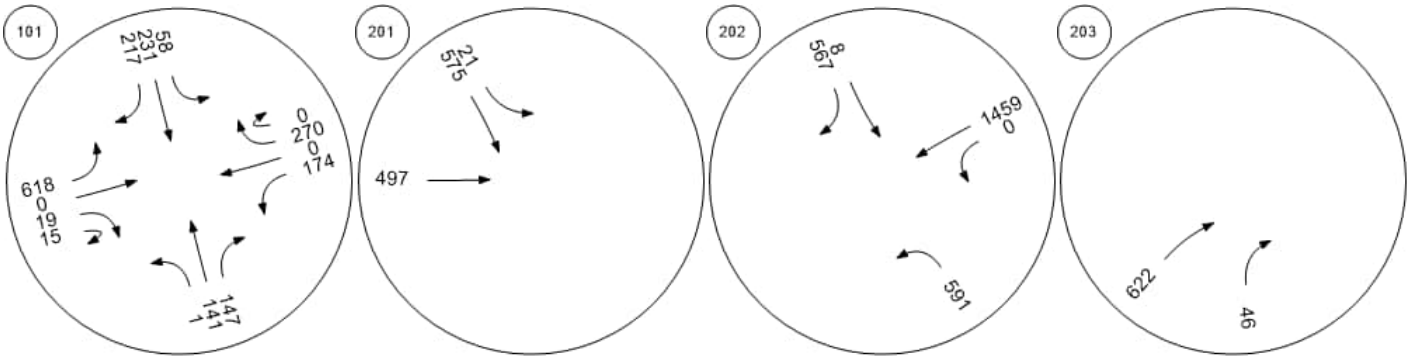
East-West Arterial at Lookout | Frank Sound Road at East-W | Frank Sound Road at East-W



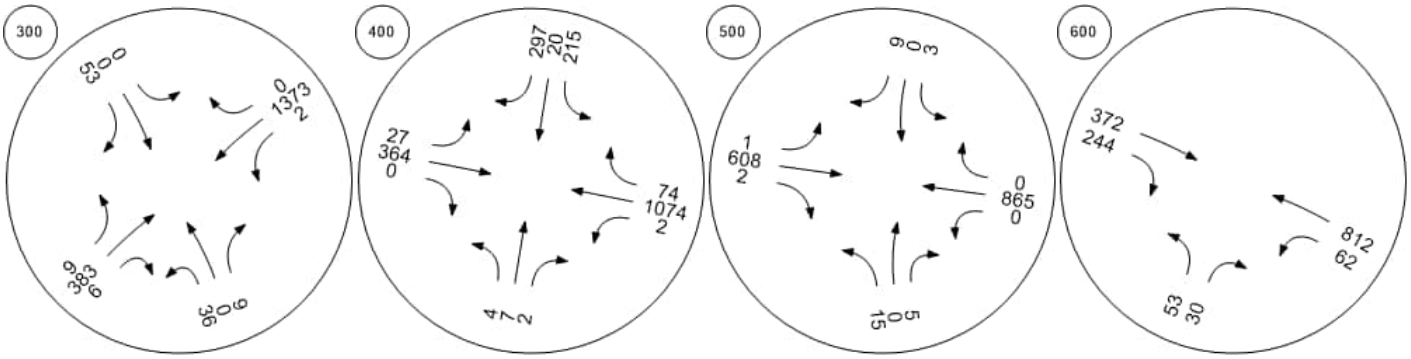
Traffic Volume - Base Volume



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



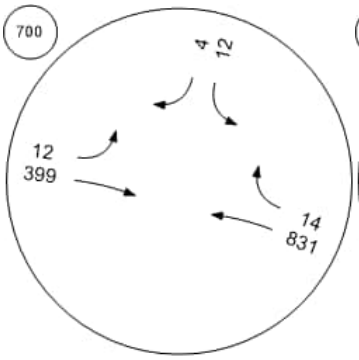
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



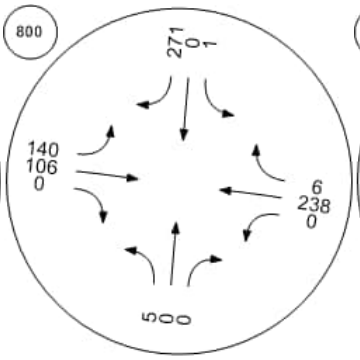
Traffic Volume - Base Volume



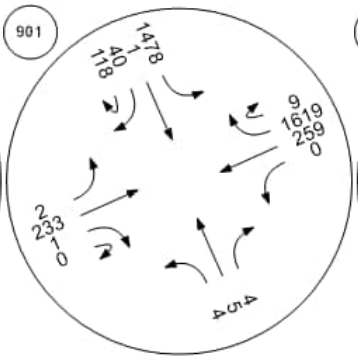
Shamrock Road at Northward



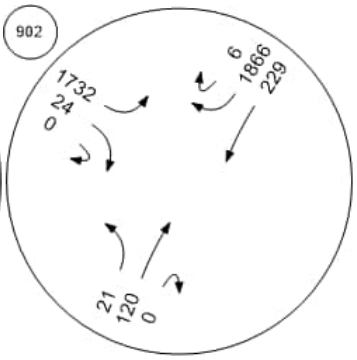
Shamrock Road at Condor R



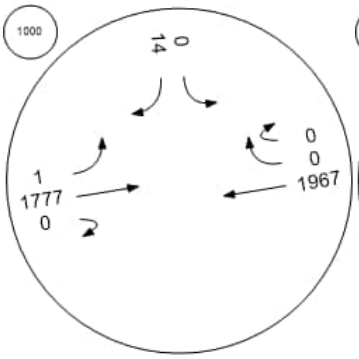
Lookout Road at Bodden To



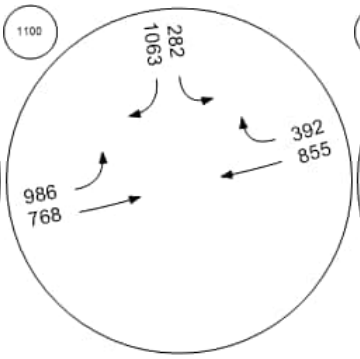
Bodden Town Road at Bodde



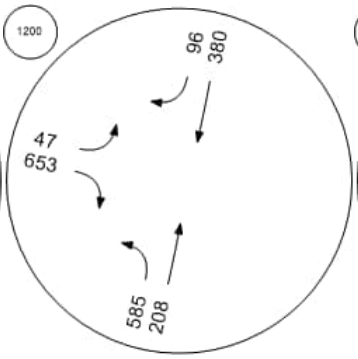
Bodden Town Road at Long



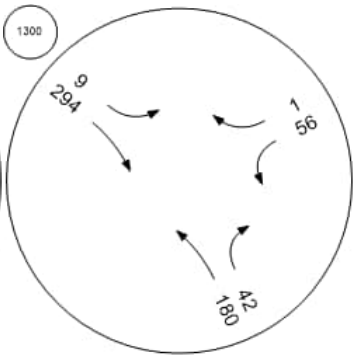
Frank Sound Road at Bodde



Frank Sound Road at Clifton



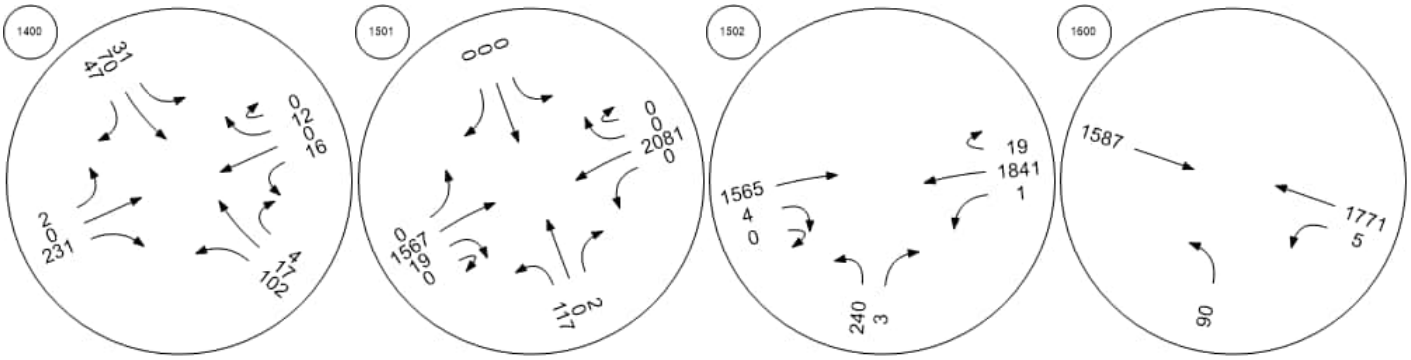
Frank Sound Road at North S



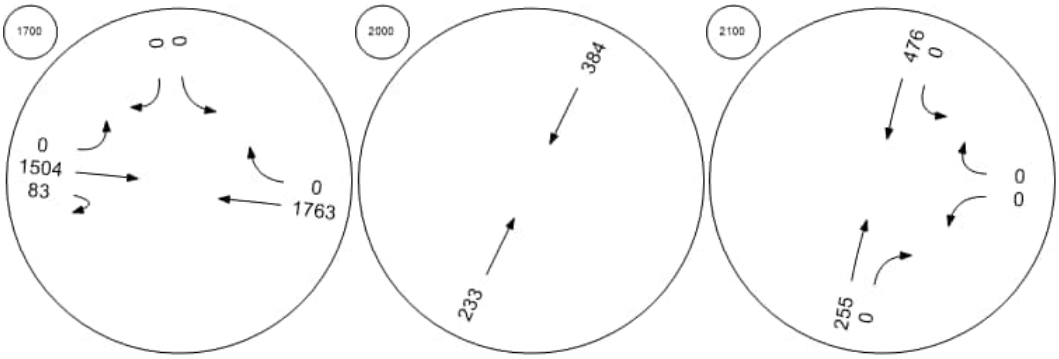
Traffic Volume - Base Volume



East-West Arterial at Agricola East-West Arterial at Will T C East-West Arterial at Will T C East-West Arterial at Northwa



East-West Arterial at Lookout Frank Sound Road at East-W Frank Sound Road at East-W



Intersection Level Of Service Report
Intersection 101: East-West Arterial Road at Hirst Road

Control Type:	Roundabout	Delay (sec / veh):	16.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes		

Intersection Setup

Name									East-West Arterial				East-West Arterial				
Approach	Northbound				Southbound				Eastbound				Westbound				
Lane Configuration																	
Turning Movement	Left	Left	Thru	Right	Left	Thru	Right	Right	Left	Thru	Right	U-tu	Left	Thr	Thr	Rig	U-t
Lane Width [ft]	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.	12.	12.	12.	12.
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100	100	100	100	100
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Speed [mph]	30.00				30.00				25.00				25.00				
Grade [%]	0.00				0.00				0.00				0.00				
Crosswalk	Yes				Yes				Yes				Yes				

Volumes

Name									East-West Arterial				East-West Arterial				
Base Volume Input [veh/h]	77	0	258	48	114	194	0	523	308	143	84	3	120	0	0	190	0
Base Volume Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	77	0	258	48	114	194	0	523	308	143	84	3	120	0	0	190	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Other Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0	1.0	1.0	1.0	1.0
Total 15-Minute Volume [veh/h]	19	0	65	12	29	49	0	131	77	36	21	1	30	0	0	48	0
Total Analysis Volume [veh/h]	77	0	258	48	114	194	0	523	308	143	84	3	120	0	0	190	0
Pedestrian Volume [ped/h]	0				0				0				0				

Intersection Settings

Number of Conflicting Circulating Lanes	1				1				1				1					
Circulating Flow Rate [veh/h]	716				278				496				804					
Exiting Flow Rate [veh/h]	398				756				603				305					
Demand Flow Rate [veh/h]	77	0	258	48	114	194	0	523	308	143	84	3	120	0	0	190	0	
Adjusted Demand Flow Rate [veh/h]	77	0	258	48	114	194	0	523	308	143	84	3	120	0	0	190	0	

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	383	831	538	310
Capacity of Entry and Bypass Lanes [veh/h]	665	1040	833	608
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	665	1040	833	608
X, volume / capacity	0.58	0.80	0.65	0.51

Movement, Approach, & Intersection Results

Lane LOS	C	C	C	B
95th-Percentile Queue Length [veh]	3.69	8.92	4.85	2.90
95th-Percentile Queue Length [ft]	92.26	222.90	121.22	72.45
Approach Delay [s/veh]	15.39	19.64	15.12	14.48
Approach LOS	C	C	C	B
Intersection Delay [s/veh]	16.89			
Intersection LOS	C			

Intersection Level Of Service Report
Intersection 201: Shamrock Road at Hirst Rd (1)

Control Type:	Two-way stop	Delay (sec / veh):	594.9
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.198

Intersection Setup

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hirst Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	0	0	0	135	397	0	0	1089	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	135	397	0	0	1089	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	36	107	0	0	293	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	145	427	0	0	1171	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop			Stop			Free			Free			
Flared Lane													
Storage Area [veh]	0			0			0			0			
Two-Stage Gap Acceptance				No									
Number of Storage Spaces in Median	0			0			0			0			

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.61	2.20	0.00	0.00	0.01	0.00	0.00	0.00	0.00	
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	41.59	594.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Movement LOS				E	F			A					
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	3.61	33.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	90.14	845.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
d_A, Approach Delay [s/veh]	0.00			454.63			0.00			0.00			
Approach LOS	A			F			A			A			
d_I, Intersection Delay [s/veh]	149.19												
Intersection LOS	F												

Intersection Level Of Service Report
Intersection 202: Shamrock Road at Hirst Rd (2)

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.418

Intersection Setup

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	150.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pedro Castle Rd			Hirst Rd			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	341	0	0	0	73	325	0	0	0	14	1103	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	341	0	0	0	73	325	0	0	0	14	1103	0
Peak Hour Factor	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000	0.9300	0.9300	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	92	0	0	0	20	87	0	0	0	4	297	0
Total Analysis Volume [veh/h]	367	0	0	0	78	349	0	0	0	15	1186	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	1.60	0.00	0.00	0.00	0.42	0.00	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	326.39	0.00	0.00	0.00	10000.	10000.	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS	F				F	F				A	A	
95th-Percentile Queue Length [veh/ln]	23.11	0.00	0.00	0.00	56.22	56.22	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	577.81	0.00	0.00	0.00	1405.5	1405.5	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	326.39			10000.00			0.00			0.00		
Approach LOS	F			F			A			A		
d_I, Intersection Delay [s/veh]	2200.39											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 203: Shamrock Road atHirst Road Jughandle

Control Type:	Two-way stop	Delay (sec / veh):	45.1
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.352

Intersection Setup

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Jughandle		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	0	45	1392	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	45	1392	0	0	0
Peak Hour Factor	1.0000	0.9300	0.9300	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	12	374	0	0	0
Total Analysis Volume [veh/h]	0	48	1497	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.35	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	45.08	0.00	0.00	0.00	0.00
Movement LOS		E	A			
95th-Percentile Queue Length [veh/ln]	0.00	1.44	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	36.03	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	45.08		0.00		0.00	
Approach LOS	E		A		A	
d_I, Intersection Delay [s/veh]	1.40					
Intersection LOS	E					

Intersection Level Of Service Report
Intersection 300: Shamrock Road at Woodland Drive

Control Type:	Two-way stop	Delay (sec / veh):	507.5
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.513

Intersection Setup

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Woodland Dr			Woodland Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	11	0	4	0	0	52	26	870	26	7	1128	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	0	4	0	0	52	26	870	26	7	1128	0
Peak Hour Factor	0.9700	0.9700	1.0000	1.0000	0.9700	0.9700	0.9700	1.0000	0.9700	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	1	0	0	13	7	218	7	2	282	0
Total Analysis Volume [veh/h]	11	0	4	0	0	54	27	870	27	7	1128	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.00	0.11	0.00	0.00	1.51	0.00	0.01	0.04	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	25.69	84.55	106.81	417.04	478.91	507.53	0.00	0.00	11.04	0.00	0.00	9.70
Movement LOS	D	F	F	F	F	F	A	A	B	A	A	A
95th-Percentile Queue Length [veh/ln]	0.51	0.51	0.51	5.79	5.79	5.79	0.14	0.14	0.14	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	12.65	12.65	12.65	144.68	144.68	144.68	3.39	3.39	3.39	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	47.32			507.53			0.32			0.00		
Approach LOS	E			F			A			A		
d_I, Intersection Delay [s/veh]	13.35											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 400: Shamrock Road at Agricola Drive

Control Type:	Roundabout	Delay (sec / veh):	19.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Agricola Dr			Agricola Drive Connector			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	7	2	1	234	26	40	51	819	3	8	1089	72
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	2	1	234	26	40	51	819	3	8	1089	72
Peak Hour Factor	1.0000	1.0000	0.9200	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9200	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	1	0	59	7	10	13	205	1	2	272	18
Total Analysis Volume [veh/h]	7	2	1	234	26	40	51	819	3	9	1089	72
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	1201			823			75			69		
Exiting Flow Rate [veh/h]	38			125			1136			1054		
Demand Flow Rate [veh/h]	7	2	1	234	26	40	51	819	3	8	1089	72
Adjusted Demand Flow Rate [veh/h]	7	2	1	234	26	40	51	819	3	9	1089	72

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	10	300	873	1170
Capacity of Entry and Bypass Lanes [veh/h]	406	597	1279	1287
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	406	597	1279	1287
X, volume / capacity	0.02	0.50	0.68	0.91

Movement, Approach, & Intersection Results

Lane LOS	A	B	B	D
95th-Percentile Queue Length [veh]	0.08	2.82	5.80	14.91
95th-Percentile Queue Length [ft]	1.89	70.60	144.94	372.66
Approach Delay [s/veh]	9.23	14.52	12.06	26.50
Approach LOS	A	B	B	D
Intersection Delay [s/veh]	19.54			
Intersection LOS	C			

Intersection Level Of Service Report

Intersection 500: Shamrock Road at Brightview Drive / Calla Lily Drive

Control Type:	Two-way stop	Delay (sec / veh):	118.4
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.086

Intersection Setup

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			20.00			40.00			20.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Calla Lily Dr			Brightview Dr			Shamrock Rd			Shamrock Rd		
Base Volume Input [veh/h]	5	0	1	0	0	3	17	874	24	52	1070	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	0	1	0	0	3	17	874	24	52	1070	23
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	0	0	1	4	219	6	13	268	6
Total Analysis Volume [veh/h]	5	0	1	0	0	3	17	874	24	52	1070	23
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.03	0.00	0.00	0.09	0.00	0.01	0.04	0.00	0.01	0.03
d_M, Delay for Movement [s/veh]	20.15	84.97	107.79	24.95	95.19	118.39	0.00	0.00	10.94	0.00	0.00	9.82
Movement LOS	C	F	F	C	F	F	A	A	B	A	A	A
95th-Percentile Queue Length [veh/ln]	0.15	0.15	0.15	0.27	0.27	0.27	0.12	0.12	0.12	0.09	0.09	0.09
95th-Percentile Queue Length [ft/ln]	3.68	3.68	3.68	6.65	6.65	6.65	2.97	2.97	2.97	2.31	2.31	2.31
d_A, Approach Delay [s/veh]	34.76			118.39			0.29			0.20		
Approach LOS	D			F			A			A		
d_I, Intersection Delay [s/veh]	0.51											
Intersection LOS	F											

Intersection Level Of Service Report
Intersection 600: Shamrock Road at Beach Bay Road

Control Type:	Two-way stop	Delay (sec / veh):	1,008.4
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.444

Intersection Setup

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Beach Bay Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	26	54	762	113	28	1119
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	26	54	762	113	28	1119
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	15	209	31	8	307
Total Analysis Volume [veh/h]	29	59	837	124	31	1230
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	2.44	0.01	0.22	0.00	0.01
d_M, Delay for Movement [s/veh]	876.07	1008.40	0.00	13.28	0.00	0.00
Movement LOS	F	F	A	B	A	A
95th-Percentile Queue Length [veh/ln]	10.03	10.03	0.84	0.84	0.00	0.00
95th-Percentile Queue Length [ft/ln]	250.68	250.68	21.09	21.09	0.00	0.00
d_A, Approach Delay [s/veh]	964.79		1.71		0.00	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	37.47					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 700: Shamrock Road at Northward Road

Control Type:	Two-way stop	Delay (sec / veh):	76.5
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.337

Intersection Setup

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		Shamrock Rd		Shamrock Rd	
Base Volume Input [veh/h]	21	22	12	713	1159	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	21	22	12	713	1159	11
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	6	3	184	299	3
Total Analysis Volume [veh/h]	22	23	12	735	1195	11
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.34	0.00	0.01	0.01	0.01
d_M, Delay for Movement [s/veh]	32.25	76.48	0.00	0.00	0.00	9.19
Movement LOS	D	F	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.62	1.62	0.00	0.00	0.04	0.04
95th-Percentile Queue Length [ft/ln]	40.48	40.48	0.00	0.00	0.96	0.96
d_A, Approach Delay [s/veh]	54.85		0.00		0.08	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	1.29					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 800: Shamrock Road at Condor Road

Control Type:	Two-way stop	Delay (sec / veh):	24.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.434

Intersection Setup

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Hillside Ct			Condor Rd			Shamrock Road			Shamrock Road		
Base Volume Input [veh/h]	1	0	0	4	0	143	162	222	2	0	411	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	0	0	4	0	143	162	222	2	0	411	12
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	1	0	36	41	56	1	0	103	3
Total Analysis Volume [veh/h]	1	0	0	4	0	143	162	222	2	0	411	12
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	10.59	16.77	16.00	18.03	23.73	24.10	0.00	0.00	8.11	0.00	0.00	8.07
Movement LOS	B	C	C	C	C	C	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	2.15	2.15	2.15	0.01	0.01	0.01	0.03	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.12	0.12	0.12	53.84	53.84	53.84	0.13	0.13	0.13	0.77	0.77	0.77
d_A, Approach Delay [s/veh]	10.59			23.93			0.04			0.23		
Approach LOS	B			C			A			A		
d_I, Intersection Delay [s/veh]	3.81											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 901: Lookout Road at Bodden Town Bypass

Control Type:	Roundabout	Delay (sec / veh):	15.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes		

Intersection Setup

Name				Lookout Rd				An/Bo				An/Bo			
Approach	Northbound			Southbound				Eastbound				Westbound			
Lane Configuration															
Turning Movement	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			35.00				30.00				35.00			
Grade [%]	0.00			0.00				0.00				0.00			
Crosswalk	Yes			Yes				Yes				Yes			

Volumes

Name				Lookout Rd				An/Bo				An/Bo			
Base Volume Input [veh/h]	2	1	2	1550	9	20	31	7	325	3	0	3	592	971	43
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	1	2	1550	9	20	31	7	325	3	0	3	592	971	43
Peak Hour Factor	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	1	0	1	388	2	5	8	2	81	1	0	1	148	243	11
Total Analysis Volume [veh/h]	2	1	2	1550	9	20	31	7	325	3	0	3	592	971	43
Pedestrian Volume [ped/h]	0			0				0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2				2				2			
Circulating Flow Rate [veh/h]	1657			373				1048				63			
Exiting Flow Rate [veh/h]	15			1010				614				1920			
Demand Flow Rate [veh/h]	2	1	2	1550	9	20	31	7	325	3	0	3	592	971	43
Adjusted Demand Flow Rate [veh/h]	2	1	2	1550	9	20	31	7	325	3	0	3	592	971	43

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1350.00	1420.00	1350.00	1420.00	1350.00
B (coefficient)	0.00085	0.00085	0.00092	0.00085	0.00092	0.00085	0.00092
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	5	854	757	178	158	757	853
Capacity of Entry and Bypass Lanes [veh/h]	348	1035	958	583	515	1346	1274
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	348	1035	958	583	515	1346	1274
X, volume / capacity	0.01	0.83	0.79	0.30	0.31	0.56	0.67

Movement, Approach, & Intersection Results

Lane LOS	B	C	C	B	B	A	B
95th-Percentile Queue Length [veh]	0.04	9.86	8.45	1.28	1.28	3.66	5.50
95th-Percentile Queue Length [ft]	1.09	246.40	211.18	32.06	32.12	91.62	137.48
Approach Delay [s/veh]	10.59	20.92		10.95		10.36	
Approach LOS	B	C		B		B	
Intersection Delay [s/veh]	15.19						
Intersection LOS	C						

Intersection Level Of Service Report
Intersection 902: Bodden Town Road at Bodden Town Bypass

Control Type:	Roundabout	Delay (sec / veh):	20.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes		

Intersection Setup

Name	Bodden Town Bypass			Bodden Town Rd			Bodden Town Rd		
Approach	Southbound			Eastbound			Westbound		
Lane Configuration									
Turning Movement	Left	Right	U-turn	Left	Thru	U-turn	Thru	Right	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Bodden Town Bypass			Bodden Town Rd			Bodden Town Rd		
Base Volume Input [veh/h]	1851	44	0	37	183	0	369	1572	9
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1851	44	0	37	183	0	369	1572	9
Peak Hour Factor	0.9400	0.9400	1.0000	0.9400	0.9400	1.0000	0.9400	0.9400	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	492	12	0	10	49	0	98	418	2
Total Analysis Volume [veh/h]	1969	47	0	39	195	0	393	1672	9
Pedestrian Volume [ped/h]	0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			2		
Circulating Flow Rate [veh/h]	204			1681			47		
Exiting Flow Rate [veh/h]	1711			440			2173		
Demand Flow Rate [veh/h]	1851	44	0	37	183	0	369	1572	9
Adjusted Demand Flow Rate [veh/h]	1969	47	0	39	195	0	393	1672	9

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1350.00	1420.00	1350.00	1420.00	1350.00
B (coefficient)	0.00085	0.00092	0.00085	0.00092	0.00085	0.00092
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	1069	948	125	110	975	1100
Capacity of Entry and Bypass Lanes [veh/h]	1194	1119	341	288	1365	1293
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1194	1119	341	288	1365	1293
X, volume / capacity	0.89	0.85	0.36	0.38	0.71	0.85

Movement, Approach, & Intersection Results

Lane LOS	D	C	C	C	B	C
95th-Percentile Queue Length [veh]	13.66	10.97	1.62	1.72	6.61	11.53
95th-Percentile Queue Length [ft]	341.42	274.17	40.59	43.11	165.22	288.34
Approach Delay [s/veh]	24.15		20.06		16.61	
Approach LOS	C		C		C	
Intersection Delay [s/veh]	20.31					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1000: Bodden Town Road at Long Fellow Drive

Control Type:	Roundabout	Delay (sec / veh):	14.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Longfellow Dr		Bodden Town Rd			Bodden Town Rd		
Approach	Southbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	Left	Thru	U-turn	Thru	Right	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		45.00			45.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	Yes		Yes			Yes		

Volumes

Name	Longfellow Dr		Bodden Town Rd			Bodden Town Rd		
Base Volume Input [veh/h]	0	12	24	1914	0	1861	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	12	24	1914	0	1861	0	0
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	1.0000	0.9100	0.9100	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	3	7	526	0	511	0	0
Total Analysis Volume [veh/h]	0	13	26	2103	0	2045	0	0
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	2		2			2		
Circulating Flow Rate [veh/h]	2103		0			13		
Exiting Flow Rate [veh/h]	26		2058			2103		
Demand Flow Rate [veh/h]	0	12	24	1914	0	1861	0	0
Adjusted Demand Flow Rate [veh/h]	0	13	26	2103	0	2045	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1350.00	1420.00	1350.00
B (coefficient)	0.00085	0.00085	0.00092	0.00085	0.00092
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	13	1129	1001	1084	962
Capacity of Entry and Bypass Lanes [veh/h]	238	1420	1350	1405	1334
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	238	1420	1350	1405	1334
X, volume / capacity	0.05	0.79	0.74	0.77	0.72

Movement, Approach, & Intersection Results

Lane LOS	C	C	B	B	B
95th-Percentile Queue Length [veh]	0.17	9.26	7.35	8.39	6.76
95th-Percentile Queue Length [ft]	4.31	231.42	183.85	209.70	168.88
Approach Delay [s/veh]	16.30	14.57		13.73	
Approach LOS	C	B		B	
Intersection Delay [s/veh]	14.16				
Intersection LOS	B				

Intersection Level Of Service Report
Intersection 1100: Frank Sound Road at Bodden Town Road

Control Type:	Roundabout	Delay (sec / veh):	28.3
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	1	0	0	0	1
Entry Pocket Length [ft]	200.00	200.00	100.00	100.00	100.00	200.00
No. of Lanes in Exit Pocket	1	0	0	0	0	0
Exit Pocket Length [ft]	200.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00		45.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Bodden Town Rd		Sea View Rd	
Base Volume Input [veh/h]	343	1014	991	851	810	282
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	343	1014	991	851	810	282
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	92	273	266	229	218	76
Total Analysis Volume [veh/h]	369	1090	1066	915	871	303
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	2		1		2	
Circulating Flow Rate [veh/h]	915		303		1090	
Exiting Flow Rate [veh/h]	1369		1090		1284	
Demand Flow Rate [veh/h]	343	1014	991	851	810	282
Adjusted Demand Flow Rate [veh/h]	369	1090	1066	915	871	303

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1350.00	1350.00	1420.00	1420.00	0.00	1420.00
B (coefficient)	0.00085	0.00092	0.00092	0.00091	0.00091	0.00000	0.00085
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	369	545	545	1050	932	0	303
Capacity of Entry and Bypass Lanes [veh/h]	653	582	582	1078	1078	100000	563
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	653	582	582	1078	1078	100000	563
X, volume / capacity	0.57	0.94	0.94	0.97	0.86	0.01	0.54

Movement, Approach, & Intersection Results

Lane LOS	C	E	E	E	C	A	C
95th-Percentile Queue Length [veh]	3.55	12.18	12.18	18.18	11.64	0.00	3.19
95th-Percentile Queue Length [ft]	88.76	304.55	304.55	454.42	291.10	0.00	79.80
Approach Delay [s/veh]	40.97			33.21		4.21	
Approach LOS	E			D		A	
Intersection Delay [s/veh]	28.29						
Intersection LOS	D						

Intersection Level Of Service Report
Intersection 1200: Frank Sound Road at Clifton Hunter High School

Control Type:	Roundabout	Delay (sec / veh):	12.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd			
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		20.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Frank Sound Rd			
Base Volume Input [veh/h]	549	376	287	102	100	532
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	549	376	287	102	100	532
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	137	94	72	26	25	133
Total Analysis Volume [veh/h]	549	376	287	102	100	532
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	102		532		376	
Exiting Flow Rate [veh/h]	819		476		651	
Demand Flow Rate [veh/h]	549	376	287	102	100	532
Adjusted Demand Flow Rate [veh/h]	549	376	287	102	100	532

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1420.00	1420.00
B (coefficient)	0.00102	0.00102	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	925	389	100	532
Capacity of Entry and Bypass Lanes [veh/h]	1244	803	1009	1009
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1244	803	1009	1009
X, volume / capacity	0.74	0.48	0.10	0.53

Movement, Approach, & Intersection Results

Lane LOS	B	B	A	B
95th-Percentile Queue Length [veh]	7.35	2.69	0.33	3.18
95th-Percentile Queue Length [ft]	183.80	67.14	8.23	79.49
Approach Delay [s/veh]	14.48	11.07	9.22	
Approach LOS	B	B	A	
Intersection Delay [s/veh]	12.09			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 1300: Frank Sound Road at North Side Road/Old Robin Road

Control Type:	Two-way stop	Delay (sec / veh):	16.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.065

Intersection Setup

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		North Side Rd		Old Robin Rd	
Base Volume Input [veh/h]	312	50	32	230	85	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	312	50	32	230	85	21
Peak Hour Factor	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	88	14	9	65	24	6
Total Analysis Volume [veh/h]	351	56	36	258	96	24
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.04	0.00	0.00	0.13	0.07
d_M, Delay for Movement [s/veh]	0.00	7.94	0.00	0.00	11.03	16.16
Movement LOS	A	A	A	A	B	C
95th-Percentile Queue Length [veh/ln]	0.14	0.14	0.00	0.00	0.70	0.70
95th-Percentile Queue Length [ft/ln]	3.43	3.43	0.00	0.00	17.46	17.46
d_A, Approach Delay [s/veh]	1.09		0.00		12.06	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	2.30					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1400: East-West Arterial at Agricola Drive Connector

Control Type:	Roundabout	Delay (sec / veh):	5.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Approach	Northbound			Southbound			Eastbound			Westbound			
Lane Configuration													
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			25.00			25.00			
Grade [%]	0.00			0.00			0.00			0.00			
Crosswalk	Yes			Yes			Yes			Yes			

Volumes

Name	Agricola Drive Connector			Agricola Drive Connector			East-West Arterial			East-West Arterial			
Base Volume Input [veh/h]	70	19	5	76	111	8	0	18	360	13	0	5	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	70	19	5	76	111	8	0	18	360	13	0	5	2
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	18	5	1	19	28	2	0	5	90	3	0	1	1
Total Analysis Volume [veh/h]	70	19	5	76	111	8	0	18	360	13	0	5	2
Pedestrian Volume [ped/h]	0			0			0			0			

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1			
Circulating Flow Rate [veh/h]	15			385			31			479			
Exiting Flow Rate [veh/h]	484			24			78			101			
Demand Flow Rate [veh/h]	70	19	5	76	111	8	0	18	360	13	0	5	2
Adjusted Demand Flow Rate [veh/h]	70	19	5	76	111	8	0	18	360	13	0	5	2

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	94	195	378	20
Capacity of Entry and Bypass Lanes [veh/h]	1360	932	1338	847
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1360	932	1338	847
X, volume / capacity	0.07	0.21	0.28	0.02

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.22	0.79	1.17	0.07
95th-Percentile Queue Length [ft]	5.57	19.68	29.27	1.81
Approach Delay [s/veh]	3.19	5.93	5.16	4.47
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	5.09			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 1501: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	11.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name							East-West Arterial				East-West Arterial			
Approach	Northbound			Southbound			Eastbound				Westbound			
Lane Configuration														
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	U-tu	Left	Thru	Right	U-tu
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.	100.	100.	100.	100.	100.	100.	100.
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			30.00			50.00				50.00			
Grade [%]	0.00			0.00			0.00				0.00			
Crosswalk	Yes			Yes			Yes				Yes			

Volumes

Name							East-West Arterial				East-West Arterial			
Base Volume Input [veh/h]	14	0	2	0	0	0	0	1866	236	0	4	1104	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	0	2	0	0	0	0	1866	236	0	4	1104	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total 15-Minute Volume [veh/h]	4	0	1	0	0	0	0	467	59	0	1	276	0	0
Total Analysis Volume [veh/h]	14	0	2	0	0	0	0	1866	236	0	4	1104	0	0
Pedestrian Volume [ped/h]	0			0			0				0			

Intersection Settings

Number of Conflicting Circulating Lanes	2			2			1				1			
Circulating Flow Rate [veh/h]	1104			2104			2				236			
Exiting Flow Rate [veh/h]	240			0			1118				1868			
Demand Flow Rate [veh/h]	14	0	2	0	0	0	0	1866	236	0	4	1104	0	0
Adjusted Demand Flow Rate [veh/h]	14	0	2	0	0	0	0	1866	236	0	4	1104	0	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1350.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00092	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	9	8	0	1115	988	588	521
Capacity of Entry and Bypass Lanes [veh/h]	556	489	238	1418	1418	1146	1146
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	556	489	238	1418	1418	1146	1146
X, volume / capacity	0.02	0.02	0.00	0.79	0.70	0.51	0.45

Movement, Approach, & Intersection Results

Lane LOS	A	A	C	C	B	A	A
95th-Percentile Queue Length [veh]	0.05	0.05	0.00	8.92	6.19	3.02	2.43
95th-Percentile Queue Length [ft]	1.16	1.17	0.00	222.98	154.69	75.61	60.63
Approach Delay [s/veh]	7.08		15.16	13.44		8.51	
Approach LOS	A		C	B		A	
Intersection Delay [s/veh]	11.71						
Intersection LOS	B						

Intersection Level Of Service Report
Intersection 1502: East-West Arterial at Will T Connector

Control Type:	Roundabout	Delay (sec / veh):	10.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name			East-West Arterial			East-West Arterial		
Approach	Northbound		Eastbound			Westbound		
Lane Configuration								
Turning Movement	Left	Right	Thru	Right	U-turn	Left	Thru	U-turn
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00			50.00		
Grade [%]	0.00		0.00			0.00		
Crosswalk	Yes		Yes			Yes		

Volumes

Name			East-West Arterial			East-West Arterial		
Base Volume Input [veh/h]	22	1	1832	35	0	1	1086	57
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	22	1	1832	35	0	1	1086	57
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	0	458	9	0	0	272	14
Total Analysis Volume [veh/h]	22	1	1832	35	0	1	1086	57
Pedestrian Volume [ped/h]	0		0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	2		1			1		
Circulating Flow Rate [veh/h]	1143		58			35		
Exiting Flow Rate [veh/h]	36		1108			1890		
Demand Flow Rate [veh/h]	22	1	1832	35	0	1	1086	57
Adjusted Demand Flow Rate [veh/h]	22	1	1832	35	0	1	1086	57

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1350.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00092	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	13	11	990	878	607	538
Capacity of Entry and Bypass Lanes [veh/h]	538	472	1347	1347	1376	1376
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	538	472	1347	1347	1376	1376
X, volume / capacity	0.02	0.02	0.73	0.65	0.44	0.39

Movement, Approach, & Intersection Results

Lane LOS	A	A	B	B	A	A
95th-Percentile Queue Length [veh]	0.07	0.07	7.16	5.15	2.31	1.89
95th-Percentile Queue Length [ft]	1.74	1.76	178.94	128.86	57.73	47.28
Approach Delay [s/veh]	7.42		12.13		6.57	
Approach LOS	A		B		A	
Intersection Delay [s/veh]	10.00					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1600: East-West Arterial at Northward Rd

Control Type:	Two-way stop	Delay (sec / veh):	13.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.070

Intersection Setup

Name	Northward Rd		East-West Arterial		East-West Arterial	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Northward Rd		East-West Arterial		East-West Arterial	
Base Volume Input [veh/h]	33	0	1890	0	17	1111
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	33	0	1890	0	17	1111
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	0	473	0	4	278
Total Analysis Volume [veh/h]	33	0	1890	0	17	1111
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.00	0.02	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	13.16	0.00	0.00	0.00	0.00	0.00
Movement LOS	B		A		A	A
95th-Percentile Queue Length [veh/ln]	0.22	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	5.59	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.16		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.14					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1700: East-West Arterial at Lookout Rd

Control Type:	Roundabout	Delay (sec / veh):	9.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name	Lookout Rd		East-West Arterial			Lookout Rd	
Approach	Southbound		Eastbound			Westbound	
Lane Configuration							
Turning Movement	Left	Right	Left	Thru	U-turn	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		35.00			35.00	
Grade [%]	0.00		0.00			0.00	
Crosswalk	Yes		Yes			Yes	

Volumes

Name	Lookout Rd		East-West Arterial			Lookout Rd	
Base Volume Input [veh/h]	0	0	0	1710	180	1006	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	1710	180	1006	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	428	45	252	0
Total Analysis Volume [veh/h]	0	0	0	1710	180	1006	0
Pedestrian Volume [ped/h]	0		0			0	

Intersection Settings

Number of Conflicting Circulating Lanes	2		1			1	
Circulating Flow Rate [veh/h]	1890		0			180	
Exiting Flow Rate [veh/h]	0		1186			1710	
Demand Flow Rate [veh/h]	0	0	0	1710	180	1006	0
Adjusted Demand Flow Rate [veh/h]	0	0	0	1710	180	1006	0

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00085	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	1.00	1.00	1.00	1.00	1.00
Entry Flow Rate [veh/h]	0	1002	889	534	473
Capacity of Entry and Bypass Lanes [veh/h]	285	1420	1420	1206	1206
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	285	1420	1420	1206	1206
X, volume / capacity	0.00	0.71	0.63	0.44	0.39

Movement, Approach, & Intersection Results

Lane LOS	B	B	A	A	A
95th-Percentile Queue Length [veh]	0.00	6.40	4.68	2.32	1.90
95th-Percentile Queue Length [ft]	0.00	160.01	117.05	57.89	47.42
Approach Delay [s/veh]	12.64	10.90		7.22	
Approach LOS	B	B		A	
Intersection Delay [s/veh]	9.62				
Intersection LOS	A				

Intersection Level Of Service Report
Intersection 2000: Frank Sound Road at East-West Arterial

Control Type:	Unknown	Delay (sec / veh):	?
Analysis Method:	?	Level Of Service:	?
Analysis Period:	15 minutes	Volume to Capacity (v/c):	?

Intersection Setup

Name	Frank Sound Rd	Frank Sound Rd
Approach	Northeastbound	Southwestbound
Lane Configuration		
Turning Movement	Thru	Thru
Crosswalk	Yes	Yes

Volumes

Name	Frank Sound Rd	Frank Sound Rd
Base Volume Input [veh/h]	401	343
Base Volume Adjustment Factor	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00
Growth Factor	1.0000	1.0000
In-Process Volume [veh/h]	0	0
Site-Generated Trips [veh/h]	0	0
Diverted Trips [veh/h]	0	0
Pass-by Trips [veh/h]	0	0
Existing Site Adjustment Volume [veh/h]	0	0
Other Volume [veh/h]	0	0
Left-Turn on Red Volume [veh/h]	0	0
Total Hourly Volume [veh/h]	401	343
Peak Hour Factor	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000
Total 15-Minute Volume [veh/h]	100	86
Total Analysis Volume [veh/h]	401	343
Presence of On-Street Parking	No	No
On-Street Parking Maneuver Rate [/h]	0	0
Local Bus Stopping Rate [/h]	0	0
Pedestrian Volume [ped/h]	0	0

Intersection Level Of Service Report
Intersection 2100: Frank Sound Road at East-West Arterial

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Frank Sound Rd		Frank Sound Rd			
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00		50.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Frank Sound Rd		Frank Sound Rd			
Base Volume Input [veh/h]	476	0	0	389	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	476	0	0	389	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	119	0	0	97	0	0
Total Analysis Volume [veh/h]	476	0	0	389	0	0
Pedestrian Volume [ped/h]	0		0		0	

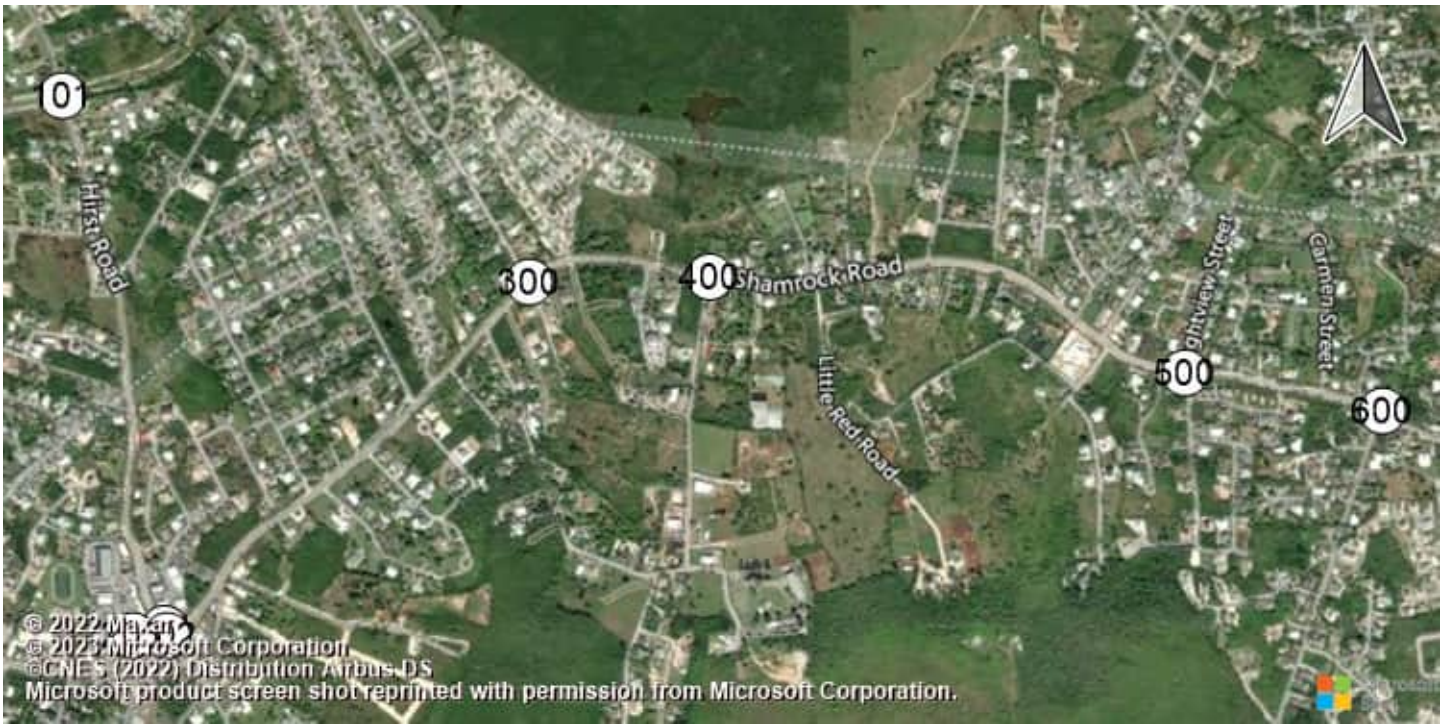
Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

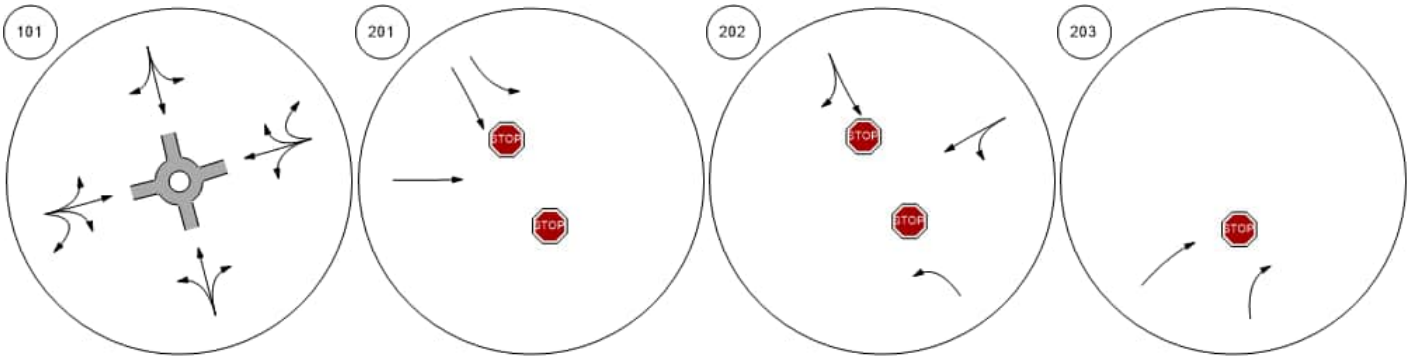
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	8.05	0.00	0.00	10.42	16.02
Movement LOS	A	A	A	A	B	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		13.22	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

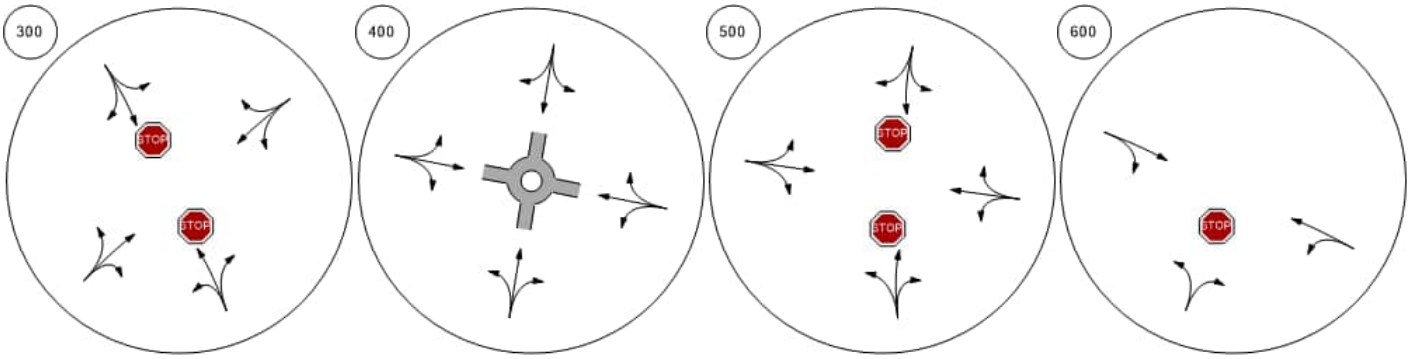
Lane Configuration and Traffic Control



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



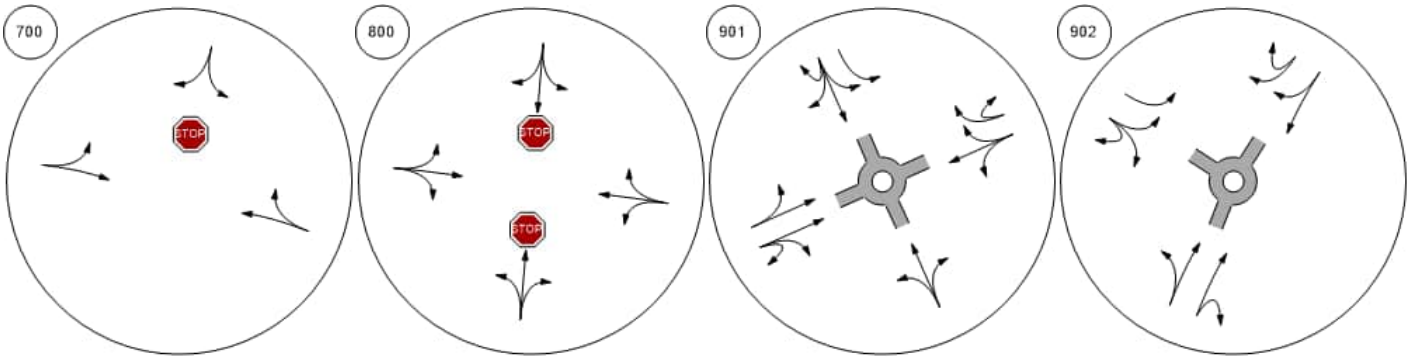
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



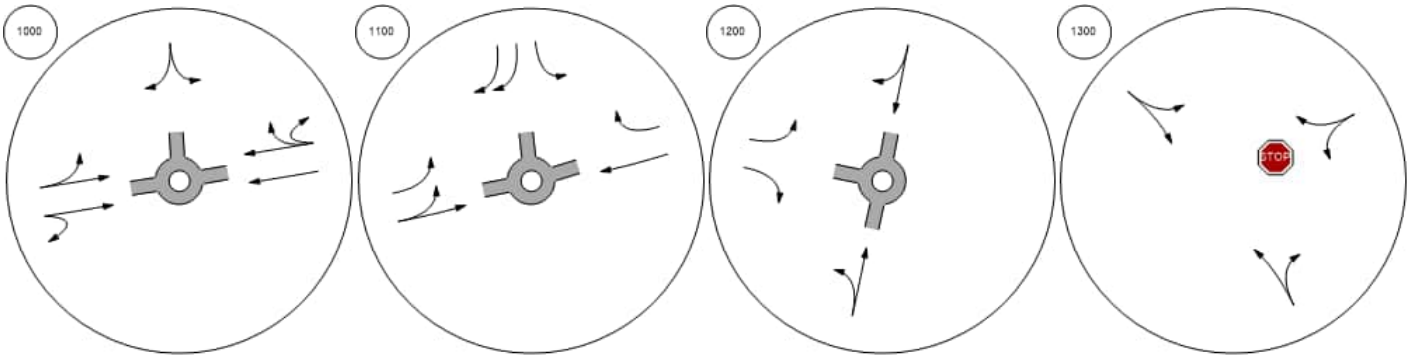
Lane Configuration and Traffic Control



Shamrock Road at Northward | Shamrock Road at Condor R | Lookout Road at Bodden To | Bodden Town Road at Bodde



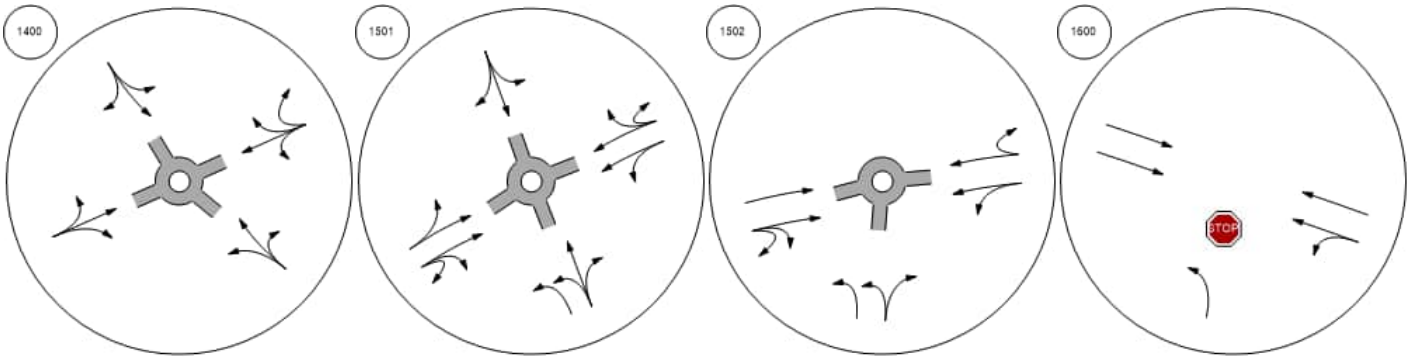
Bodden Town Road at Long | Frank Sound Road at Bodde | Frank Sound Road at Clifton | Frank Sound Road at North S



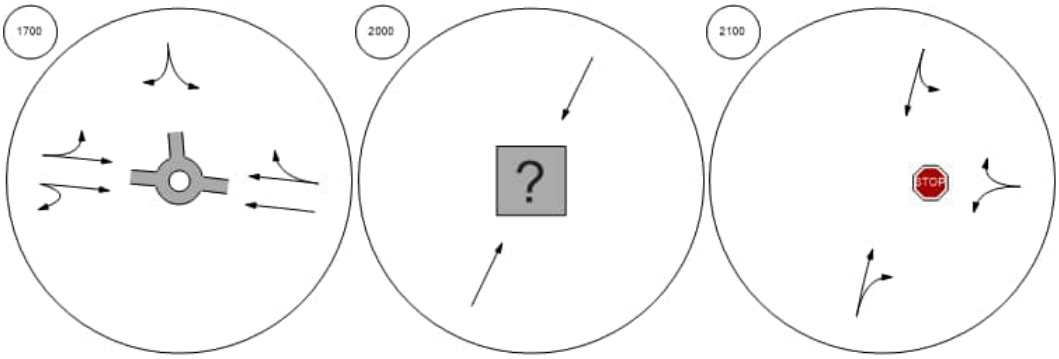
Lane Configuration and Traffic Control



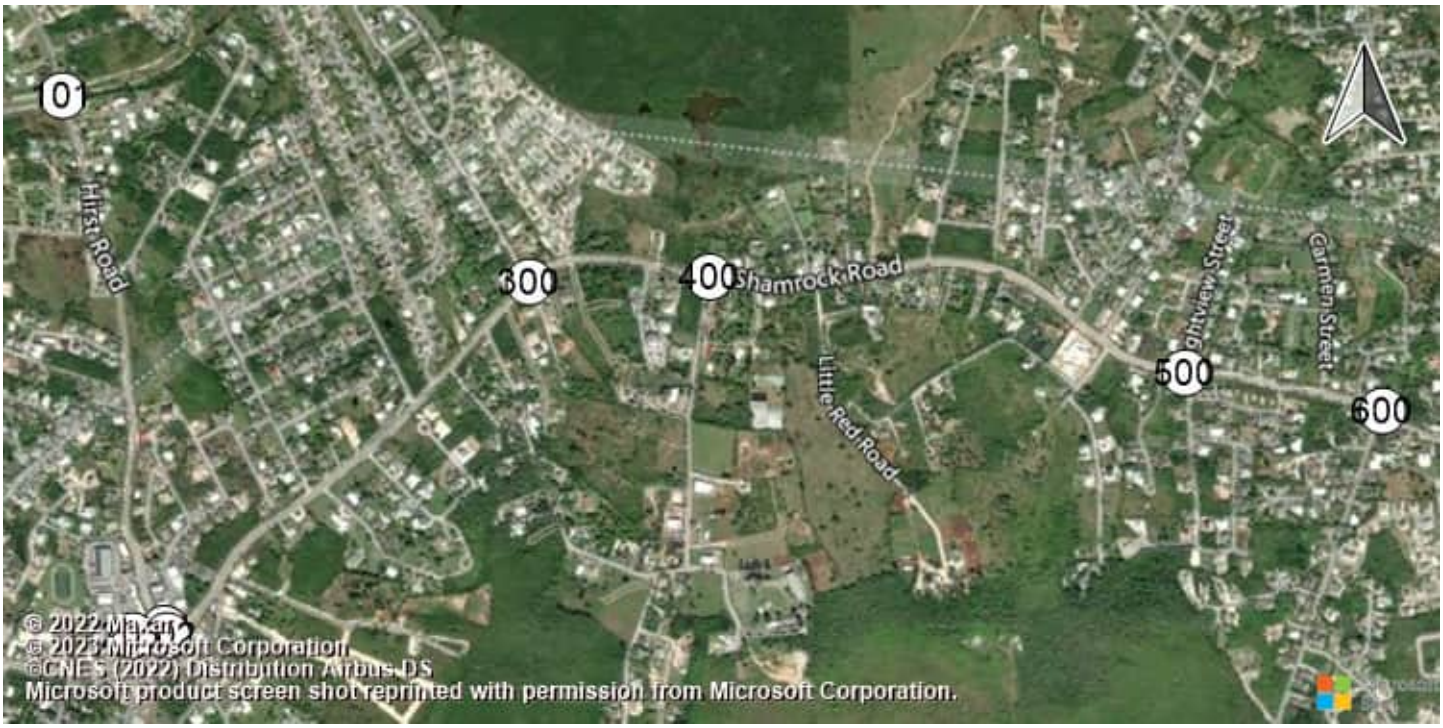
East-West Arterial at Agricola | East-West Arterial at Will T C | East-West Arterial at Will T C | East-West Arterial at Northwa



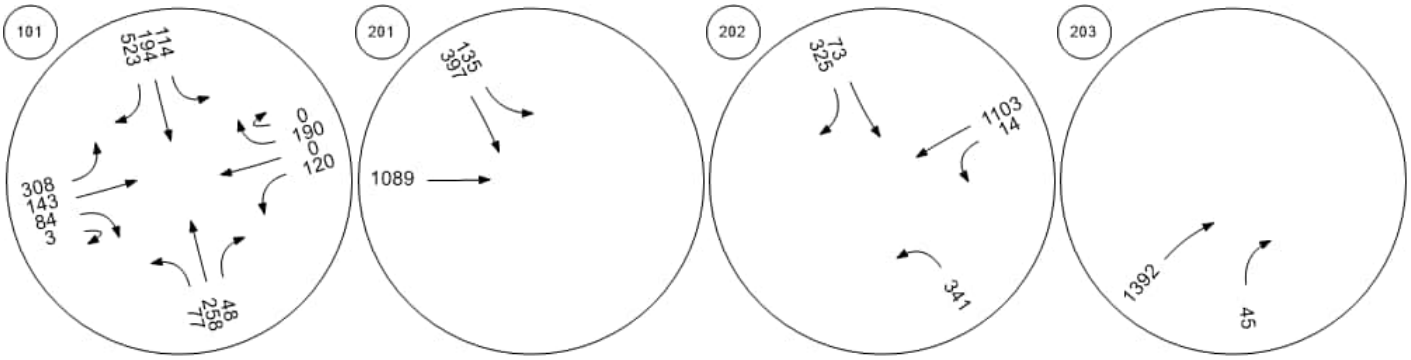
East-West Arterial at Lookout | Frank Sound Road at East-W | Frank Sound Road at East-W



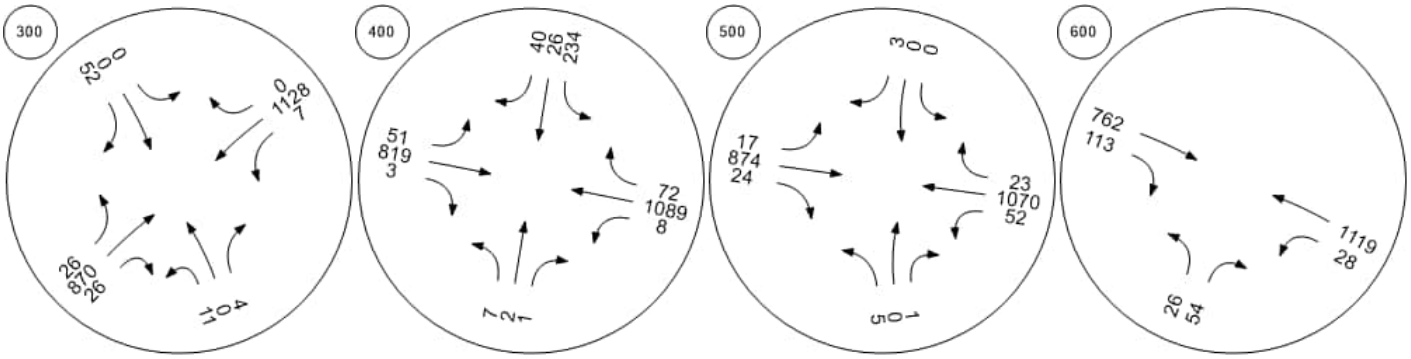
Traffic Volume - Base Volume



East-West Arterial Road at Hi Shamrock Road at Hirst Rd (Shamrock Road at Hirst Rd (Shamrock Road atHirst Road



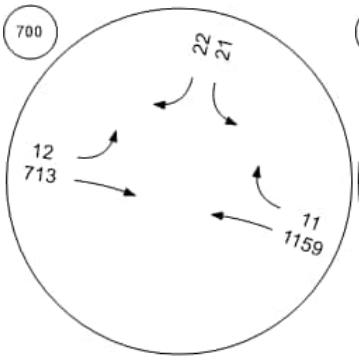
Shamrock Road at Woodland Shamrock Road at Agricola DShamrock Road at Brightview Shamrock Road at Beach Ba



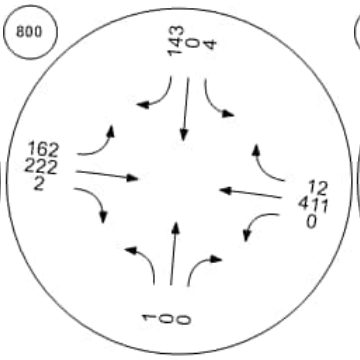
Traffic Volume - Base Volume



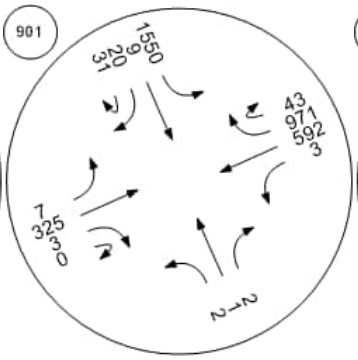
Shamrock Road at Northward



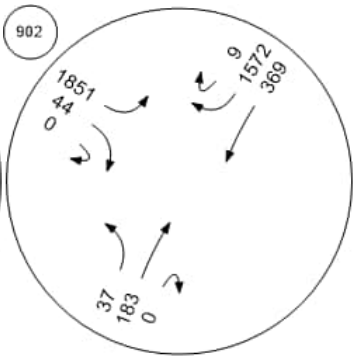
Shamrock Road at Condor R



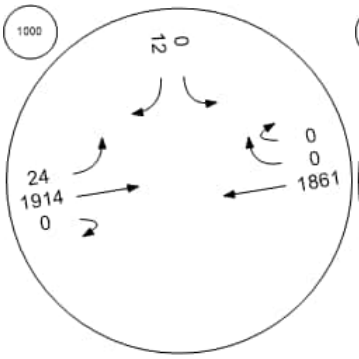
Lookout Road at Bodden To



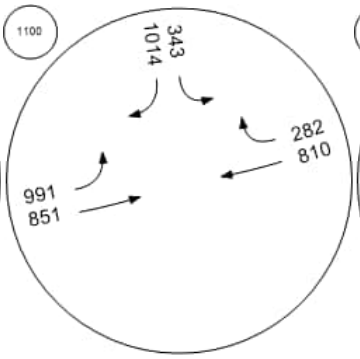
Bodden Town Road at Bodde



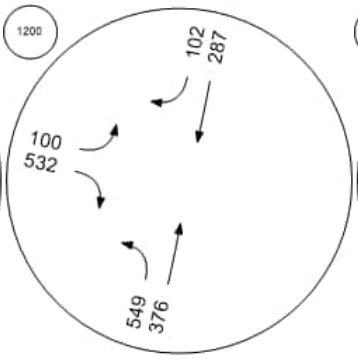
Bodden Town Road at Long



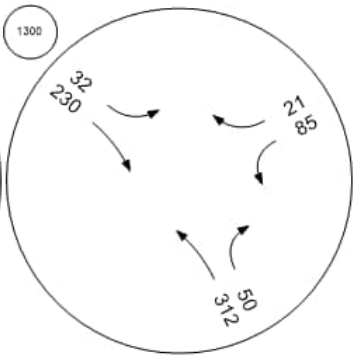
Frank Sound Road at Bodde



Frank Sound Road at Clifton



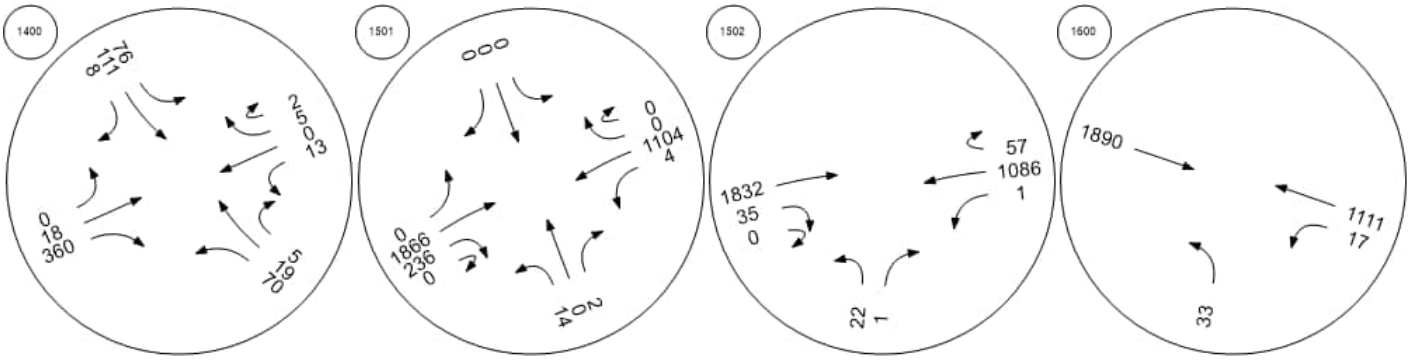
Frank Sound Road at North S



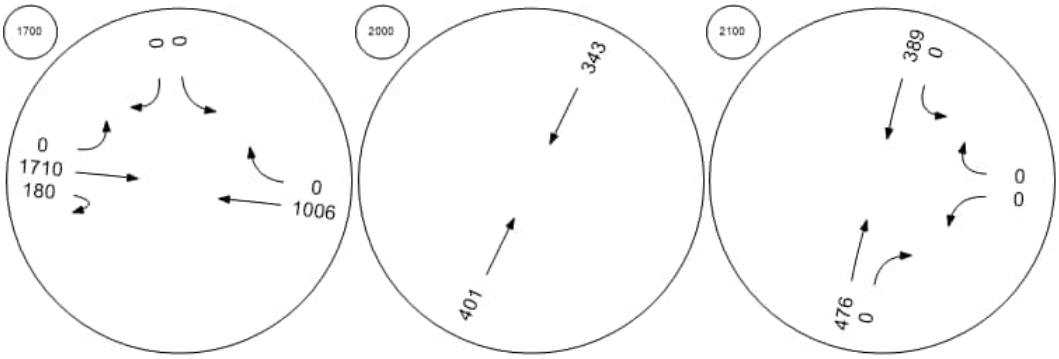
Traffic Volume - Base Volume



East-West Arterial at Agricola | East-West Arterial at Will T C | East-West Arterial at Will T C | East-West Arterial at Northwa



East-West Arterial at Lookout | Frank Sound Road at East-W | Frank Sound Road at East-W



Attachment E:
VISTRO Level of Service Summary Tables

Attachment E1

2021 Base LOS Summary Tables

2021 LOS Table - Base AM									
#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
101	EW Arterial Blvd at Hirst Rd	29	D	EB	16	C	L	9	A
							R	29	D
				NB	0	A	LT	0	A
				SB	0	A	TR	0	A
102	EW Arterial Blvd at Hirst Rd	11	B	EB	0	A	L	0	A
							R	0	A
				NB	0	A	LT	0	A
				SB	9	A	TR	11	B
201	Shamrock Road at Hirst Road (1)	13	B	EB	0	A	R	0	A
							T	0	A
				SB	12	B	L	11	B
							T	12	B
202	Shamrock Road at Hirst Road (2)	130	F	WB	0	A	L	0	A
							T	0	A
				NB	27	D	L	27	D
				SB	129	F	T	121	F
							R	130	F
203	Shamrock Road at Hirst Road Jughandle	12	B	EB	0	A	T	0	A
				NB	12	B	R	12	B
300	Shamrock Road at Woodland Ave	10,000	F	EB	0	A	L	0	A
							T	0	A
							R	0	A
				WB	0	A	L	0	A
							T	0	A
							R	8	A
				NB	10,000	F	L	10,000	F
							T	0	A
							R	0	A
				SB	10,000	F	L	10,000	F
							T	0	A
							R	10,000	F
400	Shamrock Road at Agricola Drive	32	D	EB	0	A	T	0	A
							T	11	B
				WB	0	A	L	0	A
							T	0	A
				NB	27	D	L	22	C
							R	32	D
500	Shamrock Road at Brighview Drive/Calla Lily Drive	25	D	EB	0	A	L	0	A
							T	0	A
							R	0	A
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	20	C	L	15	C
							T	0	A
							R	25	D
				SB	19	C	L	10	B
							T	0	A
							R	25	D
600	Shamrock Road at Beach Bay Road	317	F	EB	0	A	T	0	A
							R	12	B
				WB	0	A	L	0	A
							T	0	A
				NB	294	F	L	291	F
							R	317	F
700	Shamrock Road at Northward Road	44	E	EB	0	A	L	0	A
							T	0	A
				WB	1	A	T	0	A
							R	8	A
				SB	41	E	L	29	D
							R	44	E
800	Shamrock Road at Condor Road	27	D	EB	0	A	L	0	A
							T	0	A
							R	0	A
				WB	0	A	L	0	A
							T	0	A
							R	8	A
				NB	11	B	L	11	B
							T	0	A
							R	0	A
				SB	27	D	L	22	C
							T	0	A
							R	27	D
902	Bodden Town Road at Bodden Town Bypass	15	B	EB	0	A	L	0	A
							T	0	A
				WB	1	A	T	0	A
							R	8	A
				SB	12	B	L	10	B
							R	15	B
1000	Bodden Town Road at Long Fellow Drive	12	B	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	0	A
				SB	12	B	L	0	A
							R	12	B
1100	Frank Sound Road at Bodden Town Road	11	B	EB	0	A	L	0	A
							T	0	A
				WB	1	A	T	0	A
							R	7	A
				SB	11	B	L	11	B
							R	11	B
1200	Frank Sound Road at Clifton Hunter High School Access #1/Tie-in with EW Arterial	11	B	EB	11	B	L	10	A
							R	11	B
				NB	0	A	L	0	A
							T	0	A
				SB	4	A	T	0	A
							R	8	A
1300	Frank Sound Road at North Side Road/Old Robin Road	10	A	WB	9	A	L	9	A
							R	10	A
				NB	2	A	T	0	A
							R	7	A
				SB	0	A	L	0	A
							T	0	A

2021 LOS Table - Base PM									
#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
101	EW Arterial Blvd at Hirst Rd	23	C	EB	18	C	L	13	B
							R	23	C
				NB	0	A	LT	0	A
				SB	0	A	TR	0	A
102	EW Arterial Blvd at Hirst Rd	8	A	EB	0	A	L	0	A
							R	0	A
				NB	0	A	LT	0	A
				SB	2	A	TR	8	A
201	Shamrock Road at Hirst Road (1)	82	F	EB	0	A	R	0	A
							T	0	A
				SB	67	F	L	82	F
							T	34	D
202	Shamrock Road at Hirst Road (2)	130	F	WB	0	A	L	0	A
							T	0	A
				NB	11	B	L	11	B
				SB	17	C	T	17	C
							R	17	C
203	Shamrock Road at Hirst Road Jughandle	37	E	EB	0	A	T	0	A
				NB	37	E	R	37	E
300	Shamrock Road at Woodland Ave	55	F	EB	0	A	L	0	A
							T	0	A
							R	8	A
				WB	0	A	L	0	A
							T	0	A
							R	11	B
				NB	0	A	L	0	A
							T	0	A
							R	0	A
				SB	40	E	L	24	C
							T	0	A
							R	55	F
400	Shamrock Road at Agricola Drive	44	E	EB	0	A	T	0	A
							R	9	A
				WB	0	A	L	0	A
							T	0	A
				NB	23	C	L	12	B
							R	44	E
500	Shamrock Road at Brighview Drive/Calla Lily Drive	45	E	EB	0	A	L	0	A
							T	0	A
							R	8	A
				WB	1	A	L	0	A
							T	0	A
							R	10	B
				NB	45	E	L	0	A
							T	0	A
							R	45	E
				SB	0	A	L	0	A
							T	0	A
							R	0	A
600	Shamrock Road at Beach Bay Road	57	F	EB	1	A	T	0	A
							R	9	A
				WB	0	A	L	0	A
							T	0	A
				NB	35	D	L	23	C
							R	56	F
700	Shamrock Road at Northward Road	63	F	EB	0	A	L	0	A
							T	0	A
				WB	1	A	T	0	A
							R	10	A
				SB	57	F	L	48	E
							R	63	F
800	Shamrock Road at Condor Road	33	D	EB	0	A	L	0	A
							T	0	A
							R	8	A
				WB	0	A	L	0	A
							T	0	A
							R	9	A
				NB	11	B	L	11	B
							T	0	A
							R	0	A
				SB	33	D	L	23	C
							T	0	A
							R	33	D
902	Bodden Town Road at Bodden Town Bypass	23	C	EB	0	A	L	0	A
							T	0	A
				WB	1	A	T	0	A
							R	9	A
				SB	19	C	L	15	C
							R	23	C
1000	Bodden Town Road at Long Fellow Drive	16	C	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	0	A
				SB	16	C	L	0	A
							R	16	C
1100	Frank Sound Road at Bodden Town Road	15	B	EB	0	A	L	0	A
							T	0	A
				WB	1	A	T	0	A
							R	8	A
				SB	15	B	L	13	B
							R	15	C
1200	Frank Sound Road at Clifton Hunter High School Access #1/Tie-in with EW Arterial	15	C	EB	14	B	L	12	B
							R	15	C
				NB	0	A	L	0	A
							T	0	A
				SB	4	A	T	0	A
							R	8	A
1300	Frank Sound Road at North Side Road/Old Robin Road	11	B	WB	10	B	L	10	A
							R	11	B
				NB	1	A	T	0	A
							R	8	A
				SB	0	A	L	0	A
							T	0	A

Attachment E2

2026 Alternative LOS Summary Tables

2026 LOS Table - No-Build AM

#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
101	EW Arterial Blvd at Hirst Rd	19	C	EB	3	A	LT	3	A
							TR	3	A
				WB	32	D	LT	32	D
				NB	11	B	LTR	11	B
				SB	8	A	LTR	8	A
201	Shamrock Road at Hirst Road (1)	13	B	EB	0	A	T	0	A
				SB	12	B	T	11	B
							L	13	B
202	Shamrock Road at Hirst Road (2)	25	C	WB	0	A	L	0	A
							T	0	A
				NB	15	B	L	15	B
				SB	25	C	T	23	C
							R	25	C
203	Shamrock Road at Hirst Road Jughandle	11	B	EB	0	A	T	0	A
				NB	11	B	R	11	B
300	Shamrock Road at Woodland Ave	24	C	EB	0	A	L	0	A
							T	0	A
							R	9	A
				WB	0	A	L	0	A
							T	0	A
							R	8	A
				NB	15	B	L	14	B
							T	0	A
							R	22	C
				SB	19	C	L	11	B
							T	0	A
							R	24	C
400	Shamrock Road at Agricola Drive	40	E	EB	11	B	LTR	11	B
				WB	50	F	LTR	50	F
				NB	11	B	LTR	11	B
				SB	5	A	LTR	5	A
500	Shamrock Road at Brighview Drive/Calla Lily Drive	39	E	EB	0	A	L	0	A
							T	0	A
							R	0	A
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	28	D	L	20	C
							T	0	A
							R	39	E
				SB	27	D	L	11	B
							T	0	A
							R	39	E
600	Shamrock Road at Beach Bay Road	56	F	EB	0	A	T	0	A
							R	10	B
				WB	0	A	L	0	A
							T	0	A
				NB	45	E	L	43	E
							R	56	F
700	Shamrock Road at Northward Road	78	F	EB	0	A	L	0	A
							T	0	A
				WB	1	A	T	0	A
							R	8	A
				SB	74	F	L	58	F
							R	78	F
800	Shamrock Road at Condor Road	21	C	EB	0	A	L	0	A
							T	0	A
							R	0	A
				WB	0	A	L	0	A
							T	0	A
							R	8	A
				NB	12	B	L	10	B
							T	15	C
							R	15	B
				SB	21	C	L	16	C
							T	0	A
							R	21	C
902	Bodden Town Road at Bodden Town Bypass	26	D	EB	0	A	L	0	A
							T	0	A
				WB	4	A	T	0	A
							R	8	A
				SB	15	B	L	12	B
							R	26	D
1000	Bodden Town Road at Long Fellow Drive	15	B	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	0	A
				SB	15	B	L	0	A
							R	15	B
1100	Frank Sound Road at Bodden Town Road	15	B	EB	0	A	L	0	A
							T	0	A
				WB	1	A	T	0	A
							R	7	A
				SB	15	B	L	14	B
							R	15	B
1200	Frank Sound Road at Clifton Hunter High School Access #1/Tie-in with EW Arterial	14	B	EB	14	B	L	12	B
							R	14	B
				NB	0	A	L	0	A
							T	0	A
				SB	3	A	T	0	A
							R	8	A
1300	Frank Sound Road at North Side Road/Old Robin Road	10	B	EB	9	A	L	9	A
							R	10	B
				NB	2	A	T	0	A
							R	7	A
				SB	0	A	L	0	A
							T	0	A

2026 LOS Table - No-Build AM									
#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
1400	East-West Arterial at Agricola Drive Connector	8	A	EB	3	A	LR	3	A
				NB	9	A	LT	9	A
				SB	3	A	TR	3	A

2026 LOS Table - No-Build PM									
#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
101	EW Arterial Blvd at Hirst Rd	12	B	EB	14	B	LT	17	C
							TR	6	A
				WB	5	A	LT	5	A
				NB	4	A	LTR	4	A
				SB	11	B	LTR	11	B
201	Shamrock Road at Hirst Road (1)	16	C	EB	0	A	T	0	A
				SB	16	C	L	16	C
							T	15	B
202	Shamrock Road at Hirst Road (2)	18	C	WB	0	A	L	0	A
							T	0	A
				NB	11	B	L	11	B
				SB	18	C	T	18	C
							R	18	C
203	Shamrock Road at Hirst Road Jughandle	12	B	EB	0	A	T	0	A
				NB	12	B	R	12	B
300	Shamrock Road at Woodland Ave	29	D	EB	0	A	L	0	A
							T	0	A
							R	8	A
				WB	0	A	L	0	A
							T	0	A
							R	9	A
				NB	14	B	L	12	B
							T	0	A
							R	28	D
				SB	20	C	L	13	B
							T	0	A
							R	29	D
400	Shamrock Road at Agricola Drive	17	C	EB	8	A	LTR	8	A
				WB	7	A	LTR	7	A
				NB	5	A	LTR	5	A
				SB	34	D	LTR	34	D
500	Shamrock Road at Brighview Drive/Calla Lily Drive	53	F	EB	0	A	L	0	A
							T	0	A
							R	9	A
				WB	0	A	L	0	A
							T	0	A
							R	10	B
				NB	33	D	L	12	B
							T	0	A
							R	53	F
				SB	0	A	L	0	A
							T	0	A
							R	0	A
600	Shamrock Road at Beach Bay Road	76	F	EB	1	A	T	0	A
							R	9	A
				WB	0	A	L	0	A
							T	0	A
				NB	47	E	L	32	D
							R	76	F
700	Shamrock Road at Northward Road	120	F	EB	0	A	L	0	A
							T	0	A
				WB	1	A	T	0	A
							R	10	A
				SB	111	F	L	97	F
							R	120	F
800	Shamrock Road at Condor Road	25	D	EB	0	A	L	0	A
							T	0	A
							R	8	A
				WB	0	A	L	0	A
							T	0	A
							R	9	A
				NB	10	B	L	10	B
							T	0	A
							R	0	A
				SB	24	C	L	16	C
							T	0	A
							R	25	D
902	Bodden Town Road at Bodden Town Bypass	45	E	EB	0	A	L	0	A
							T	0	A
				WB	4	A	T	0	A
							R	10	A
				SB	31	D	L	25	D
							R	45	E
1000	Bodden Town Road at Long Fellow Drive	20	C	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	0	A
				SB	20	C	L	0	A
							R	20	C
1100	Frank Sound Road at Bodden Town Road	21	C	EB	0	A	L	0	A
							T	0	A
				WB	1	A	T	0	A
							R	8	A
				SB	21	C	L	19	C
							R	21	C
1200	Frank Sound Road at Clifton Hunter High School Access #1/Tie-in with EW Arterial	20	C	EB	19	C	L	16	C
							R	20	C
				NB	0	A	L	0	A
							T	0	A
				SB	4	A	T	0	A
							R	8	A
1300	Frank Sound Road at North Side Road/Old Robin Road	12	B	EB	10	B	L	10	A
							R	12	B
				NB	1	A	T	0	A
							R	8	A
				SB	0	A	L	0	A
							T	0	A

2026 LOS Table - No-Build PM									
#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
1400	East-West Arterial at Agricola Drive Connector	7	A	EB	8	A	LR	8	A
				NB	3	A	LT	3	A
				SB	6	A	TR	6	A

2026 LOS Table - Alternative B1 AM									
#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
101	EW Arterial Blvd at Hirst Rd	11	B	EB	5	A	L	3	A
							TR	5	A
				WB	13	B	LT	13	B
							TR	14	B
				NB	11	B	LTR	11	B
				SB	10	B	LTR	10	B
201	Shamrock Road at Hirst Road (1)	12	B	SB	0	A	T	0	A
				EB	11	B	L	10	A
							T	11	B
202	Shamrock Road at Hirst Road (2)	21	C	WB	0	A	L	0	A
							R	0	A
				NB	14	B	L	14	B
				SB	21	C	L	20	C
							R	21	C
203	Shamrock Road at Hirst Road Jughandle	10	B	EB	0	A	T	0	A
				NB	10	B	R	10	B
300	Shamrock Road at Woodland Drive	17	C	EB	0	A	L	0	A
							T	0	A
							R	9	A
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	13	B	L	13	B
							T	0	A
							R	16	C
				SB	17	C	L	0	A
							T	0	A
							R	17	C
400	Shamrock Road at Agricola Drive	7	A	EB	4	A	LTR	4	A
				WB	8	A	LTR	8	A
				NB	5	A	LTR	5	A
				SB	3	A	LTR	3	A
500	Shamrock Road at Brighview Drive/Calla Lily Drive	15	C	EB	0.00	A	L	0	A
							T	0	A
							R	0	A
				WB	0.00	A	L	0	A
							T	0	A
							R	0	A
				NB	13.05	B	L	12	B
							T	0	A
							R	15	C
				SB	12.90	B	L	9	A
							T	0	A
							R	15	C
600	Shamrock Road at Beach Bay Road	16	C	EB	1	A	T	0	A
							R	8	A
				WB	0	A	L	0	A
							T	0	A
				NB	14	B	L	13	B
							R	16	C
700	Shamrock Road at Northward Road	13	B	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	8	A
				SB	10	B	L	9	A
							R	13	B
800	Shamrock Road at Condor Road	12	B	EB	0	A	L	0	A
							T	0	A
							R	0	A
				WB	1	A	L	0	A
							T	0	A
							R	8	A
				NB	9	A	L	9	A
							T	11	B
							R	0	A
				SB	12	B	L	11	B
							T	0	A
							R	12	B
902	Bodden Town Road at Bodden Town Bypass	10	B	EB	0	A	L	0	A
							T	0	A
				WB	5	A	T	0	A
							R	8	A
				SB	10	A	L	9	A
							R	10	B
1000	Bodden Town Road at Long Fellow Drive	9	A	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	0	A
				SB	9	A	L	0	A
							R	9	A
1100	Frank Sound Road at Bodden Town Road	10	B	EB	0	A	L	0	A
							T	0	A
				WB	6	A	T	0	A
							R	7	A
				SB	9	A	L	9	A
							R	10	B
1200	Frank Sound Road at Clifton Hunter High School Access #1/Tie-in with EW Arterial	15	C	EB	10	B	L	10	B
							R	15	C
				NB	0	A	L	0	A
							T	0	A
				SB	6	A	T	0	A
							R	8	A
1300	Frank Sound Road at North Side Road/Old Robin Road	10	B	WB	9	A	L	9	A
							R	10	B
				NB	2	A	T	0	A
							R	7	A
				SB	0	A	L	0	A
							T	0	A

2026 LOS Table - Alternative B1 AM									
#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
1400	East-West Arterial at Agricola Drive Connector	9	A	EB	5	A	LT	5	A
				WB	11	B	LTR	11	B
				NB	9	A	LTR	9	A
				SB	5	A	LTR	5	A
1501	East-West Arterial at Will T Connector 1	8	A	EB	5	A	LTR	5	A
				WB	9	A	LTR	9	A
				NB	6	A	LTR	6	A
				SB	4	A	LTR	4	A
1502	East-West Arterial at Will T Connector 2	7	A	EB	5	A	TR	5	A
				WB	7	A	LT	7	A
				NB	8	A	LR	8	A
1600	East-West Arterial at Northward Road	13	B	EB	0	A	T	0	A
							TR	0	A
				WB	0	A	LT	0	A
							T	0	A
				NB	13	B	L	13	B
							R	0	A
1700	East-West Arterial at Lookout Road	6	A	EB	5	A	LTR	5	A
				WB	7	A	LTR	7	A
				NB	5	A	LTR	5	A
				SB	4	A	LTR	4	A
1800	East-West Arterial at Longfellow Road	5	A	EB	4	A	LTR	4	A
				WB	6	A	LTR	6	A
				NB	4	A	LTR	4	A
				SB	3	A	LTR	3	A
1900	East-West Arterial at North/South Spurs	5	A	EB	4	A	TR	4	A
				WB	4	A	LR	4	A
				NB	5	A	LR	5	A
2000	Frank Sound Road at East-West Arterial North	3	A	EB	3	A	LR	3	A
				NB	3	A	LT	3	A
				SB	3	A	TR	3	A
2100	Frank Sound Road at East-West Arterial South	5	A	EB	4	A	LR	4	A
				NB	5	A	LT	5	A
				SB	4	A	TR	4	A

2026 LOS Table - Alternative B1 PM									
#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
101	EW Arterial Blvd at Hirst Rd	13	B	EB	17	C	L	6	A
							TR	22	C
				WB	5	A	LT	5	A
							TR	5	A
				NB	6	A	LTR	6	A
				SB	10	B	LTR	10	B
201	Shamrock Road at Hirst Road (1)	16	C	SB	0	A	T	0	A
				EB	16	C	L	11	B
							T	16	C
202	Shamrock Road at Hirst Road (2)	12.30	B	WB	0	A	L	0	A
							R	0	A
				NB	10	A	L	10	A
				SB	12	B	L	12	B
							R	12	B
203	Shamrock Road at Hirst Road Jughandle	13.30	B	EB	0	A	T	0	A
				NB	13	B	R	13	B
300	Shamrock Road at Woodland Drive	15	C	EB	1	A	L	0	A
							T	0	A
							R	8	A
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	10	B	L	10	A
							T	0	A
							R	15	C
				SB	14	B	L	10	B
							T	0	A
							R	15	C
400	Shamrock Road at Agricola Drive	5	A	EB	5	A	LTR	5	A
				WB	5	A	LTR	5	A
				NB	4	A	LTR	4	A
				SB	6	A	LTR	6	A
500	Shamrock Road at Brighview Drive/Calla Lily Drive	17	C	EB	0	A	L	0	A
							T	0	A
							R	8	A
				WB	1	A	L	0	A
							T	0	A
							R	8	A
				NB	13	B	L	10	A
							T	0	A
							R	17	C
				SB	0	A	L	0	A
							T	0	A
							R	0	A
600	Shamrock Road at Beach Bay Road	18	C	EB	2	A	T	0	A
							R	8	A
				WB	0	A	L	0	A
							T	0	A
				NB	13	B	L	11	B
							R	18	C
700	Shamrock Road at Northward Road	14	B	EB	0	A	L	0	A
							T	0	A
				WB	1	A	T	0	A
							R	8	A
				SB	13	B	L	11	B
							R	14	B
800	Shamrock Road at Condor Road	12	B	EB	0	A	L	0	A
							T	0	A
							R	8	A
				WB	1	A	L	0	A
							T	0	A
							R	8	A
				NB	9	A	L	9	A
							T	0	A
							R	0	A
				SB	12	B	L	10	B
							T	0	A
							R	12	B
902	Bodden Town Road at Bodden Town Bypass	11	B	EB	0	A	L	0	A
							T	0	A
				WB	3	A	T	0	A
							R	8	A
				SB	11	B	L	10	A
							R	11	B
1000	Bodden Town Road at Long Fellow Drive	10	A	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	0	A
				SB	10	A	L	0	A
							R	10	A
1100	Frank Sound Road at Bodden Town Road	12	A	EB	0	A	L	0	A
							T	0	A
				WB	5	A	T	0	A
							R	7	A
				SB	10	B	L	10	A
							R	12	B
1200	Frank Sound Road at Clifton Hunter High School Access #1/Tie-in with EW Arterial	22	C	EB	15	B	L	13	B
							R	22	C
				NB	0	A	L	0	A
							T	0	A
				SB	5	A	T	0	A
							R	8	A
1300	Frank Sound Road at North Side Road/Old Robin Road	12	B	WB	10	B	L	10	A
							R	12	B
				NB	1	A	T	0	A
							R	8	A
				SB	0	A	L	0	A
							T	0	A

2026 LOS Table - Alternative B1 PM									
#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
1400	East-West Arterial at Agricola Drive Connector	12	B	EB	14	B	LT	14	B
				WB	8	A	LTR	8	A
				NB	5	A	LTR	5	A
				SB	10	A	LTR	10	A
1501	East-West Arterial at Will T Connector 1	8	A	EB	10	A	LTR	10	A
				WB	6	A	LTR	6	A
				NB	4	A	LTR	4	A
				SB	6	A	LTR	6	A
1502	East-West Arterial at Will T Connector 2	8	A	EB	9	A	TR	9	A
				WB	6	A	LT	6	A
				NB	4	A	LR	4	A
1600	East-West Arterial at Northward Road	11	B	EB	0	A	T	0	A
							TR	0	A
				WB	0	A	LT	0	A
							T	0	A
				NB	11	B	L	11	B
							R	0	A
1700	East-West Arterial at Lookout Road	8	A	EB	9	A	LTR	9	A
				WB	7	A	LTR	7	A
				NB	5	A	LTR	5	A
				SB	6	A	LTR	6	A
1800	East-West Arterial at Longfellow Road	6	A	EB	6	A	LTR	6	A
				WB	5	A	LTR	5	A
				NB	4	A	LTR	4	A
				SB	5	A	LTR	5	A
1900	East-West Arterial at North/South Spurs	6	A	EB	6	A	TR	6	A
				WB	5	A	LR	5	A
				NB	5	A	LR	5	A
2000	Frank Sound Road at East-West Arterial North	4	A	EB	4	A	LR	4	A
				NB	3	A	LT	3	A
				SB	4	A	TR	4	A
2100	Frank Sound Road at East-West Arterial South	6	A	EB	6	A	LR	6	A
				NB	5	A	LT	5	A
				SB	5	A	TR	5	A

2026 LOS Table - Alternative B2 AM									
#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
101	EW Arterial Blvd at Hirst Rd	11	B	EB	5	A	L	3	A
							TR	5	A
				WB	14	B	LT	13	B
							RT	14	B
				NB	12	B	LTR	12	B
				SB	11	B	LTR	11	B
201	Shamrock Road at Hirst Road (1)	11	B	SB	0	A	T	0	A
				EB	11	B	L	10	A
							T	11	B
202	Shamrock Road at Hirst Road (2)	20.90	C	WB	0	A	L	0	A
							R	0	A
				NB	14	B	L	14	B
				SB	21	C	L	20	C
							R	21	C
203	Shamrock Road at Hirst Road Jughandle	10.20	B	EB	0	A	T	0	A
				NB	10	B	R	10	B
300	Shamrock Road at Woodland Drive	17	C	EB	0	A	L	0	A
							T	0	A
							R	9	A
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	13	B	L	13	B
							T	0	A
							R	16	C
				SB	17	C	L	0	A
							T	0	A
							R	17	C
400	Shamrock Road at Agricola Drive	7	A	EB	4	A	LTR	4	A
				WB	8	A	LTR	8	A
				NB	5	A	LTR	5	A
				SB	3	A	LTR	3	A
500	Shamrock Road at Brighview Drive/Calla Lily Drive	15	B	EB	0	A	L	0	A
							T	0	A
							R	0	A
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	13	B	L	12	B
							T	0	A
							R	15	B
				SB	13	B	L	9	A
							T	0	A
							R	15	C
600	Shamrock Road at Beach Bay Road	16	C	EB	1	A	T	0	A
							R	8	A
				WB	0	A	L	0	A
							T	0	A
				NB	14	B	L	13	B
							R	15	C
700	Shamrock Road at Northward Road	13	B	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	8	A
				SB	11	B	L	9	A
							R	13	B
800	Shamrock Road at Condor Road	12	B	EB	0	A	L	0	A
							T	0	A
							R	0	A
				WB	1	A	L	0	A
							T	0	A
							R	8	A
				NB	9	A	L	9	A
							T	11	B
							R	0	A
				SB	12	B	L	11	B
							T	0	A
							R	12	B
902	Bodden Town Road at Bodden Town Bypass	10	A	EB	0	A	L	0	A
							T	0	A
				WB	5	A	T	0	A
							R	7	A
				SB	9	A	L	9	A
							R	10	A
1000	Bodden Town Road at Long Fellow Drive	9	A	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	0	A
				SB	9	A	L	0	A
							R	9	A
1100	Frank Sound Road at Bodden Town Road	10	B	EB	0	A	L	0	A
							T	0	A
				WB	6	A	T	0	A
							R	7	A
				SB	9	A	L	9	A
							R	10	B
1200	Frank Sound Road at Clifton Hunter High School Access #1/Tie-in with EW Arterial	16	C	EB	10	B	L	10	B
							R	16	C
				NB	0	A	L	0	A
							T	0	A
				SB	6	A	T	0	A
							R	8	A
1300	Frank Sound Road at North Side Road/Old Robin Road	10	B	WB	9	A	L	9	A
							R	10	B
				NB	2	A	T	0	A
							R	7	A
				SB	0	A	L	0	A
							T	0	A

2026 LOS Table - Alternative B2 AM									
#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
1400	East-West Arterial at Agricola Drive Connector	9	A	EB	5	A	LTR	5	A
				WB	11	B	LTR	11	B
				NB	10	A	LTR	10	A
				SB	5	A	LTR	5	A
1501	East-West Arterial at Will T Connector 1	8	A	EB	5	A	LTR	5	A
				WB	9	A	LTR	9	A
				NB	6	A	LTR	6	A
				SB	4	A	LTR	4	A
1502	East-West Arterial at Will T Connector 2	7	A	EB	5	A	TR	5	A
				WB	7	A	LT	7	A
				NB	8	A	LR	8	A
1600	East-West Arterial at Northward Road	13	B	EB	0	A	T	0	A
							TR	0	A
				WB	0	A	LT	0	A
							T	0	A
				NB	13	B	L	13	B
							R	0	A
1700	East-West Arterial at Lookout Road	6	A	EB	5	A	LTR	5	A
				WB	7	A	LTR	7	A
				NB	5	A	LTR	5	A
				SB	4	A	LTR	4	A
1800	East-West Arterial at Longfellow Road	5	A	EB	5	A	LTR	5	A
				WB	6	A	LTR	6	A
				NB	4	A	LTR	4	A
				SB	4	A	LTR	4	A
1900	East-West Arterial at North/South Spurs	5	A	EB	5	A	TR	5	A
				WB	5	A	LR	5	A
				NB	4	A	LR	4	A
				SB	4	A	LR	4	A
2100	Frank Sound Road at East-West Arterial South	5	A	EB	5	A	LR	5	A
				NB	6	A	LT	6	A
				SB	5	A	TR	5	A

2026 LOS Table - Alternative B2 PM									
#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
101	EW Arterial Blvd at Hirst Rd	14	B	EB	19	C	LT	6	A
							TR	24	C
				WB	5	A	LT	5	A
							TR	5	A
				NB	6	A	LTR	6	A
				SB	11	B	LTR	11	B
201	Shamrock Road at Hirst Road (1)	16	C	SB	0	A	T	0	A
				EB	15	C	L	11	B
							T	16	C
202	Shamrock Road at Hirst Road (2)	12	B	WB	0	A	L	0	A
							R	0	A
				NB	9	A	L	9	A
				SB	12	B	L	12	B
							R	12	B
203	Shamrock Road at Hirst Road Jughandle	13.20	B	EB	0	A	T	0	A
				NB	13	B	R	13	B
300	Shamrock Road at Woodland Drive	15	C	EB	1	A	L	0	A
							T	0	A
							R	8	A
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	10	B	L	10	A
							T	0	A
							R	15	B
				SB	14	B	L	10	B
							T	0	A
							R	15	C
400	Shamrock Road at Agricola Drive	5	A	EB	5	A	LTR	5	A
				WB	5	A	LTR	5	A
				NB	4	A	LTR	4	A
				SB	6	A	LTR	6	A
500	Shamrock Road at Brighview Drive/Calla Lily Drive	17	C	EB	1	A	L	0	A
							T	0	A
							R	8	A
				WB	1	A	L	0	A
							T	0	A
							R	8	A
				NB	13	B	L	9	A
							T	0	A
							R	17	C
				SB	0	A	L	0	A
							T	0	A
							R	0	A
600	Shamrock Road at Beach Bay Road	17	C	EB	2	A	T	0	A
							R	8	A
				WB	0	A	L	0	A
							T	0	A
				NB	13	B	L	11	B
							R	17	C
700	Shamrock Road at Northward Road	13	B	EB	0	A	L	0	A
							T	0	A
				WB	1	A	T	0	A
							R	8	A
				SB	13	B	L	11	B
							R	13	B
800	Shamrock Road at Condor Road	12	B	EB	0	A	L	0	A
							T	0	A
							R	7	A
				WB	1	A	L	0	A
							T	0	A
							R	8	A
				NB	9	A	L	9	A
							T	0	A
							R	0	A
				SB	11	B	L	10	A
							T	0	A
							R	11	B
902	Bodden Town Road at Bodden Town Bypass	11	B	EB	0	A	L	0	A
							T	0	A
				WB	3	A	T	0	A
							R	8	A
				SB	10	B	L	9	A
							R	11	B
1000	Bodden Town Road at Long Fellow Drive	9	A	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	0	A
				SB	9	A	L	0	A
							R	9	A
1100	Frank Sound Road at Bodden Town Road	12	B	EB	0	A	L	0	A
							T	0	A
				WB	5	A	T	0	A
							R	7	A
				SB	9	A	L	9	A
							R	12	B
1200	Frank Sound Road at Clifton Hunter High School Access #1/Tie-in with EW Arterial	21	C	EB	12	B	L	12	B
							R	21	C
				NB	0	A	L	0	A
							T	0	A
				SB	5	A	T	0	A
							R	8	A
1300	Frank Sound Road at North Side Road/Old Robin Road	12	B	WB	10	B	L	10	A
							R	12	B
				NB	1	A	T	0	A
							R	8	A
				SB	0	A	L	0	A
							T	0	A

2026 LOS Table - Alternative B2 PM									
#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
1400	East-West Arterial at Agricola Drive Connector	13	B	EB	15	C	LTR	15	C
				WB	8	A	LTR	8	A
				NB	5	A	LTR	5	A
				SB	10	B	LTR	10	B
1501	East-West Arterial at Will T Connector 1	9	A	EB	10	B	LTR	10	B
				WB	7	A	LTR	7	A
				NB	4	A	LTR	4	A
				SB	6	A	LTR	6	A
1502	East-West Arterial at Will T Connector 2	8	A	EB	9	A	TR	9	A
				WB	6	A	LT	6	A
				NB	4	A	LR	4	A
1600	East-West Arterial at Northward Road	11	B	EB	0	A	T	0	A
							TR	0	A
				WB	0	A	LT	0	A
							T	0	A
				NB	11	B	L	11	B
							R	0	A
1700	East-West Arterial at Lookout Road	7	A	EB	8	A	LTR	8	A
				WB	7	A	LTR	7	A
				NB	5	A	LTR	5	A
				SB	5	A	LTR	5	A
1800	East-West Arterial at Longfellow Road	6	A	EB	7	A	LTR	7	A
				WB	6	A	LTR	6	A
				NB	4	A	LTR	4	A
				SB	5	A	LTR	5	A
1900	East-West Arterial at North/South Spurs	6	A	EB	6	A	TR	6	A
				WB	6	A	LT	6	A
				NB	4	A	LR	4	A
				SB	5	A	LR	5	A
2100	Frank Sound Road at East-West Arterial South	6	A	EB	7	A	LR	7	A
				NB	6	A	LT	6	A
				SB	6	A	TR	6	A

2026 LOS Table - Alternative B3 AM									
#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
101	EW Arterial Blvd at Hirst Rd	11	B	EB	5	A	L	3	A
							TR	5	A
				WB	14	B	LT	13	B
							TR	14	B
				NB	12	B	LTR	12	B
				SB	11	B	LTR	11	B
201	Shamrock Road at Hirst Road (1)	11	B	SB	0	A	T	0	A
				EB	11	B	L	10	A
							T	11	B
202	Shamrock Road at Hirst Road (2)	20.80	C	WB	0	A	L	0	A
							R	0	A
				NB	14	B	L	14	B
				SB	21	C	L	20	C
							R	21	C
203	Shamrock Road at Hirst Road Jughandle	10.20	B	EB	0	A	T	0	A
				NB	10	B	R	10	B
300	Shamrock Road at Woodland Drive	17	C	EB	0	A	L	0	A
							T	0	A
							R	9	A
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	13	B	L	13	B
							T	0	A
							R	16	C
				SB	17	C	L	0	A
							T	0	A
							R	17	C
400	Shamrock Road at Agricola Drive	7	A	EB	4	A	LTR	4	A
				WB	8	A	LTR	8	A
				NB	5	A	LTR	5	A
				SB	3	A	LTR	3	A
500	Shamrock Road at Brighview Drive/Calla Lily Drive	15	C	EB	0	A	L	0	A
							T	0	A
							R	0	A
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	13	B	L	12	B
							T	0	A
							R	15	B
				SB	13	B	L	9	A
							T	0	A
							R	15	C
600	Shamrock Road at Beach Bay Road	16	C	EB	1	A	T	0	A
							R	8	A
				WB	0	A	L	0	A
							T	0	A
				NB	14	B	L	13	B
							R	16	C
700	Shamrock Road at Northward Road	13	B	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	8	A
				SB	10	B	L	9	A
							R	13	B
800	Shamrock Road at Condor Road	12	B	EB	0	A	L	0	A
							T	0	A
							R	0	A
				WB	1	A	L	0	A
							T	0	A
							R	8	A
				NB	9	A	L	9	A
							T	11	B
							R	0	A
				SB	12	B	L	11	B
							T	0	A
							R	12	B
902	Bodden Town Road at Bodden Town Bypass	10	B	EB	0	A	L	0	A
							T	0	A
				WB	5	A	T	0	A
							R	7	A
				SB	9	A	L	9	A
							R	10	B
1000	Bodden Town Road at Long Fellow Drive	9	A	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	0	A
				SB	9	A	L	0	A
							R	9	A
1100	Frank Sound Road at Bodden Town Road	10	B	EB	0	A	L	0	A
							T	0	A
				WB	6	A	T	0	A
							R	7	A
				SB	9	A	L	9	A
							R	10	B
1200	Frank Sound Road at Clifton Hunter High School Access #1/Tie-in with EW Arterial	16	C	EB	10	B	L	10	B
							R	16	C
				NB	0	A	L	0	A
							T	0	A
				SB	6	A	T	0	A
							R	8	A
1300	Frank Sound Road at North Side Road/Old Robin Road	10	B	WB	9	A	L	9	A
							R	10	B
				NB	2	A	T	0	A
							R	7	A
				SB	0	A	L	0	A
							T	0	A

2026 LOS Table - Alternative B3 AM									
#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
1400	East-West Arterial at Agricola Drive Connector	9	A	EB	5	A	LTR	5	A
				WB	11	B	LTR	11	B
				NB	10	A	LTR	10	A
				SB	5	A	LTR	5	A
1501	East-West Arterial at Will T Connector 1	8	A	EB	5	A	LTR	5	A
				WB	9	A	LTR	9	A
				NB	6	A	LTR	6	A
				SB	4	A	LTR	4	A
1502	East-West Arterial at Will T Connector 2	7	A	EB	5	A	TR	5	A
				WB	7	A	LT	7	A
				NB	8	A	LR	8	A
1600	East-West Arterial at Northward Road	13	B	EB	0	A	T	0	A
							R	0	A
				WB	0	A	L	0	A
							T	0	A
				NB	13	B	L	13	B
							R	0	A
1700	East-West Arterial at Lookout Road	6	A	EB	5	A	LTR	5	A
				WB	7	A	LTR	7	A
				NB	5	A	LTR	5	A
				SB	4	A	LTR	4	A
1800	East-West Arterial at Longfellow Road	5	A	EB	4	A	LTR	4	A
				WB	6	A	LTR	6	A
				NB	4	A	LTR	4	A
				SB	4	A	LTR	4	A
1900	East-West Arterial at North/South Spurs	5	A	EB	4	A	LTR	4	A
				WB	5	A	LTR	5	A
				NB	5	A	LTR	5	A
				SB	4	A	LTR	4	A
2100	Frank Sound Road at East-West Arterial South	5	A	EB	5	A	LR	5	A
				NB	6	A	LT	6	A
				SB	5	A	TR	5	A

2026 LOS Table - Alternative B3 PM									
#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
101	EW Arterial Blvd at Hirst Rd	14	B	EB	18	C	L	6	A
							TR	23	C
				WB	5	A	LT	5	A
							TR	5	A
				NB	6	A	LTR	6	A
				SB	10	B	LTR	10	B
201	Shamrock Road at Hirst Road (1)	16	C	SB	0	A	T	0	A
				EB	16	C	L	11	B
							T	16	C
202	Shamrock Road at Hirst Road (2)	12	B	WB	0	A	L	0	A
							R	0	A
				NB	9	A	L	9	A
				SB	12	B	L	12	B
							R	12	B
203	Shamrock Road at Hirst Road Jughandle	13	B	EB	0	A	T	0	A
				NB	13	B	R	13	B
300	Shamrock Road at Woodland Drive	15	C	EB	1	A	L	0	A
							T	0	A
							R	8	A
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	10	B	L	10	A
							T	0	A
							R	15	B
				SB	14	B	L	10	B
							T	0	A
							R	15	C
400	Shamrock Road at Agricola Drive	5	A	EB	5	A	LTR	5	A
				WB	5	A	LTR	5	A
				NB	4	A	LTR	4	A
				SB	6	A	LTR	6	A
500	Shamrock Road at Brighview Drive/Calla Lily Drive	17	C	EB	0	A	L	0	A
							T	0	A
							R	8	A
				WB	1	A	L	0	A
							T	0	A
							R	8	A
				NB	13	B	L	10	A
							T	0	A
							R	17	C
				SB	0	A	L	0	A
							T	0	A
							R	0	A
600	Shamrock Road at Beach Bay Road	18	C	EB	2	A	T	0	A
							R	8	A
				WB	0	A	L	0	A
							T	0	A
				NB	13	B	L	11	B
							R	18	C
700	Shamrock Road at Northward Road	14	B	EB	0	A	L	0	A
							T	0	A
				WB	1	A	T	0	A
							R	8	A
				SB	13	B	L	11	B
							R	14	B
800	Shamrock Road at Condor Road	12	B	EB	0	A	L	0	A
							T	0	A
							R	8	A
				WB	1	A	L	0	A
							T	0	A
							R	8	A
				NB	9	A	L	9	A
							T	0	A
							R	0	A
				SB	12	B	L	10	B
							T	0	A
							R	12	B
902	Bodden Town Road at Bodden Town Bypass	11	B	EB	0	A	L	0	A
							T	0	A
				WB	3	A	T	0	A
							R	8	A
				SB	11	B	L	10	A
							R	11	B
1000	Bodden Town Road at Long Fellow Drive	10	A	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	0	A
				SB	9	A	L	0	A
							R	9	A
1100	Frank Sound Road at Bodden Town Road	12	B	EB	0	A	L	0	A
							T	0	A
				WB	5	A	T	0	A
							R	7	A
				SB	10	B	L	10	A
							R	12	B
1200	Frank Sound Road at Clifton Hunter High School Access #1/Tie-in with EW Arterial	22	C	EB	15	B	L	13	B
							R	22	C
				NB	0	A	L	0	A
							T	0	A
				SB	5	A	T	0	A
							R	8	A
1300	Frank Sound Road at North Side Road/Old Robin Road	12	B	WB	10	B	L	10	A
							R	12	B
				NB	1	A	T	0	A
							R	8	A
				SB	0	A	L	0	A
							T	0	A

2026 LOS Table - Alternative B3 PM									
#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
1400	East-West Arterial at Agricola Drive Connector	12	B	EB	15	B	LTR	15	B
				WB	8	A	LTR	8	A
				NB	5	A	LTR	5	A
				SB	10	A	LTR	10	A
1501	East-West Arterial at Will T Connector 1	8	A	EB	10	A	LTR	10	A
				WB	7	A	LTR	7	A
				NB	4	A	LTR	4	A
				SB	6	A	LTR	6	A
1502	East-West Arterial at Will T Connector 2	8	A	EB	9	A	TR	9	A
				WB	6	A	LT	6	A
				NB	5	A	LR	5	A
1600	East-West Arterial at Northward Road	11	B	EB	0	A	T	0	A
							R	0	A
				WB	0	A	L	0	A
							T	0	A
				NB	11	B	L	11	B
							R	0	A
1700	East-West Arterial at Lookout Road	8	A	EB	9	A	LTR	9	A
				WB	7	A	LTR	7	A
				NB	5	A	LTR	5	A
				SB	6	A	LTR	6	A
1800	East-West Arterial at Longfellow Road	6	A	EB	6	A	LTR	6	A
				WB	5	A	LTR	5	A
				NB	4	A	LTR	4	A
				SB	5	A	LTR	5	A
1900	East-West Arterial at North/South Spurs	6	A	EB	6	A	LTR	6	A
				WB	5	A	LTR	5	A
				NB	4	A	LTR	4	A
				SB	5	A	LTR	5	A
2100	Frank Sound Road at East-West Arterial South	6	A	EB	7	A	LR	7	A
				NB	6	A	LT	6	A
				SB	6	A	TR	6	A

2026 LOS Table - Alternative B4 AM									
#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
101	EW Arterial Blvd at Hirst Rd	10	B	EB	4	A	L	3	A
							TR	5	A
				WB	13	B	LT	12	B
							TR	13	B
				NB	11	B	LTR	11	B
				SB	10	A	LTR	10	A
201	Shamrock Road at Hirst Road (1)	11	B	SB	0	A	T	0	A
				EB	11	B	L	9	A
							T	11	B
202	Shamrock Road at Hirst Road (2)	20.60	C	WB	0	A	L	0	A
							R	0	A
				NB	14	B	L	14	B
				SB	21	C	L	17	C
							R	21	C
203	Shamrock Road at Hirst Road Jughandle	10.00	A	EB	0	A	T	0	A
				NB	10	B	R	10	B
300	Shamrock Road at Woodland Drive	17	C	EB	0	A	L	0	A
							T	0	A
							R	9	A
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	13	B	L	13	B
							T	0	A
							R	16	C
				SB	17	C	L	0	A
							T	0	A
							R	17	C
400	Shamrock Road at Agricola Drive	7	A	EB	4	A	LTR	4	A
				WB	8	A	LTR	8	A
				NB	5	A	LTR	5	A
				SB	3	A	LTR	3	A
500	Shamrock Road at Brighview Drive/Calla Lily Drive	15	C	EB	0	A	L	0	A
							T	0	A
							R	0	A
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	14	B	L	12	B
							T	0	A
							R	15	C
				SB	13	B	L	9	A
							T	0	A
							R	15	C
600	Shamrock Road at Beach Bay Road	16	C	EB	1	A	T	0	A
							R	8	A
				WB	0	A	L	0	A
							T	0	A
				NB	14	B	L	14	B
							R	16	C
700	Shamrock Road at Northward Road	13	B	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	8	A
				SB	10	A	L	9	A
							R	13	B
800	Shamrock Road at Condor Road	11	B	EB	0	A	L	0	A
							T	0	A
							R	0	A
				WB	0	A	L	0	A
							T	0	A
							R	7	A
				NB	9	A	L	9	A
							T	10	B
							R	10	A
				SB	11	B	L	10	B
							T	0	A
							R	11	B
901	Lookout Road at Bodden Town Bypass	6	A	EB	6	A	LTR	6	A
				WB	6	A	LTR	6	A
				NB	5	A	LTR	5	A
				SB	5	A	LTR	5	A
902	Bodden Town Road at Bodden Town Bypass	6	A	EB	4	A	LT	4	A
				WB	6	A	T	3	A
							R	7	A
				SB	5	A	L	5	A
1000	Bodden Town Road at Long Fellow Drive	4	A	EB	3	A	L	4	A
							T	3	A
				WB	4	A	T	4	A
							R	4	A
				SB	3	A	L	3	A
1100	Frank Sound Road at Bodden Town Road	4	A	EB	4	A	L	4	A
							T	3	A
				WB	5	A	TR	5	A
				SB	5	A	L	5	A
1200	Frank Sound Road at Clifton Hunter High School Access #1/Tie-in with EW Arterial	15	B	EB	14	B	L	12	B
							R	15	B
				NB	0	A	L	0	A
							T	0	A
				SB	3	A	T	0	A
							R	8	A
1300	Frank Sound Road at North Side Road/Old Robin Road	10	A	WB	9	A	L	9	A
							R	10	B
				NB	2	A	T	0	A
							R	7	A
				SB	0	A	L	0	A
							T	0	A

2026 LOS Table - Alternative B4 AM									
#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
1400	East-West Arterial at Agricola Drive Connector	9	A	EB	5	A	LTR	5	A
				WB	11	B	LTR	11	B
				NB	9	A	LTR	9	A
				SB	5	A	LTR	5	A
1501	East-West Arterial at Will T Connector 1	7	A	EB	4	A	LTR	4	A
				WB	8	A	LTR	8	A
				NB	6	A	LTR	6	A
				SB	4	A	LTR	4	A
1502	East-West Arterial at Will T Connector 2	6	A	EB	5	A	TR	5	A
				WB	6	A	LT	6	A
				NB	8	A	LR	8	A
1600	East-West Arterial at Northward Road	12	B	EB	0	A	T	0	A
							TR	0	A
				WB	0	A	LT	0	A
							T	0	A
				NB	12	B	L	12	B
							R	0	A
1700	East-West Arterial at Lookout Road	6	A	EB	5	A	LTR	5	A
				WB	6	A	LTR	6	A
				SB	4	A	LTR	4	A

2026 LOS Table - Alternative B4 PM									
#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
101	EW Arterial Blvd at Hirst Rd	13	B	EB	16	C	L	6	A
							TR	20	C
				WB	4	A	LT	4	A
							TR	5	A
				NB	5	A	LTR	5	A
				SB	10	B	LTR	10	B
201	Shamrock Road at Hirst Road (1)	16	C	SB	0	A	T	0	A
				EB	5	A	L	11	B
							T	16	C
202	Shamrock Road at Hirst Road (2)	13.00	B	WB	0	A	L	0	A
							R	0	A
				NB	10	A	L	10	A
				SB	13	B	L	13	B
							R	13	B
203	Shamrock Road at Hirst Road Jughandle	13.10	B	EB	0	A	T	0	A
				NB	13	B	R	13	B
300	Shamrock Road at Woodland Drive	16	C	EB	1	A	L	0	A
							T	0	A
							R	8	A
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	11	B	L	10	B
							T	0	A
							R	15	C
				SB	16	C	L	0	A
							T	0	A
							R	16	C
400	Shamrock Road at Agricola Drive	5	A	EB	5	A	LTR	5	A
				WB	5	A	LTR	5	A
				NB	4	A	LTR	4	A
				SB	5	A	LTR	5	A
500	Shamrock Road at Brighview Drive/Calla Lily Drive	18	C	EB	0	A	L	0	A
							T	0	A
							R	8	A
				WB	1	A	L	0	A
							T	0	A
							R	8	A
				NB	14	B	L	10	B
							T	0	A
							R	18	C
				SB	0	A	L	0	A
							T	0	A
							R	0	A
600	Shamrock Road at Beach Bay Road	20	C	EB	2	A	T	0	A
							R	8	A
				WB	0	A	L	0	A
							T	0	A
				NB	14	B	L	12	B
							R	20	C
700	Shamrock Road at Northward Road	14	B	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	8	A
				SB	12	B	L	10	B
							R	14	B
800	Shamrock Road at Condor Road	12	B	EB	0	A	L	0	A
							T	0	A
							R	8	A
				WB	1	A	L	0	A
							T	0	A
							R	8	A
				NB	9	A	L	9	A
							T	0	A
							R	0	A
				SB	12	B	L	10	A
							T	0	A
							R	12	B
901	Lookout Road at Bodden Town Bypass	7	A	EB	4	A	LTR	4	A
				WB	6	A	LTR	6	A
				NB	4	A	LTR	4	A
				SB	8	A	LTR	8	A
902	Bodden Town Road at Bodden Town Bypass	7	A	EB	5	A	LT	5	A
				WB	6	A	T	3	A
							R	6	A
				SB	8	A	LR	8	A
1000	Bodden Town Road at Long Fellow Drive	4	A	EB	4	A	L	5	A
							T	4	A
				WB	4	A	T	4	A
							TR	4	A
				SB	4	A	LR	4	A
1100	Frank Sound Road at Bodden Town Road	5	A	EB	4	A	L	5	A
							T	4	A
				WB	5	A	TR	5	A
				SB	5	A	LR	5	A
1200	Frank Sound Road at Clifton Hunter High School Access #1/Tie-in with EW Arterial	21	C	EB	19	C	L	17	C
							R	21	C
				NB	0	A	L	0	A
							T	0	A
				SB	4	A	T	0	A
							R	8	A
1300	Frank Sound Road at North Side Road/Old Robin Road	12	B	WB	10	B	L	10	A
							R	12	B
				NB	1	A	T	0	A
							R	8	A
				SB	0	A	L	0	A
							T	0	A

2026 LOS Table - Alternative B4 PM									
#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
1400	East-West Arterial at Agricola Drive Connector	11	B	EB	14	B	LTR	14	B
				WB	6	A	LTR	6	A
				NB	4	A	LTR	4	A
				SB	9	A	LTR	9	A
1501	East-West Arterial at Will T Connector 1	8	A	EB	9	A	LTR	9	A
				WB	5	A	LTR	5	A
				NB	4	A	LTR	4	A
				SB	6	A	LTR	6	A
1502	East-West Arterial at Will T Connector 2	8	A	EB	9	A	TR	9	A
				WB	5	A	LT	5	A
				NB	4	A	LR	4	A
1600	East-West Arterial at Northward Road	11	B	EB	0	A	T	0	A
							TR	0	A
				WB	0	A	LT	0	A
							T	0	A
				NB	10	B	L	10	B
							R	0	A
1700	East-West Arterial at Lookout Road	8	A	EB	9	A	LTR	9	A
				WB	5	A	LTR	5	A
				SB	6	A	LTR	6	A

Attachment E3

2036 Alternative LOS Summary Tables

2036 LOS Table - No-Build AM

#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
101	EW Arterial Blvd at Hirst Rd	45	E	EB	6	A	LT	6	A
							TR	3	A
				WB	123	F	LT	123	F
				NB	110	F	LTR	110	F
				SB	16	C	LTR	16	C
201	Shamrock Road at Hirst Road (1)	18	C	EB	0	A	T	0	A
				SB	17	C	L	13	B
							T	18	C
202	Shamrock Road at Hirst Road (2)	10,000	F	WB	0	A	L	0	A
							T	0	A
				NB	212	F	L	212	F
				SB	10,000	F	T	10,000	F
							R	10,000	F
203	Shamrock Road at Hirst Road Jughandle	17	C	EB	0	A	T	0	A
				NB	17	C	R	17	C
300	Shamrock Road at Woodland Ave	40	E	EB	0	A	L	0	A
							T	0	A
							R	8	A
				WB	0	A	L	0	A
							T	0	A
							R	8	A
				NB	12	B	L	11	B
							T	18	C
							R	19	C
				SB	17	C	L	11	B
							T	0	A
							R	21	C
400	Shamrock Road at Agricola Drive	86	F	EB	27	D	LTR	27	D
				WB	37	E	LTR	37	E
				NB	10	B	LTR	10	B
				SB	11	B	LTR	11	B
500	Shamrock Road at Brighview Drive/Calla Lily Drive	166	F	EB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	40	E	L	22	C
							T	0	A
							R	76	F
				SB	61	F	L	22	C
							T	0	A
							R	80	F
600	Shamrock Road at Beach Bay Road	663	F	EB	2	A	T	0	A
							R	12	B
				WB	0	A	L	0	A
							T	0	A
				NB	223	F	L	132	F
							R	237	F
700	Shamrock Road at Northward Road	1,876	F	EB	0	A	L	0	A
							T	0	A
				WB	1	A	T	0	A
							R	10	A
				SB	720	F	L	682	F
							R	725	F
800	Shamrock Road at Condor Road	45	E	EB	0	A	L	0	A
							T	0	A
							R	0	A
				WB	0	A	L	0	A
							T	0	A
							R	9	A
				NB	13	B	L	11	B
							T	22	C
							R	0	A
				SB	45	E	L	34	D
							T	0	A
							R	45	E
902	Bodden Town Road at Bodden Town Bypass	149	F	EB	0	A	L	0	A
							T	0	A
				WB	3	A	T	0	A
							R	10	B
				SB	67	F	L	60	F
							R	144	F
1000	Bodden Town Road at Long Fellow Drive	41	E	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	0	A
				SB	41	E	L	0	A
							R	41	E
1100	Frank Sound Road at Bodden Town Road	825	F	EB	0	A	L	0	A
							T	0	A
				WB	3	A	T	0	A
							R	8	A
				SB	862	F	L	850	F
							R	864	F
1200	Frank Sound Road at Clifton Hunter High School Access #1/Tie-in with EW Arterial	20	C	EB	20	C	L	18	C
							R	21	C
				NB	0	A	L	0	A
							T	0	A
				SB	3	A	T	0	A
							R	8	A
1300	Frank Sound Road at North Side Road/Old Robin Road	10	B	EB	9	A	L	9	A
							R	10	B
				NB	2	A	T	0	A
							R	8	A
				SB	0	A	L	0	A
							T	0	A

2036 LOS Table - No-Build AM									
#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
1400	East-West Arterial at Agricola Drive Connector	9	A	EB	6	A	LR	6	A
				NB	11	B	LT	11	B
				SB	5	A	TR	5	A

2036 LOS Table - No-Build PM

#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
101	EW Arterial Blvd at Hirst Rd	15	C	EB	21	C	LT	28	D
							TR	10	A
				WB	15	C	LT	15	C
				NB	8	A	LTR	8	A
				SB	20	C	LTR	20	C
201	Shamrock Road at Hirst Road (1)	114	F	EB	0	A	T	0	A
				SB	78	F	L	32	D
							T	114	F
202	Shamrock Road at Hirst Road (2)	462	F	WB	0	A	L	0	A
							T	0	A
				NB	29	D	L	29	D
				SB	448	F	T	441	F
							R	462	F
203	Shamrock Road at Hirst Road Jughandle	18	C	EB	0	A	T	0	A
				NB	18	C	R	18	C
300	Shamrock Road at Woodland Drive	72	F	EB	1	A	L	0	A
							T	0	A
							R	1	A
				WB	0	A	L	0	A
							T	0	A
							R	8	A
				NB	15	B	L	12	B
							T	24	C
							R	26	D
				SB	19	C	L	12	B
							T	25	C
							R	27	D
400	Shamrock Road at Agricola Drive	54	F	EB	10	B	LTR	10	B
				WB	13	B	LTR	13	B
				NB	7	A	LTR	7	A
				SB	33	D	LTR	33	D
500	Shamrock Road at Brighview Drive/Calla Lily Drive	233	F	EB	0	A	L	0	A
							T	0	A
							R	10	A
				WB	0	A	L	0	A
							T	0	A
							R	10	B
				NB	15	C	L	15	C
							T	0	A
							R	0	A
				SB	90	F	L	0	A
							T	0	A
							R	90	F
600	Shamrock Road at Beach Bay Road	197	F	EB	0	A	T	0	A
							R	10	B
				WB	0	A	L	0	A
							T	0	A
				NB	209	F	L	167	F
							R	217	F
700	Shamrock Road at Northward Road	1,204	F	EB	0	A	L	0	A
							T	0	A
				WB	1	A	T	0	A
							R	10	B
				SB	341	F	L	311	F
							R	364	F
800	Shamrock Road at Condor Road	20	C	EB	0	A	L	0	A
							T	0	A
							R	9	A
				WB	0	A	L	0	A
							T	0	A
							R	10	A
				NB	12	B	L	12	B
							T	0	A
							R	0	A
				SB	20	C	L	16	C
							T	0	A
							R	43	E
902	Bodden Town Road at Bodden Town Bypass	876	F	EB	0	A	L	0	A
							T	0	A
				WB	4	A	T	0	A
							R	13	B
				SB	642	F	L	606	F
							R	780	F
1000	Bodden Town Road at Long Fellow Drive	57	F	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	0	A
				SB	56	F	L	0	A
							R	56	F
1100	Frank Sound Road at Bodden Town Road	901	F	EB	0	A	L	0	A
							T	0	A
				WB	2	A	T	0	A
							R	8	A
				SB	910	F	L	898	F
							R	913	F
1200	Frank Sound Road at Clifton Hunter High School Access #1/Tie-in with EW Arterial	30	D	EB	29	D	L	26	D
							R	30	D
				NB	0	A	L	0	A
							T	0	A
				SB	5	A	T	0	A
							R	8	A
1300	Frank Sound Road at North Side Road/Old Robin Road	12	B	WB	11	B	L	10	A
							R	12	B
				NB	2	A	T	0	A
							R	8	A
				SB	0	A	L	0	A
							T	0	A

2036 LOS Table - No-Build PM									
#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
1400	East-West Arterial at Agricola Drive Connector	8	A	EB	9	A	LR	9	A
				NB	4	A	LT	4	A
				SB	7	A	TR	7	A

2036 LOS Table - Alternative B1 AM

#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
101	EW Arterial Blvd at Hirst Rd	20	C	EB	5	A	LT	5	A
							TR	5	A
				WB	27	D	LT	27	D
							TR	27	D
				NB	19	C	LTR	19	C
				SB	23	C	LTR	23	C
201	Shamrock Road at Hirst Road (1)	15	B	EB	0	A	T	0	A
				SB	14	B	L	11	B
							T	15	B
202	Shamrock Road at Hirst Road (2)	249	F	WB	0	A	L	0	A
							T	0	A
				NB	34	D	L	34	D
				SB	244	F	T	218	F
							R	249	F
203	Shamrock Road at Hirst Road Jughandle	12	B	EB	0	A	T	0	A
				NB	12	B	R	12	B
300	Shamrock Road at Woodland Drive	23	C	EB	0	A	L	0	A
							T	0	A
							R	9	A
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	14	B	L	13	B
							T	19	C
							R	20	C
				SB	23	C	L	0	A
							T	0	A
							R	23	C
400	Shamrock Road at Agricola Drive	10	A	EB	7	A	LTR	7	A
				WB	11	B	LTR	11	B
				NB	7	A	LTR	7	A
				SB	4	A	LTR	4	A
500	Shamrock Road at Brighview Drive/Calla Lily Drive	24	C	EB	0	A	L	0	A
							T	0	A
							R	9	A
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	17	C	L	14	B
							T	0	A
							R	24	C
				SB	20	C	L	11	B
							T	0	A
							R	24	C
600	Shamrock Road at Beach Bay Road	43	E	EB	6	A	T	0	A
							R	11	B
				WB	0	A	L	0	A
							T	0	A
				NB	35	D	L	19	C
							R	43	E
700	Shamrock Road at Northward Road	19	C	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	8	A
				SB	13	B	L	10	A
							R	19	C
800	Shamrock Road at Condor Road	17	C	EB	0	A	L	0	A
							T	0	A
							R	0	A
				WB	0	A	L	0	A
							T	0	A
							R	8	A
				NB	10	A	L	10	A
							T	0	A
							R	0	A
				SB	17	C	L	14	B
							T	0	A
							R	17	C
902	Bodden Town Road at Bodden Town Bypass	16	C	EB	0	A	L	0	A
							T	0	A
				WB	4	A	T	0	A
							R	8	A
				SB	11	B	L	10	A
							R	16	C
1000	Bodden Town Road at Long Fellow Drive	11	B	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	0	A
				SB	11	B	L	0	A
							R	11	B
1100	Frank Sound Road at Bodden Town Road	22	A	EB	0	A	L	0	A
							T	0	A
				WB	4	A	T	0	A
							R	8	A
				SB	15	C	L	14	B
							R	22	C
1200	Frank Sound Road at Clifton Hunter High School Access #1/Tie-in with EW Arterial	7	A	EB	6	A	LR	6	A
				NB	6	A	LT	6	A
				SB	8	A	TR	8	A
1300	Frank Sound Road at North Side Road/Old Robin Road	11	B	WB	9	A	L	9	A
							R	11	B
				NB	2	A	T	0	A
							R	8	A
				SB	0	A	L	0	A
							T	0	A

2036 LOS Table - Alternative B1 AM

#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
1400	East-West Arterial at Agricola Drive Connector	14	B	EB	7	A	LT	7	A
							TR	3	A
				WB	19	C	LTR	19	C
				NB	18	C	LTR	18	C
				SB	6	A	LTR	6	A
1501	East-West Arterial at Will T Connector 1	10	A	EB	7	A	LTR	7	A
				WB	11	B	LTR	11	B
				NB	7	A	LTR	7	A
				SB	5	A	LTR	5	A
1502	East-West Arterial at Will T Connector 2	8	A	EB	8	A	TR	8	A
				WB	9	A	LT	9	A
				NB	9	A	LR	9	A
1600	East-West Arterial at Northward Road	15	B	EB	0	A	T	0	A
							TR	0	A
				WB	0	A	LT	0	A
							T	0	A
				NB	15	B	L	15	B
							R	0	A
1700	East-West Arterial at Lookout Road	8	A	EB	8	A	LTR	8	A
				WB	8	A	LTR	8	A
				NB	6	A	LTR	6	A
				SB	5	A	LTR	5	A
1800	East-West Arterial at Longfellow Road	7	A	EB	7	A	LTR	7	A
				WB	7	A	LTR	7	A
				NB	5	A	LTR	5	A
				SB	5	A	LTR	5	A
1900	East-West Arterial at North/South Spurs	7	A	EB	7	A	TR	7	A
				WB	6	A	LR	6	A
				NB	7	A	LR	7	A
2000	Frank Sound Road at East-West Arterial North	4	A	EB	3	A	LR	3	A
				NB	3	A	LT	3	A
				SB	4	A	TR	4	A
2100	Frank Sound Road at East-West Arterial Road South	7	A	EB	7	A	LR	7	A
				NB	6	A	LT	6	A
				SB	6	A	TR	6	A

2036 LOS Table - Alternative B1 PM

#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
101	EW Arterial Blvd at Hirst Rd	14	B	EB	16	C	LT	17	C
							TR	16	C
				WB	6	A	LT	6	A
							TR	6	A
				NB	8	A	LTR	8	A
				SB	25	D	LTR	25	D
201	Shamrock Road at Hirst Road (1)	20	C	EB	0	A	T	0	A
				SB	20	C	L	12	B
							T	20	C
202	Shamrock Road at Hirst Road (2)	35	E	WB	0	A	L	0	A
							T	0	A
				NB	15	B	L	15	B
				SB	34	D	T	31	D
							R	35	E
203	Shamrock Road at Hirst Road Jughandle	15	B	EB	0	A	T	0	A
				NB	15	B	R	15	B
300	Shamrock Road at Woodland Drive	20	C	EB	1	A	L	0	A
							T	0	A
							R	8	A
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	13	B	L	11	B
							T	17	C
							R	18	C
				SB	18	C	L	12	B
							T	19	C
							R	20	C
400	Shamrock Road at Agricola Drive	6	A	EB	5	A	LTR	5	A
				WB	6	A	LTR	6	A
				NB	4	A	LTR	4	A
				SB	8	A	LTR	8	A
500	Shamrock Road at Brighview Drive/Calla Lily Drive	25	C	EB	0	A	L	0	A
							T	0	A
							R	8	A
				WB	0	A	L	0	A
							T	0	A
							R	9	A
				NB	11	B	L	11	B
							T	0	A
							R	0	A
				SB	25	C	L	0	A
							T	0	A
							R	25	C
600	Shamrock Road at Beach Bay Road	36	E	EB	1	A	T	0	A
							R	9	A
				WB	0	A	L	0	A
							T	0	A
				NB	31	D	L	20	C
							R	36	E
700	Shamrock Road at Northward Road	20	C	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	8	A
				SB	17	C	L	13	B
							R	20	C
800	Shamrock Road at Condor Road	16	C	EB	0	A	L	0	A
							T	0	A
							R	8	A
				WB	0	A	L	0	A
							T	0	A
							R	8	A
				NB	10	A	L	10	A
							T	0	A
							R	0	A
				SB	16	C	L	12	B
							T	0	A
							R	16	C
902	Bodden Town Road at Bodden Town Bypass	18	C	EB	0	A	L	0	A
							T	0	A
				WB	3	A	T	0	A
							R	8	A
				SB	14	B	L	12	B
							R	18	C
1000	Bodden Town Road at Long Fellow Drive	12	B	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	0	A
				SB	12	B	L	0	A
							R	12	B
1100	Frank Sound Road at Bodden Town Road	28	A	EB	0	A	L	0	A
							T	0	0
				WB	4	A	T	0	A
							R	8	A
				SB	20	C	L	19	C
							R	28	D
1200	Frank Sound Road at Clifton Hunter High School Access #1/Tie-in with EW Arterial	8	A	EB	7	A	LR	7	A
				NB	7	A	LT	7	A
				SB	9	A	TR	9	A
1300	Frank Sound Road at North Side Road/Old Robin Road	12	B	WB	10	B	L	10	A
							R	12	B
				NB	1	A	T	0	A
							R	8	A
				SB	0	A	L	0	A
							T	0	A

2036 LOS Table - Alternative B1 PM

#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
1400	East-West Arterial at Agricola Drive Connector	15	B	EB	14	B	LT	17	C
							TR	5	A
				WB	18	C	LTR	18	C
				NB	5	A	LTR	5	A
				SB	12	B	LTR	12	B
1501	East-West Arterial at Will T Connector 1	13	B	EB	16	C	LTR	16	C
				WB	9	A	LTR	9	A
				NB	5	A	LTR	5	A
				SB	8	A	LTR	8	A
1502	East-West Arterial at Will T Connector 2	11	B	EB	14	B	TR	14	B
				WB	8	A	LT	8	A
				NB	5	A	LR	5	A
1600	East-West Arterial at Northward Road	13	B	EB	0	A	T	0	A
							TR	0	A
				WB	0	A	LT	0	A
							T	0	A
				NB	13	B	L	13	B
							R	0	A
1700	East-West Arterial at Lookout Road	12	B	EB	13	B	LTR	13	B
				WB	10	B	LTR	10	B
				NB	6	A	LTR	6	A
				SB	7	A	LTR	7	A
1800	East-West Arterial at Longfellow Road	8	A	EB	9	A	LTR	9	A
				WB	7	A	LTR	7	A
				NB	5	A	LTR	5	A
				SB	6	A	LTR	6	A
1900	East-West Arterial at North/South Spurs	8	A	EB	9	A	TR	9	A
				WB	7	A	LR	7	A
				NB	6	A	LR	6	A
2000	Frank Sound Road at East-West Arterial North	4	A	EB	4	A	LR	4	A
				NB	4	A	LT	4	A
				SB	4	A	TR	4	A
2100	Frank Sound Road at East-West Arterial South	8	A	EB	8	A	LR	8	A
				NB	7	A	LT	7	A
				SB	7	A	TR	7	A

2036 LOS Table - Alternative B2 AM

#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
101	EW Arterial Blvd at Hirst Rd	21	C	EB	5	A	LT	5	A
							TR	5	A
				WB	28	D	LT	28	D
							TR	27	D
				NB	19	C	LTR	19	C
				SB	23	C	LTR	23	C
201	Shamrock Road at Hirst Road (1)	15	B	EB	0	A	T	0	A
				SB	14	B	L	11	B
							T	15	B
202	Shamrock Road at Hirst Road (2)	190	F	WB	0	A	L	0	A
							T	0	A
				NB	32	D	L	32	D
				SB	185	F	T	163	F
							R	190	F
203	Shamrock Road at Hirst Road Jughandle	12	B	EB	0	A	T	0	A
				NB	12	B	R	12	B
300	Shamrock Road at Woodland Drive	23	C	EB	0	A	L	0	A
							T	0	A
							R	9	A
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	14	B	L	13	B
							T	19	C
							R	20	C
				SB	23	C	L	0	A
							T	0	A
							R	23	C
400	Shamrock Road at Agricola Drive	10	A	EB	7	A	LTR	7	A
				WB	11	B	LTR	11	B
				NB	7	A	LTR	7	A
				SB	4	A	LTR	4	A
500	Shamrock Road at Brighview Drive/Calla Lily Drive	23	C	EB	0	A	L	0	A
							T	0	A
							R	9	A
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	16	C	L	14	B
							T	0	A
							R	23	C
				SB	19	C	L	11	B
							T	0	A
							R	23	C
600	Shamrock Road at Beach Bay Road	42	E	EB	6	A	T	0	A
							R	11	B
				WB	0	A	L	0	A
							T	0	A
				NB	35	D	L	19	C
							R	41	E
700	Shamrock Road at Northward Road	18	C	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	8	A
				SB	13	B	L	10	A
							R	18	C
800	Shamrock Road at Condor Road	16	C	EB	0	A	L	0	A
							T	0	A
							R	0	A
				WB	0	A	L	0	A
							T	0	A
							R	8	A
				NB	10	A	L	10	A
							T	0	A
							R	0	A
				SB	16	C	L	13	B
							T	0	A
							R	16	C
902	Bodden Town Road at Bodden Town Bypass	15	B	EB	0	A	L	0	A
							T	0	A
				WB	4	A	T	0	A
							R	8	A
				SB	11	B	L	10	A
							R	15	B
1000	Bodden Town Road at Long Fellow Drive	12	B	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	7	A
				SB	9	A	L	9	A
							R	12	B
1000	Frank Sound Road at Bodden Town Road	23	C	EB	0	A	L	0	A
							T	0	A
				WB	4	A	T	0	A
							R	8	A
				SB	16	C	L	14	B
							R	23	C
1200	Frank Sound Road at Clifton Hunter High School Access #1/Tie-in with EW Arterial	7	A	EB	6	A	LR	6	A
				NB	6	A	LT	6	A
				SB	7	A	TR	7	A
1300	Frank Sound Road at North Side Road/Old Robin Road	11	B	WB	9	A	L	9	A
							R	11	B
				NB	2	A	T	0	A
							R	7	A
				SB	0	A	L	0	A
							T	0	A

2036 LOS Table - Alternative B2 AM

#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
1400	East-West Arterial at Agricola Drive Connector	15	B	EB	7	A	LT	7	A
							TR	3	A
				WB	20	C	LT	20	C
				NB	19	C	LTR	19	C
				SB	6	A	LTR	6	A
1501	East-West Arterial at Will T Connector 1	10	A	EB	8	A	LT	8	A
				WB	12	B	LT	12	B
				NB	7	A	LTR	7	A
				SB	5	A	LTR	5	A
1502	East-West Arterial at Will T Connector 2	9	A	EB	8	A	TR	8	A
				WB	97	F	LT	97	F
				NB	9	A	LR	9	A
1600	East-West Arterial at Northward Road	15	C	EB	0	A	T	0	A
							TR	0	A
				WB	0	A	LT	0	A
							T	0	A
				NB	15	C	L	15	C
							R	0	A
1700	East-West Arterial at Lookout Road	8	A	EB	8	A	LTR	8	A
				WB	9	A	LTR	9	A
				NB	7	A	LTR	7	A
				SB	5	A	LT	5	A
1800	East-West Arterial at Longfellow Road	7	A	EB	7	A	LTR	7	A
				WB	7	A	LTR	7	A
				NB	5	A	LTR	5	A
				SB	7	A	LTR	7	A
1900	East-West Arterial at North/South Spurs	7	A	EB	6	A	TR	6	A
				WB	7	A	LT	7	A
				NB	5	A	LR	5	A
				SB	5	A	LR	5	A
2100	Frank Sound Road at East-West Arterial South	7	A	EB	7	A	LR	7	A
				NB	7	A	LT	7	A
				SB	7	A	TR	7	A

2036 LOS Table - Alternative B2 PM

#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
101	EW Arterial Blvd at Hirst Rd	14	B	EB	16	C	LT	17	C
							TR	16	C
				WB	6	A	LT	6	A
							TR	6	A
				NB	8	A	LTR	8	A
				SB	25	C	LTR	25	C
201	Shamrock Road at Hirst Road (1)	21	C	EB	0	A	T	0	A
				SB	20	C	L	12	B
							T	21	C
202	Shamrock Road at Hirst Road (2)	31	D	WB	0	A	L	0	A
							T	0	A
				NB	14	B	L	14	B
				SB	31	D	T	27	D
							R	31	D
203	Shamrock Road at Hirst Road Jughandle	15	B	EB	0	A	T	0	A
				NB	15	B	R	15	B
300	Shamrock Road at Woodland Drive	20	C	EB	1	A	L	0	A
							T	0	A
							R	8	A
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	12	B	L	11	B
							T	17	C
							R	18	C
				SB	19	C	L	13	B
							T	19	C
							R	20	C
400	Shamrock Road at Agricola Drive	6	A	EB	5	A	LTR	5	A
				WB	6	A	LTR	6	A
				NB	4	A	LTR	4	A
				SB	8	A	LTR	8	A
500	Shamrock Road at Brighview Drive/Calla Lily Drive	24	C	EB	0	A	L	0	A
							T	0	A
							R	8	A
				WB	1	A	L	0	A
							T	0	A
							R	9	A
				NB	10	B	L	10	B
							T	0	A
							R	0	A
				SB	24	C	L	0	A
							T	0	A
							R	24	C
600	Shamrock Road at Beach Bay Road	33	D	EB	1	A	T	0	A
							R	9	A
				WB	0	A	L	0	A
							T	0	A
				NB	29	D	L	19	C
							R	33	D
700	Shamrock Road at Northward Road	19	C	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	8	A
				SB	16	C	L	13	B
							R	19	C
800	Shamrock Road at Condor Road	15	C	EB	0	A	L	0	A
							T	0	A
							R	8	A
				WB	0	A	L	0	A
							T	0	A
							R	8	A
				NB	10	A	L	10	A
							T	0	A
							R	0	A
				SB	15	B	L	12	B
							T	0	A
							R	15	C
902	Bodden Town Road at Bodden Town Bypass	16	C	EB	0	A	L	0	A
							T	0	A
				WB	3	A	T	0	A
							R	8	A
				SB	13	B	L	11	B
							R	16	C
1000	Bodden Town Road at Long Fellow Drive	11	B	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	0	A
				SB	11	B	L	0	A
							R	11	B
1100	Frank Sound Road at Bodden Town Road	30	D	EB	0	A	L	0	A
							T	0	A
				WB	4	A	T	0	A
							R	8	A
				SB	22	C	L	20	C
							R	30	D
1200	Frank Sound Road at Clifton Hunter High School Access #1/Tie-in with EW Arterial	9	A	EB	8	A	L	8	A
				NB	8	A	L	8	A
				SB	10	A	T	10	A
1300	Frank Sound Road at North Side Road/Old Robin Road	12	B	WB	10	B	L	10	A
							R	12	B
				NB	1	A	T	0	A
							R	8	A
				SB	0	A	L	0	A
							T	0	A

2036 LOS Table - Alternative B2 PM

#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
1400	East-West Arterial at Agricola Drive Connector	15	C	EB	15	B	LT	18	C
							TR	5	A
				WB	18	C	LT	18	C
				NB	5	A	LTR	5	A
				SB	12	B	LTR	12	B
1501	East-West Arterial at Will T Connector 1	14	B	EB	17	C	LT	17	C
				WB	9	A	LT	9	A
				NB	5	A	LTR	5	A
				SB	8	A	LTR	8	A
1502	East-West Arterial at Will T Connector 2	12	B	EB	14	B	TR	14	B
				WB	8	A	LT	8	A
				NB	6	A	LR	6	A
1600	East-West Arterial at Northward Road	13	B	EB	0	A	T	0	A
							TR	0	A
				WB	0	A	LT	0	A
							T	0	A
				NB	13	B	L	13	B
							R	0	A
1700	East-West Arterial at Lookout Road	12	B	EB	14	B	LTR	14	B
				WB	10	B	LTR	10	B
				NB	6	A	LTR	6	A
				SB	7	A	LT	7	A
1800	East-West Arterial at Longfellow Road	8	A	EB	9	A	LTR	9	A
				WB	7	A	LTR	7	A
				NB	5	A	LTR	5	A
				SB	6	A	LTR	6	A
1900	East-West Arterial at North/South Spurs	8	A	EB	9	A	TR	9	A
				WB	7	A	LT	7	A
				NB	5	A	LR	5	A
				SB	6	A	LR	6	A
2100	Frank Sound Road at East-West Arterial South	9	A	EB	10	B	LR	10	B
				NB	8	A	LT	8	A
				SB	9	A	TR	9	A

2036 LOS Table - Alternative B3 AM

#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
101	EW Arterial Blvd at Hirst Rd	20	C	EB	5	A	LT	5	A
							TR	5	A
				WB	28	D	LT	28	D
							TR	27	D
				NB	19	C	LTR	19	C
				SB	23	C	LTR	23	C
201	Shamrock Road at Hirst Road (1)	15	B	EB	0	A	T	0	A
				SB	14	B	L	11	B
							T	15	B
202	Shamrock Road at Hirst Road (2)	210	F	WB	0	A	L	0	A
							T	0	A
				NB	32	D	L	32	D
				SB	205	F	T	182	F
							R	210	F
203	Shamrock Road at Hirst Road Jughandle	12	B	EB	0	A	T	0	A
				NB	12	B	R	12	B
300	Shamrock Road at Woodland Ave	23	C	EB	0	A	L	0	A
							T	0	A
							R	9	A
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	14	B	L	13	B
							T	19	C
							R	20	C
				SB	23	C	L	0	A
							T	0	A
							R	23	C
400	Shamrock Road at Agricola Drive	10	A	EB	7	A	LTR	7	A
				WB	11	B	LTR	11	B
				NB	7	A	LTR	7	A
				SB	4	A	LTR	4	A
500	Shamrock Road at Brighview Drive/Calla Lily Drive	24	C	EB	0	A	L	0	A
							T	0	A
							R	9	A
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	17	C	L	14	B
							T	0	A
							R	23	C
				SB	19	C	L	11	B
							T	0	A
							R	24	C
600	Shamrock Road at Beach Bay Road	42	E	EB	6	A	T	0	A
							R	11	B
				WB	0	A	L	0	A
							T	0	A
				NB	35	E	L	19	C
							R	42	E
700	Shamrock Road at Northward Road	18	C	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	8	A
				SB	13	B	L	10	A
							R	18	C
800	Shamrock Road at Condor Road	16	C	EB	0	A	L	0	A
							T	0	A
							R	0	A
				WB	0	A	L	0	A
							T	0	A
							R	8	A
				NB	10	A	L	10	A
							T	0	A
							R	0	A
				SB	16	C	L	14	B
							T	0	A
							R	16	C
902	Bodden Town Road at Bodden Town Bypass	15	B	EB	0	A	L	0	A
							T	0	A
				WB	4	A	T	0	A
							R	8	A
				SB	11	B	L	10	A
							R	15	B
1000	Bodden Town Road at Long Fellow Drive	11	B	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	0	A
				SB	11	B	L	0	A
							R	11	B
1100	Frank Sound Road at Bodden Town Road	23	C	EB	0	A	L	0	A
							T	0	A
				WB	4	A	T	0	A
							R	8	A
				SB	16	C	L	14	B
							R	23	C
1200	Frank Sound Road at Clifton Hunter High School Access #1/Tie-in with EW Arterial	7	A	EB	6	A	L	6	A
				NB	6	A	L	6	A
				SB	8	A	T	8	A
1300	Frank Sound Road at North Side Road/Old Robin Road	11	B	WB	9	A	L	9	A
							R	11	B
				NB	2	A	T	0	A
							R	7	A
				SB	0	A	L	0	A
							T	0	A

2036 LOS Table - Alternative B3 AM

#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
1400	East-West Arterial at Agricola Drive Connector	15	B	EB	7	A	LT	7	A
							TR	3	A
				WB	20	C	LT	20	C
				NB	19	C	LTR	19	C
				SB	6	A	LTR	6	A
1501	East-West Arterial at Will T Connector 1	10	A	EB	8	A	LT	8	A
				WB	12	B	LT	12	B
				NB	7	A	LTR	7	A
				SB	5	A	LTR	5	A
1502	East-West Arterial at Will T Connector 2	8	A	EB	8	A	TR	8	A
				WB	9	A	LT	9	A
				NB	9	A	LR	9	A
1600	East-West Arterial at Northward Road	15	C	EB	0	A	T	0	A
							TR	0	A
				WB	0	A	LT	0	A
							T	0	A
				NB	15	C	L	15	C
							R	0	A
1700	East-West Arterial at Lookout Road	8	A	EB	8	A	LTR	8	A
				WB	9	A	LTR	9	A
				NB	7	A	LTR	7	A
				SB	5	A	LTR	5	A
1800	East-West Arterial at Longfellow Road	7	A	EB	7	A	LTR	7	A
				WB	7	A	LTR	7	A
				NB	5	A	LTR	5	A
				SB	5	A	LTR	5	A
1900	East-West Arterial at North/South Spurs	7	A	EB	7	A	TR	7	A
				WB	7	A	LT	7	A
				NB	5	A	LR	5	A
				SB	5	A	LR	5	A
2100	Frank Sound Road at East-West Arterial South	7	A	EB	8	A	LR	8	A
				NB	7	A	LT	7	A
				SB	8	A	TR	8	A

2036 LOS Table - Alternative B3 PM

#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
101	EW Arterial Blvd at Hirst Rd	14	B	EB	16	C	LT	17	C
							TR	15	C
				WB	6	A	LT	6	A
							TR	6	A
				NB	8	A	LTR	8	A
				SB	25	C	LTR	25	C
201	Shamrock Road at Hirst Road (1)	21	C	EB	0	A	T	0	A
				SB	20	C	L	12	B
							T	21	C
202	Shamrock Road at Hirst Road (2)	31	D	WB	0	A	L	0	A
							T	0	A
				NB	14	B	L	14	B
				SB	30	D	T	27	D
							R	31	D
203	Shamrock Road at Hirst Road Jughandle	15	B	EB	0	A	T	0	A
				NB	15	B	R	15	B
300	Shamrock Road at Woodland Drive	20	C	EB	1	A	L	0	A
							T	0	A
							R	8	A
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	12	B	L	11	B
							T	17	C
							R	17	C
				SB	19	C	L	13	B
							T	19	C
							R	20	C
400	Shamrock Road at Agricola Drive	6	A	EB	5	A	LTR	5	A
				WB	6	A	LTR	6	A
				NB	4	A	LTR	4	A
				SB	8	A	LTR	8	A
500	Shamrock Road at Brighview Drive/Calla Lily Drive	23	C	EB	0	A	L	0	A
							T	0	A
							R	8	A
				WB	1	A	L	0	A
							T	0	A
							R	9	A
				NB	10	B	L	10	B
							T	0	A
							R	0	A
				SB	23	C	L	0	A
							T	0	A
							R	23	C
600	Shamrock Road at Beach Bay Road	33	D	EB	1	A	T	0	A
							R	9	A
				WB	0	A	L	0	A
							T	0	A
				NB	28	D	L	19	C
							R	33	D
700	Shamrock Road at Northward Road	19	C	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	8	A
				SB	16	C	L	12	B
							R	19	C
800	Shamrock Road at Condor Road	15	C	EB	0	A	L	0	A
							T	0	A
							R	8	A
				WB	0	A	L	0	A
							T	0	A
							R	8	A
				NB	10	A	L	10	A
							T	0	A
							R	0	A
				SB	15	B	L	12	B
							T	0	A
							R	15	C
902	Bodden Town Road at Bodden Town Bypass	16	C	EB	0	A	L	0	A
							T	0	A
				WB	3	A	T	0	A
							R	8	A
				SB	13	B	L	11	B
							R	16	C
1000	Bodden Town Road at Long Fellow Drive	11	B	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	0	A
				SB	11	B	L	0	A
							R	11	B
1100	Frank Sound Road at Bodden Town Road	30	D	EB	0	A	L	0	A
							T	0	A
				WB	4	A	T	0	A
							R	8	A
				SB	21	C	L	20	C
							R	30	D
1200	Frank Sound Road at Clifton Hunter High School Access #1/Tie-in with EW Arterial	9	A	EB	8	A	L	8	A
				NB	8	A	L	8	A
				SB	10	B	T	10	B
1300	Frank Sound Road at North Side Road/Old Robin Road	12	B	WB	10	B	L	10	A
							R	12	B
				NB	1	A	T	0	A
							R	8	A
				SB	0	A	L	0	A
							T	0	A

2036 LOS Table - Alternative B3 PM

#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
1400	East-West Arterial at Agricola Drive Connector	16	C	EB	15	B	LT	18	C
							TR	5	A
				WB	18	C	LT	18	C
				NB	5	A	LTR	5	A
				SB	12	B	LTR	12	B
1501	East-West Arterial at Will T Connector 1	14	B	EB	17	C	LT	17	C
				WB	9	A	LT	9	A
				NB	5	A	LTR	5	A
				SB	8	A	LTR	8	A
1502	East-West Arterial at Will T Connector 2	12	B	EB	14	B	TR	14	B
				WB	8	A	LT	8	A
				NB	6	A	LR	6	A
1600	East-West Arterial at Northward Road	13	B	EB	0	A	T	0	A
							TR	0	A
				WB	0	A	LT	0	A
							T	0	A
				NB	13	B	L	13	B
							R	0	A
1700	East-West Arterial at Lookout Road	12	B	EB	14	B	LTR	14	B
				WB	10	B	LTR	10	B
				NB	6	A	LTR	6	A
				SB	7	A	LTR	7	A
1800	East-West Arterial at Longfellow Road	8	A	EB	9	A	LTR	9	A
				WB	7	A	LTR	7	A
				NB	5	A	LTR	5	A
				SB	6	A	LTR	6	A
1900	East-West Arterial at North/South Spurs	8	A	EB	9	A	TR	9	A
				WB	7	A	LT	7	A
				NB	5	A	LR	5	A
				SB	6	A	LR	6	A
2100	Frank Sound Road at East-West Arterial South	9	A	EB	10	B	LR	10	B
				NB	8	A	LT	8	A
				SB	9	A	TR	9	A

2036 LOS Table - Alternative B4 AM

#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
101	EW Arterial Blvd at Hirst Rd	20	C	EB	5	A	LT	5	A
							TR	5	A
				WB	39	E	LT	40	E
							TR	38	E
				NB	21	C	LTR	21	C
				SB	24	C	LTR	24	C
201	Shamrock Road at Hirst Road (1)	14	B	EB	0	A	T	0	A
				SB	14	B	L	11	B
							T	14	B
202	Shamrock Road at Hirst Road (2)	199	F	WB	0	A	L	0	A
							T	0	A
				NB	32	D	L	32	D
				SB	194	F	T	171	F
							R	199	F
203	Shamrock Road at Hirst Road Jughandle	12	B	EB	0	A	T	0	A
				NB	12	B	R	12	B
300	Shamrock Road at Woodland Ave	22	C	EB	0	A	L	0	A
							T	0	A
							R	8	A
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	12	B	L	11	B
							T	16	C
							R	17	C
				SB	18	C	L	0	A
							T	0	A
							R	18	C
400	Shamrock Road at Agricola Drive	9	A	EB	8	A	LTR	8	A
				WB	10	A	LTR	10	A
				NB	6	A	LTR	6	A
				SB	4	A	LTR	4	A
500	Shamrock Road at Brighview Drive/Calla Lily Drive	24	C	EB	0	A	L	0	A
							T	0	A
							R	9	A
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	16	C	L	13	B
							T	0	A
							R	22	C
				SB	19	C	L	11	B
							T	0	A
							R	23	C
600	Shamrock Road at Beach Bay Road	44	E	EB	6	A	T	0	A
							R	11	B
				WB	0	A	L	0	A
							T	0	A
				NB	35	D	L	19	C
							R	42	E
700	Shamrock Road at Northward Road	18	C	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	8	A
				SB	11	B	L	9	A
							R	17	C
800	Shamrock Road at Condor Road	16	C	EB	0	A	L	0	A
							T	0	A
							R	0	A
				WB	0	A	L	0	A
							T	0	A
							R	8	A
				NB	10	A	L	10	A
							T	0	A
							R	0	A
				SB	15	C	L	12	B
							T	0	A
							R	15	C
901	Lookout Road at Bodden Town Bypass	9	A	EB	7	A	LTR	7	A
				WB	10	A	LTR	10	A
				NB	6	A	LTR	6	A
				SB	9	A	LTR	9	A
902	Bodden Town Road at Bodden Town Bypass	8	A	EB	6	A	L	6	A
				WB	8	A	T	4	A
							R	9	A
				SB	9	A	L	9	A
1000	Bodden Town Road at Long Fellow Drive	5	A	EB	5	A	L	5	A
							T	5	A
				WB	6	A	T	6	A
							R	5	A
				SB	5	A	L	5	A
1100	Frank Sound Road at Bodden Town Road	10	A	EB	6	A	L	6	A
							T	5	A
				WB	15	B	T	15	B
				SB	11	B	L	11	B
1200	Frank Sound Road at Clifton Hunter High School Access #1/Tie-in with EW Arterial	23	C	EB	24	C	L	21	C
							R	24	C
				NB	0	A	L	0	A
							T	0	A
				SB	2	A	T	0	A
							R	8	A
1300	Frank Sound Road at North Side Road/Old Robin Road	11	B	EB	9	A	L	9	A
							R	11	B
				NB	2	A	T	0	A
							R	7	A
				SB	0	A	L	0	A
							T	0	A

2036 LOS Table - Alternative B4 AM									
#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
1400	East-West Arterial at Agricola Drive Connector	14	B	EB	7	A	LT	7	A
							TR	3	A
				WB	20	C	LT	20	C
				NB	29	D	LTR	29	D
				SB	6	A	LTR	6	A
1501	East-West Arterial at Will T Connector 1	9	A	EB	7	A	LT	7	A
				WB	11	B	LT	11	B
				NB	8	A	LTR	8	A
				SB	5	A	LTR	5	A
1502	East-West Arterial at Will T Connector 2	8	A	EB	7	A	T	7	A
				WB	9	A	LT	9	A
				NB	9	A	LR	9	A
1600	East-West Arterial at Northward Road	14	B	EB	0	A	T	0	A
							TR	0	A
				WB	0	A	LT	0	A
							T	0	A
				NB	15	B	L	15	B
							R	0	A
1700	East-West Arterial at Lookout Road	8	A	EB	7	A	LT	7	A
				WB	9	A	TR	9	A
				SB	5	A	LR	5	A

2036 LOS Table - Alternative B4 PM

#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
101	EW Arterial Blvd at Hirst Rd	14	B	EB	19	C	LT	20	C
							TR	17	C
				WB	6	A	LT	6	A
							TR	6	A
				NB	9	A	LTR	9	A
				SB	30	D	LTR	30	D
201	Shamrock Road at Hirst Road (1)	19	C	EB	0	A	T	0	A
				SB	19	C	L	12	B
							T	19	C
202	Shamrock Road at Hirst Road (2)	40	E	WB	0	A	L	0	A
							T	0	A
				NB	15	C	L	15	C
				SB	39	E	T	35	E
							R	40	E
203	Shamrock Road at Hirst Road Jughandle	15	B	EB	0	A	T	0	A
				NB	15	B	R	15	B
300	Shamrock Road at Woodland Drive	20	C	EB	1	A	L	0	A
							T	0	A
							R	8	A
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	12	B	L	11	B
							T	15	C
							R	16	C
				SB	13	B	L	10	A
							T	15	C
							R	16	C
400	Shamrock Road at Agricola Drive	7	A	EB	4	A	LTR	4	A
				WB	6	A	LTR	6	A
				NB	4	A	LTR	4	A
				SB	8	A	LTR	8	A
500	Shamrock Road at Brighview Drive/Calla Lily Drive	30	D	EB	0	A	L	0	A
							T	0	A
							R	8	A
				WB	0	A	L	0	A
							T	0	A
							R	9	A
				NB	11	B	L	11	B
							T	0	A
							R	0	A
				SB	26	D	L	0	A
							T	0	A
							R	26	D
600	Shamrock Road at Beach Bay Road	48	E	EB	1	A	T	0	A
							R	9	A
				WB	0	A	L	0	A
							T	0	A
				NB	34	D	L	22	C
							R	39	E
700	Shamrock Road at Northward Road	24	C	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	8	A
				SB	16	C	L	13	B
							R	21	C
800	Shamrock Road at Condor Road	19	C	EB	0	A	L	0	A
							T	0	A
							R	8	A
				WB	0	A	L	0	A
							T	0	A
							R	8	A
				NB	10	A	L	10	A
							T	0	A
							R	0	A
				SB	17	C	L	13	B
							T	0	A
							R	17	C
901	Lookout Road at Bodden Town Bypass	9	A	EB	6	A	LTR	6	A
				WB	8	A	LTR	8	A
				NB	6	A	LTR	6	A
				SB	11	B	LTR	11	B
902	Bodden Town Road at Bodden Town Bypass	11	B	EB	9	A	L	9	A
				WB	7	A	T	4	A
							R	9	A
				SB	17	C	L	17	C
1000	Bodden Town Road at Long Fellow Drive	6	A	EB	6	A	L	6	A
							T	6	A
				WB	6	A	T	6	A
							R	5	A
				SB	6	A	LR	6	A
1100	Frank Sound Road at Bodden Town Road	10	B	EB	6	A	L	7	A
							T	6	A
				WB	14	B	T	14	B
				SB	13	B	L	13	B
1200	Frank Sound Road at Clifton Hunter High School Access #1/Tie-in with EW Arterial	34	D	EB	40	E	L	35	E
							R	41	E
				NB	0	A	L	0	A
							T	0	A
				SB	3	A	T	0	A
							R	9	A
1300	Frank Sound Road at North Side Road/Old Robin Road	12	B	WB	10	B	L	10	A
							R	12	B
				NB	1	A	T	0	A
							R	8	A
				SB	0	A	L	0	A
							T	0	A

2036 LOS Table - Alternative B4 PM

#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
1400	East-West Arterial at Agricola Drive Connector	13	B	EB	12	B	LT	15	C
							TR	6	A
				WB	24	C	LT	24	C
				NB	5	A	LTR	5	A
				SB	13	B	LTR	13	B
1501	East-West Arterial at Will T Connector 1	12	B	EB	14	B	LT	14	B
				WB	8	A	LT	8	A
				NB	5	A	LTR	5	A
				SB	8	A	LTR	8	A
1502	East-West Arterial at Will T Connector 2	10	B	EB	13	B	T	13	B
				WB	7	A	LT	7	A
				NB	5	A	LR	5	A
1600	East-West Arterial at Northward Road	12	B	EB	0	A	T	0	A
							TR	0	A
				WB	0	A	LT	0	A
							T	0	A
				NB	13	B	L	13	B
							R	0	A
1700	East-West Arterial at Lookout Road	10	B	EB	12	B	LT	12	B
				WB	8	A	TR	8	A
				SB	7	A	LR	7	A

Attachment E4

2046 Alternative LOS Summary Tables

2046 LOS Table - No-Build AM

#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
101	EW Arterial Blvd at Hirst Rd	32	D	EB	6	A	LT	7	A
							TR	3	A
				WB	51	F	LTR	51	F
				NB	25	C	LTR	25	C
				SB	7	A	LTR	7	A
201	Shamrock Road at Hirst Road (1)	24	C	EB	0	A	T	0	A
				SB	22	C	L	16	C
							T	24	C
202	Shamrock Road at Hirst Road (2)	10,000	F	WB	0	A	L	0	A
							T	0	A
				NB	466	F	L	466	F
				SB	10,000	F	T	10,000	F
							R	10,000	F
203	Shamrock Road at Hirst Road Jughandle	25	C	EB	0	A	T	0	A
				NB	25	C	R	25	C
300	Shamrock Road at Woodland Drive	53	F	EB	0	A	L	0	A
							T	0	A
							R	10	A
				WB	0	A	L	0	A
							T	0	A
							R	9	A
				NB	20	C	L	18	C
							T	37	E
							R	43	E
				SB	41	E	L	19	C
							T	0	A
							R	53	F
400	Shamrock Road at Agricola Drive	187	F	EB	176	F	LTR	176	F
				WB	238	F	LTR	238	F
				NB	21	C	LTR	21	C
				SB	20	C	LTR	20	C
500	Shamrock Road at Brightview Drive/Calla Lily Drive	491	F	EB	0	A	L	0	A
							T	0	A
							R	14	B
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	205	F	L	121	F
							T	0	A
							R	390	F
				SB	387	F	L	177	F
							T	0	A
							R	491	F
600	Shamrock Road at Beach Bay Road	1,458	F	EB	1	A	T	0	A
							R	21	C
				WB	0	A	L	0	A
							T	0	A
				NB	798	F	L	357	F
							R	1,458	F
700	Shamrock Road at Northward Road	10,000	F	EB	0	A	L	0	A
							T	0	A
				WB	1	A	T	0	A
							R	11	B
				SB	10,000	F	L	10,000	F
							R	10,000	F
800	Shamrock Road at Condor Road	152	F	EB	0	A	L	0	A
							T	0	A
							R	0	A
				WB	0	A	L	0	A
							T	0	A
							R	10	A
				NB	17	C	L	17	C
							T	0	A
							R	0	A
				SB	145	F	L	96	F
							T	0	A
							R	152	F
902	Bodden Town Road at Bodden Town Bypass	10,000	F	EB	0	A	L	0	A
							T	0	A
				WB	2	A	T	0	A
							R	12	B
				SB	10,000	F	L	10,000	F
							R	10,000	F
1000	Bodden Town Road at Long Fellow Drive	158	F	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	0	A
				SB	158	F	LR	158	F
1100	Frank Sound Road at Bodden Town Road	10,000	F	EB	0	A	L	0	A
							T	0	A
				WB	2	A	T	0	A
							R	10	B
				SB	10,000	F	L	0	A
							R	10,000	F
1200	Frank Sound Road at Clifton Hunter High School Access #1/Tie-in with EW Arterial	145	F	EB	144	F	L	138	F
							T	145	F
							R	144	F
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	1	A	L	0	A
							T	0	A
							R	8	A
				SB	3	A	L	0	A
							T	0	A
							R	9	A
1300	Frank Sound Road at North Side Road/Old Robin Road	11	B	WB	9	A	L	9	A
							R	11	B
				NB	2	A	T	0	A
							R	8	A
				SB	0	A	L	0	A
							T	0	A

2046 LOS Table - No-Build AM									
#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
1400	East-West Arterial at Agricola Drive Connector	17	C	EB	7	A	LR	7	A
				NB	22	C	LT	22	C
				SB	5	A	TR	5	A

2046 LOS Table - No-Build PM

#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
101	EW Arterial Blvd at Hirst Rd	9	A	EB	10	B	LT	11	B
							R	9	A
				WB	7	A	LTR	7	A
				NB	5	A	LTR	5	A
				SB	12	B	LTR	12	B
201	Shamrock Road at Hirst Road (1)	378	F	EB	0	A	T	0	A
				SB	283	F	L	175	F
							T	378	F
202	Shamrock Road at Hirst Road (2)	10,000	F	WB	0	A	L	0	A
							T	0	A
				NB	128	F	L	128	F
				SB	10,000	F	T	10,000	F
							R	10,000	F
203	Shamrock Road at Hirst Road Jughandle	28	D	EB	0	A	T	0	A
				NB	28	D	R	28	D
300	Shamrock Road at Woodland Drive	295	F	EB	0	A	L	0	A
							T	0	A
							R	11	B
				WB	0	A	L	0	A
							T	0	A
							R	11	B
				NB	76	F	L	36	E
							T	146	F
							R	216	F
				SB	190	F	L	124	F
							T	233	F
							R	295	F
400	Shamrock Road at Agricola Drive	126	F	EB	65	F	LTR	65	F
				WB	33	D	LTR	33	D
				NB	10	A	LTR	10	A
				SB	400	F	LTR	400	F
500	Shamrock Road at Brightview Drive/Calla Lily Drive	3,197	F	EB	0	A	L	0	A
							T	0	A
							R	12	B
				WB	0	A	L	0	A
							T	0	A
							R	15	C
				NB	21	C	L	21	C
							T	0	A
							R	0	A
				SB	3,196	F	L	0	A
							T	0	A
							R	3,196	F
600	Shamrock Road at Beach Bay Road	10,000	F	EB	0	A	T	0	A
							R	12	B
				WB	0	A	L	0	A
							T	0	A
				NB	10,000	F	L	10,000	F
							R	10,000	F
700	Shamrock Road at Northward Road	5,833	F	EB	0	A	L	0	A
							T	0	A
				WB	1	A	T	0	A
							R	16	C
				SB	5,617	F	L	5,319	F
							R	5,833	F
800	Shamrock Road at Condor Road	38	E	EB	0	A	L	0	A
							T	0	A
							R	10	B
				WB	0	A	L	0	A
							T	0	A
							R	12	B
				NB	17	C	L	17	C
							T	0	A
							R	0	A
				SB	38	E	L	38	E
							T	0	A
							R	0	A
902	Bodden Town Road at Bodden Town Bypass	10,000	F	EB	0	A	L	0	A
							T	0	A
				WB	4	A	T	0	A
							R	19	C
				SB	10,000	F	L	10,000	F
							R	10,000	F
1000	Bodden Town Road at Long Fellow Drive	198	F	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	0	A
				SB	198	F	LR	198	F
1100	Frank Sound Road at Bodden Town Road	3,883	F	EB	0	A	L	0	A
							T	0	A
				WB	2	A	T	0	A
							R	10	B
				SB	3,883	F	L	0	A
							R	3,883	F
1200	Frank Sound Road at Clifton Hunter High School Access #1/Tie-in with EW Arterial	10,000	F	EB	217	F	L	210	F
							T	219	F
							R	218	F
				WB	10,000	F	L	0	A
							T	10,000	F
							R	0	A
				NB	1	A	L	0	A
							T	0	A
							R	8	A
				SB	4	A	L	0	A
							T	0	A
							R	9	A
1300	Frank Sound Road at North Side Road/Old Robin Road	13	B	WB	11	B	L	10	A
							R	12	B
				NB	1	A	T	0	A
							R	8	A
				SB	0	A	L	0	A
							T	0	A

2046 LOS Table - No-Build PM									
#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
1400	East-West Arterial at Agricola Drive Connector	8	A	EB	9	A	LR	9	A
				NB	4	A	LT	4	A
				SB	7	A	TR	7	A

2046 LOS Table - Alternative B1 AM

#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
101	EW Arterial Blvd at Hirst Rd	11	B	EB	6	A	LT	6	A
							TR	6	A
				WB	14	B	LT	14	B
							TR	13	B
				NB	17	C	LTR	17	C
				SB	8	A	LTR	8	A
201	Shamrock Road at Hirst Road (1)	16	C	EB	0	A	T	0	A
				SB	15	C	L	12	B
							T	16	C
202	Shamrock Road at Hirst Road (2)	299	F	WB	0	A	L	0	A
							T	0	A
				NB	35	D	L	35	D
				SB	294	F	T	268	F
							R	299	F
203	Shamrock Road at Hirst Road Jughandle	13	B	EB	0	A	T	0	A
				NB	13	B	R	13	B
300	Shamrock Road at Woodland Ave	26	D	EB	0	A	L	0	A
							T	0	A
							R	9	A
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	15	B	L	13	B
							T	21	C
							R	22	C
				SB	26	D	L	0	A
							T	0	A
							R	26	D
400	Shamrock Road at Agricola Drive	9	A	EB	7	A	LTR	7	A
				WB	11	B	LTR	11	B
				NB	7	A	LTR	7	A
				SB	5	A	LTR	5	A
500	Shamrock Road at Brighview Drive/Calla Lily Drive	29	D	EB	0	A	L	0	A
							T	0	A
							R	9	A
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	19	C	L	15	C
							T	0	A
							R	29	D
				SB	24	C	L	12	B
							T	0	A
							R	29	D
600	Shamrock Road at Beach Bay Road	69	F	EB	5	A	T	0	A
							R	12	B
				WB	0	A	L	0	A
							T	0	A
				NB	58	F	L	36	E
							R	69	F
700	Shamrock Road at Northward Road	22	C	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	8	A
				SB	12	B	L	10	A
							R	22	C
800	Shamrock Road at Condor Road	21	C	EB	0	A	L	0	A
							T	0	A
							R	0	A
				WB	0	A	L	0	A
							T	0	A
							R	8	A
				NB	10	B	L	10	B
							T	0	A
							R	0	A
				SB	21	C	L	17	C
							T	0	A
							R	21	C
902	Bodden Town Road at Bodden Town Bypass	20	C	EB	0	A	L	0	A
							T	0	A
				WB	3	A	T	0	A
							R	8	A
				SB	13	B	L	11	B
							R	20	C
1000	Bodden Town Road at Long Fellow Drive	14	B	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	0	A
				SB	13	B	L	0	A
							R	13	B
1100	Frank Sound Road at Bodden Town Road	15	B	EB	9	A	LT	9	A
				WB	19	C	TR	19	C
				NB	10	B	LR	10	B
1200	Frank Sound Road at Clifton Hunter High School Access #1/Tie-in with EW Arterial	7	A	EB	7	A	L	7	A
							R	6	A
				NB	7	A	L	5	A
							T	8	A
				SB	8	A	T	9	A
							R	4	A
1300	Frank Sound Road at North Side Road/Old Robin Road	11	B	WB	9	A	L	9	A
							R	11	B
				NB	2	A	T	0	A
							R	8	A
				SB	0	A	L	0	A
							T	0	A

2046 LOS Table - Alternative B1 AM									
#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
1400	East-West Arterial at Agricola Drive Connector	9	A	EB	5	A	LT	6	A
							TR	5	A
				WB	10	A	LT	10	B
							TR	9	A
				NB	19	C	L	18	C
							LTR	21	C
				SB	7	A	LTR	7	A
1501	East-West Arterial at Will T Connector 1	7	A	EB	5	A	LT	6	A
							TR	5	A
				WB	8	A	LT	8	A
							TR	7	A
				NB	10	A	LTR	10	A
				SB	5	A	LTR	5	A
1502	East-West Arterial at Will T Connector 2	7	A	EB	5	A	T	6	A
							TR	5	A
				WB	7	A	LT	7	A
							T	6	A
				NB	15	C	LR	15	C
1600	East-West Arterial at Northward Road	15	B	EB	0	A	T	0	A
							TR	0	A
				WB	0	A	LT	0	A
							T	0	A
				NB	14	B	L	14	B
							R	0	A
1700	East-West Arterial at Lookout Road	7	A	EB	8	A	LT	9	A
							R	3	A
				WB	6	A	LT	7	A
							TR	6	A
				NB	9	A	LTR	9	A
				SB	5	A	LT	5	A
1800	East-West Arterial at Longfellow Road	10	A	EB	9	A	LTR	9	A
				WB	11	B	LTR	11	B
				NB	7	A	LTR	7	A
				SB	6	A	LTR	6	A
1900	East-West Arterial at North/South Spurs	10	B	EB	9	A	TR	9	A
				WB	8	A	LT	8	A
				NB	11	B	LR	11	B
2000	Frank Sound Road at East-West Arterial North	4	A	EB	3	A	LR	3	A
				NB	4	A	LT	4	A
				SB	4	A	TR	4	A
2100	Frank Sound Road at East-West Arterial Road South	10	A	EB	10	B	LTR	10	B
				WB	7	A	LTR	7	A
				NB	10	A	LTR	10	A
				SB	8	A	LTR	8	A

2046 LOS Table - Alternative B1 PM

#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
101	EW Arterial Blvd at Hirst Rd	14	B	EB	18	C	LT	18	C
							TR	17	C
				WB	6	A	LT	6	A
							TR	6	A
				NB	8	A	LTR	8	A
				SB	18	C	LTR	18	C
201	Shamrock Road at Hirst Road (1)	33	D	EB	0	A	T	0	A
				SB	32	D	L	13	B
							T	33	D
202	Shamrock Road at Hirst Road (2)	120	F	WB	0	A	L	0	A
							T	0	A
				NB	19	C	L	19	C
				SB	119	F	T	112	F
							R	120	F
203	Shamrock Road at Hirst Road Jughandle	18	C	EB	0	A	T	0	A
				NB	18	C	R	18	C
300	Shamrock Road at Woodland Drive	33	D	EB	1	A	L	0	A
							T	0	A
							R	9	A
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	16	C	L	12	B
							T	23	C
							R	25	C
				SB	33	D	L	0	A
							T	31	D
							R	33	D
400	Shamrock Road at Agricola Drive	7	A	EB	6	A	LTR	6	A
				WB	7	A	LTR	7	A
				NB	5	A	LTR	5	A
				SB	8	A	LTR	8	A
500	Shamrock Road at Brighview Drive/Calla Lily Drive	31	D	EB	0	A	L	0	A
							T	0	A
							R	9	A
				WB	0	A	L	0	A
							T	0	A
							R	9	A
				NB	12	B	L	12	B
							T	0	A
							R	0	A
				SB	31	D	L	0	A
							T	0	A
							R	31	D
600	Shamrock Road at Beach Bay Road	51	F	EB	1	A	T	0	A
							R	9	A
				WB	0	A	L	0	A
							T	0	A
				NB	46	E	L	32	D
							R	51	F
700	Shamrock Road at Northward Road	24	C	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	8	A
				SB	19	C	L	14	B
							R	24	C
800	Shamrock Road at Condor Road	19	C	EB	0	A	L	0	A
							T	0	A
							R	8	A
				WB	0	A	L	0	A
							T	0	A
							R	8	A
				NB	10	B	L	10	B
							T	0	A
							R	0	A
				SB	19	C	L	14	B
							T	0	A
							R	19	C
902	Bodden Town Road at Bodden Town Bypass	23	C	EB	0	A	L	0	A
							T	0	A
				WB	3	A	T	0	A
							R	8	A
				SB	17	C	L	13	B
							R	23	C
1000	Bodden Town Road at Long Fellow Drive	14	B	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	0	A
				SB	14	B	L	0	A
							R	14	B
1100	Frank Sound Road at Bodden Town Road	14	B	EB	7	A	LT	7	A
				WB	12	B	TR	12	B
				NB	18	C	LR	18	C
1200	Frank Sound Road at Clifton Hunter High School Access #1/Tie-in with EW Arterial	9	A	EB	6	A	L	6	A
							R	7	A
				NB	7	A	L	4	A
							T	8	A
				SB	10	B	T	12	B
							R	5	A
1300	Frank Sound Road at North Side Road/Old Robin Road	13	B	WB	11	B	L	10	B
							R	13	B
				NB	1	A	T	0	A
							R	8	A
				SB	0	A	L	0	A
							T	0	A

2046 LOS Table - Alternative B1 PM

#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
1400	East-West Arterial at Agricola Drive Connector	9	A	EB	10	B	LT	11	B
							TR	9	A
				WB	7	A	LT	8	A
							TR	7	A
				NB	6	A	L	5	A
							LTR	6	A
				SB	16	C	LTR	16	C
1501	East-West Arterial at Will T Connector 1	7	A	EB	8	A	LT	9	A
							TR	8	A
				WB	6	A	LT	6	A
							TR	5	A
				NB	5	A	LTR	5	A
				SB	9	A	LTR	9	A
1502	East-West Arterial at Will T Connector 2	7	A	EB	8	A	T	8	A
							TR	7	A
				WB	5	A	LT	5	A
							T	5	A
				NB	5	A	LR	5	A
1600	East-West Arterial at Northward Road	11	B	EB	0	A	T	0	A
							TR	0	A
				WB	0	A	LT	0	A
							T	0	A
				NB	11	B	L	11	B
							R	0	A
1700	East-West Arterial at Lookout Road	11	B	EB	13	B	LT	15	C
							R	4	A
				WB	7	A	LT	7	A
							TR	7	A
				NB	6	A	LTR	6	A
				SB	8	A	LT	8	A
1800	East-West Arterial at Longfellow Road	13	B	EB	17	C	LTR	17	C
				WB	8	A	LTR	8	A
				NB	6	A	LTR	6	A
				SB	8	A	LTR	8	A
1900	East-West Arterial at North/South Spurs	13	B	EB	16	C	TR	16	C
				WB	10	A	LT	10	A
				NB	8	A	LR	8	A
2000	Frank Sound Road at East-West Arterial North	4	A	EB	4	A	LR	4	A
				NB	4	A	LT	4	A
				SB	4	A	TR	4	A
2100	Frank Sound Road at East-West Arterial Road South	13	B	EB	17	C	LTR	17	C
				WB	8	A	LTR	8	A
				NB	9	A	LTR	9	A
				SB	11	B	LTR	11	B

2046 LOS Table - Alternative B2 AM

#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
101	EW Arterial Blvd at Hirst Rd	12	B	EB	7	A	LT	7	A
							TR	7	A
				WB	15	B	LT	15	C
							TR	14	B
				NB	20	C	LTR	20	C
				SB	8	A	LTR	8	A
201	Shamrock Road at Hirst Road (1)	15	C	EB	0	A	T	0	A
				SB	15	B	L	11	B
							T	15	C
202	Shamrock Road at Hirst Road (2)	200	F	WB	0	A	L	0	A
							T	0	A
				NB	31	D	L	31	D
				SB	195	F	T	174	F
							R	200	F
203	Shamrock Road at Hirst Road Jughandle	13	B	EB	0	A	T	0	A
				NB	12	B	R	12	B
300	Shamrock Road at Woodland Ave	24	C	EB	0	A	L	0	A
							T	0	A
							R	9	A
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	14	B	L	13	B
							T	20	C
							R	21	C
				SB	24	C	L	0	A
							T	0	A
							R	24	C
400	Shamrock Road at Agricola Drive	8	A	EB	6	A	LTR	6	A
				WB	10	A	LTR	10	A
				NB	6	A	LTR	6	A
				SB	5	A	LTR	5	A
500	Shamrock Road at Brighview Drive/Calla Lily Drive	25	D	EB	0	A	L	0	A
							T	0	A
							R	9	A
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	17	C	L	14	B
							T	0	A
							R	25	C
				SB	21	C	L	11	B
							T	0	A
							R	25	D
600	Shamrock Road at Beach Bay Road	53	F	EB	5	A	T	0	A
							R	11	B
				WB	0	A	L	0	A
							T	0	A
				NB	45	E	L	28	D
							R	53	F
700	Shamrock Road at Northward Road	20	C	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	8	A
				SB	12	B	L	10	A
							R	20	C
800	Shamrock Road at Condor Road	18	C	EB	0	A	L	0	A
							T	0	A
							R	0	A
				WB	0	A	L	0	A
							T	0	A
							R	8	A
				NB	10	A	L	10	A
							T	0	A
							R	0	A
				SB	18	C	L	15	C
							T	0	A
							R	18	C
902	Bodden Town Road at Bodden Town Bypass	17	C	EB	0	A	L	0	A
							T	0	A
				WB	4	A	T	0	A
							R	8	A
				SB	12	B	L	10	B
							R	17	C
1000	Bodden Town Road at Long Fellow Drive	16	C	EB	0	A	L	0	A
							T	0	A
				WB	2	A	T	0	A
							R	8	A
				SB	16	C	L	0	A
							R	16	C
1100	Frank Sound Road at Bodden Town Road	15	B	EB	8	A	LT	8	A
				WB	19	C	TR	19	C
				NB	10	B	LR	10	B
1200	Frank Sound Road at Clifton Hunter High School Access #1/Tie-in with EW Arterial	7	A	EB	7	A	L	7	A
							R	6	A
				NB	7	A	L	5	A
							T	7	A
				SB	8	A	T	9	A
							R	4	A
1300	Frank Sound Road at North Side Road/Old Robin Road	11	B	WB	9	A	L	9	A
							R	11	B
				NB	2	A	T	0	A
							R	8	A
				SB	0	A	L	0	A
							T	0	A

2046 LOS Table - Alternative B2 AM

#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
1400	East-West Arterial at Agricola Drive Connector	10	A	EB	6	A	LT	6	A
							TR	5	A
				WB	11	B	LT	11	B
							TR	10	A
				NB	20	C	L	18	C
							LTR	22	C
				SB	7	A	LTR	7	A
1501	East-West Arterial at Will T Connector 1	7	A	EB	5	A	LT	6	A
							TR	5	A
				WB	8	A	LT	9	A
							TR	8	A
				NB	11	B	LTR	11	B
				SB	6	A	LTR	6	A
1502	East-West Arterial at Will T Connector 2	8	A	EB	6	A	T	6	A
							TR	5	A
				WB	7	A	LT	7	A
							T	7	A
				NB	18	C	LR	18	C
1600	East-West Arterial at Northward Road	15	C	EB	0	A	T	0	A
							TR	0	A
				WB	0	A	LT	0	A
							T	0	A
				NB	15	C	L	15	C
							R	0	A
1700	East-West Arterial at Lookout Road	8	A	EB	9	A	LT	10	A
							R	3	A
				WB	7	A	LT	7	A
							TR	7	A
				NB	10	B	LTR	10	B
				SB	6	A	LTR	6	A
1800	East-West Arterial at Longfellow Road	11	B	EB	10	B	LTR	10	B
				WB	11	B	LTR	11	B
				NB	10	A	LTR	10	A
				SB	6	A	LTR	6	A
1900	East-West Arterial at North/South Spurs	10	B	EB	10	B	TR	10	B
				WB	10	B	LT	10	B
				NB	6	A	LR	6	A
				SB	7	A	LR	7	A
2100	Frank Sound Road at East-West Arterial Road South	12	B	EB	12	B	LTR	12	B
				WB	8	A	LTR	8	A
				NB	12	B	LTR	12	B
				SB	12	B	LTR	12	B

2046 LOS Table - Alternative B2 PM

#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
101	EW Arterial Blvd at Hirst Rd	14	B	EB	18	C	LT	19	C
							TR	17	C
				WB	7	A	LT	7	A
							TR	7	A
				NB	9	A	LTR	9	A
				SB	19	C	LTR	19	C
201	Shamrock Road at Hirst Road (1)	31	D	EB	0	A	T	0	A
				SB	30	D	L	13	B
							T	31	D
202	Shamrock Road at Hirst Road (2)	59	F	WB	0	A	L	0	A
							T	0	A
				NB	16	C	L	16	C
				SB	58	F	T	53	F
							R	59	F
203	Shamrock Road at Hirst Road Jughandle	17	C	EB	0	A	T	0	A
				NB	17	C	R	17	C
300	Shamrock Road at Woodland Drive	28	D	EB	1	A	L	0	A
							T	0	A
							R	8	A
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	14	B	L	11	B
							T	21	C
							R	22	C
				SB	28	D	L	0	A
							T	26	D
							R	28	D
400	Shamrock Road at Agricola Drive	6	A	EB	6	A	LTR	6	A
				WB	6	A	LTR	6	A
				NB	4	A	LTR	4	A
				SB	7	A	LTR	7	A
500	Shamrock Road at Brighview Drive/Calla Lily Drive	26	D	EB	0	A	L	0	A
							T	0	A
							R	8	A
				WB	0	A	L	0	A
							T	0	A
							R	9	A
				NB	11	B	L	11	B
							T	0	A
							R	0	A
				SB	26	D	L	0	A
							T	0	A
							R	26	D
600	Shamrock Road at Beach Bay Road	39	E	EB	1	A	T	0	A
							R	9	A
				WB	0	A	L	0	A
							T	0	A
				NB	35	E	L	24	C
							R	39	E
700	Shamrock Road at Northward Road	21	C	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	8	A
				SB	17	C	L	13	B
							R	21	C
800	Shamrock Road at Condor Road	17	C	EB	0	A	L	0	A
							T	0	A
							R	8	A
				WB	0	A	L	0	A
							T	0	A
							R	8	A
				NB	10	A	L	10	A
							T	0	A
							R	0	A
				SB	17	C	L	13	B
							T	0	A
							R	17	C
902	Bodden Town Road at Bodden Town Bypass	18	C	EB	0	A	L	0	A
							T	0	A
				WB	3	A	T	0	A
							R	8	A
				SB	14	B	L	11	B
							R	18	C
1000	Bodden Town Road at Long Fellow Drive	13	B	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	0	A
				SB	13	B	L	0	A
							R	13	B
1100	Frank Sound Road at Bodden Town Road	14	B	EB	8	A	LT	8	A
				WB	12	B	TR	12	B
				NB	18	C	LR	18	C
1200	Frank Sound Road at Clifton Hunter High School Access #1/Tie-in with EW Arterial	9	A	EB	7	A	L	7	A
							R	7	A
				NB	9	A	L	4	A
							T	10	A
				SB	10	B	T	12	B
							R	5	A
1300	Frank Sound Road at North Side Road/Old Robin Road	13	B	WB	11	B	L	10	B
							R	13	B
				NB	1	A	T	0	A
							R	8	A
				SB	0	A	L	0	A
							T	0	A

2046 LOS Table - Alternative B2 PM

#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
1400	**East-West Arterial at Agricola Drive Connector**	10	A	EB	11	B	LT	11	B
							TR	10	A
				WB	8	A	LT	8	A
							TR	7	A
				NB	6	A	L	6	A
							LTR	7	A
				SB	16	C	LTR	16	C
1501	**East-West Arterial at Will T Connector 1**	8	A	EB	8	A	LT	9	A
							TR	8	A
				WB	6	A	LT	6	A
							TR	6	A
				NB	6	A	LTR	6	A
				SB	10	A	LTR	10	A
1502	**East-West Arterial at Will T Connector 2**	7	A	EB	8	A	T	9	A
							TR	8	A
				WB	6	A	LT	6	A
							T	5	A
				NB	6	A	LR	6	A
1600	**East-West Arterial at Northward Road**	12	B	EB	0	A	T	0	A
							TR	0	A
				WB	0	A	LT	0	A
							T	0	A
				NB	12	B	L	12	B
							R	0	A
1700	**East-West Arterial at Lookout Road**	12	B	EB	15	C	LT	18	C
							R	4	A
				WB	8	A	LT	8	A
							TR	7	A
				NB	6	A	LTR	6	A
				SB	9	A	LTR	9	A
1800	**East-West Arterial at Longfellow Road**	16	C	EB	20	C	LTR	20	C
				WB	11	B	LTR	11	B
				NB	6	A	LTR	6	A
				SB	9	A	LTR	9	A
1900	**East-West Arterial at North/South Spurs**	14	B	EB	17	C	TR	17	C
				WB	10	B	LT	10	B
				NB	6	A	LR	6	A
				SB	8	A	LR	8	A
2100	**Frank Sound Road at East-West Arterial Road South**	19	C	EB	24	C	LTR	24	C
				WB	9	A	LTR	9	A
				NB	12	B	LTR	12	B
				SB	16	C	LTR	16	C

2046 LOS Table - Alternative B3 AM

#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
101	EW Arterial Blvd at Hirst Rd	12	B	EB	7	A	LT	7	A
							TR	7	A
				WB	15	B	LT	15	C
							TR	14	B
				NB	20	C	LTR	20	C
				SB	8	A	LTR	8	A
201	Shamrock Road at Hirst Road (1)	15	C	EB	0	A	T	0	A
				SB	15	B	L	11	B
							T	15	C
202	Shamrock Road at Hirst Road (2)	188	F	WB	0	A	L	0	A
							T	0	A
				NB	30	D	L	30	D
				SB	184	F	T	164	F
							R	188	F
203	Shamrock Road at Hirst Road Jughandle	13	B	EB	0	A	T	0	A
				NB	13	B	R	13	B
300	Shamrock Road at Woodland Ave	24	C	EB	0	A	L	0	A
							T	0	A
							R	9	A
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	14	B	L	13	B
							T	20	C
							R	21	C
				SB	24	C	L	0	A
							T	0	A
							R	24	C
400	Shamrock Road at Agricola Drive	9	A	EB	7	A	LTR	7	A
				WB	10	B	LTR	10	B
				NB	6	A	LTR	6	A
				SB	5	A	LTR	5	A
500	Shamrock Road at Brighview Drive/Calla Lily Drive	27	D	EB	0	A	L	0	A
							T	0	A
							R	9	A
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	18	C	L	15	B
							T	0	A
							R	26	D
				SB	22	C	L	11	B
							T	0	A
							R	27	D
600	Shamrock Road at Beach Bay Road	60	F	EB	5	A	T	0	A
							R	11	B
				WB	0	A	L	0	A
							T	0	A
				NB	52	F	L	32	D
							R	60	F
700	Shamrock Road at Northward Road	21	C	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	8	A
				SB	12	B	L	10	A
							R	21	C
800	Shamrock Road at Condor Road	20	C	EB	0	A	L	0	A
							T	0	A
							R	0	A
				WB	0	A	L	0	A
							T	0	A
							R	8	A
				NB	10	A	L	10	A
							T	0	A
							R	0	A
				SB	20	C	L	16	C
							T	0	A
							R	20	C
902	Bodden Town Road at Bodden Town Bypass	18	C	EB	0	A	L	0	A
							T	0	A
				WB	3	A	T	0	A
							R	8	A
				SB	12	B	L	10	B
							R	18	C
1000	Bodden Town Road at Long Fellow Drive	13	B	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	0	A
				SB	13	B	L	0	A
							R	13	B
1100	Frank Sound Road at Bodden Town Road	15	B	EB	9	A	LT	9	A
				WB	19	C	TR	19	C
				SB	10	B	LR	10	B
1200	Frank Sound Road at Clifton Hunter High School Access #1/Tie-in with EW Arterial	8	A	EB	7	A	L	8	A
							R	6	A
				NB	7	A	L	5	A
							T	8	A
				SB	8	A	T	9	A
							R	4	A
1300	Frank Sound Road at North Side Road/Old Robin Road	11	B	WB	9	A	L	9	A
							R	11	B
				NB	2	A	T	0	A
							R	8	A
				SB	0	A	L	0	A
							T	0	A

2046 LOS Table - Alternative B3 AM

#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
1400	East-West Arterial at Agricola Drive Connector	10	A	EB	6	A	LT	6	A
							TR	5	A
				WB	10	B	LT	11	B
							TR	9	A
				NB	21	C	L	19	C
							LTR	23	C
				SB	7	A	LTR	7	A
1501	East-West Arterial at Will T Connector 1	7	A	EB	5	A	LT	6	A
							TR	5	A
				WB	8	A	LT	8	A
							TR	7	A
				NB	10	B	LTR	10	B
				SB	6	A	LTR	6	A
1502	East-West Arterial at Will T Connector 2	7	A	EB	5	A	T	6	A
							TR	5	A
				WB	7	A	LT	7	A
							T	6	A
				NB	16	C	LR	16	C
1600	East-West Arterial at Northward Road	15	B	EB	0	A	T	0	A
							TR	0	A
				WB	0	A	LT	0	A
							T	0	A
				NB	15	B	L	15	B
							R	0	A
1700	East-West Arterial at Lookout Road	8	A	EB	9	A	LT	9	A
							R	3	A
				WB	7	A	LT	7	A
							TR	6	A
				NB	13	B	LTR	13	B
				SB	7	A	LTR	7	A
1800	East-West Arterial at Longfellow Road	11	B	EB	10	A	LTR	10	A
				WB	12	B	LTR	12	B
				NB	7	A	LTR	7	A
				SB	6	A	LTR	6	A
1900	East-West Arterial at North/South Spurs	11	B	EB	10	A	TR	10	A
				WB	11	B	LT	11	B
				NB	8	A	LR	8	A
				SB	6	A	LR	6	A
2100	Frank Sound Road at East-West Arterial Road South	13	B	EB	12	B	LTR	12	B
				WB	8	A	LTR	8	A
				NB	14	B	LTR	14	B
				SB	11	B	LTR	11	B

2046 LOS Table - Alternative B3 PM

#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
101	EW Arterial Blvd at Hirst Rd	14	B	EB	18	C	LT	18	C
							TR	17	C
				WB	6	A	LT	6	A
							TR	6	A
				NB	9	A	LTR	9	A
				SB	19	C	LTR	19	C
201	Shamrock Road at Hirst Road (1)	33	D	EB	0	A	T	0	A
				SB	32	D	L	13	B
							T	33	D
202	Shamrock Road at Hirst Road (2)	67	F	WB	0	A	L	0	A
							T	0	A
				NB	17	C	L	17	C
				SB	66	F	T	61	F
							R	67	F
203	Shamrock Road at Hirst Road Jughandle	17	C	EB	0	A	T	0	A
				NB	17	C	R	17	C
300	Shamrock Road at Woodland Drive	29	D	EB	1	A	L	0	A
							T	0	A
							R	8	A
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	14	B	L	12	B
							T	21	C
							R	23	C
				SB	29	D	L	0	A
							T	27	D
							R	29	D
400	Shamrock Road at Agricola Drive	7	A	EB	6	A	LTR	6	A
				WB	7	A	LTR	7	A
				NB	5	A	LTR	5	A
				SB	8	A	LTR	8	A
500	Shamrock Road at Brightview Drive/Calla Lily Drive	27	D	EB	0	A	L	0	A
							T	0	A
							R	8	A
				WB	0	A	L	0	A
							T	0	A
							R	9	A
				NB	11	B	L	11	B
							T	0	A
							R	0	A
				SB	27	D	L	0	A
							T	0	A
							R	27	D
600	Shamrock Road at Beach Bay Road	44	E	EB	1	A	T	0	A
							R	9	A
				WB	0	A	L	0	A
							T	0	A
				NB	39	E	L	27	D
							R	44	E
700	Shamrock Road at Northward Road	22	C	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	8	A
				SB	18	C	L	13	B
							R	22	C
800	Shamrock Road at Condor Road	18	C	EB	0	A	L	0	A
							T	0	A
							R	8	A
				WB	0	A	L	0	A
							T	0	A
							R	8	A
				NB	10	A	L	10	A
							T	0	A
							R	0	A
				SB	18	C	L	13	B
							T	0	A
							R	18	C
902	Bodden Town Road at Bodden Town Bypass	20	C	EB	0	A	L	0	A
							T	0	A
				WB	3	A	T	0	A
							R	8	A
				SB	15	C	L	12	B
							R	20	C
1000	Bodden Town Road at Long Fellow Drive	13	B	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	0	A
				SB	13	B	L	0	A
							R	13	B
1100	Frank Sound Road at Bodden Town Road	14	B	EB	7	A	LT	7	A
				WB	12	B	TR	12	B
				NB	18	C	LR	18	C
1200	Frank Sound Road at Clifton Hunter High School Access #1/Tie-in with EW Arterial	9	A	EB	7	A	L	7	A
							R	7	A
				NB	8	A	L	4	A
							T	9	A
				SB	10	B	T	12	B
							R	5	A
1300	Frank Sound Road at North Side Road/Old Robin Road	13	B	WB	11	B	L	10	B
							R	13	B
				NB	1	A	T	0	A
							R	8	A
				SB	0	A	L	0	A
							T	0	A

2046 LOS Table - Alternative B3 PM

#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
1400	East-West Arterial at Agricola Drive Connector	10	A	EB	10	B	LT	11	B
							TR	9	A
				WB	8	A	LT	8	A
							TR	7	A
				NB	6	A	L	6	A
							LTR	6	A
				SB	16	C	LTR	16	C
1501	East-West Arterial at Will T Connector 1	7	A	EB	8	A	LT	9	A
							TR	8	A
				WB	6	A	LT	6	A
							TR	6	A
				NB	6	A	LTR	6	A
				SB	9	A	LTR	9	A
1502	East-West Arterial at Will T Connector 2	7	A	EB	8	A	T	8	A
							TR	7	A
				WB	6	A	LT	6	A
							T	5	A
				NB	6	A	LR	6	A
1600	East-West Arterial at Northward Road	12	B	EB	0	A	T	0	A
							TR	0	A
				WB	0	A	LT	0	A
							T	0	A
				NB	12	B	L	12	B
							R	0	A
1700	East-West Arterial at Lookout Road	11	B	EB	13	B	LT	16	C
							R	4	A
				WB	7	A	LT	8	A
							TR	7	A
				NB	8	A	LTR	8	A
				SB	11	B	LTR	11	B
1800	East-West Arterial at Longfellow Road	14	B	EB	18	C	LTR	18	C
				WB	9	A	LTR	9	A
				NB	6	A	LTR	6	A
				SB	8	A	LTR	8	A
1900	East-West Arterial at North/South Spurs	14	B	EB	17	C	TR	17	C
				WB	10	A	LT	10	A
				NB	6	A	LR	6	A
				SB	8	A	LR	8	A
2100	Frank Sound Road at East-West Arterial Road South	18	C	EB	24	C	LTR	24	C
				WB	9	A	LTR	9	A
				NB	11	B	LTR	11	B
				SB	16	C	LTR	16	C

2046 LOS Table - Alternative B4 AM

#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
101	EW Arterial Blvd at Hirst Rd	12	B	EB	6	A	LT	7	A
							TR	6	A
				WB	15	B	LT	15	C
							TR	14	B
				NB	18	C	LTR	18	C
				SB	8	A	LTR	8	A
201	Shamrock Road at Hirst Road (1)	15	B	EB	0	A	T	0	A
				SB	14	B	L	11	B
							T	15	B
202	Shamrock Road at Hirst Road (2)	103	F	WB	0	A	L	0	A
							T	0	A
				NB	26	D	L	26	D
				SB	100	F	T	85	F
							R	103	F
203	Shamrock Road at Hirst Road Jughandle	12	B	EB	0	A	T	0	A
				NB	12	B	R	12	B
300	Shamrock Road at Woodland Drive	22	C	EB	0	A	L	0	A
							T	0	A
							R	8	A
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	13	B	L	12	B
							T	18	C
							R	19	C
				SB	22	C	L	0	A
							T	0	A
							R	22	C
400	Shamrock Road at Agricola Drive	7	A	EB	6	A	LTR	6	A
				WB	8	A	LTR	8	A
				NB	5	A	LTR	5	A
				SB	4	A	LTR	4	A
500	Shamrock Road at Brighview Drive/Calla Lily Drive	21	C	EB	0	A	L	0	A
							T	0	A
							R	9	A
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	15	B	L	12	B
							T	0	A
							R	21	C
				SB	18	C	L	11	B
							T	0	A
							R	21	C
600	Shamrock Road at Beach Bay Road	39	E	EB	5	A	T	0	A
							R	10	B
				WB	0	A	L	0	A
							T	0	A
				NB	33	D	L	20	C
							R	39	E
700	Shamrock Road at Northward Road	17	C	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	8	A
				SB	11	B	L	10	A
							R	17	C
800	Shamrock Road at Condor Road	13	B	EB	0	A	L	0	A
							T	0	A
							R	0	A
				WB	0	A	L	0	A
							T	0	A
							R	7	A
				NB	9	A	L	9	A
							T	0	A
							R	0	A
				SB	12	B	L	11	B
							T	0	A
							R	12	B
901	Lookout Road at Bodden Town Bypass	9	A	EB	13	B	LT	13	B
				WB	10	A	T	9	A
							R	11	B
				SB	7	A	L	7	A
							R	7	A
902	Bodden Town Road at Bodden Town Bypass	8	A	EB	12	B	LTR	12	B
				WB	9	A	T	8	A
							R	10	A
				SB	7	A	L	7	A
							R	7	A
1000	Bodden Town Road at Long Fellow Drive	7	A	EB	6	A	L	6	A
							T	6	A
				WB	8	A	T	8	A
							R	7	A
				SB	7	A	LR	7	A
1100	Frank Sound Road at Bodden Town Road	96	F	EB	9	A	L	8	A
							T	11	B
				WB	220	F	T	220	F
				SB	36	E	LR	36	E
1200	Frank Sound Road at Clifton Hunter High School Access #1/Tie-in with EW Arterial	6	A	EB	5	A	L	3	A
							R	5	A
				NB	6	A	LT	6	A
				SB	7	A	TR	7	A
1300	Frank Sound Road at North Side Road/Old Robin Road	11	B	WB	9	A	L	9	A
							R	11	B
				NB	2	A	T	0	A
							R	8	A
				SB	0	A	L	0	A
							T	0	A

2046 LOS Table - Alternative B4 AM									
#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
1400	East-West Arterial at Agricola Drive Connector	10	A	EB	6	A	LT	6	A
							TR	5	A
				WB	11	B	LT	12	B
							TR	10	B
				NB	19	C	L	17	C
							LTR	20	C
				SB	7	A	LTR	7	A
1501	East-West Arterial at Will T Connector 1	8	A	EB	5	A	LT	6	A
							TR	5	A
				WB	9	A	LT	9	A
							TR	8	A
				NB	11	B	LTR	11	B
				SB	6	A	LTR	6	A
1502	East-West Arterial at Will T Connector 2	8	A	EB	5	A	T	6	A
							TR	5	A
				WB	7	A	LT	8	A
							T	7	A
				NB	20	C	LR	20	C
1600	East-West Arterial at Northward Road	16	C	EB	0	A	T	0	A
							TR	0	A
				WB	0	A	LT	0	A
							T	0	A
				NB	16	C	L	16	C
							R	0	A
1700	East-West Arterial at Lookout Road	7	A	EB	5	A	LT	6	A
							R	5	A
				WB	8	A	T	8	A
							TR	7	A
				SB	6	A	LR	6	A
2100	Frank Sound Road at East-West Arterial Road South	0	A	WB	0	A	LR	0	A
				NB	0	A	TR	0	A
				SB	0	A	LT	0	A

2046 LOS Table - Alternative B4 PM

#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
101	EW Arterial Blvd at Hirst Rd	14	B	EB	18	C	LT	19	C
							TR	17	C
				WB	6	A	LT	6	A
							TR	6	A
				NB	8	A	LTR	8	A
				SB	19	C	LTR	19	C
201	Shamrock Road at Hirst Road (1)	26	D	EB	0	A	T	0	A
				SB	25	D	L	13	B
							T	26	D
202	Shamrock Road at Hirst Road (2)	132	F	WB	0	A	L	0	A
							T	0	A
				NB	20	C	L	20	C
				SB	130	F	T	122	F
							R	132	F
203	Shamrock Road at Hirst Road Jughandle	17	C	EB	0	A	T	0	A
				NB	17	C	R	17	C
300	Shamrock Road at Woodland Drive	31	D	EB	1	A	L	0	A
							T	0	A
							R	9	A
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	16	C	L	13	B
							T	22	C
							R	24	C
				SB	31	D	L	0	A
							T	29	D
							R	31	D
400	Shamrock Road at Agricola Drive	7	A	EB	6	A	LTR	6	A
				WB	7	A	LTR	7	A
				NB	5	A	LTR	5	A
				SB	6	A	LTR	6	A
500	Shamrock Road at Brightview Drive/Calla Lily Drive	28	D	EB	0	A	L	0	A
							T	0	A
							R	9	A
				WB	0	A	L	0	A
							T	0	A
							R	8	A
				NB	12	B	L	12	B
							T	0	A
							R	0	A
				SB	28	D	L	0	A
							T	0	A
							R	28	D
600	Shamrock Road at Beach Bay Road	48	E	EB	2	A	T	0	A
							R	10	A
				WB	0	A	L	0	A
							T	0	A
				NB	44	E	L	31	D
							R	48	E
700	Shamrock Road at Northward Road	22	C	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	8	A
				SB	18	C	L	12	B
							R	22	C
800	Shamrock Road at Condor Road	14	B	WB	0	A	T	0	A
							R	8	A
				NB	10	A	L	10	A
							T	0	A
							R	0	A
				SB	14	B	L	11	B
							T	0	A
							R	14	B
901	Lookout Road at Bodden Town Bypass	8	A	EB	7	A	LT	7	A
				WB	6	A	T	6	A
							R	7	A
				SB	9	A	L	9	A
							R	9	A
902	Bodden Town Road at Bodden Town Bypass	9	A	EB	9	A	LTR	9	A
				WB	8	A	T	7	A
							R	9	A
				SB	9	A	L	10	A
							R	9	A
1000	Bodden Town Road at Long Fellow Drive	7	A	EB	8	A	L	8	A
							T	7	A
				WB	7	A	T	7	A
							R	7	A
				SB	9	A	LR	9	A
1100	Frank Sound Road at Bodden Town Road	44	E	EB	10	B	L	8	A
							T	12	B
				WB	73	F	T	73	F
				SB	70	F	LR	70	F
1200	Frank Sound Road at Clifton Hunter High School Access #1/Tie-in with EW Arterial	6	A	EB	5	A	L	4	A
							R	6	A
				NB	7	A	LT	7	A
				SB	7	A	TR	7	A
1300	Frank Sound Road at North Side Road/Old Robin Road	13	B	WB	11	B	L	10	B
							R	13	B
				NB	1	A	T	0	A
							R	8	A
				SB	0	A	L	0	A
							T	0	A

2046 LOS Table - Alternative B4 PM

#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
1400	East-West Arterial at Agricola Drive Connector	10	A	EB	10	B	LT	11	B
							TR	10	A
				WB	7	A	LT	7	A
							TR	6	A
				NB	6	A	L	5	A
							LTR	6	A
				SB	17	C	LTR	17	C
1501	East-West Arterial at Will T Connector 1	8	A	EB	9	A	LT	9	A
							TR	8	A
				WB	5	A	LT	6	A
							TR	5	A
				NB	5	A	LTR	5	A
				SB	10	A	LTR	10	A
1502	East-West Arterial at Will T Connector 2	8	A	EB	9	A	T	9	A
							TR	8	A
				WB	5	A	LT	5	A
							T	5	A
				NB	5	A	LR	5	A
1600	East-West Arterial at Northward Road	7	A	EB	0	A	T	0	A
							TR	0	A
				WB	0	A	LT	0	A
							T	0	A
				NB	11	B	L	11	B
							R	0	A
1700	East-West Arterial at Lookout Road	7	A	EB	8	A	LT	9	A
							R	8	A
				WB	6	A	T	6	A
							TR	5	A
				SB	9	A	LR	9	A
2100	Frank Sound Road at East-West Arterial Road South	0	A	WB	0	A	LR	0	A
				NB	0	A	TR	0	A
				SB	0	A	LT	0	A

Attachment E5

2074 Alternative LOS Summary Tables

2074 LOS Table - No-Build AM

#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
101	EW Arterial Blvd at Hirst Rd	247	F	EB	290	F	LT	337	F
							R	7	A
				WB	283	F	LT	283	F
				NB	87	F	LTR	87	F
				SB	85	F	LTR	85	F
201	Shamrock Road at Hirst Road (1)	125	F	EB	0	A	T	0	A
				SB	93	F	L	17	C
							T	125	F
202	Shamrock Road at Hirst Road (2)	10,000	F	WB	0	A	L	0	A
							T	0	A
				NB	7,851	F	L	7,851	F
				SB	10,000	F	T	10,000	F
							R	10,000	F
203	Shamrock Road at Hirst Road Jughandle	19	C	EB	0	A	T	0	A
				NB	19	C	R	19	C
300	Shamrock Road at Woodland Drive	10,000	F	EB	0	A	L	0	A
							T	0	A
							R	15	B
				WB	0	A	L	0	A
							T	0	A
							R	9	A
				NB	140	F	L	118	F
							T	223	F
							R	274	F
				SB	10,000	F	L	10,000	F
							T	0	A
							R	10,000	F
400	Shamrock Road at Agricola Drive	413	F	EB	200	F	LTR	200	F
				WB	515	F	LTR	515	F
				NB	60	F	LTR	60	F
				SB	276	F	LTR	276	F
500	Shamrock Road at Brightview Drive/Calla Lily Drive	10,000	F	EB	0	A	L	0	A
							T	0	A
							R	20	C
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	4,968	F	L	3,823	F
							T	0	A
							R	8,630	F
				SB	10,000	F	L	10,000	F
							T	0	A
							R	10,000	F
600	Shamrock Road at Beach Bay Road	10,000	F	EB	0	A	T	0	A
							R	26	D
				WB	0	A	L	0	A
							T	0	A
				NB	10,000	F	L	10,000	F
							R	10,000	F
700	Shamrock Road at Northward Road	10,000	F	EB	0	A	L	0	A
							T	0	A
				WB	1	A	T	0	A
							R	19	C
				SB	10,000	F	L	10,000	F
							R	10,000	F
800	Shamrock Road at Condor Road	1,061	F	EB	0	A	L	0	A
							T	0	A
							R	0	A
				WB	0	A	L	0	A
							T	0	A
							R	13	B
				NB	20	C	L	20	C
							T	0	A
							R	0	A
				SB	983	F	L	836	F
							T	0	A
							R	1,061	F
902	Bodden Town Road at Bodden Town Bypass	10,000	F	EB	0	A	L	0	A
							T	0	A
				WB	17	C	T	0	A
							R	74	F
				SB	10,000	F	L	10,000	F
							R	10,000	F
1000	Bodden Town Road at Long Fellow Drive	2,157	F	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	0	A
				SB	2,157	F	L	0	A
							R	2,157	F
1100	Frank Sound Road at Bodden Town Road	10,000	F	EB	0	A	L	0	A
							T	0	A
				WB	3	A	T	0	A
							R	13	B
				SB	10,000	F	L	0	A
							R	10,000	F
1200	Frank Sound Road at Clifton Hunter High School Access #1/Tie-in with EW Arterial	591	F	EB	583	F	L	581	F
							R	591	F
				NB	0	A	L	0	A
							T	0	A
				SB	7	A	L	0	A
							T	12	B
1300	Frank Sound Road at North Side Road/Old Robin Road	14	B	WB	11	B	L	10	B
							R	14	B
				NB	2	A	T	0	A
							R	8	A
				SB	0	A	L	0	A
							T	0	A

2074 LOS Table - No-Build AM									
#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
1400	East-West Arterial at Agricola Drive Connector	24	C	EB	22	C	LR	22	C
				NB	27	D	LT	27	D
				SB	11	B	TR	11	B

2074 LOS Table - No-Build PM

#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
101	EW Arterial Blvd at Hirst Rd	28	D	EB	16	C	LT	20	C
							R	11	B
				WB	15	C	LT	15	C
				NB	8	A	LTR	8	A
				SB	73	F	LTR	73	F
201	Shamrock Road at Hirst Road (1)	9,291	F	EB	0	A	T	0	A
				SB	7,911	F	L	6,386	F
							T	9,291	F
202	Shamrock Road at Hirst Road (2)	10,000	F	WB	0	A	L	0	A
							T	0	A
				NB	1,956	F	L	1,956	F
				SB	10,000	F	T	10,000	F
							R	10,000	F
203	Shamrock Road at Hirst Road Jughandle	2,065	F	EB	0	A	T	0	A
				NB	2,065	F	R	2,065	F
300	Shamrock Road at Woodland Drive	10,000	F	EB	0	A	L	0	A
							T	0	A
							R	14	B
				WB	0	A	L	0	A
							T	0	A
							R	24	C
				NB	10,000	F	L	10,000	F
							T	10,000	F
							R	10,000	F
				SB	10,000	F	L	10,000	F
							T	0	A
							R	10,000	F
400	Shamrock Road at Agricola Drive	545	F	EB	483	F	LTR	483	F
				WB	199	F	LTR	199	F
				NB	19	C	LTR	19	C
				SB	1,646	F	LTR	1,646	F
500	Shamrock Road at Brightview Drive/Calla Lily Drive	10,000	F	EB	0	A	L	0	A
							T	0	A
							R	16	C
				WB	0	A	L	0	A
							T	0	A
							R	26	D
				NB	10,000	F	L	10,000	F
							T	0	A
							R	0	A
				SB	10,000	F	L	0	A
							T	0	A
							R	10,000	F
600	Shamrock Road at Beach Bay Road	10,000	F	EB	0	A	T	0	A
							R	17	C
				WB	0	A	L	0	A
							T	0	A
				NB	10,000	F	L	10,000	F
							R	10,000	F
700	Shamrock Road at Northward Road	10,000	F	EB	0	A	L	0	A
							T	0	A
				WB	1	A	T	0	A
							R	31	D
				SB	10,000	F	L	10,000	F
							R	10,000	F
800	Shamrock Road at Condor Road	10,000	F	EB	0	A	L	0	A
							T	0	A
							R	11	B
				WB	0	A	L	0	A
							T	0	A
							R	16	C
				NB	10,000	F	L	10,000	F
							T	0	A
							R	0	A
				SB	10,000	F	L	10,000	F
							T	0	A
							R	0	A
902	Bodden Town Road at Bodden Town Bypass	10,000	F	EB	0	A	L	0	A
							T	0	A
				WB	48	E	T	0	A
							R	193	F
				SB	10,000	F	L	10,000	F
							R	10,000	F
1000	Bodden Town Road at Long Fellow Drive	2,057	F	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	0	A
				SB	2,057	F	L	0	A
							R	2,057	F
1100	Frank Sound Road at Bodden Town Road	10,000	F	EB	0	A	L	0	A
							T	0	A
				WB	2	A	T	0	A
							R	12	B
				SB	10,000	F	L	0	A
							R	10,000	F
1200	Frank Sound Road at Clifton Hunter High School Access #1/Tie-in with EW Arterial	838	F	EB	828	F	L	825	F
							R	838	F
				NB	0	A	L	0	A
							T	0	A
				SB	8	A	L	0	A
							T	13	B
1300	Frank Sound Road at North Side Road/Old Robin Road	16	C	WB	12	B	L	11	B
							R	15	C
				NB	1	A	T	0	A
							R	8	A
				SB	0	A	L	0	A
							T	0	A

2074 LOS Table - No-Build PM									
1400	**East-West Arterial at Agricola Drive Connector**	7	A	EB	7	A	LR	7	A
				NB	5	A	LT	5	A
				SB	8	A	TR	8	A

2074 LOS Table - Alternative B1 AM

#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
101	EW Arterial Blvd at Hirst Rd	15	C	EB	26	D	LTR	26	D
				WB	13	B	LTR	13	B
				NB	8	A	LTR	8	A
				SB	7	A	LTR	7	A
201	Shamrock Road at Hirst Road (1)	152	F	EB	0	A	T	0	A
				SB	144	F	L	11	B
							T	152	F
202	Shamrock Road at Hirst Road (2)	10,000	F	WB	0	A	L	0	A
							T	0	A
				NB	1,844	F	L	1,844	F
				SB	10,000	F	T	10,000	F
							R	10,000	F
203	Shamrock Road at Hirst Road Jughandle	13	B	EB	0	A	T	0	A
				NB	13	B	R	13	B
300	Shamrock Road at Woodland Ave	199	F	EB	0	A	L	0	A
							T	0	A
							R	13	B
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	51	F	L	44	E
							T	0	A
							R	72	F
				SB	199	F	L	0	A
							T	0	A
							R	199	F
400	Shamrock Road at Agricola Drive	73	F	EB	5	A	LTR	5	A
				WB	107	F	LTR	107	F
				NB	13	B	LTR	13	B
				SB	8	A	LTR	8	A
500	Shamrock Road at Brightview Drive/Calla Lily Drive	64	F	EB	0	A	L	0	A
							T	0	A
							R	11	B
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	31	D	L	22	C
							T	0	A
							R	57	F
				SB	53	F	L	19	C
							T	0	A
							R	64	F
600	Shamrock Road at Beach Bay Road	508	F	EB	7	A	T	0	A
							R	17	C
				WB	0	A	L	0	A
							T	0	A
				NB	417	F	L	357	F
							R	508	F
700	Shamrock Road at Northward Road	36	E	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	8	A
				SB	22	C	L	12	B
							R	36	E
800	Shamrock Road at Condor Road	43	E	EB	0	A	L	0	A
							T	0	A
							R	0	A
				WB	0	A	L	0	A
							T	0	A
							R	8	A
				NB	12	B	L	11	B
							T	17	C
							R	0	A
				SB	43	E	L	36	E
							T	0	A
							R	43	E
902	Bodden Town Road at Bodden Town Bypass	30	D	EB	0	A	L	0	A
							T	0	A
				WB	3	A	T	0	A
							R	8	A
				SB	15	B	L	12	B
							R	30	D
1000	Bodden Town Road at Long Fellow Drive	17	C	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	0	A
				SB	17	C	L	0	A
							R	17	C
1100	Frank Sound Road at Bodden Town Road	11	B	EB	7	A	L	7	A
							T	7	A
				WB	8	A	T	7	A
							R	9	A
				SB	15	C	T	16	C
							R	3	A
1200	Frank Sound Road at Clifton Hunter High School Access #1/Tie-in with EW Arterial	12	B	EB	10	A	L	10	B
							R	8	A
				NB	9	A	L	7	A
							T	10	B
				SB	15	B	T	15	C
							R	14	B
1300	Frank Sound Road at North Side Road/Old Robin Road	14	B	WB	11	B	L	11	B
							R	14	B
				NB	2	A	T	0	A
							R	8	A
				SB	0	A	L	0	A
							T	0	A

2074 LOS Table - Alternative B1 AM

#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
1400	East-West Arterial at Agricola Drive Connector	5	A	EB	6	A	LTR	6	A
				WB	5	A	LTR	5	A
				NB	5	A	LTR	5	A
				SB	6	A	LTR	6	A
1501	East-West Arterial at Will T Connector 1	11	B	EB	9	A	LT	10	B
							TR	9	A
				WB	12	B	LT	13	B
							TR	10	B
				NB	19	C	L	17	C
							LTR	21	C
				SB	11	B	LTR	11	B
1502	East-West Arterial at Will T Connector 2	10	A	EB	9	A	T	10	A
							TR	9	A
				WB	9	A	LT	10	A
							T	9	A
				NB	20	C	L	19	C
							LR	22	C
1600	East-West Arterial at Northward Road	20	C	EB	0	A	T	0	A
							TR	0	A
				WB	0	A	LT	0	A
							T	0	A
				NB	20	C	L	20	C
							R	0	A
1700	East-West Arterial at Lookout Road	10	A	EB	9	A	LT	10	A
							TR	8	A
				WB	9	A	LT	10	A
							TR	9	A
				NB	15	C	LTR	15	C
				SB	11	B	LTR	11	B
1800	East-West Arterial at Longfellow Road	8	A	EB	9	A	LT	9	A
							TR	8	A
				WB	7	A	LT	8	A
							TR	7	A
				NB	9	A	LTR	9	A
				SB	10	A	LTR	10	A
1900	East-West Arterial at North/South Spurs	10	A	EB	9	A	T	8	A
							R	10	B
				WB	15	C	LT	14	B
							T	17	C
				NB	9	A	L	9	A
							R	9	A
2000	Frank Sound Road at East-West Arterial North	5	A	EB	4	A	LR	4	A
				NB	4	A	LT	4	A
				SB	5	A	TR	5	A
2100	Frank Sound Road at East-West Arterial South	9	A	EB	9	B	LTR	9	A
							R	10	B
				WB	11	B	LTR	11	B
				NB	6	A	L	6	A
							LTR	6	A
				SB	20	C	LTR	20	C

2074 LOS Table - Alternative B1 PM

#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
101	EW Arterial Blvd at Hirst Rd	24	C	EB	17	C	LTR	17	C
				WB	19	C	LTR	19	C
				NB	24	C	LTR	24	C
				SB	29	D	LTR	29	D
201	Shamrock Road at Hirst Road (1)	765	F	EB	0	A	T	0	A
				SB	642	F	L	28	D
							T	765	F
202	Shamrock Road at Hirst Road (2)	10,000	F	WB	0	A	L	0	A
							T	0	A
				NB	185	F	L	185	F
				SB	10,000	F	T	10,000	F
							R	10,000	F
203	Shamrock Road at Hirst Road Jughandle	50	F	EB	0	A	T	0	A
				NB	50	F	R	50	F
300	Shamrock Road at Woodland Ave	217	F	EB	0	A	L	0	A
							T	0	A
							R	10	B
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	32	D	L	19	C
							T	0	A
							R	68	F
				SB	212	F	L	164	F
							T	0	A
							R	217	F
400	Shamrock Road at Agricola Drive	14	B	EB	10	A	LTR	10	A
				WB	17	C	LTR	17	C
				NB	8	A	LTR	8	A
				SB	14	B	LTR	14	B
500	Shamrock Road at Brightview Drive/Calla Lily Drive	61	F	EB	0	A	L	0	A
							T	0	A
							R	10	A
				WB	0	A	L	0	A
							T	0	A
							R	9	A
				NB	22	C	L	15	C
							T	0	A
							R	58	F
				SB	61	F	L	0	A
							T	0	A
							R	61	F
600	Shamrock Road at Beach Bay Road	252	F	EB	2	A	T	0	A
							R	11	B
				WB	0	A	L	0	A
							T	0	A
				NB	233	F	L	197	F
							R	252	F
700	Shamrock Road at Northward Road	43	E	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	9	A
				SB	37	E	L	21	C
							R	43	E
800	Shamrock Road at Condor Road	31	D	EB	0	A	L	0	A
							T	0	A
							R	8	A
				WB	0	A	L	0	A
							T	0	A
							R	8	A
				NB	11	B	L	11	B
							T	0	A
							R	0	A
				SB	31	D	L	23	C
							T	0	A
							R	31	D
902	Bodden Town Road at Bodden Town Bypass	46	E	EB	0	A	L	0	A
							T	0	A
				WB	4	A	T	0	A
							R	9	A
				SB	30	D	L	21	C
							R	46	E
1000	Bodden Town Road at Long Fellow Drive	18	C	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	0	A
				SB	18	C	L	0	A
							R	18	C
1100	Frank Sound Road at Bodden Town Road	15	C	EB	6	A	L	5	A
							T	6	A
				WB	7	A	T	7	A
							R	7	A
				SB	25	D	T	27	D
							R	4	A
1200	Frank Sound Road at Clifton Hunter High School Access #1/Tie-in with EW Arterial	22	C	EB	14	B	L	13	B
							R	15	B
				NB	38	E	L	6	A
							T	47	E
				SB	13	B	T	14	B
							R	13	B
1300	Frank Sound Road at North Side Road/Old Robin Road	16	C	WB	12	B	L	11	B
							R	16	C
				NB	1	A	T	0	A
							R	8	A
				SB	0	A	L	0	A
							T	0	A

2074 LOS Table - Alternative B1 PM									
#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
1400	East-West Arterial at Agricola Drive Connector	6	A	EB	6	A	LTR	6	A
				WB	5	A	LTR	5	A
				NB	3	A	LTR	3	A
				SB	7	A	LTR	7	A
1501	East-West Arterial at Will T Connector 1	15	B	EB	17	C	LT	20	C
							TR	14	B
				WB	12	B	LT	12	B
							TR	10	B
				NB	9	A	L	9	A
							LTR	10	A
				SB	18	C	LTR	18	C
1502	East-West Arterial at Will T Connector 2	11	B	EB	14	B	T	15	C
							TR	12	B
				WB	8	A	LT	9	A
							T	8	A
				NB	10	A	L	9	A
							LR	10	B
1600	East-West Arterial at Northward Road	15	C	EB	0	A	T	0	A
							TR	0	A
				WB	0	A	LT	0	A
							T	0	A
				NB	15	C	L	15	C
							R	0	A
1700	East-West Arterial at Lookout Road	13	B	EB	13	B	LT	15	B
							TR	11	B
				WB	12	B	LT	13	B
							TR	11	B
				NB	11	B	LTR	11	B
				SB	15	B	LTR	15	B
1800	East-West Arterial at Longfellow Road	9	A	EB	10	A	LT	10	B
							TR	9	A
				WB	7	A	LT	8	A
							TR	7	A
				NB	8	A	LTR	8	A
				SB	11	B	LTR	11	B
1900	East-West Arterial at North/South Spurs	10	A	EB	10	B	T	9	A
							R	11	B
				WB	13	B	LT	13	B
							T	15	B
				NB	8	A	L	8	A
							R	8	A
2000	Frank Sound Road at East-West Arterial North	5	A	EB	5	A	LR	5	A
				NB	4	A	LT	4	A
				SB	5	A	TR	5	A
2100	Frank Sound Road at East-West Arterial South	11	B	EB	11	B	LTR	10	A
							R	12	B
				WB	10	B	LTR	10	B
				NB	9	A	L	9	A
							LTR	9	A
				SB	19	C	LTR	19	C

2074 LOS Table - Alternative B2 AM

#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
101	EW Arterial Blvd at Hirst Rd	16	C	EB	28	D	LTR	28	D
				WB	13	B	LTR	13	B
				NB	8	A	LTR	8	A
				SB	7	A	LTR	7	A
201	Shamrock Road at Hirst Road (1)	190	F	EB	0	A	T	0	A
				SB	178	F	L	11	B
							T	190	F
202	Shamrock Road at Hirst Road (2)	10,000	F	WB	0	A	L	0	A
							T	0	A
				NB	1,793	F	L	1,793	F
				SB	10,000	F	T	10,000	F
							R	10,000	F
203	Shamrock Road at Hirst Road Jughandle	14	B	EB	0	A	T	0	A
				NB	14	B	R	14	B
300	Shamrock Road at Woodland Ave	303	F	EB	0	A	L	0	A
							T	0	A
							R	12	B
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	51	F	L	42	E
							T	0	A
							R	74	F
				SB	303	F	L	0	A
							T	0	A
							R	303	F
400	Shamrock Road at Agricola Drive	65	F	EB	5	A	LTR	5	A
				WB	96	F	LTR	96	F
				NB	13	B	LTR	13	B
				SB	8	A	LTR	8	A
500	Shamrock Road at Brightview Drive/Calla Lily Drive	57	F	EB	0	A	L	0	A
							T	0	A
							R	10	B
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	28	D	L	21	C
							T	0	A
							R	52	F
				SB	47	E	L	17	C
							T	0	A
							R	57	F
600	Shamrock Road at Beach Bay Road	416	F	EB	7	A	T	0	A
							R	16	C
				WB	0	A	L	0	A
							T	0	A
				NB	348	F	L	295	F
							R	416	F
700	Shamrock Road at Northward Road	33	D	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	8	A
				SB	22	C	L	12	B
							R	33	D
800	Shamrock Road at Condor Road	37	E	EB	0	A	L	0	A
							T	0	A
							R	0	A
				WB	0	A	L	0	A
							T	0	A
							R	8	A
				NB	12	B	L	11	B
							T	16	C
							R	0	A
				SB	37	E	L	31	D
							T	0	A
							R	37	E
902	Bodden Town Road at Bodden Town Bypass	24	C	EB	0	A	L	0	A
							T	0	A
				WB	3	A	T	0	A
							R	8	A
				SB	13	B	L	11	B
							R	24	C
1000	Bodden Town Road at Long Fellow Drive	16	C	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	0	A
				SB	16	C	L	0	A
							R	16	C
1100	Frank Sound Road at Bodden Town Road	11	B	EB	7	A	L	7	A
							T	7	A
				WB	8	A	T	6	A
							R	9	A
				SB	15	C	T	16	C
							R	3	A
1200	Frank Sound Road at Clifton Hunter High School Access #1/Tie-in with EW Arterial	13	B	EB	11	B	L	12	B
							R	8	A
				NB	10	A	L	7	A
							T	12	B
				SB	15	C	T	16	C
							R	15	B
1300	Frank Sound Road at North Side Road/Old Robin Road	14	B	WB	11	B	L	11	B
							R	14	B
				NB	2	A	T	0	A
							R	8	A
				SB	0	A	L	0	A
							T	0	A

2074 LOS Table - Alternative B2 AM

#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
1400	East-West Arterial at Agricola Drive Connector	5	A	EB	5	A	LTR	5	A
				WB	4	A	LTR	4	A
				NB	5	A	LTR	5	A
				SB	5	A	LTR	5	A
1501	East-West Arterial at Will T Connector 1	11	B	EB	10	A	LT	11	B
							TR	9	A
				WB	12	B	LT	13	B
							TR	11	B
				NB	19	C	L	18	C
							LTR	21	C
				SB	11	B	LTR	11	B
1502	East-West Arterial at Will T Connector 2	11	B	EB	10	A	T	10	B
							TR	9	A
				WB	10	A	LT	10	B
							T	9	A
				NB	22	C	L	20	C
							LR	24	C
1600	East-West Arterial at Northward Road	21	C	EB	0	A	T	0	A
							TR	0	A
				WB	0	A	LT	0	A
							T	0	A
				NB	21	C	L	21	C
							R	0	A
1700	East-West Arterial at Lookout Road	10	A	EB	10	A	LT	10	B
							TR	9	A
				WB	10	A	LT	11	B
							TR	9	A
				NB	15	B	LTR	15	B
				SB	11	B	LTR	11	B
1800	East-West Arterial at Longfellow Road	9	A	EB	9	A	LT	10	A
							TR	8	A
				WB	8	A	LT	8	A
							TR	7	A
				NB	10	A	LTR	10	A
				SB	10	B	LTR	10	B
1900	East-West Arterial at North/South Spurs	9	A	EB	9	A	LT	10	A
							TR	8	A
				WB	8	A	LT	8	A
							TR	7	A
				NB	9	A	LTR	9	A
				SB	11	B	LTR	11	B
2100	Frank Sound Road at East-West Arterial Road South	14	B	EB	11	B	LTR	10	A
							R	12	B
				WB	14	B	LTR	14	B
				NB	9	A	L	9	A
							LTR	9	A
				SB	35	D	LTR	17	C
							R	46	E

2074 LOS Table - Alternative B2 PM

#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
101	EW Arterial Blvd at Hirst Rd	26	D	EB	18	C	LTR	18	C
				WB	19	C	LTR	19	C
				NB	24	C	LTR	24	C
				SB	33	D	LTR	33	D
201	Shamrock Road at Hirst Road (1)	875	F	EB	0	A	T	0	A
				SB	774	F	L	24	C
							T	875	F
202	Shamrock Road at Hirst Road (2)	10,000	F	WB	0	A	L	0	A
							T	0	A
				NB	109	F	L	109	F
				SB	10,000	F	T	10,000	F
							R	10,000	F
203	Shamrock Road at Hirst Road Jughandle	49	E	EB	0	A	T	0	A
				NB	49	E	R	49	E
300	Shamrock Road at Woodland Ave	122	F	EB	0	A	L	0	A
							T	0	A
							R	10	A
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	26	D	L	16	C
							T	0	A
							R	52	F
				SB	118	F	L	84	F
							T	0	A
							R	122	F
400	Shamrock Road at Agricola Drive	11	B	EB	9	A	LTR	9	A
				WB	13	B	LTR	13	B
				NB	7	A	LTR	7	A
				SB	13	B	LTR	13	B
500	Shamrock Road at Brightview Drive/Calla Lily Drive	47	E	EB	0	A	L	0	A
							T	0	A
							R	9	A
				WB	0	A	L	0	A
							T	0	A
							R	9	A
				NB	19	C	L	13	B
							T	0	A
							R	45	E
				SB	47	E	L	0	A
							T	0	A
							R	47	E
600	Shamrock Road at Beach Bay Road	130	F	EB	2	A	T	0	A
							R	10	B
				WB	0	A	L	0	A
							T	0	A
				NB	117	F	L	92	F
							R	130	F
700	Shamrock Road at Northward Road	33	D	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	9	A
				SB	29	D	L	17	C
							R	33	D
800	Shamrock Road at Condor Road	25	C	EB	0	A	L	0	A
							T	0	A
							R	8	A
				WB	0	A	L	0	A
							T	0	A
							R	8	A
				NB	10	B	L	10	B
							T	0	A
							R	0	A
				SB	24	C	L	19	C
							T	0	A
							R	25	C
902	Bodden Town Road at Bodden Town Bypass	27	D	EB	0	A	L	0	A
							T	0	A
				WB	3	A	T	0	A
							R	8	A
				SB	19	C	L	14	B
							R	27	D
1000	Bodden Town Road at Long Fellow Drive	15	B	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	0	A
				SB	15	C	L	0	A
							R	15	C
1100	Frank Sound Road at Clifton Hunter High School Access #1/Tie-in with EW Arterial	16	C	EB	18	C	L	16	C
							R	21	C
				NB	14	B	L	14	B
							T	14	B
				SB	15	B	T	15	B
							R	14	B
1200	Frank Sound Road at Bodden Town Road	15	C	EB	7	A	L	6	A
							T	7	A
				WB	8	A	T	6	A
							R	9	A
				SB	25	C	T	27	D
							R	4	A
1300	Frank Sound Road at North Side Road/Old Robin Road	16	C	WB	12	B	L	11	B
							R	16	C
				NB	1	A	T	0	A
							R	8	A
				SB	0	A	L	0	A
							T	0	A

2074 LOS Table - Alternative B2 PM									
#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
1400	East-West Arterial at Agricola Drive Connector	7	A	EB	8	A	LTR	8	A
				WB	5	A	LTR	5	A
				NB	3	A	LTR	3	A
				SB	7	A	LTR	7	A
1501	East-West Arterial at Will T Connector 1	16	C	EB	18	C	LT	21	C
							TR	15	B
				WB	13	B	LT	14	B
							TR	12	B
				NB	10	B	L	10	A
							LTR	11	B
				SB	19	C	LTR	19	C
1502	East-West Arterial at Will T Connector 2	12	B	EB	15	B	T	17	C
							TR	13	B
				WB	9	A	LT	10	A
							T	8	A
				NB	11	B	L	10	A
							LR	12	B
1600	East-West Arterial at Northward Road	16	C	EB	0	A	T	0	A
							TR	0	A
				WB	0	A	LT	0	A
							T	0	A
				NB	16	C	L	16	C
							R	0	A
1700	East-West Arterial at Lookout Road	14	B	EB	14	B	LT	15	C
							TR	12	B
				WB	14	B	LT	15	C
							TR	12	B
				NB	12	B	LTR	12	B
				SB	15	C	LTR	15	C
1800	East-West Arterial at Longfellow Road	9	A	EB	10	B	LT	11	B
							TR	9	A
				WB	8	A	LT	9	A
							TR	8	A
				NB	9	A	LTR	9	A
				SB	12	B	LTR	12	B
1900	East-West Arterial at North/South Spurs	9	A	EB	10	A	LT	11	B
							TR	9	A
				WB	8	A	LT	9	A
							TR	8	A
				NB	8	A	LTR	8	A
				SB	11	B	LTR	11	B
2100	Frank Sound Road at East-West Arterial Road South	14	B	EB	14	B	LTR	12	B
							R	15	C
				WB	12	B	LTR	12	B
				NB	13	B	L	13	B
							LTR	13	B
				SB	20	C	LTR	17	C
							R	23	C

2074 LOS Table - Alternative B3 AM

#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
101	EW Arterial Blvd at Hirst Rd	16	C	EB	27	D	LTR	27	D
				WB	13	B	LTR	13	B
				NB	8	A	LTR	8	A
				SB	7	A	LTR	7	A
201	Shamrock Road at Hirst Road (1)	148	F	EB	0	A	T	0	A
				SB	139	F	L	11	B
							T	148	F
202	Shamrock Road at Hirst Road (2)	10,000	F	WB	0	A	L	0	A
							T	0	A
				NB	1,826	F	L	1,826	F
				SB	10,000	F	T	10,000	F
							R	10,000	F
203	Shamrock Road at Hirst Road Jughandle	13	B	EB	0	A	T	0	A
				NB	13	B	R	13	B
300	Shamrock Road at Woodland Ave	236	F	EB	0	A	L	0	A
							T	0	A
							R	13	B
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	49	E	L	42	E
							T	0	A
							R	70	F
				SB	236	F	L	0	A
							T	0	A
							R	236	F
400	Shamrock Road at Agricola Drive	69	F	EB	5	A	LTR	5	A
				WB	102	F	LTR	102	F
				NB	13	B	LTR	13	B
				SB	8	A	LTR	8	A
500	Shamrock Road at Brightview Drive/Calla Lily Drive	62	F	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	0	A
				NB	30	D	L	21	C
							T	0	A
							R	55	F
				SB	51	F	L	18	C
							T	0	A
							R	62	F
600	Shamrock Road at Beach Bay Road	504	F	EB	7	A	T	0	A
							R	16	C
				WB	0	A	L	0	A
							T	0	A
				NB	427	F	L	365	F
							R	504	F
700	Shamrock Road at Northward Road	35	D	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	8	A
				SB	23	C	L	12	B
							R	35	D
800	Shamrock Road at Condor Road	38	E	EB	0	A	L	0	A
							T	0	A
							R	0	A
				WB	0	A	L	0	A
							T	0	A
							R	8	A
				NB	12	B	L	11	B
							T	17	C
							R	0	A
				SB	38	E	L	31	D
							T	0	A
							R	38	E
902	Bodden Town Road at Bodden Town Bypass	30	D	EB	0	A	L	0	A
							T	0	A
				WB	3	A	T	0	A
							R	8	A
				SB	15	B	L	12	B
							R	30	D
1000	Bodden Town Road at Long Fellow Drive	17	C	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	0	A
				SB	17	C	L	0	A
							R	17	C
1100	Frank Sound Road at Bodden Town Road	11	B	EB	7	A	L	7	A
							T	7	A
				WB	8	A	T	7	A
							R	9	A
				SB	15	C	T	16	C
							R	3	A
1200	Frank Sound Road at Clifton Hunter High School Access #1/Tie-in with EW Arterial	12	B	EB	10	A	L	11	B
							R	8	A
				NB	9	A	L	7	A
							T	11	B
				SB	15	B	T	15	C
							R	14	B
1300	Frank Sound Road at North Side Road/Old Robin Road	14	B	WB	11	B	L	11	B
							R	14	B
				NB	2	A	T	0	A
							R	8	A
				SB	0	A	L	0	A
							T	0	A

2074 LOS Table - Alternative B3 AM

#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
1400	East-West Arterial at Agricola Drive Connector	5	A	EB	6	A	L	6	A
				WB	5	A	L	5	A
				NB	5	A	L	5	A
				SB	6	A	L	6	A
1501	East-West Arterial at Will T Connector 1	11	B	EB	10	A	LT	10	B
							TR	9	A
				WB	12	B	LT	13	B
							TR	11	B
				NB	19	C	L	17	C
							LTR	21	C
				SB	11	B	LTR	11	B
1502	East-West Arterial at Will T Connector 2	10	B	EB	9	A	T	10	B
							TR	9	A
				WB	10	A	LT	10	B
							T	9	A
				NB	21	C	L	19	C
							R	23	C
1600	East-West Arterial at Northward Road	20	C	EB	0	A	T	0	A
							TR	0	A
				WB	0	A	LT	0	A
							T	0	A
				NB	20	C	L	20	C
							R	0	A
1700	East-West Arterial at Lookout Road	10	A	EB	9	A	LT	10	A
							TR	9	A
				WB	9	A	LT	10	B
							TR	9	A
				NB	16	C	LTR	16	C
				SB	11	B	LTR	11	B
1800	East-West Arterial at Longfellow Road	8	A	EB	9	A	LT	9	A
							TR	8	A
				WB	8	A	LT	8	A
							TR	7	A
				NB	9	A	LTR	9	A
				SB	10	A	LTR	10	A
1900	East-West Arterial at North/South Spurs	8	A	EB	9	A	LT	9	A
							TR	8	A
				WB	8	A	LT	8	A
							TR	7	A
				NB	10	A	LTR	10	A
				SB	10	B	LTR	10	B
2100	Frank Sound Road at East-West Arterial Road South	13	B	EB	10	B	LTR	10	A
							R	11	B
				WB	13	B	LTR	13	B
				NB	9	A	L	9	A
							LTR	9	A
				SB	30	D	LTR	18	C
							R	38	E

2074 LOS Table - Alternative B3 PM

#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
101	EW Arterial Blvd at Hirst Rd	21	C	EB	18	C	LTR	18	C
				WB	17	C	LTR	17	C
				NB	23	C	LTR	23	C
				SB	23	C	LTR	23	C
201	Shamrock Road at Hirst Road (1)	693	F	EB	0	A	T	0	A
				SB	580	F	L	27	D
							T	693	F
202	Shamrock Road at Hirst Road (2)	10,000	F	WB	0	A	L	0	A
							T	0	A
				NB	129	F	L	129	F
				SB	10,000	F	T	10,000	F
							R	10,000	F
203	Shamrock Road at Hirst Road Jughandle	50	F	EB	0	A	T	0	A
				NB	50	F	R	50	F
300	Shamrock Road at Woodland Ave	161	F	EB	0	A	L	0	A
							T	0	A
							R	10	A
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	29	D	L	18	C
							T	0	A
							R	59	F
				SB	157	F	L	117	F
							T	0	A
							R	161	F
400	Shamrock Road at Agricola Drive	12	B	EB	10	A	LTR	10	A
				WB	14	B	LTR	14	B
				NB	7	A	LTR	7	A
				SB	14	B	LTR	14	B
500	Shamrock Road at Brightview Drive/Calla Lily Drive	54	F	EB	0	A	L	0	A
							T	0	A
							R	9	A
				WB	0	A	L	0	A
							T	0	A
							R	9	A
				NB	20	C	L	14	B
							T	0	A
							R	51	F
				SB	54	F	L	0	A
							T	0	A
							R	54	F
600	Shamrock Road at Beach Bay Road	182	F	EB	2	A	T	0	A
							R	11	B
				WB	0	A	L	0	A
							T	0	A
				NB	166	F	L	136	F
							R	182	F
700	Shamrock Road at Northward Road	37	E	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	9	A
				SB	32	D	L	19	C
							R	37	E
800	Shamrock Road at Condor Road	27	D	EB	0	A	L	0	A
							T	0	A
							R	8	A
				WB	0	A	L	0	A
							T	0	A
							R	8	A
				NB	10	B	L	10	B
							T	0	A
							R	0	A
				SB	27	D	L	20	C
							T	0	A
							R	27	D
902	Bodden Town Road at Bodden Town Bypass	35	D	EB	0	A	L	0	A
							T	0	A
				WB	4	A	T	0	A
							R	9	A
				SB	23	C	L	17	C
							R	34	D
1000	Bodden Town Road at Long Fellow Drive	16	C	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	0	A
				SB	16	C	L	0	A
							R	16	C
1100	Frank Sound Road at Bodden Town Road	16	C	EB	7	A	L	6	A
							T	7	A
				WB	7	A	T	6	A
							R	8	A
							T	27	D
				SB	25	D	T	0	A
							T	0	A
							R	4	A
1200	Frank Sound Road at Clifton Hunter High School Access #1/Tie-in with EW Arterial	14	B	EB	17	C	L	15	C
							R	18	C
				NB	14	B	L	14	B
							T	14	B
				SB	14	B	T	14	B
							R	14	B
1300	Frank Sound Road at North Side Road/Old Robin Road	16	C	EB	12	B	L	11	B
							R	16	C
				NB	1	A	T	0	A
							R	8	A
				SB	0	A	L	0	A
							T	0	A

2074 LOS Table - Alternative B3 PM									
#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
1400	East-West Arterial at Agricola Drive Connector	6	A	EB	6	A	L	6	A
				WB	5	A	L	5	A
				NB	3	A	L	3	A
				SB	8	A	L	8	A
1501	East-West Arterial at Will T Connector 1	15	C	EB	17	C	LT	20	C
							TR	14	B
				WB	12	B	LT	14	B
							TR	11	B
				NB	10	A	L	9	A
							LTR	11	B
				SB	18	C	LTR	18	C
1502	East-West Arterial at Will T Connector 2	12	B	EB	14	B	T	16	C
							TR	12	B
				WB	9	A	LT	9	A
							T	8	A
				NB	10	B	L	10	A
							R	11	B
1600	East-West Arterial at Northward Road	16	C	EB	0	A	T	0	A
							TR	0	A
				WB	0	A	LT	0	A
							T	0	A
				NB	16	C	L	16	C
							R	0	A
1700	East-West Arterial at Lookout Road	13	B	EB	13	B	LT	15	B
							TR	11	B
				WB	13	B	LT	14	B
							TR	12	B
				NB	12	B	LTR	12	B
				SB	15	B	LTR	15	B
1800	East-West Arterial at Longfellow Road	9	A	EB	10	A	LT	11	B
							TR	9	A
				WB	8	A	LT	8	A
							TR	7	A
				NB	9	A	LTR	9	A
				SB	11	B	LTR	11	B
1900	East-West Arterial at North/South Spurs	9	A	EB	10	A	LT	10	B
							TR	9	A
				WB	8	A	LT	8	A
							TR	7	A
				NB	9	A	LTR	9	A
				SB	11	B	LTR	11	B
2100	Frank Sound Road at East-West Arterial South	14	B	EB	13	B	LTR	12	B
							R	15	B
				WB	11	B	LTR	11	B
				NB	12	B	L	13	B
							LTR	12	B
				SB	19	C	LTR	17	C
							R	22	C

2074 LOS Table - Alternative B4 AM

#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
101	EW Arterial Blvd at Hirst Rd	16	C	EB	27	D	LTR	27	D
				WB	12	B	LTR	12	B
				NB	8	A	LTR	8	A
				SB	8	A	LTR	8	A
201	Shamrock Road at Hirst Road (1)	200	F	EB	0	A	T	0	A
				SB	193	F	L	12	B
							T	200	F
202	Shamrock Road at Hirst Road (2)	10,000	F	WB	0	A	L	0	A
							T	0	A
				NB	1,685	F	L	1,685	F
				SB	10,000	F	T	10,000	F
							R	10,000	F
203	Shamrock Road at Hirst Road Jughandle	15	B	EB	0	A	T	0	A
				NB	15	B	R	15	B
300	Shamrock Road at Woodland Drive	292	F	EB	0	A	L	0	A
							T	0	A
							R	12	B
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	46	E	L	39	E
							T	0	A
							R	74	F
				SB	292	F	L	0	A
							T	0	A
							R	292	F
400	Shamrock Road at Agricola Drive	58	F	EB	6	A	LTR	6	A
				WB	98	F	LTR	98	F
				NB	12	B	LTR	12	B
				SB	11	B	LTR	11	B
500	Shamrock Road at Brightview Drive/Calla Lily Drive	44	E	EB	0	A	L	0	A
							T	0	A
							R	10	A
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	23	C	L	17	C
							T	0	A
							R	41	E
				SB	37	E	L	15	C
							T	0	A
							R	44	E
600	Shamrock Road at Beach Bay Road	212	F	EB	5	A	T	0	A
							R	13	B
				WB	0	A	L	0	A
							T	0	A
				NB	164	F	L	137	F
							R	212	F
700	Shamrock Road at Northward Road	26	D	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	8	A
				SB	15	B	L	11	B
							R	26	D
800	Shamrock Road at Condor Road	19	C	EB	0	A	L	0	A
							T	0	A
							R	0	A
				WB	0	A	L	0	A
							T	0	A
							R	8	A
				NB	9	A	L	9	A
							T	0	A
							R	0	A
				SB	18	C	L	16	C
							T	0	A
							R	18	C
901	Lookout Road at Bodden Town Bypass	17	C	EB	22	C	LT	20	C
							TR	25	C
				WB	18	C	LTR	13	B
							R	23	C
				NB	15	C	LTR	15	C
				SB	15	C	L	16	C
							LTR	15	B
902	Bodden Town Road at Bodden Town Bypass	18	C	EB	24	C	LT	21	C
							T	26	D
				WB	20	C	T	14	B
							R	25	C
				SB	15	C	L	16	C
							R	15	B
1000	Bodden Town Road at Long Fellow Drive	14	B	EB	12	B	L	13	B
							T	12	B
				WB	16	C	T	17	C
							R	15	B
				SB	14	B	LR	14	B
1100	Frank Sound Road at Bodden Town Road	33	D	EB	47	E	L	59	F
							T	33	D
				WB	10	A	T	0	A
							R	31	D
				SB	35	E	L	11	B
							R	42	E
							R	42	E
1200	Frank Sound Road at Clifton Hunter High School Access #1/Tie-in with EW Arterial	12	B	EB	9	A	L	3	A
							R	10	A
				NB	11	B	LT	11	B
				SB	18	C	TR	18	C
1300	Frank Sound Road at North Side Road/Old Robin Road	14	B	WB	11	B	L	11	B
							R	14	B
				NB	2	A	T	0	A
							R	8	A
				SB	0	A	L	0	A
							T	0	A

2074 LOS Table - Alternative B4 AM

#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
1400	East-West Arterial at Agricola Drive Connector	4	A	EB	4	A	L	4	A
				WB	4	A	L	4	A
				NB	4	A	R	4	A
				SB	5	A	L	5	A
1501	East-West Arterial at Will T Connector 1	12	B	EB	9	A	LT	9	A
							TR	8	A
				WB	14	B	LT	15	C
							TR	12	B
				NB	24	C	L	21	C
							LTR	26	D
				SB	10	A	LTR	10	A
1502	East-West Arterial at Will T Connector 2	11	B	EB	9	A	T	9	A
							TR	8	A
				WB	11	B	LT	12	B
							T	10	A
				NB	27	D	L	24	C
							LR	29	D
1600	East-West Arterial at Northward Road	23	C	EB	0	A	T	0	A
							TR	0	A
				WB	0	A	LT	0	A
							T	0	A
				NB	23	C	L	23	C
							R	0	A
1700	East-West Arterial at Lookout Road	10	B	EB	9	A	LT	9	A
							R	8	A
				WB	12	B	T	13	B
							TR	10	B
				SB	10	A	LTR	10	A
2100	Frank Sound Road at East-West Arterial Road South	0	A	WB	0	A	L	0	A
							R	0	A
				NB	0	A	T	0	A
							R	0	A
				SB	0	A	L	0	A
							T	0	A

2074 LOS Table - Alternative B4 PM

#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
101	EW Arterial Blvd at Hirst Rd	17	C	EB	15	C	LTR	15	C
				WB	14	B	LTR	14	B
				NB	15	C	LTR	15	C
				SB	20	C	LTR	20	C
201	Shamrock Road at Hirst Road (1)	595	F	EB	0	A	T	0	A
				SB	455	F	L	42	E
							T	595	F
202	Shamrock Road at Hirst Road (2)	10,000	F	WB	0	A	L	0	A
							T	0	A
				NB	326	F	L	326	F
				SB	10,000	F	T	10,000	F
							R	10,000	F
203	Shamrock Road at Hirst Road Jughandle	45	E	EB	0	A	T	0	A
				NB	45	E	R	45	E
300	Shamrock Road at Woodland Drive	508	F	EB	0	A	L	0	A
							T	0	A
							R	11	B
				WB	0	A	L	0	A
							T	0	A
							R	0	A
				NB	47	E	L	26	D
							T	0	A
							R	107	F
				SB	508	F	L	0	A
							T	0	A
							R	508	F
400	Shamrock Road at Agricola Drive	20	C	EB	12	B	LTR	12	B
				WB	27	D	LTR	27	D
				NB	9	A	LTR	9	A
				SB	15	B	LTR	15	B
500	Shamrock Road at Brightview Drive/Calla Lily Drive	118	F	EB	0	A	L	0	A
							T	0	A
							R	11	B
				WB	0	A	L	0	A
							T	0	A
							R	10	A
				NB	35	D	L	20	C
							T	0	A
							R	108	F
				SB	118	F	L	0	A
							T	0	A
							R	118	F
600	Shamrock Road at Beach Bay Road	1,008	F	EB	2	A	T	0	A
							R	13	B
				WB	0	A	L	0	A
							T	0	A
				NB	965	F	L	876	F
							R	1,008	F
700	Shamrock Road at Northward Road	77	F	EB	0	A	L	0	A
							T	0	A
				WB	0	A	T	0	A
							R	9	A
				SB	55	F	L	32	D
							R	76	F
800	Shamrock Road at Condor Road	24	C	EB	0	A	L	0	A
							T	0	A
							R	8	A
				WB	0	A	L	0	A
							T	0	A
							R	8	A
				NB	11	B	L	11	B
							T	0	A
							R	0	A
				SB	24	C	L	18	C
							T	0	A
							R	24	C
901	Lookout Road at Bodden Town Bypass	15	C	EB	11	B	LT	10	B
							TR	12	B
				WB	10	B	LTR	9	A
							R	12	B
				NB	11	B	LTR	11	B
				SB	21	C	L	22	C
							LTR	20	C
902	Bodden Town Road at Bodden Town Bypass	20	C	EB	20	C	LT	18	C
							T	22	C
				WB	17	C	T	13	B
							R	20	C
				SB	24	C	L	26	D
							R	22	C
1000	Bodden Town Road at Long Fellow Drive	14	B	EB	15	B	L	15	C
							T	14	B
				WB	14	B	T	14	B
							R	13	B
				SB	16	C	L	16	C
1100	Frank Sound Road at Bodden Town Road	28	D	EB	33	D	L	41	E
							T	24	C
				WB	4	A	T	0	A
							R	16	C
				SB	41	E	L	15	C
							R	50	E
							R	50	E
1200	Frank Sound Road at Clifton Hunter High School Access #1/Tie-in with EW Arterial	12	B	EB	9	A	L	4	A
							R	10	B
				NB	14	B	LT	14	B
				SB	11	B	TR	11	B
1300	Frank Sound Road at North Side Road/Old Robin Road	16	C	WB	12	B	L	11	B
							R	16	C
				NB	1	A	T	0	A
							R	8	A
				SB	0	A	L	0	A
							T	0	A

2074 LOS Table - Alternative B4 PM

#	Intersection	Overall Delay	LOS	Approach	Delay	LOS	Movement	Delay	LOS
1400	East-West Arterial at Agricola Drive Connector	5	A	EB	5	A	L	5	A
				WB	4	A	L	4	A
				NB	3	A	L	3	A
				SB	6	A	T	6	A
1501	East-West Arterial at Will T Connector 1	12	B	EB	13	B	LT	15	C
							TR	12	B
				WB	9	A	LT	9	A
							TR	8	A
				NB	7	A	L	7	A
							LTR	8	A
				SB	15	C	LTR	15	C
1502	East-West Arterial at Will T Connector 2	10	A	EB	12	B	T	13	B
							TR	11	B
				WB	7	A	LT	7	A
							T	6	A
				NB	7	A	L	7	A
							LR	8	A
1600	East-West Arterial at Northward Road	13	B	EB	0	A	T	0	A
							TR	0	A
				WB	0	A	LT	0	A
							T	0	A
				NB	13	B	L	13	B
							R	0	A
1700	East-West Arterial at Lookout Road	10	A	EB	11	B	LT	12	B
							R	10	A
				WB	7	A	T	8	A
							TR	7	A
				SB	13	B	LTR	13	B
2100	Frank Sound Road at East-West Arterial Road South	0	A	WB	0	A	L	0	A
							R	0	A
				NB	0	A	T	0	A
							R	0	A
				SB	0	A	L	0	A
							T	0	A

Attachment F: Average Daily Traffic (ADT) Volume Diagrams

Attachment F1

2021 Average Daily Traffic (ADT) Volume Diagrams

N

Miles

0 0.25 0.5 1

Rum Point Dr

North Side Rd

Old Robin Rd

Frank Sound Rd

Sea View Rd

Bodden Town Rd

Hirst Rd

Shamrock Rd

Beach Bay Rd

1,980

4,310

4,660

5,920

5,960

5,920

4,410

8,980

1,760

11,950

2,680

2,940

20,880

22,320

11,240

21,960

21,350

19,790

17,010

16,790

19,240

Average Daily Traffic (ADT) Counts 2021 Existing

Study Area Road

Primary Roads

Local Roads

ADT Count

Attachment F2

2026 Average Daily Traffic (ADT) Volume Diagrams

N

Miles

0 0.25 0.5 1

Rum Point Dr

North Side Rd

Old Robin Rd

Frank Sound Rd

Sea View Rd

Bodden Town Rd

Hirst Rd

Shamrock Rd

Beach Bay Rd

2,100

4,660

5,160

6,520

8,440

8,380

4,770

11,820

1,960

14,860

5,420

5,950

22,530

11,280

8,920

9,050

15,820

26,520

15,090

15,520

21,300

20,690

14,790

Average Daily Traffic (ADT) Counts 2026 No-Build

Study Area Road

Primary Roads

Local Roads

ADT Count

N

Miles

0 0.25 0.5 1

Rum Point Dr

North Side Rd

Old Robin Rd

Sea View Rd

Bodden Town Rd

Frank Sound Rd

Hirst Rd

Shamrock Rd

Beach Bay Rd

2,140

4,870

5,450

3,500

12,700

9,820

3,400

5,260

5,090

4,820

2,110

13,440

17,540

17,380

17,240

18,240

1,620

3,290

1,950

1,980

19,270

10,360

8,670

10,950

9,100

7,990

6,360

13,520

8,430

Average Daily Traffic (ADT) Counts 2026 B1

Study Area Road

Primary Roads

Local Roads

ADT Count

N

Miles

0 0.25 0.5 1

Rum Point Dr

North Side Rd

Old Robin Rd

2,140

4,860

5,460

6,920

12,410

13,230

4,960

Frank Sound Rd

4,800

4,860

Sea View Rd

14,750

1,580

Bodden Town Rd

2,370

1,680

1,830

1,870

18,570

18,190

18,850

Hirst Rd

19,820

9,780

8,420

10,920

Shamrock Rd

Beach Bay Rd

8,510

7,210

5,680

13,320

8,190

Average Daily Traffic (ADT) Counts 2026 B2

Study Area Road

Primary Roads

Local Roads

ADT Count

N

Miles

0 0.25 0.5 1

Rum Point Dr

North Side Rd

Old Robin Rd

2,110

4,840

5,420

6,870

13,080

11,760

5,300

Frank Sound Rd

5,140

4,840

Sea View Rd

13,700

2,030

Bodden Town Rd

3,280

1,620

1,920

1,960

17,480

17,820

17,620

18,390

Hirst Rd

19,510

10,360

8,630

11,080

Shamrock Rd

Beach Bay Rd

9,100

8,020

6,400

8,400

13,500

Average Daily Traffic (ADT) Counts 2026 B3

Study Area Road

Primary Roads

Local Roads

ADT Count

N

Miles

0 0.25 0.5 1

Rum Point Dr

North Side Rd

Old Robin Rd

Frank Sound Rd

Sea View Rd

Bodden Town Rd

Hirst Rd

Shamrock Rd

Beach Bay Rd

2,120

4,690

5,210

6,570

8,830

8,800

4,860

12,660

17,480

15,590

13,100

16,130

15,520

16,660

17,840

9,050

11,490

11,020

3,380

9,780

9,030

6,040

8,840

13,810

Average Daily Traffic (ADT) Counts 2026 B4

Study Area Road

Primary Roads

Local Roads

ADT Count

Attachment F3

2036 Average Daily Traffic (ADT) Volume Diagrams

N

Miles

0 0.25 0.5 1

Rum Point Dr

North Side Rd

Old Robin Rd

2,080

5,100

5,120

6,510

10,490

10,480

Frank Sound Rd

13,310

Sea View Rd

22,060

Bodden Town Rd

Hirst Rd

10,000

13,320

12,570

Shamrock Rd

23,750

36,480

34,170

23,400

26,230

Beach Bay Rd

34,280

31,130

6,790

1,920

5,800

25,220

24,110

Average Daily Traffic (ADT) Counts 2036 No-Build

Study Area Road

Primary Roads

Local Roads

ADT Count

N

Miles

0 0.25 0.5 1

Rum Point Dr

North Side Rd

Old Robin Rd

2,260

5,240

6,030

3,760

18,540

15,250

3,750

16,870

Frank Sound Rd

13,290

13,140

Sea View Rd

6,340

Bodden Town Rd

19,080

23,460

23,350

23,580

24,340

Hirst Rd

2,010

7,860

3,250

3,400

29,670

14,860

Shamrock Rd

5,060

10,810

15,570

Beach Bay Rd

14,230

12,900

10,140

20,380

10,920

Average Daily Traffic (ADT) Counts 2036 B1

Study Area Road

Primary Roads

Local Roads

ADT Count

N

Miles

0 0.25 0.5 1

Rum Point Dr

North Side Rd

Old Robin Rd

2,250

5,210

5,980

7,450

18,190

19,080

17,910

Frank Sound Rd

14,160

13,150

Sea View Rd

20,320

5,610

Bodden Town Rd

1,630

6,780

3,490

3,640

24,240

24,110

24,280

25,000

Hirst Rd

29,910

14,230

14,970

10,520

4,820

Shamrock Rd

20,230

10,770

Beach Bay Rd

13,600

12,280

9,270

Average Daily Traffic (ADT) Counts 2036 B2

Study Area Road

Primary Roads

Local Roads

ADT Count

N

Miles

0 0.25 0.5 1

Rum Point Dr

North Side Rd

Old Robin Rd

2,248

5,218

5,982

7,453

19,828

18,493

18,187

Frank Sound Rd

20,355

14,453

13,131

Sea View Rd

5,355

Bodden Town Rd

24,398

24,350

24,170

25,136

Hirst Rd

1,596

6,785

3,523

3,675

30,047

14,166

Shamrock Rd

4,802

10,448

14,895

Beach Bay Rd

13,561

12,270

9,235

20,154

10,688

Average Daily Traffic (ADT) Counts 2036 B3

Study Area Road

Primary Roads

Local Roads

ADT Count

N

Miles

0 0.25 0.5 1

Rum Point Dr

North Side Rd

Old Robin Rd

2,430

5,170

6,120

7,580

12,180

12,170

Frank Sound Rd

13,610

Sea View Rd

23,260

Bodden Town Rd

27,930

18,280

21,290

4,480

21,190

21,170

22,330

28,700

Hirst Rd

16,710

17,340

11,560

11,230

4,730

20,500

Shamrock Rd

Beach Bay Rd

16,100

15,200

11,410

Average Daily Traffic (ADT) Counts 2036 B4

Study Area Road

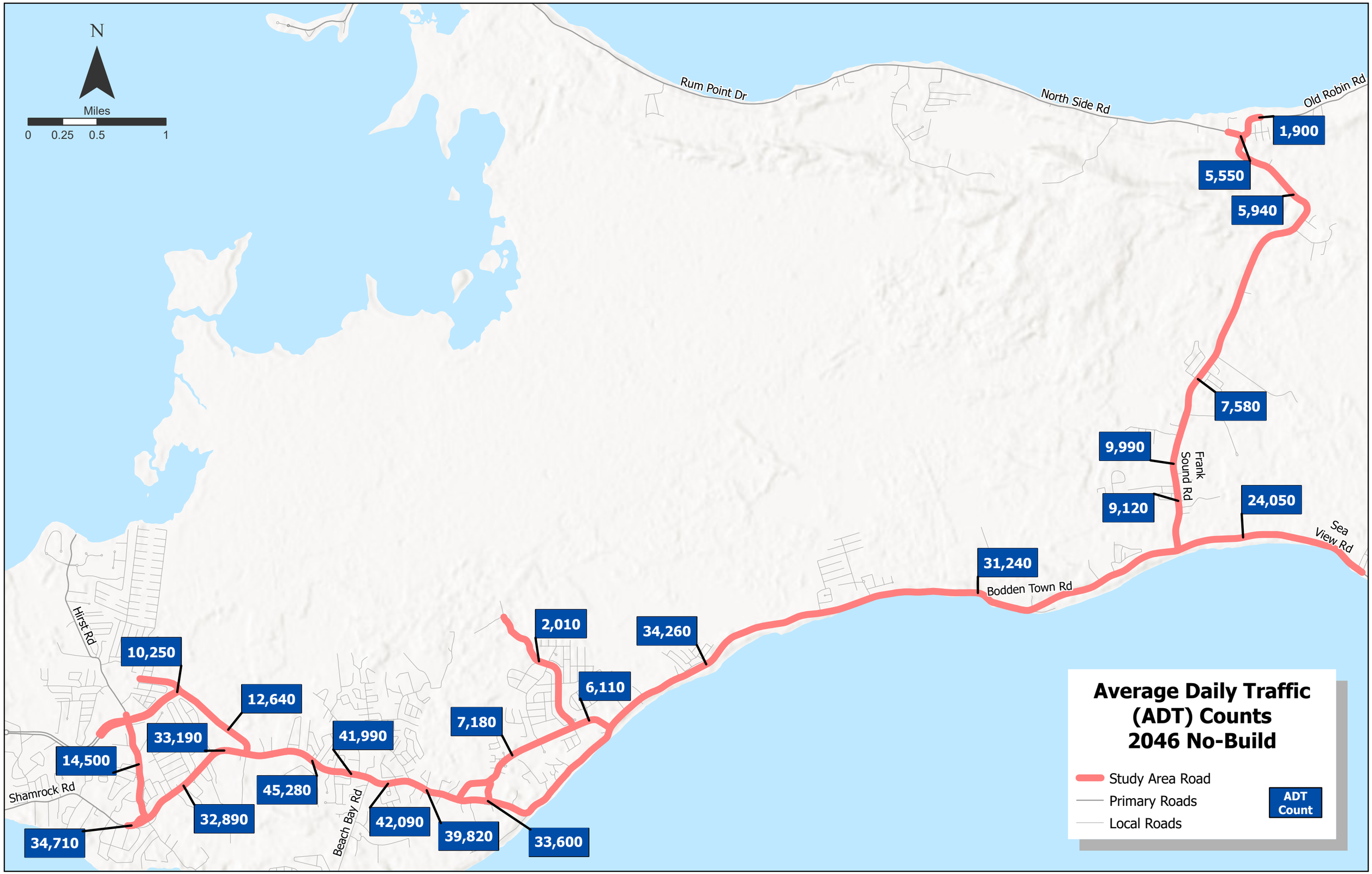
Primary Roads

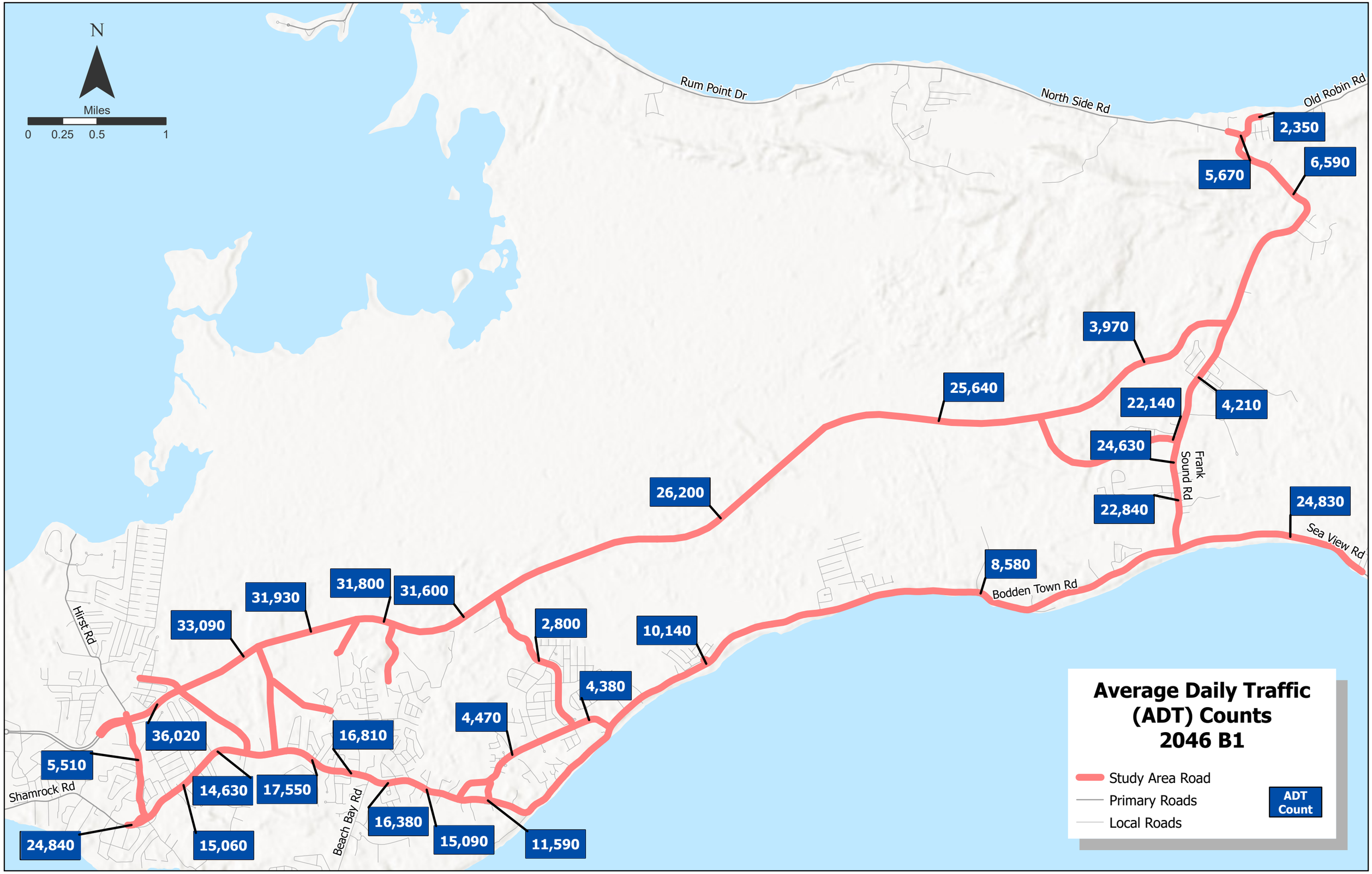
Local Roads

ADT Count

Attachment F4

2046 Average Daily Traffic (ADT) Volume Diagrams


N
Miles
0 0.25 0.5 1
Rum Point Dr
North Side Rd
Old Robin Rd
1,900
5,550
5,940
7,580
9,990
9,120
Frank Sound Rd
24,050
Sea View Rd
31,240
Bodden Town Rd
34,260
2,010
6,110
7,180
41,990
45,280
42,090
39,820
33,600
12,640
10,250
33,190
14,500
32,890
34,710
Hirst Rd
Shamrock Rd
Beach Bay Rd
Average Daily Traffic (ADT) Counts 2046 No-Build
Study Area Road
Primary Roads
Local Roads
ADT Count


N
Miles
0 0.25 0.5 1
Rum Point Dr
North Side Rd
Old Robin Rd
2,350
5,670
6,590
3,970
25,640
22,140
4,210
24,630
Frank Sound Rd
26,200
22,840
24,830
Sea View Rd
8,580
Bodden Town Rd
Hirst Rd
31,930
31,800
31,600
33,090
2,800
10,140
4,380
4,470
36,020
16,810
5,510
Shamrock Rd
14,630
17,550
Beach Bay Rd
16,380
15,090
11,590
24,840
15,060
Average Daily Traffic (ADT) Counts 2046 B1
Study Area Road
Primary Roads
Local Roads
ADT Count

N

Miles

0 0.25 0.5 1

Rum Point Dr

North Side Rd

Old Robin Rd

2,372

5,655

6,573

8,152

26,235

26,998

26,420

Frank Sound Rd

24,251

25,019

Sea View Rd

28,670

7,468

Bodden Town Rd

8,243

2,760

3,728

3,845

34,211

33,992

34,168

35,271

Hirst Rd

37,830

15,030

5,246

Shamrock Rd

13,197

15,819

Beach Bay Rd

14,718

13,368

10,453

13,641

23,426

Average Daily Traffic (ADT) Counts 2046 B2

Study Area Road

Primary Roads

Local Roads

ADT Count

N

Miles

0 0.25 0.5 1

Rum Point Dr

North Side Rd

Old Robin Rd

2,350

5,640

6,540

8,120

26,950

25,700

25,920

Frank Sound Rd

23,970

24,860

Sea View Rd

27,500

7,670

Bodden Town Rd

9,090

2,740

3,840

3,970

33,150

32,910

33,120

34,260

Hirst Rd

37,080

15,770

5,370

Shamrock Rd

13,600

16,460

14,050

23,850

Beach Bay Rd

15,440

14,110

11,110

Average Daily Traffic (ADT) Counts 2046 B3

Study Area Road

Primary Roads

Local Roads

ADT Count

N

Miles

0 0.25 0.5 1

Rum Point Dr

North Side Rd

Old Robin Rd

Frank Sound Rd

Sea View Rd

Bodden Town Rd

Hirst Rd

Shamrock Rd

Beach Bay Rd

2,340

5,570

6,440

8,000

14,720

14,720

25,160

33,000

37,730

29,380

32,910

31,920

33,130

34,240

7,080

16,340

36,080

5,000

14,240

16,990

15,990

14,570

8,470

14,670

24,520

Average Daily Traffic (ADT) Counts 2046 B4

Study Area Road

Primary Roads

Local Roads

ADT Count

Attachment F5

2074 Average Daily Traffic (ADT)
Volume Diagrams

N

Miles

0 0.25 0.5 1

Rum Point Dr

North Side Rd

Old Robin Rd

2,100

8,190

8,820

10,600

19,270

Frank Sound Rd

22,980

34,930

Sea View Rd

46,440

Bodden Town Rd

49,560

2,240

11,300

12,940

58,840

14,030

7,560

17,710

53,080

62,320

56,620

74,120

58,830

55,170

43,290

Beach Bay Rd

Hirst Rd

Shamrock Rd

Average Daily Traffic (ADT) Counts 2074 No-Build

Study Area Road

Primary Roads

Local Roads

ADT Count

N

Miles

0 0.25 0.5 1

Rum Point Dr

North Side Rd

Old Robin Rd

2,660

8,570

9,840

6,120

41,820

36,020

5,500

39,350

Frank Sound Rd

42,980

35,720

32,020

Sea View Rd

12,320

Bodden Town Rd

49,210

49,030

48,950

52,130

2,610

13,320

Hirst Rd

6,270

6,600

56,320

22,950

15,940

Shamrock Rd

23,770

24,700

Beach Bay Rd

22,010

20,230

14,670

24,620

44,280

Average Daily Traffic (ADT) Counts 2074 B1

Study Area Road

Primary Roads

Local Roads

ADT Count

N

Miles

0 0.25 0.5 1

Rum Point Dr

North Side Rd

Old Robin Rd

Frank Sound Rd

Sea View Rd

Bodden Town Rd

Hirst Rd

Shamrock Rd

Beach Bay Rd

2,650

8,460

9,730

11,500

42,960

44,150

42,020

38,230

31,980

45,920

9,950

10,770

2,630

5,240

5,570

51,360

51,670

51,670

54,440

58,660

20,600

17,160

21,940

22,720

19,660

17,860

13,350

43,600

22,820

Average Daily Traffic (ADT) Counts 2074 B2

Study Area Road

Primary Roads

Local Roads

ADT Count

N

Miles

0 0.25 0.5 1

Rum Point Dr

North Side Rd

Old Robin Rd

2,660

8,510

9,790

11,580

43,300

41,570

41,000

Frank Sound Rd

37,300

32,040

Sea View Rd

44,460

11,140

Bodden Town Rd

50,140

50,430

50,360

53,250

2,600

11,940

5,840

Hirst Rd

6,180

56,660

21,780

15,310

Shamrock Rd

23,130

23,720

Beach Bay Rd

20,820

19,040

13,870

42,790

23,570

Average Daily Traffic (ADT) Counts 2074 B3

Study Area Road

Primary Roads

Local Roads

ADT Count

N

Miles

0 0.25 0.5 1

Rum Point Dr

North Side Rd

Old Robin Rd

2,660

8,410

9,660

11,450

27,090

Frank Sound Rd

32,220

32,300

Sea View Rd

51,790

Bodden Town Rd

56,660

38,360

49,840

13,910

42,860

42,040

45,480

Hirst Rd

50,640

28,540

11,100

Shamrock Rd

28,300

29,770

44,010

28,890

Beach Bay Rd

27,730

26,130

13,300

Average Daily Traffic (ADT) Counts 2074 B4

Study Area Road

Primary Roads

Local Roads

ADT Count

Attachment G:
Crash Modification Factors (CMFs)

CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 206

CMF Name: Conversion of stop-controlled intersection into single-lane roundab

Description:

Prior Condition: No Prior Condition(s)

Category: Intersection geometry

Study ID: *Observational Before-After Study of the Safety Effect of U.S. Roundabout Conversions Using the Empirical Bayes Method*, Persaud et al. 2001

Star Quality Rating	
Star Quality Rating:	4 Stars

Crash Modification Factor (CMF)	
Value:	0.28
Adjusted Standard Error:	0.11
Unadjusted Standard Error:	0.06

Crash Reduction Factor	
Value:	72
Adjusted Standard Error:	11
Unadjusted Standard Error:	6

Applicability	
Crash Type:	All
Crash Severity:	All
Roadway Types:	Not specified
Minimum Number of Lanes:	
Maximum Number of Lanes:	
Number of Lanes Direction:	
Number of Lanes Comment:	
Road Division Type:	
Minimum Speed Limit:	
Maximum Speed Limit:	
Speed Unit:	
Speed Limit Comment:	
Area Type:	Urban
Traffic Volume:	
Average Traffic Volume:	
Time of Day:	
If countermeasure is intersection-based.	
Intersection Type:	Roadway/roadway (not interchange related)
Intersection Geometry:	Not specified
Traffic Control:	Stop-controlled
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Average Major Road Volume:	
Average Minor Road Volume:	

Development Details

Date Range of Data Used:	
Municipality:	
State:	
Country:	
Type of Methodology Used:	Before/after using empirical Bayes or full Bayes

Other Details

Included in HSM:	No
Date Added to Clearinghouse:	Dec 01, 2009
Comments:	

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CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 208

CMF Name: Conversion of stop-controlled intersection into multi-lane roundabo

Description:

Prior Condition: No Prior Condition(s)

Category: Intersection geometry

Study ID: *Observational Before-After Study of the Safety Effect of U.S. Roundabout Conversions Using the Empirical Bayes Method*, Persaud et al. 2001

Star Quality Rating	
Star Quality Rating:	4 Stars

Crash Modification Factor (CMF)	
Value:	0.95
Adjusted Standard Error:	0.18
Unadjusted Standard Error:	0.1

Crash Reduction Factor	
Value:	5
Adjusted Standard Error:	18
Unadjusted Standard Error:	10

Applicability	
Crash Type:	All
Crash Severity:	All
Roadway Types:	Not specified
Minimum Number of Lanes:	
Maximum Number of Lanes:	
Number of Lanes Direction:	
Number of Lanes Comment:	
Road Division Type:	
Minimum Speed Limit:	
Maximum Speed Limit:	
Speed Unit:	
Speed Limit Comment:	
Area Type:	Urban
Traffic Volume:	
Average Traffic Volume:	
Time of Day:	
If countermeasure is intersection-based.	
Intersection Type:	Roadway/roadway (not interchange related)
Intersection Geometry:	Not specified
Traffic Control:	Stop-controlled
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Average Major Road Volume:	
Average Minor Road Volume:	

Development Details

Date Range of Data Used:	
Municipality:	
State:	
Country:	
Type of Methodology Used:	Before/after using empirical Bayes or full Bayes

Other Details

Included in HSM:	No
Date Added to Clearinghouse:	Dec 01, 2009
Comments:	

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CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 974

CMF Name: Install median barrier

Description:

Prior Condition: No Prior Condition(s)

Category: Roadside

Study ID: *Development of Crash Reduction Factors*, Hovey and Chowdhury 2005

Star Quality Rating	
Star Quality Rating:	4 Stars

Crash Modification Factor (CMF)	
Value:	0.14
Adjusted Standard Error:	
Unadjusted Standard Error:	0.029

Crash Reduction Factor	
Value:	86
Adjusted Standard Error:	
Unadjusted Standard Error:	2.9

Applicability	
Crash Type:	All
Crash Severity:	All
Roadway Types:	All
Minimum Number of Lanes:	
Maximum Number of Lanes:	
Number of Lanes Direction:	
Number of Lanes Comment:	
Road Division Type:	
Minimum Speed Limit:	
Maximum Speed Limit:	
Speed Unit:	
Speed Limit Comment:	
Area Type:	All
Traffic Volume:	
Average Traffic Volume:	
Time of Day:	
If countermeasure is intersection-based.	
Intersection Type:	
Intersection Geometry:	
Traffic Control:	
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Average Major Road Volume:	
Average Minor Road Volume:	

Development Details

Date Range of Data Used:	
Municipality:	
State:	OH
Country:	
Type of Methodology Used:	Before/after using empirical Bayes or full Bayes
Sample Size (sites):	4 sites after

Other Details

Included in HSM:	No
Date Added to Clearinghouse:	Dec 01, 2009
Comments:	The number of crashes in the after period were not reported in this study, however, they have been recorded as 300 to give 10 points as a beneift of doubt for one or more of the following: (1) number of miles/sites in the reference/treatment group, (2) number of crashes in the references/treatment group, (3) reporting AADTs for the aggregate dataset but not for the disaggragate dataset used for CMF development.

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CMF / CRF Details

CMF ID: 3097

CMF Name: Absence of access points

Description:

Prior Condition: No Prior Condition(s)

Category: Access management

Study ID: *Non-intersection-related Crashes at Mid-block in an Urban Divided Arterial Road with High Truck Volume*, Lee et al. 2011

Star Quality Rating	
Star Quality Rating:	4 Stars

Crash Modification Factor (CMF)	
Value:	0.56
Adjusted Standard Error:	
Unadjusted Standard Error:	0.27

Crash Reduction Factor	
Value:	44
Adjusted Standard Error:	
Unadjusted Standard Error:	26.7

Applicability	
Crash Type:	All
Crash Severity:	All
Roadway Types:	Principal Arterial Other
Minimum Number of Lanes:	
Maximum Number of Lanes:	
Number of Lanes Direction:	
Number of Lanes Comment:	
Road Division Type:	Divided by Median
Minimum Speed Limit:	
Maximum Speed Limit:	
Speed Unit:	
Speed Limit Comment:	
Area Type:	Urban
Traffic Volume:	
Average Traffic Volume:	
Time of Day:	All
If countermeasure is intersection-based.	
Intersection Type:	
Intersection Geometry:	
Traffic Control:	
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Average Major Road Volume:	
Average Minor Road Volume:	

Development Details

Date Range of Data Used:	2000 to 2006
Municipality:	Windsor, Ontario
State:	notusa
Country:	Canada
Type of Methodology Used:	Regression cross-section
Sample Size (crashes):	383 crashes

Other Details

Included in HSM:	No
Date Added to Clearinghouse:	Jul 15, 2011
Comments:	

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CMF / CRF Details

CMF ID: 7566

CMF Name: Convert 2 lane roadway to 4 lane divided roadway

Description: Conversion of urban and rural two-lane roadways to four-lane divi

Prior Condition: 2 lane roadway

Category: Roadway

Study ID: *Evaluation of the Safety Effectiveness of the Conversion of Two-Lane Roadways to Four-Lane Divided Roadways: Bayesian vs. Empirical Bayes*, Ahmed et al. 2015

Star Quality Rating	
Star Quality Rating:	4 Stars

Crash Modification Factor (CMF)	
Value:	0.341
Adjusted Standard Error:	
Unadjusted Standard Error:	0.091

Crash Reduction Factor	
Value:	65.88
Adjusted Standard Error:	
Unadjusted Standard Error:	9.05

Applicability	
Crash Type:	All
Crash Severity:	All
Roadway Types:	Not specified
Minimum Number of Lanes:	2
Maximum Number of Lanes:	2
Number of Lanes Direction:	
Number of Lanes Comment:	
Road Division Type:	Undivided
Minimum Speed Limit:	
Maximum Speed Limit:	
Speed Unit:	
Speed Limit Comment:	
Area Type:	Urban
Traffic Volume:	
Average Traffic Volume:	
Time of Day:	All
If countermeasure is intersection-based.	
Intersection Type:	
Intersection Geometry:	
Traffic Control:	
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Average Major Road Volume:	
Average Minor Road Volume:	

Development Details

Date Range of Data Used:	2002 to 2012
Municipality:	
State:	FL
Country:	USA
Type of Methodology Used:	Before/after using empirical Bayes or full Bayes
Sample Size (crashes):	69 crashes before, 30 crashes after
Sample Size (sites):	41 sites before, 41 sites after
Sample Size (miles):	8.578 miles before

Other Details

Included in HSM:	No
Date Added to Clearinghouse:	Nov 01, 2015
Comments:	

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CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 9403

CMF Name: Convert intersection with minor-road stop control to modern round

Description:

Prior Condition: Intersection with stop-control on the minor roadway.

Category: Intersection geometry

Study ID: *Safety of Roundabout: The Details Matter*, Sun et al. 2018

Star Quality Rating	
Star Quality Rating:	4 Stars

Crash Modification Factor (CMF)	
Value:	0.28
Adjusted Standard Error:	
Unadjusted Standard Error:	0.054

Crash Reduction Factor	
Value:	72
Adjusted Standard Error:	
Unadjusted Standard Error:	5.4

Applicability	
Crash Type:	All
Crash Severity:	All
Roadway Types:	Not specified
Minimum Number of Lanes:	
Maximum Number of Lanes:	
Number of Lanes Direction:	
Number of Lanes Comment:	
Road Division Type:	
Minimum Speed Limit:	
Maximum Speed Limit:	
Speed Unit:	
Speed Limit Comment:	
Area Type:	Urban and suburban
Traffic Volume:	
Average Traffic Volume:	
Time of Day:	All
If countermeasure is intersection-based.	
Intersection Type:	
Intersection Geometry:	3-leg,4-leg
Traffic Control:	Stop-controlled
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Average Major Road Volume:	
Average Minor Road Volume:	

Development Details

Date Range of Data Used:	
Municipality:	
State:	LA
Country:	United States
Type of Methodology Used:	Before/after using empirical Bayes or full Bayes
Sample Size (crashes):	124 crashes before, 37 crashes after
Sample Size (sites):	5 sites before, 5 sites after

Other Details

Included in HSM:	No
Date Added to Clearinghouse:	Oct 27, 2018
Comments:	This CMF is for converting 3- or 4-leg minor stop control intersections to roundabout.

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CMF / CRF Details

CMF ID: 11246

CMF Name: Install sidewalk

Description:

Prior Condition: No Prior Condition(s)

Category: Pedestrians

Study ID: *Investigating the Correlation between Sidewalks and Pedestrian Safety*, Abou-Senna et al. 2022

Star Quality Rating	
Star Quality Rating:	4 Stars

Crash Modification Factor (CMF)	
Value:	0.598
Adjusted Standard Error:	
Unadjusted Standard Error:	

Crash Reduction Factor	
Value:	40.2
Adjusted Standard Error:	
Unadjusted Standard Error:	

Applicability	
Crash Type:	Vehicle/pedestrian
Crash Severity:	All
Roadway Types:	All
Minimum Number of Lanes:	
Maximum Number of Lanes:	
Number of Lanes Direction:	
Number of Lanes Comment:	
Road Division Type:	
Minimum Speed Limit:	
Maximum Speed Limit:	
Speed Unit:	
Speed Limit Comment:	
Area Type:	
Traffic Volume:	
Average Traffic Volume:	
Time of Day:	All
If countermeasure is intersection-based.	
Intersection Type:	
Intersection Geometry:	
Traffic Control:	
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Average Major Road Volume:	
Average Minor Road Volume:	

Development Details

Date Range of Data Used:	2009 to 2014
Municipality:	
State:	FL
Country:	USA
Type of Methodology Used:	

Other Details

Included in HSM:	No
Date Added to Clearinghouse:	Dec 06, 2022
Comments:	The CMF presented here is the inverse of what was presented in the paper in order to be consistent with the countermeasures present in the CMF Clearinghouse.

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Attachment H:
Future Year Planned Projects

The 2026 planned roadway infrastructure includes the following, as shown in **Figure 1**:

1. **East-West Arterial (EWA) Extension** to Woodland Drive
2. **Agricola Drive Connector** from EWA to Agricola Drive – one lane in each direction
3. **EWA Widening** between Tomlinson Roundabout and Hirst Road – two lanes in each direction
4. **EWA Widening** between Silver Oaks Roundabout and Tomlinson Roundabout – three lanes in each direction
5. **Parallel Service Road** from Silver Oaks Roundabout to Red Bay via Grand Harbour development
6. **Bobby Thompson Way (BTW) & Linford Pierson Highway (LPH) Widening** – three lanes in each direction
7. **Linford Pierson Highway (LPH) Extension** to Outpost Road – one lane in each direction
8. **Agnes Way Extension** from Linford Pierson Highway to Cayman Enterprise and Fairbanks Road – one lane in each direction
9. **Fairbank Road Widening** between LPH and Agnes Way Ext. – two lanes in each direction
10. **Airport Collector Road (ACR)** to Industrial Park – one lane in each direction
11. **Eastern Avenue Extension** from Elgin Avenue to Smith Road – one lane in each direction
12. **Godfrey Nixon Way (GNW) Extension** to North Church Street – one lane in each direction
13. **Olympic Way Connector** to Academy Way for school/stadium complex – one lane in each direction
14. **Printer Way** widened to two-direction road from Elgin Avenue to Shedden Road – one lane in each direction
15. **Esterly Tibbetts Highway (ETH) Widening** between North Sound Road and Airport Collector Road – three lanes in each direction
16. **ETH Connector** to Reverend Blackman Road – one lane in each direction
17. **Canal Point Drive Connector** to West Bay Road – one lane in each direction
18. **BP40 – Anton Bodden Connector** to Manse Road, including roundabout at Shamrock Road – one lane in each direction

The 2036 No-Build scenario includes all 2026 planned improvements as well as the following additional projects, as shown in **Figure 2:**

19. **Airport Connector Roadway (ACR)** – Full build out between Esterly Tibbetts Highway and Airport – two lanes in each direction
20. **Roberts Drive Extension** between North Sound Road and Dorcy Drive – one lane in each direction
21. **Eastern Avenue Extension** from Shedden Road to Elgin Avenue and from Smith Road to Outpost Street – one lane in each direction
22. **South Sound By-Pass Corridor –** one lane in each direction
23. **LPH Extension** to Walkers Rd – two lanes in each direction between Bobby Thompson Way and Outpost Street; one lane in each direction between Outpost Street and Walkers Road
24. **Fairbanks Road Widening** between Cayman Enterprise and LPH – two lanes in each direction
25. **Hell Road Extension** to Northwest Point Road – one lane in each direction
26. **BP 40 coastal** collector roadway from Pedro Castle Road to BP 40 Anton Bodden Connector – one lane in each direction
27. **Godfrey Nixon Way Connectors** to Fort Street and Bodden Road – one lane in each direction

The 2046 No-Build scenario includes all 2026 and 2036 planned improvements as well as the following additional projects, as shown in **Figure 3:**

28. **ACR to West Bay Road connectors** with two branches as collector roadways (one connector to Jasmin Blossom Way and another to Marbel Drive)
29. **South Sound By-Pass Corridor Widening –** two lanes in each direction along the main section to Cayman Enterprise City from Old Crewe Road
30. **Agnes Way Connector widening** – two lanes in each direction
31. **South Sound Road -** two lanes in each direction from Shamrock Rd/Crewe Rd to Old Crewe Road
32. **Spotts-Connector** - New connector from International College Cayman Islands and Hirst Road to the EWA at Chime Street, then to Shamrock Road – one lane road in each direction
33. **Extension of John McLean Drive to High Rock Drive** – one lane in each direction
34. **East End Interior** – between southern Spur of the EWA corridor by Clifton Hunter High School to Farm Road – one lane in each direction

The 2074 No-Build scenario includes all 2026, 2036, and 2046 planned improvements. No additional planned roadway infrastructure projects were provided from 2046 to 2074.

Figure 1: 2026 Planned Roadway Projects

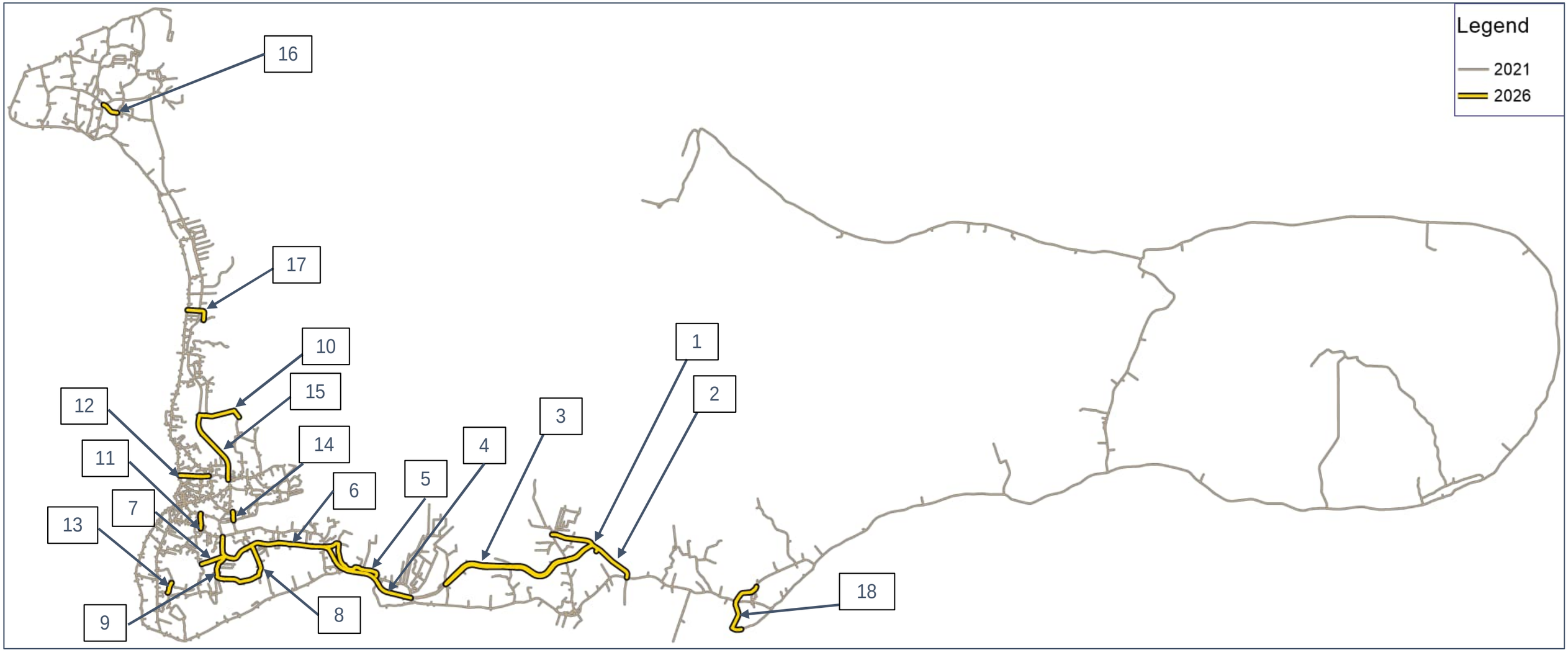


Figure 2: 2036 Planned Roadway Projects

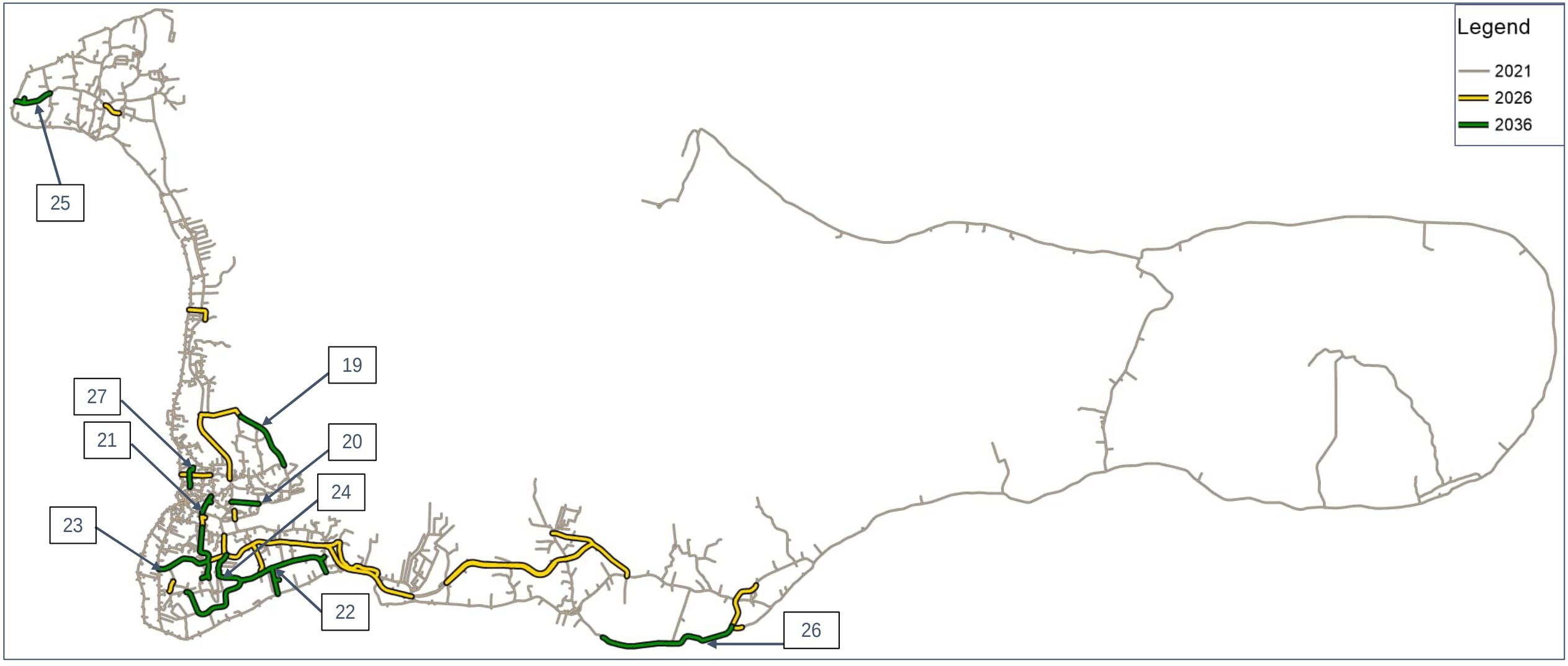
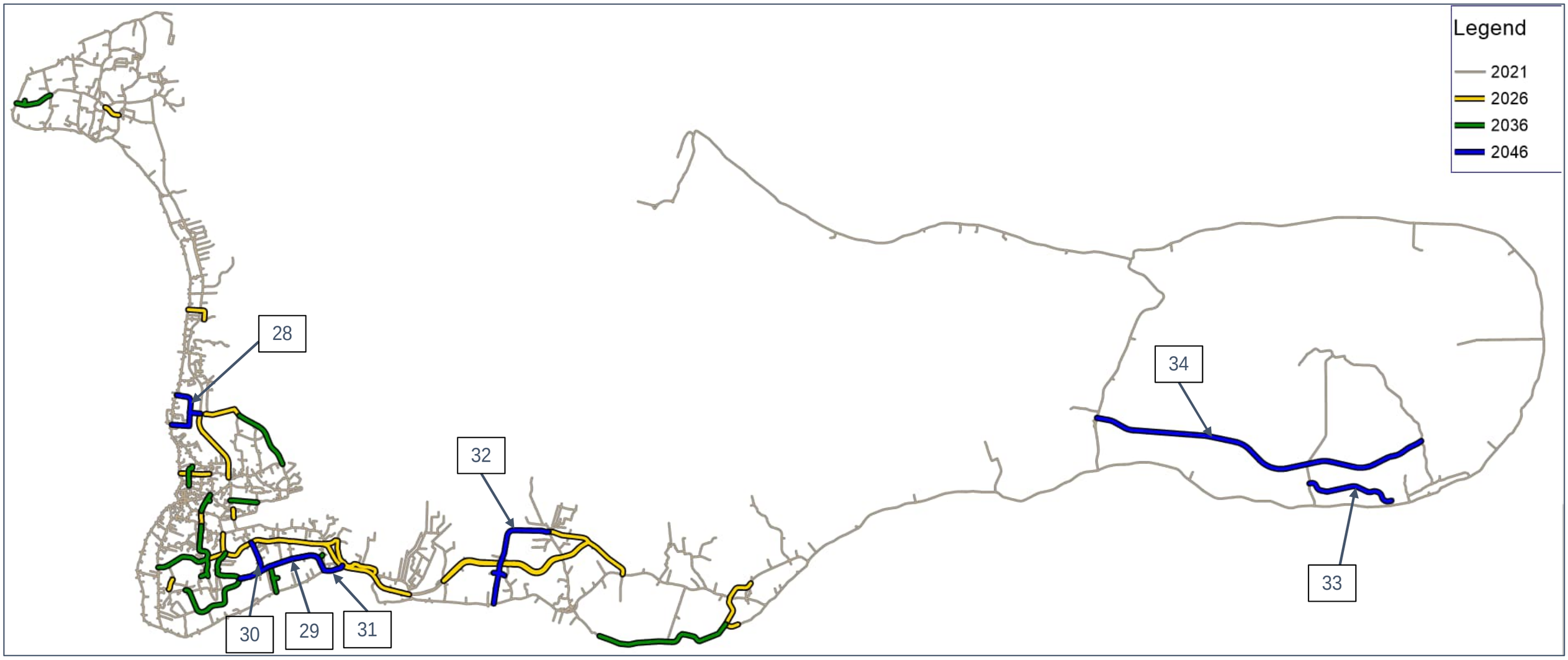


Figure 3: 2046 Planned Roadway Projects



Appendix E, Attachment B – Engineering – Assessment of Alternatives

Environmental Statement
East-West Arterial Extension:
Section 2 (Woodland Drive – Lookout Road)
Section 3 (Lookout Road – Frank Sound Road)



Engineering FINAL

Assessment of Alternatives
Grand Cayman East-West Arterial Extension

NRA
NATIONAL ROADS AUTHORITY

May 23, 2024

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List of Terms

AASHTO	American Association of State Highway and Transportation Officials
BRT	Bus rapid transit
CAPEX	Capital Expenditure
CSF	Critical Success Factor
EWA	East-West Arterial
KM	Kilometre
KPH	Kilometres Per Hour
MPH	Miles per Hour
NACTO	National Association of City Transportation Officials
NRA	National Roads Authority
PV	Photovoltaic
ROW	Right of Way
ToR	Terms of Reference
UK	United Kingdom
US	United States
WebTAG	UK Department for Transport “Transport Analysis Guidance”

1. Introduction

The East-West Arterial (EWA) Extension Environmental Impact Assessment (EIA) is proposed to evaluate an alternative east-west travel route on Grand Cayman. The Terms of Reference (ToR) for the proposed EWA Extension EIA was finalized on April 4, 2023. Since then, five Build alternatives (B1, B2, B3, B4, and C1), in addition to the No-Build scenario were developed and assessed as part of the Longlist Evaluation. A separate Longlist Evaluation Document has been prepared to document this analysis.

As a result of the Longlist Evaluation four Build alternatives (B1, B2, B3 and B4) and the No-Build scenario were advanced to the shortlist evaluation process and Alternative C1 was dismissed. Based on the technical discipline studies, it was determined that Alternative B4 would not meet a number of the identified Critical Success Factors (CSFs) without resulting in significant impacts to properties and resource features along this route. See **Section 2.5: Alternative B4** for additional information. Due to these considerations Alternative B4 was not further evaluated within this Engineering Evaluation Report.

This report focuses on the engineering for the No-Build scenario and the remaining three Build alternatives B1, B2, and B3. Information from this report will be incorporated within the Shortlist Alternatives Evaluation Document and Environmental Statement.

2. Shortlist of Alternatives

This Engineering Evaluation Report presents the engineering features which have been evaluated in developing the shortlisted alternatives. These features include design criteria, typical sections, roadway profiles, bridges, utilities, and potential future features. Also included for each of the alternatives is information on cost estimates and constructability.

The level of detail/design that was developed and evaluated for this analysis represents conceptual design prepared at approximately 10% of the design necessary for construction plans. 10% design determines the design criteria and includes a high-level analysis of preliminary horizontal and vertical geometry and typical sections for the roadway & bridges. Preliminary 3D modelling of the corridor is also completed to help determine preliminary excavation volumes and impacts. This analysis provides enough detail to estimate costs and approximate property & environmental impacts. As a result of the comprehensive Shortlist Evaluation a Preferred Alternative will be selected and the engineering design for the Preferred Alternative will be further advanced to approximately 30%. A Preliminary 30% Plan Set will be developed and resulting impacts will be further analysed and the results documented in the Environmental Statement that will be prepared for this project.

The Shortlist of Alternatives contained in this Engineering Evaluation Report includes the No-Build scenario and three Build alternatives (B1, B2, and B3) as shown in **Figure 1**. A brief description of the elimination of Alternative B4 from the Shortlist of Alternatives is included within **Section 2.5: Alternative B4**. As shown in **Figure 1,** the three Build alternatives all share the same common section (Section 2) beginning at the western terminus of the EWA Extension near Woodland Drive and continuing east to near Lookout Road. They also share the same

common improvements to the local roadway network referred to as the Will T Connector. The following sections describe the features included in each of these alternatives.

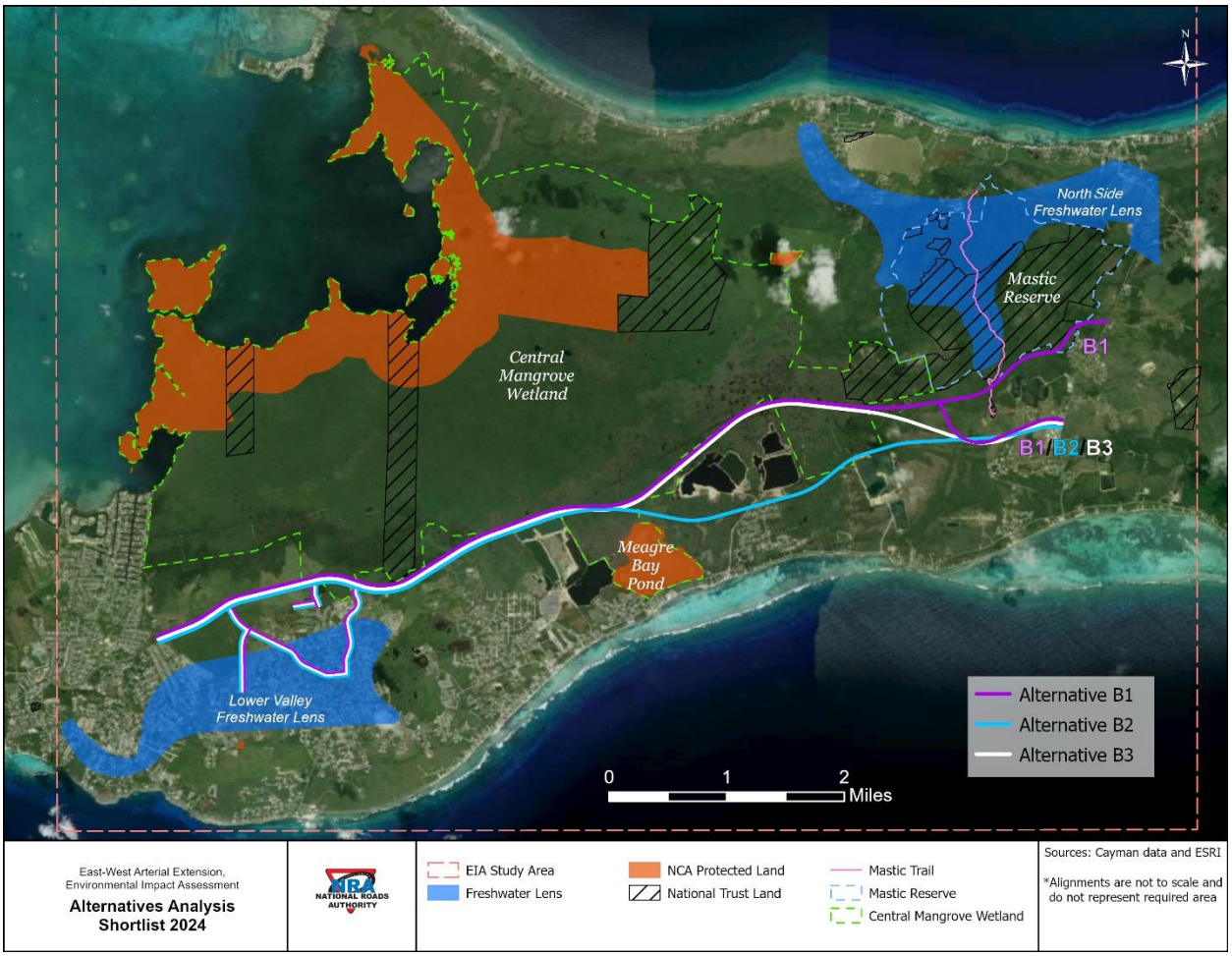


Figure 1: Shortlist of Build Alternatives

2.1 Planned Future Roadway Infrastructure (No-Build Scenario)

The Planned Future Roadway Infrastructure (No-Build scenario) includes the following:

- Included as a benchmark from which to evaluate and compare the impacts of other alternatives; the difference between No-Build and Build conditions is that the Build conditions will include the proposed project-specific alternatives.
- Encompasses future year land use and roadway improvement assumptions within and around the project study area. Future land use reflects the growth in population, households, and employment. Roadway improvements include projects that will provide additional traffic capacity (e.g., new alignment or widening – additional travel lanes) or provide an improvement in operations (e.g., new intersection, signalization, etc.).
- Includes planned improvements to the island's roadway network independent of Alternatives B1, B2, and B3. These planned improvements have been included as part of future year traffic evaluations and hydrologic modelling but not evaluated for

environmental or social impact as the Cayman Islands Government is planning these improvements as independent projects.

2.2 Alternative B1

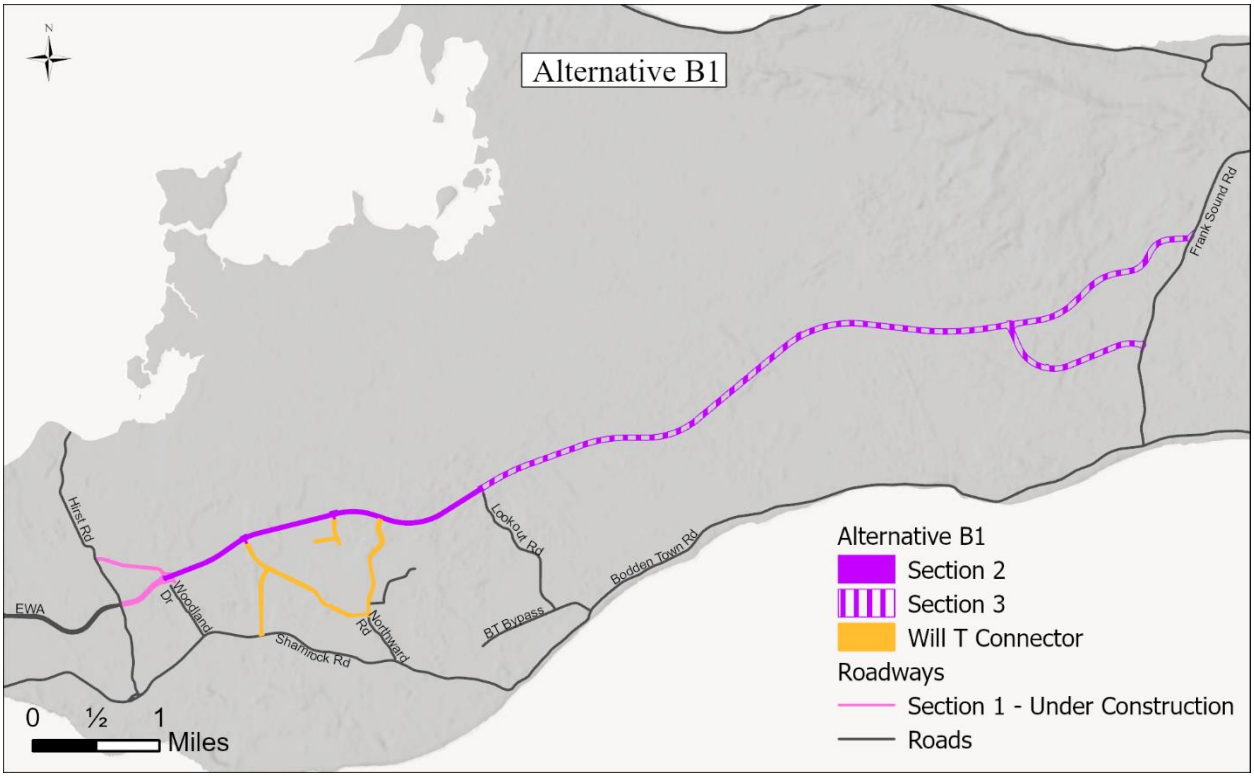


Figure 2: Alternative B1

Alternative B1, shown in **Figure 2**, was developed to follow the corridor that was gazetted by the by the National Roads Authority (NRA) as published in the Cayman Islands Gazette, Extraordinary Supplement, Number 13/2005 in May 2005, in accordance with Section 25 of the Roads Law (2000 Revision), now Section 26 under the Roads Law (2005 Revision). The western limit for Alternative B1 begins at the terminus of Section 1 of the EWA (currently under construction) near Woodland Drive and travels east with the construction of a new roadway for approximately 8 miles (13 km) to Frank Sound Road. As shown in **Figure 2**, Alternative B1 includes two segments of new roadway with two separate connections to Frank Sound Road.

Also shown in **Figure 2**, Alternative B1 is made up of two sections including Section 2, which is located from Woodland Drive to Lookout Road and Section 3, located from Lookout Road to Frank Sound Road. It also includes a series of roadway improvements described as the Will T Connector. Section 2 is the same for all Build alternatives and all Build alternatives also include the Will T Connector improvements.

Following the Longlist Evaluation, additional information was collected on the environmental and man-made features throughout the study area. As a result, the location of segments of Alternative B1 were shifted slightly to the south in the Northward area and other areas to avoid impacts to National Trust owned Central Mangrove Wetland parcels and Mastic Reserve parcels. In addition, the location of Alternative B1 was also shifted slightly north in areas to avoid encroachment on

active quarries. Figures showing the originally gazetted corridor and the modifications made to Alternative B1 can be found in **Attachment A**.

The proposed corridor width for the primary east-west corridor of Alternative B1 is 220-feet (67 m). This corridor width allows for the area needed to accommodate a variety of features including roadway travel lanes and shoulders, transit transportation lanes, a pedestrian sidewalk, a micromobility path, lighting, utilities, and a solar panel canopy. The transit transportation lanes, lighting, utilities, and solar panel canopy are not within the ambit of the NRA and their inclusion within the corridor is dependent on the appropriate responsible entity. This corridor width also allows for elevating the roadway vertical profile (**Attachment F**) from the existing ground profile to accommodate a roadway surface elevation above the chosen parameter of a 50-year storm event. Further information on roadway profiles is included in **Section 4.3: Roadway Profiles** of this report.

An anticipated timeline has been established for the number of travel lanes needed to accommodate the projected traffic volumes for each of the Build alternatives. Traffic data utilized to support engineering design criteria was developed for the EWA EIA project as part of the Traffic Evaluation. Additional information regarding the traffic volumes and analysis is contained in the Traffic Evaluation Technical Report.

In addition, the timeline also includes the time anticipated for possibly adding additional features within the Build alternative corridors. This tentative component timeline was developed for both Sections 2 and 3 as shown in **Tables 1** and **2** for analytical purposes only; it will be further re-assessed and refined in the Preferred Alternative. Any component can be installed in an earlier or later build phase based on development and needs.

Table1: Alternatives B1, B2, and B3 – Section 2 Timeline for Components

Typical Section Components	2026	2036	2046	2074 – Core Scenario
Number of Travel Lanes	2	2	4	4
Number of Dedicated Transit Lanes		2	2	2
Sidewalk		✓	✓	✓
Micromobility Path		✓	✓	✓
Utilities*		✓	✓	✓
Highway Lighting*	✓	✓	✓	✓
Solar Panel Canopy *			✓	✓

**Note that these features are outside of the ambit of the NRA. The NRA will provide the ability for the corridor to accommodate these features.*

Table 2: Alternatives B1, B2, and B3 – Section 3 Timeline for Components

Typical Section Components	2026	2036	2046	2074 – Core Scenario
Number of Travel Lanes	2	2	2	4
Number of Dedicated Transit Lanes		2	2	2
Sidewalk			✓	✓
Micromobility Path			✓	✓
Utilities*		✓	✓	✓
Highway Lighting*	✓	✓	✓	✓
Solar Panel Canopy*			✓	✓
**Note that these features are outside of the ambit of the NRA. The NRA will provide the ability for the corridor to accommodate these features.*				

As shown in **Table 1** and **Table 2** above, the construction of the corridor is anticipated to occur in phases throughout the horizon year (2074). The initial 2026 corridor is anticipated to include 2 travel lanes, one in each direction (**Figure 3**) for both Section 2 and Section 3. Each section will include highway lighting.

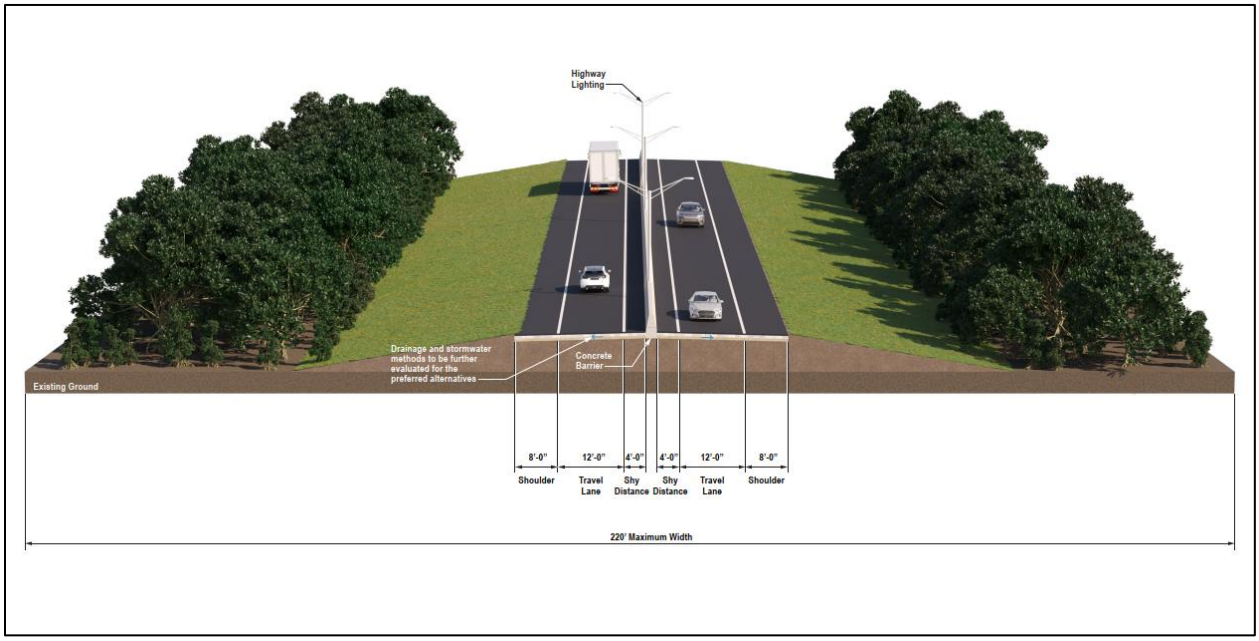
For Section 2, additional features anticipated within the corridor in year 2036 include dedicated bus lanes, sidewalk, micromobility path, utilities, and highway lighting (**Figure 4**). In 2046 additional features within the corridor are anticipated to include additional travel lanes and solar panel canopy (**Figure 5**). No additional features are anticipated in 2074 (**Figure 6**).

For Section 3, additional features anticipated within the corridor in year 2036 include dedicated bus lanes, utilities, and highway lighting (**Figure 4**). In 2046 additional features within the corridor are anticipated to include sidewalk, micromobility path, and solar panel canopy (**Figure 5**). In 2074 additional features within the corridor are anticipated to include additional travel lanes (**Figure 6**). As mentioned above, these component timelines will be re-assessed and possibly revised for the preferred alternative.

Typical sections showing the anticipated progression of the needed number of travel lanes and the possible addition of the other identified features for Alternatives B1, B2, and B3 are shown in **Figures 3, 4, 5,** and **6**. Larger size versions of these Figures are included in **Attachment B** of this report. For the shortlist analysis the typical sections were developed with a conservative approach with regards to property and environmental impact. For example, the roadway fill slope embankments (known as a "foreslope") beyond the roadway pavement edges are shown at a 1V:6H slope which is a flatter slope that is considered to recoverable (meaning ability to control vehicle steering) and traversable by a vehicle. A vehicle that leaves the roadway can typically recover and traverse slopes between 1V:6H to 1V:4H. A non-recoverable foreslope is defined as one that is traversable, but from which most vehicles are unable to stop or to return to the roadway easily. Embankment slopes between 1V:4H to 1V:3H are considered non-recoverable and vehicles traversing them typically can be expected to reach the bottom of the slopes. Embankment slope and height are 2 factors that need to be considered in determining barrier requirements. Roadways with higher volumes of traffic that have a steep embankment slope may require roadside barrier

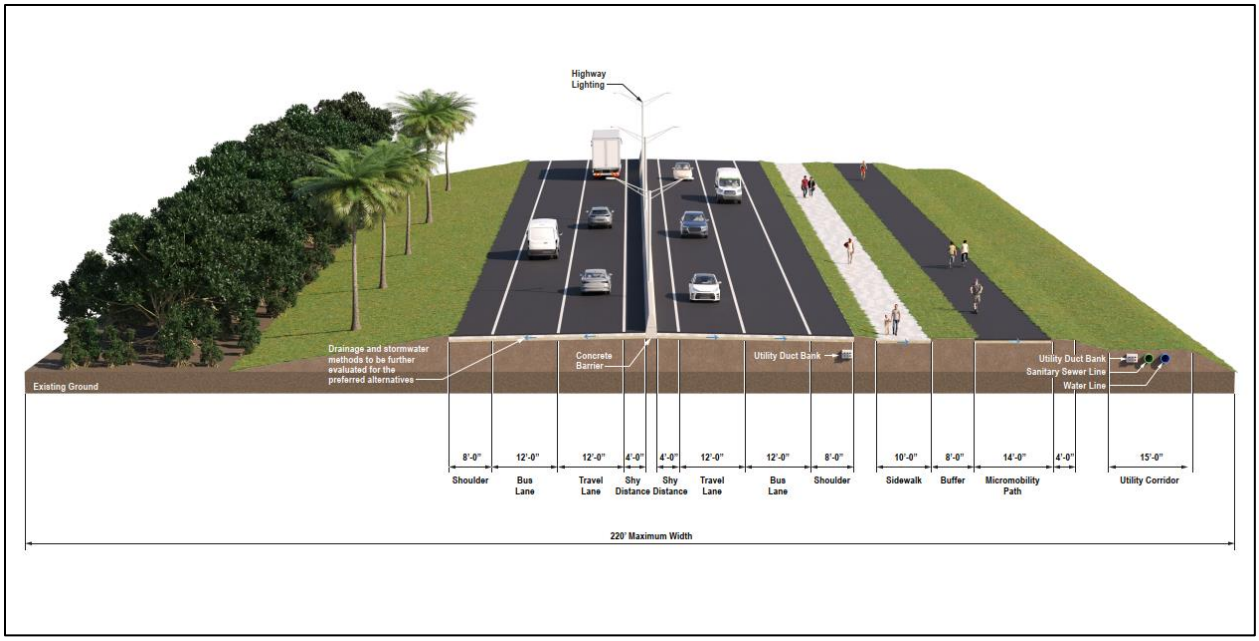
protection depending on the height of embankment. As the project advances to 30% design and beyond the roadway section may be refined to lessen impact without sacrificing safety.

In addition to revising fill slopes, typical section component locations will be re-evaluated for the preferred alternative. As more data comes available and the sidewalks, micromobility trails and utility corridor locations will be evaluated to provide the optimum and safest locations access these features.

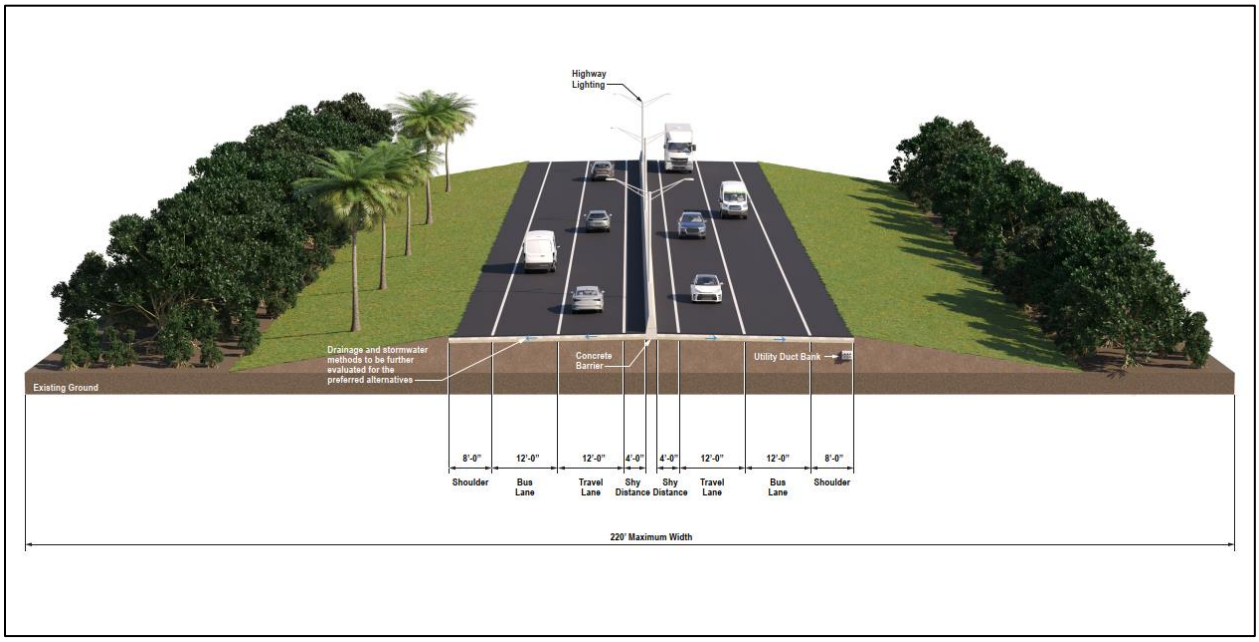


Alternatives B1, B2, and B3 – Sections 2 and 3 (Woodland Drive to Frank Sound Road)

Figure 3: Year 2026 – Typical Sections

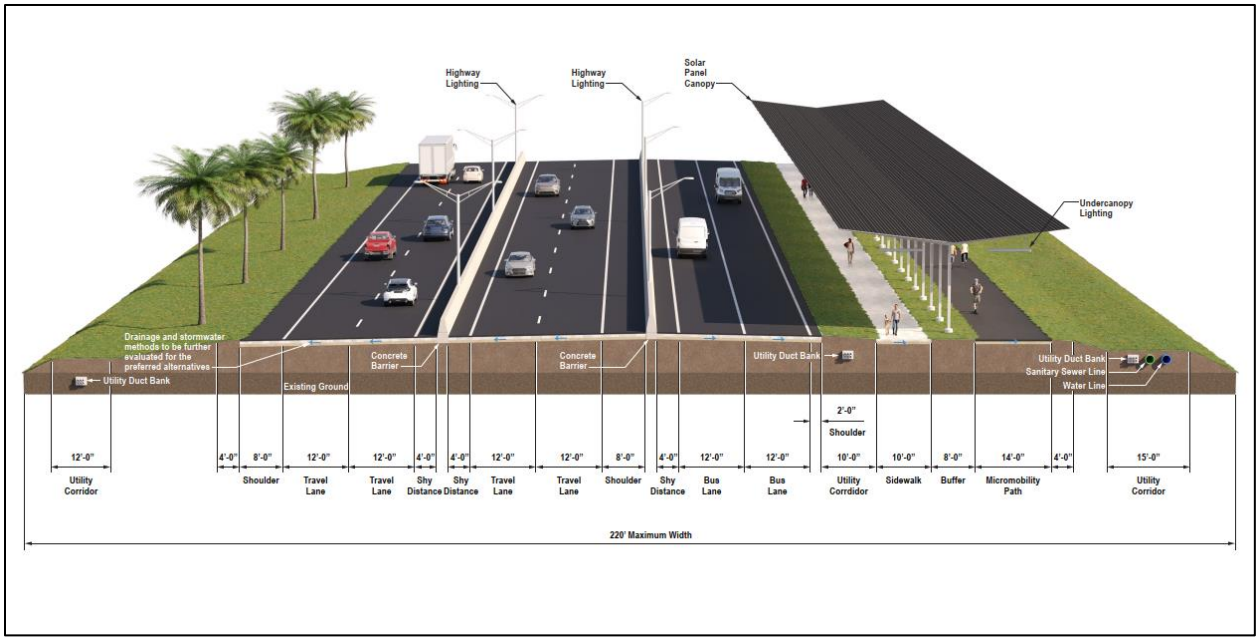


Alternative B1, B2, and B3 – Section 2 (Woodland Drive to Lookout Road)

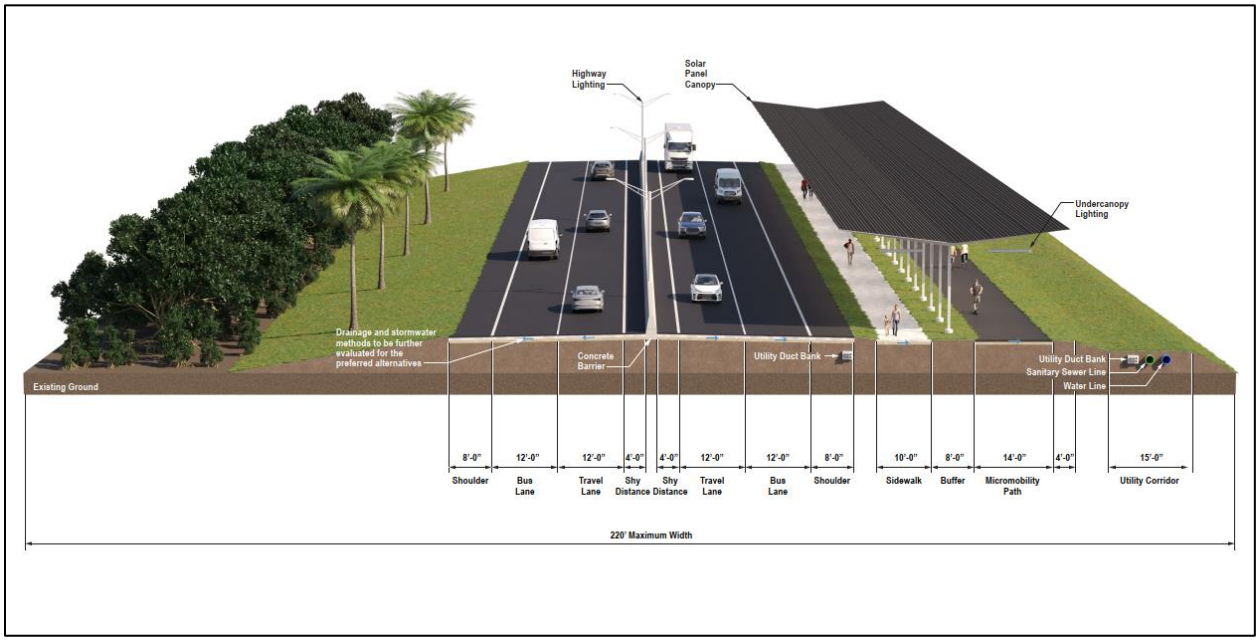


Alternative B1, B2, and B3 – Section 3 (Lookout Road to Frank Sound Road)

Figure 4: Year 2036 – Typical Sections

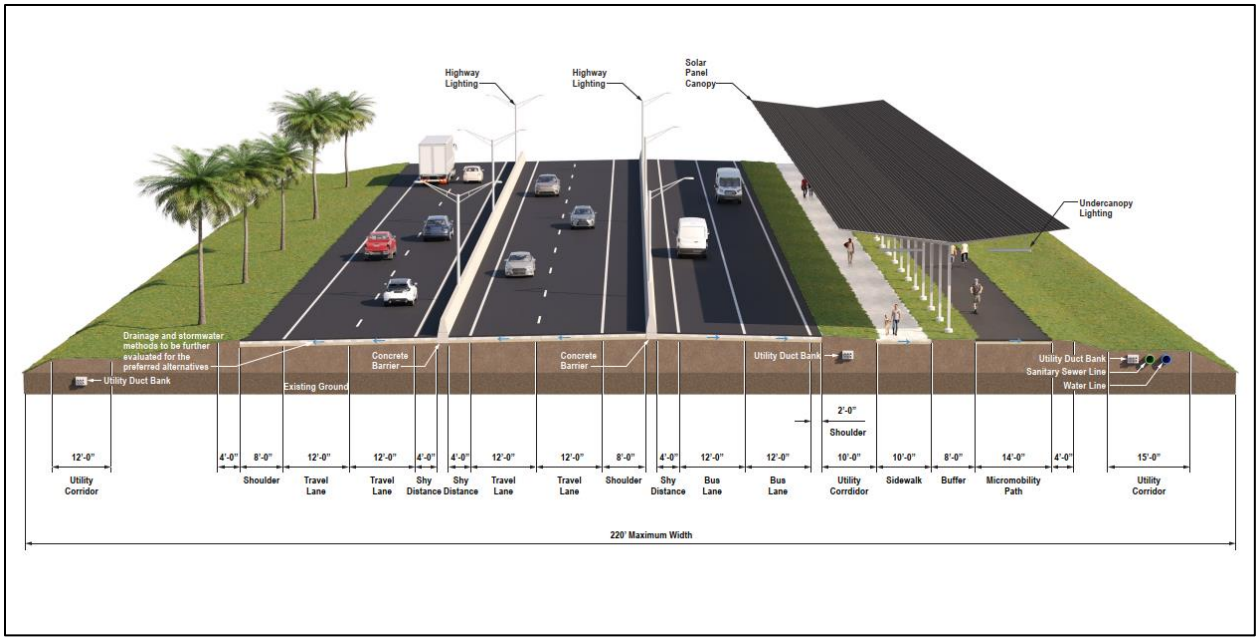


Alternatives B1, B2, and B3 – Section 2 (Woodland Drive to Lookout Road)



Alternatives B1, B2, and B3 – Section 3 (Lookout Road to Frank Sound Road)

Figure 5: Year 2046 – Typical Sections



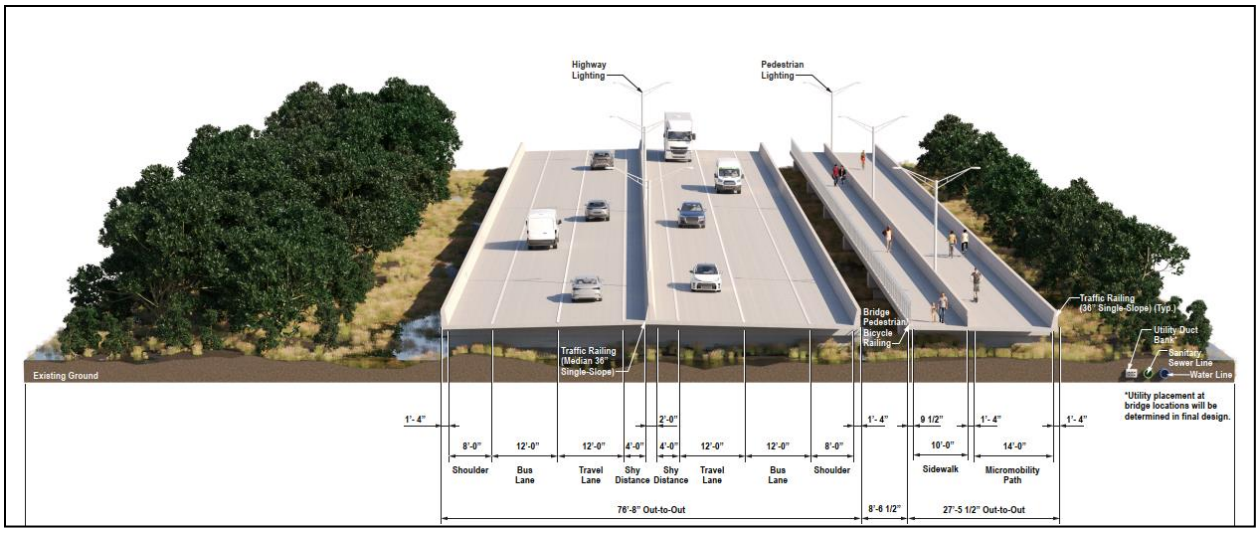
Alternatives B1, B2, and B3 – Section 2 (Woodland Drive to Lookout Road)
Alternatives B1, B2, and B3 – Section 3 (Lookout Road to Frank Sound Road)

Figure 6: Year 2074 – Typical Sections

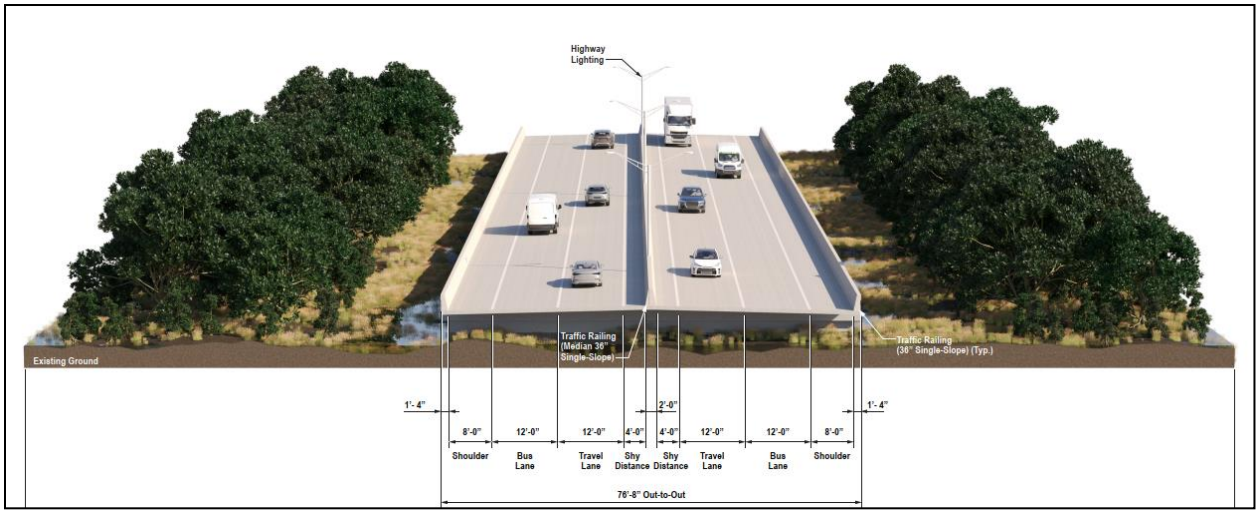
Another design feature to be incorporated into the Build alternatives is the addition of bridge and/or culvert structures required to maintain hydrology and to avoid and minimize impacts to sensitive features. A range of engineering solutions are available to accommodate hydrologic connectivity and minimize impacts, including but not limited to short-span slab bridges, medium-span beam bridges, box culverts, three-sided culverts or pipe arches, and pipe culverts. The required number of openings in the roadway embankment is largely dependent on the size of the openings, with solutions providing a smaller opening size (such as pipe culverts) requiring a larger number of openings at a more frequent spacing along the corridor. For the purpose of evaluating the shortlisted alternatives, a conservative solution consisting of cast-in-place flat slab spans supported on reinforced concrete wall piers and abutments with spread footing foundations was selected. **Section 4.5: Bridges** of this report describes the number and size of the bridge openings estimated for Alternative B1 and **Figure 7** shows a bridge typical section for Alternatives B1, B2, and B3 for the years 2026, 2036, 2046 and 2074. Larger size versions of these same Figures are included in **Attachment B** of this report. Each of these bridge typical sections would accommodate the number of lanes and additional features previously described. At each bridge site, the vehicular and pedestrian bridges would be constructed to a similar elevation, which will be set to satisfy the required hydraulic clearance as discussed below in **Section 4.5**. The vehicular and pedestrian bridges at each bridge site are also anticipated to have similar structural characteristics including structure type, span lengths and foundation depths. The bridge characteristics will be further refined during the analysis of the Preferred Alternative.



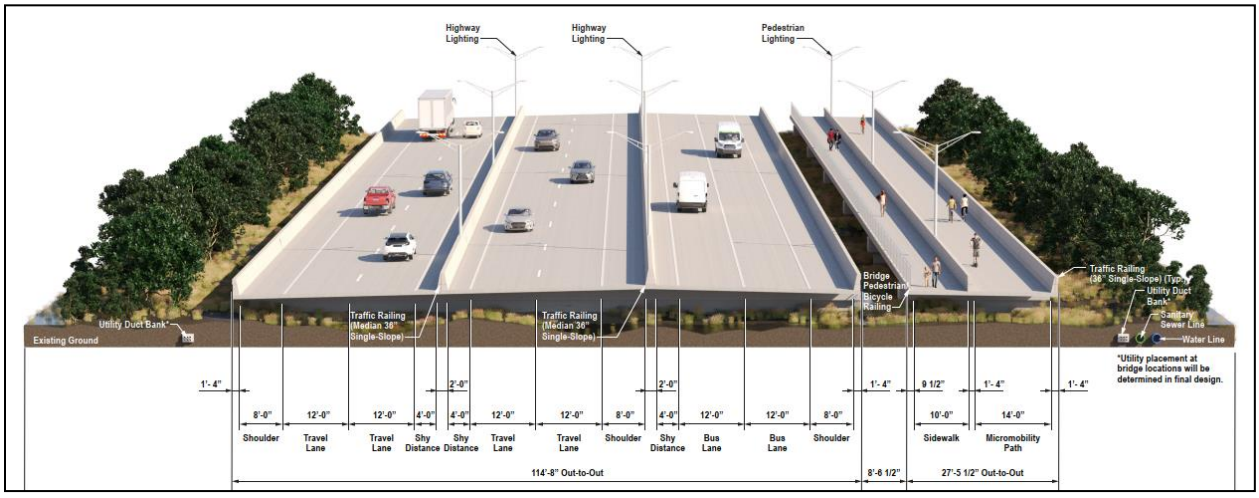
Year 2026 Bridge Typical Section for Alternatives B1, B2, and B3 – Section 2 and Section 3



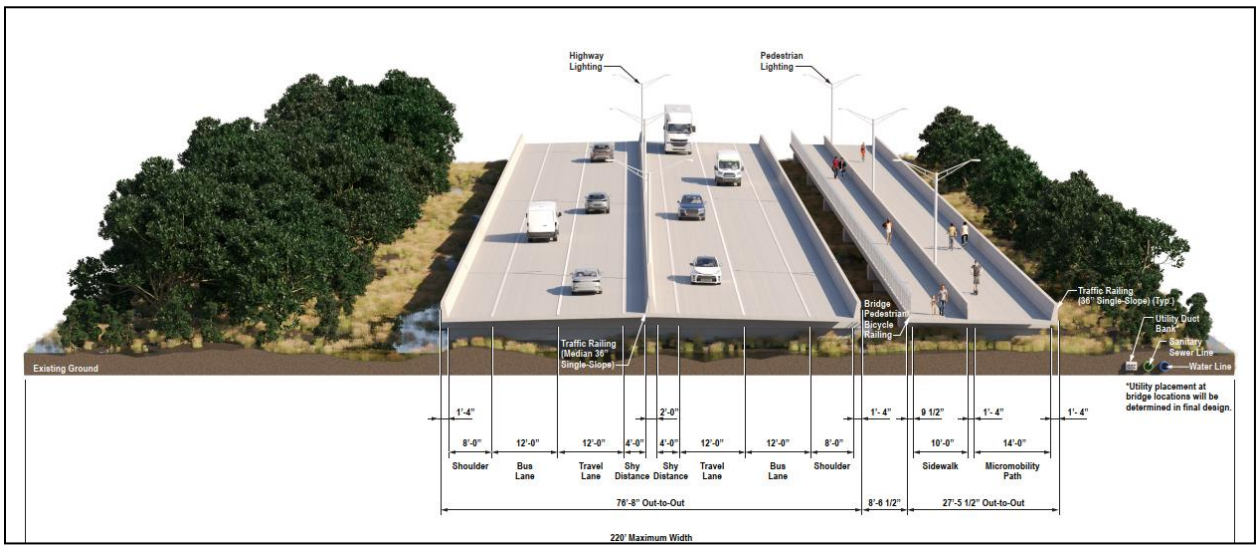
Year 2036 Bridge Typical Section for Alternatives B1, B2, and B3 – Section 2



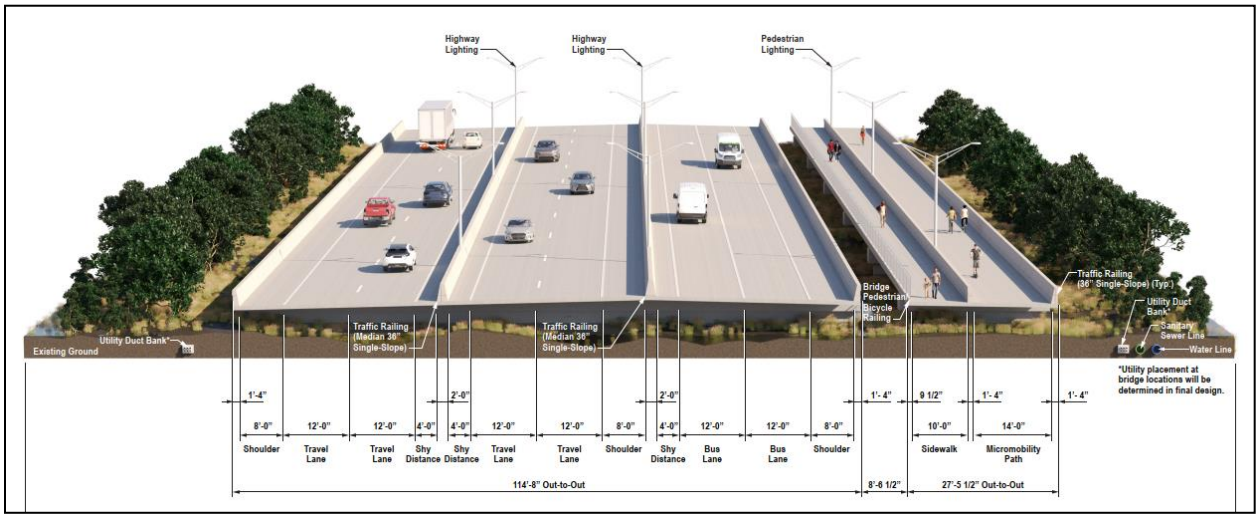
Year 2036 Bridge Typical Section for Alternatives B1, B2, and B3 – Section 3



Year 2046 Bridge Typical Section for Alternatives B1, B2, and B3 – Section 2



Year 2046 Bridge Typical Section for Alternatives B1, B2, and B3 – Section 3



Year 2074 Bridge Typical Section for Alternatives B1, B2, and B3 – Section 2 and Section 3

Figure 7: Bridge Typical Section for Alternatives B1, B2, and B3

As previously noted, Alternatives B1, B2, and B3 also include a series of roadway improvements described as the Will T Connector. These roadways would provide access to the common Section 2 of Alternatives B1, B2, and B3. **Figure 8** shows the typical section for the Will T Connector. A larger size version of this same Figure is included in **Attachment B** of this report. The proposed corridor width for the Will T Connector is 41-feet (12.5-m) including a single travel lane in each direction and bike lanes on both sides of the roadway along with concrete curb and gutter on both sides of the roadway. A sidewalk would also be included along one side of the roadway. The Will T Connector is anticipated to be built in 2026.

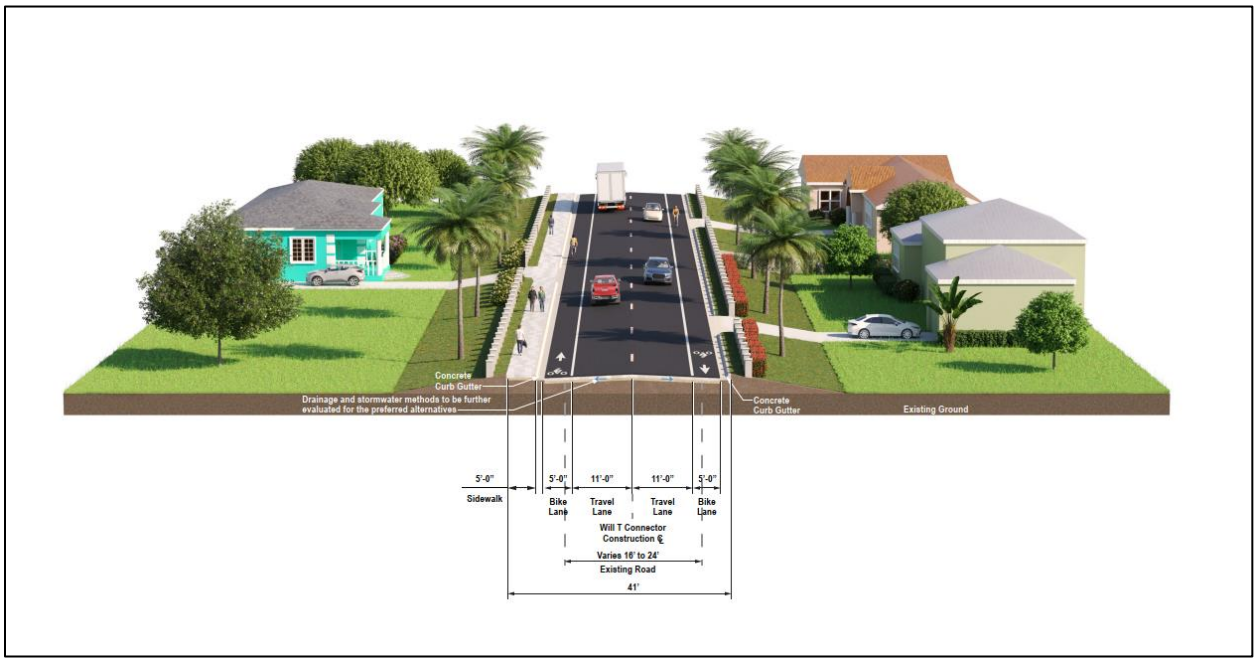


Figure 8: 2026 Will T Connector Typical Section for Alternatives B1, B2, and B3

2.3 Alternative B2

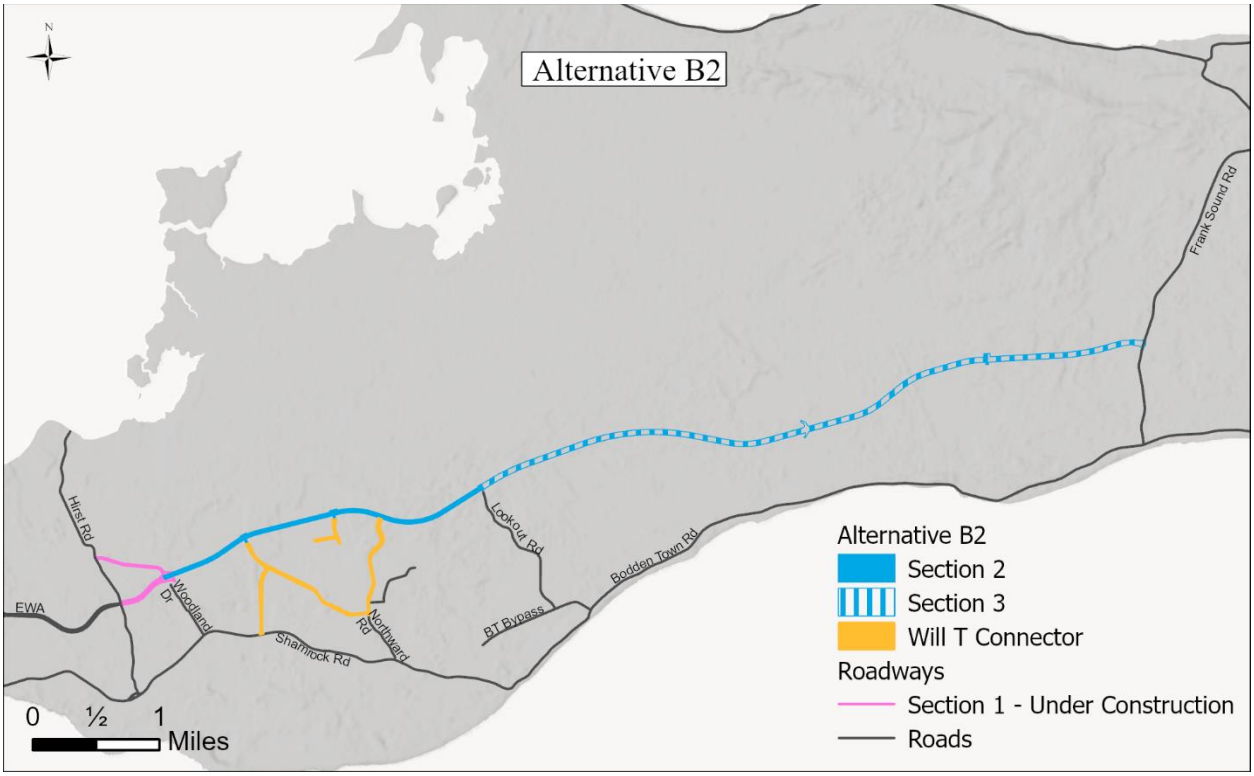


Figure 9: Alternative B2

Alternative B2 shown in **Figure 9** has the same western limit as Alternative B1. It begins at the terminus of Section 1 of the EWA (currently under construction) near Woodland Drive and travels east with the construction of a new roadway for approximately 8 miles (13 km) to Frank Sound Road. As with Alternative B1, Alternative B2 includes two sections of new roadway including Section 2, located from Woodland Drive to Lookout Road, and Section 3, located from Lookout Road to Frank Sound Road. Alternative B2 also includes a number of proposed bridges and a series of improved roadways described as the Will T Connector. **Section 4.5** of this report describes the number and size of the bridge openings estimated for Alternative B2 and **Figure 7** shows a bridge typical section for Alternative B2 for the years 2026, 2036, 2046 and 2074. Larger size versions of these same Figures are included in **Attachment B** of this report. The corridor width for Alternative B2 also allows for elevating the roadway vertical profile (**Attachment F**) from the existing ground profile to accommodate a roadway surface elevation above the chosen parameter of a 50-year storm event. Further information on roadway profiles is included in **Section 4.3: Roadway Profiles** of this report. Alternative B2 follows the same location as the other Build alternatives for Section 2 between Woodland Drive and Lookout Road. Following the Longlist Evaluation additional information was collected on the environmental and man-made features throughout the study area. As a result, the location of segments of Alternative B2 were shifted slightly to the south in the area of Midland Acres and also further south in a few areas to avoid encroachment on the quarries.

The timeline for determining the needed travel lanes for Alternative B2 along with the possible additional features is shown in **Tables 1** and **2**. Typical sections showing the anticipated

progression of the needed number of travel lanes and the possible addition of the other identified features for Alternatives B2 are shown in **Figures 3, 4, 5,** and **6**. Larger size versions of these Figures are included in **Attachment B** of this report.

2.4 Alternative B3

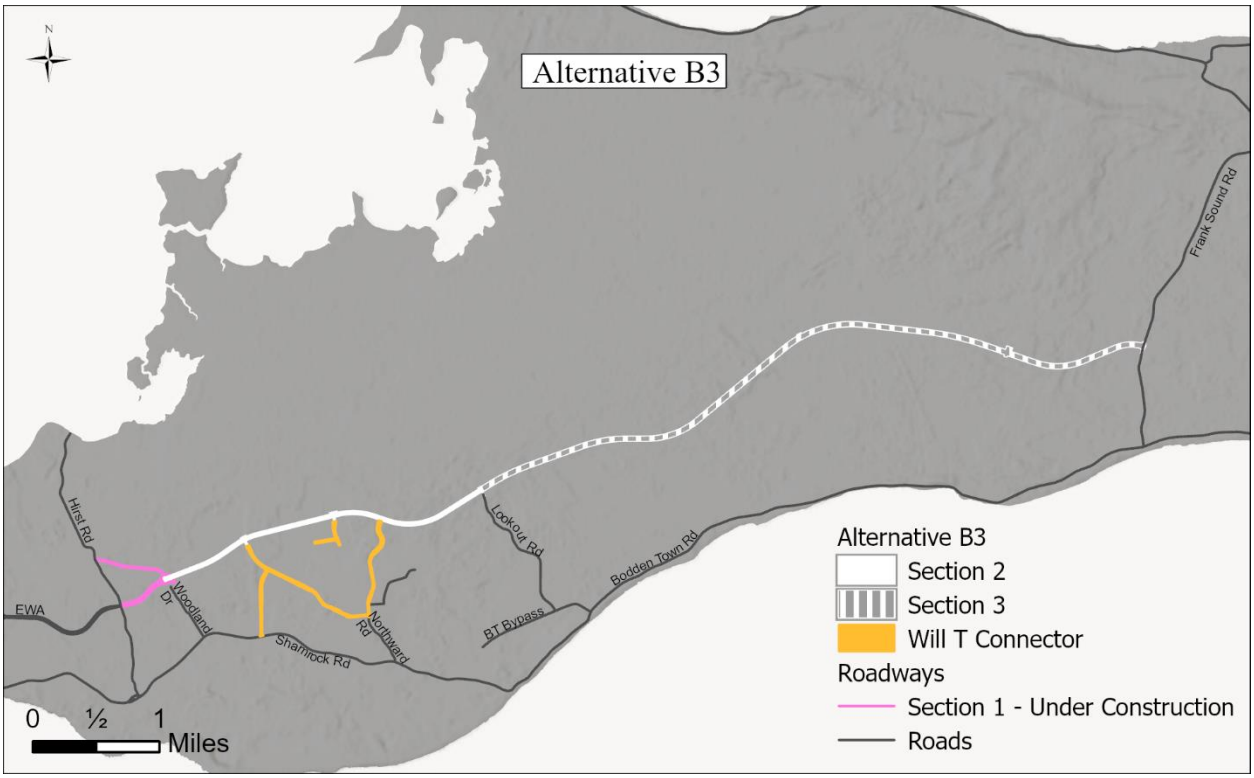


Figure 10: Alternative B3

Alternative B3, shown in **Figure 10** has the same western limit as Alternatives B1 and B2. It begins at the terminus of Section 1 of the EWA (currently under construction) near Woodland Drive and travels east with the construction of a new roadway for approximately 8 miles (13 km) to Frank Sound Road. As with Alternatives B1 and B2, Alternative B3 includes two sections of new roadway including Section 2, located from Woodland Drive to Lookout Road, and Section 3, located from Lookout Road to Frank Sound Road. Alternative B3 also includes a number of proposed bridges and a series of improved roadways described as the Will T Connector. **Section 4.5** of this report describes the number and size of the bridge openings estimated for Alternative B3 and **Figure 7** shows a bridge typical section for Alternative B3 for the years 2026, 2036, 2046 and 2074. Larger size versions of these same Figures are included in **Attachment B** of this report. The corridor width for Alternative B3 also allows for elevating the roadway vertical profile (**Attachment F**) from the existing ground profile to accommodate a roadway surface elevation above the chosen parameter of a 50-year storm event. Further information on roadway profiles is included in **Section 4.3: Roadway Profiles** of this report.

Alternative B3 follows the same location as Alternatives B1 and B2 for Section 2 between Woodland Drive and Lookout Road. Within Section 3 Alternative B3 follows the same location

as Alternative B1 until reaching the Mastic Reserve. At this point, Alternative B3 shifts farther south to connect to Frank Sound Road.

The timeline for determining the needed travel lanes for Alternative B3 along with the possible additional features is shown in **Tables 1** and **2**. Typical sections showing the anticipated progression of the needed number of travel lanes and the possible addition of the other identified features for Alternative B3 are shown in **Figures 3, 4, 5,** and **6**. Larger size versions of these same Figures are also included in **Attachment B** of this report.

2.5 Alternative B4

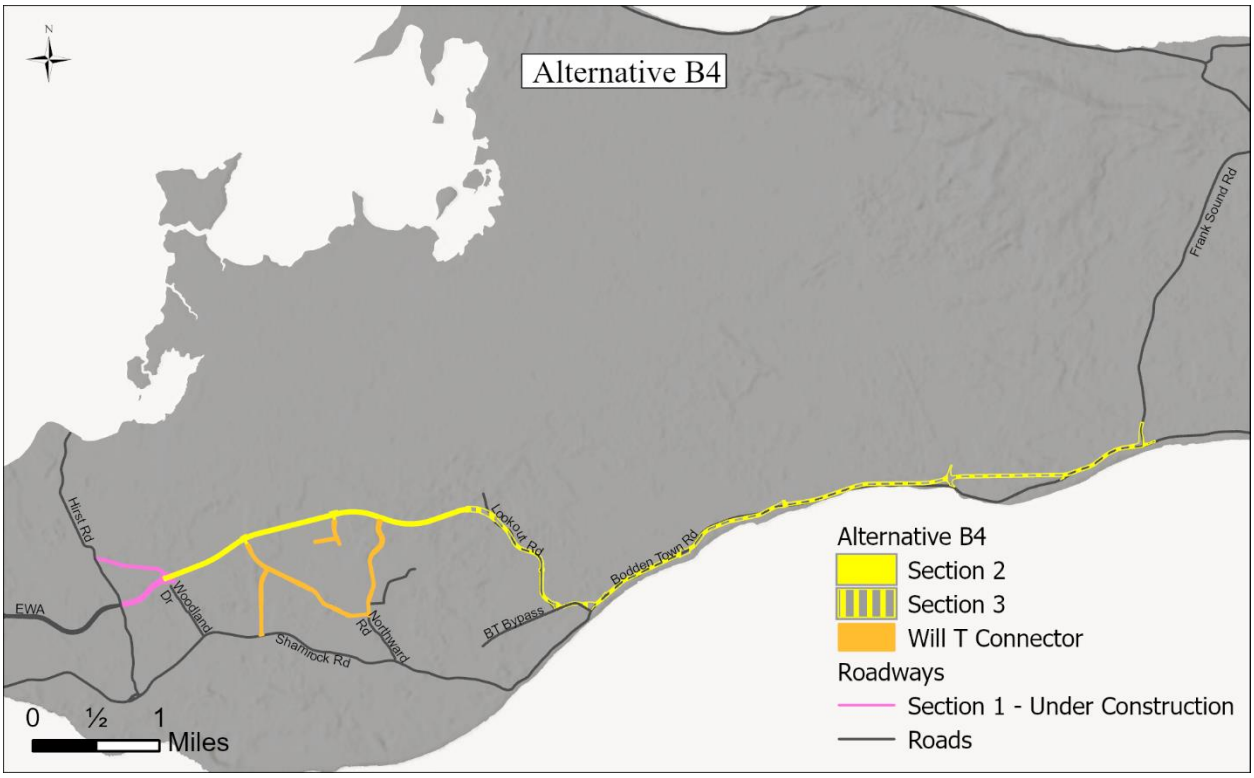


Figure 11: Alternative B4

As discussed in **Section 1: Introduction**, Alternative B4 was selected from the Longlist Evaluation for further evaluation as part of the Shortlist Evaluation in September of 2023. Alternative B4, shown in **Figure 11**, has the same western limit as Alternatives B1, B2, and B3. It begins at the terminus of Section 1 of the EWA (currently under construction) in the area of Woodland Drive and travels east for approximately 8 miles (13 km) to Frank Sound Road. As with Alternatives B1, B2, and B3, Alternative B4 includes two sections, including Section 2, located from Woodland Drive to Lookout Road, and Section 3, located from Lookout Road to Frank Sound Road. As with Alternatives B1, B2, and B3, Alternative B4 includes a series of improved roadways described as the Will T Connector.

Alternative B4 follows the same location as Alternatives B1, B2, and B3 for Section 2 between Woodland Drive and Lookout Road. Within Section 3 Alternative B4 primarily follows the existing roadways of Lookout Road and Bodden Town Road.

As part of the EWA EIA studies, a specific *Flood Modeling and Roadway Drainage Openings - Final Report* (Baird, 2024) was completed. Based on the 2024 Baird report results, Section 3 of Alternative B4 along the southern coast would require an elevation or beach berm of over 20 feet (6 m) above mean sea level in order to meet the resiliency criteria (CSF) set forth for this project. This elevation change is due to the high risk of a severe weather event blocking the road with water and sand via wave overtopping.

Based on the level of development and adjacency to the proposed route along Section 3 of Alternative B4, it was determined that it would be infeasible to meet the resiliency criteria (CSF) without significant social impact and engineering constraints (i.e., property acquisitions, severing of access, viewshed impacts, and cross street and driveway connections). Therefore, both the NRA and EAB have agreed on the elimination of Alternative B4 from further evaluation.

The remainder of this Engineering Assessment of Alternatives report evaluates Alternatives B1, B2, B3, and the No-Build scenario.

3. Evaluation Criteria

The United Kingdom (UK)'s Department for Transport has extensive guidance for transport projects, called WebTAG (Transport Appraisal Guidance). It extends the UK Treasury's "Green Book" (Guidance on Appraisal and Evaluation) concepts for transport in terms of a Value for Money (VfM) Framework. A key aspect of this framework is the recognition that roads, highways, and rail lines have distinct spatial locations, leading to effects on adjacent communities with unintended consequences such as traffic noise, and loss of heritage, biodiversity, and other elements. Those issues were not addressed in the Green Book. However, the VfM framework recognizes them in terms of a split between intended effects that can usually be monetized, and unintended effects that often cannot be monetized.

Applicable WebTAG reference documents have been applied and referenced within the sections as follows, along with Cayman and international policies as applicable. The 7-point qualitative scale utilized from WebTAG is depicted in **Table 3**. Discipline-specific 7-point qualitative scales have been applied to the Engineering Constraints and to the CSFs for this Engineering Evaluation. The CSFs are the aspects of the project that are vital to its success. These are the main goals that the completed project would accomplish. The CSFs were developed based on the Final ToR for the WA Extension and include:

- Create an alternative travel route to the existing two-lane Bodden Town Road
- Improve resiliency of existing roadway between North Side/East End and George Town/West Bay
- Support current and future traffic demand
- Improve travel time between North Side/East End and George Town
- Reduce tourism travel time between North Side/East End and George Town
- Improve safe vehicular travel by reducing roadway conflict points
- Provide opportunity for enhanced and safe pedestrian and bicycle travel
- Accommodate utility expansion (electricity, fiber, water, central sewage)
- Provide opportunity to safely accommodate and expand public transportation

Table 3: Summary 7-Point Scale from WebTAG

Score	Comment
Large Beneficial	The scheme would provide significant improvement or enhancement to the category being examined.
Moderate Beneficial	The scheme would provide an improvement or enhancement to the category being examined.
Slight Beneficial	The scheme would provide a small improvement to the category being examined.
Neutral	The scheme is not in conflict with the category being examined.
Slight Adverse	Some small degradation or damage may result from the scheme.
Moderate Adverse	The scheme may result in direct damage to the category being examined.
Large Adverse	A significant degradation of the category being examined or a major damaging direct impact is predicted to result from the scheme.

4. Corridor Design

4.1 Design Criteria

Table 4 presents the criteria that were used to guide the design of Alternatives B1, B2, and B3. The following references were used in determining these criteria:

- American Association of State Highway and Transportation Officials (AASHTO) Geometric Design of Highways and Streets (Green Book 2018 – 7th Edition)
- AASHTO Guide for the Development of Bicycle Facilities (2012)
- AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities (2004)
- AASHTO Roadside Design Guide (2011)
- National Association of City Transportation Officials (NACTO) Urban Bikeway Design Guide (2011)

Table 4: Engineering Design Criteria

Criteria	Location	Required Value	Proposed Value	Source Of Criteria
Design Vehicle	Entire EWA	WB-50 Wheelbase 50-ft (15.2 m)	WB-50 Wheelbase 50-ft (15.2 m)	NRA Guidance
Design Speed	Mainline – All Alternatives	50 – 75 MPH (80-120 KPH)	50 MPH (80 KPH)	AASHTO Greenbook (2018) Section 7.2.2.1
	Northern Spur – B1	50 – 75 MPH (80-120 KPH)	45 MPH (72 KPH)	
	Southern Spur – B1	50 – 75 MPH (80-120 KPH)	40 MPH (64 KPH)	
Lane Width	Entire EWA	11 feet (3.3 m) – 12 feet (3.6 m)	12 feet (3.6 m)	AASHTO Greenbook (2018) Table 7-3
Shoulder Width (Outside)	Entire EWA	8 feet (2.4 m) – 10 feet (3.1 m)	8 feet (2.4 m)	AASHTO Greenbook (2018) Table 7-3 & Section 7.2.11.4
Shoulder Width (Inside)	Entire EWA	4 feet (1.2 m)	4 feet (1.2 m)	

Criteria		Location	Required Value	Proposed Value	Source Of Criteria
Clear Zone Width		Entire EWA	20 feet (6.1 m) – 22 feet (6.7 m)	22 feet (6.7 m)	AASHTO Roadside Design Guide (2011) Table 3-1
Minimum Horizontal Radius		Mainline – All Alternatives	833 feet (253.9 m)	2,300 feet (701 m)	AASHTO Greenbook (2018) Table 3-7
		Northern Spur – B1	833 feet (253. 9 m)	900 feet (274.3 m)	
		Southern Spur – B1	643 feet (196.0 m)	1,500 feet (457.2 m)	
Maximum Superelevation Rate		Entire EWA	6%	6%	AASHTO Greenbook (2018) Section 7.2.2.8 NRA Guidance
Vertical Grade	Minimum	Entire EWA	0.3%	0.3%	AASHTO Greenbook (2018) Table 7-2
	Maximum	Entire EWA	4%	2%	
Vertical Curve Minimum K Value	Crest Curve	Entire EWA	84	84	AASHTO Greenbook (2018) Table 3-35
	Sag Curve		96	96	AASHTO Greenbook (2018) Table 3-37
Minimum Stopping Sight Distance		Mainline – All Alternatives	425 feet (129.5 m)	425 feet (129.5 m)	AASHTO Greenbook (2018) Table 7-1
		Southern, Northern Spur – B1	425 feet (129.5 m)	425 feet (129.5 m)	
Minimum Intersection Sight Distance		Entire EWA	555 feet (169.1 m)	555 feet (169.1 m)	AASHTO Greenbook (2018) Table 9-7
Minimum Cross Slope		Entire EWA	2%	2.5%	AASHTO Greenbook (2018) Section 7.2.2.7
Minimum Vertical Clearance	Highway	Entire EWA	16 feet (4.8 m)	16.6 feet (5 m)	AASHTO Greenbook (2018) Section 7.2.5.1
	Waterway	Entire EWA	3 feet (1 m) Drift Clearance Above 50 yr. Return Storm	3 feet (1 m) Drift Clearance Above 50 yr. Return Storm	NRA Guidance
	Pedestrian	Entire EWA	10 feet (3.1 m)	10 feet (10.1 m)	AASHTO Bike Guide (2012) Section 5.2.10
Minimum Sidewalk Width		Entire EWA	5 feet (1.5 m)	5 feet (1.5 m)	AASHTO Pedestrian Guide (2004) Section 3.2.3

Criteria	Location	Required Value	Proposed Value	Source Of Criteria
Multi-Use Path Width	Entire EWA	10 feet (3.1 m)– 14 feet (4.2 m)	14 feet (4.2 m)	AASHTO Bike Guide (2012) Section 5.2.1
Multi-Use Path Cross Slope	Entire EWA	1.5% Max	1.5% Max	AASHTO Bike Guide (2012) Section 5.2.5

As seen in **Table 4**, a variety of criteria were used in setting the constraints by which each of the alternatives would be designed. These criteria were primarily developed using the guidance outlined in AASHTO guidance documents. Additionally, further guidance and preference from the NRA was also incorporated, such as minimum waterway clearance in order to conduct maintenance activities.

For all of the Build alternatives, the functional classification of the proposed roadway corridor is considered as Rural Principal Arterial with level topography. As such, travel lane and shoulder widths were appropriately determined based on the functional class, projected traffic data, and the intent of the proposed roadway to function as the main thoroughfare for the island. A design speed of 50 miles per hour (mph), 80 kilometres per hour (kph) was set for most of the alignment for Alternatives B1, B2, and B3, with certain geometrically constrained sections of Alternative B1 utilizing a 45-mph (72-kph) for the northern spur and 40-mph (64-kph) design speed for the southern spur. The design speed is a selected speed used to determine the various geometric design features of the roadway. Design speed is typically selected to equal or exceed the posted or regulatory speed limit of the completed facility and therefore the design speed may differ from the posted speed limit. Reasons for this difference include driver perceptions and the flow of traffic. However, for this evaluation it was assumed that the design speed and the posted speed would be the same. The design speeds were chosen based on functional class, continuity of the speed of the previous section of roadway, and optimization of the travel route based on geometric conditions of the study area. For example, the presence of rock quarries, National Trust land, established communities, and environmentally sensitive areas influenced the design locations of the new roadway alignments and how they interact with the adjacent areas. Certain geometric choices such as alignment shifts and tighter curves were introduced into the design to best avoid and minimize impacts to these areas. A higher design speed requires larger horizontal curves which can increase impacts to the surrounding area. In evaluating design considerations, it was determined that two sections of Alternative B1 would require a reduced design speed from the mainline design speed of 50-mph (80-kph). Specifically, the northern spur of Alternative B1 passes through an area with close proximity to mangroves and existing residential development. In order to minimize impacts in this area a lower design speed of 45-mph (72-kph) was utilized to keep the horizontal curves tighter and reduce impacts to the aforementioned areas. In addition, a lower design speed of 40-mph (64-kph) was chosen for the southern spur section of Alternative B1 in order to minimize impacts to adjacent commercial buildings and residences in this area.

With design speed chosen, this sets the minimum horizontal curve radius and minimum stopping sight distances as well as intersection sight distances. The superelevation of the roadway, or the gradual banking of the roadway, is directly associated with the minimum horizontal curve value

set by the design speed, the geographic area (rural versus urban) and the desire to limit potentially large embankment slopes due to large slope percentages. For this project, a maximum design superelevation rate table of 6% was used, with values not exceeding 4% based on NRA preference. As a result, the minimum horizontal radius was determined to be 2,300 feet (701 m) for the mainline and has been employed sparingly with larger radius values used more frequently.

Additionally, the Clear Zone was also determined to be 20-22 feet (6.1-6.7 m) based on the design speed, traffic volumes, and roadside geometry. Clear Zone refers to the unobstructed, traversable area provided beyond the edge of the travel way for the recovery of errant vehicles and includes shoulders and auxiliary lanes. The Clear Zone is to be free of fixed objects that pose a risk to vehicles that may collide with them. Objects that need to be protected by roadside barrier within the Clear Zone include sign supports with a non-breakaway design or with a concrete base extending 4 inches or more above the ground, bridge piers and abutments at underpasses, and light poles with high mast lighting. Other non-traversable obstructions that may need consideration for protection is permanent bodies of water greater than 2 feet (0.6 m) deep, stone quarries and other open pit mining operations, and storage locations for hazardous substances. Generally utility poles and trees do not need protection; however, every effort should be made to install new utility poles or trees outside the Clear Zone.

The presence of mostly level topography determined the minimum and maximum vertical grades as the relatively flat area would require 0.3% grade minimum to facilitate proper stormwater drainage and the material cost associated with a large change in percent grade limited the maximum to 2%. A minimum roadway cross-slope of 2.5% was chosen in lieu of the more standard 2% to better direct rainfall off the road surface during heavy rainfall events that the island often experiences. Cross slopes greater than 2.5% on tangent sections can cause vehicles to drift towards the edge of the roadway leading to safety concerns. The drainage and stormwater design will be looked at in more detail for the 30% design. Drainage features to be considered include inlets at the median barrier with lateral storm drains discharging to the outside of the roadway or possibly cross culvert with connections to the median barrier inlets. Landscape barriers could also be considered with a 2-5 feet (0.6–1.5 m) strip of tall grasses shown just upslope of the roadway hinge point. Each component timeline will need to be considered to minimize relocating previously constructed drainage systems.

Pedestrian facilities, including the sidewalk and micromobility pathway, were designed based on guidelines from AASHTO and NACTO for widths and cross-slopes.

One of the Engineering Constraints for this project is the ability to provide for the necessary property to improve the roadway to achieve sound geometric design conditions. The amount of property affected includes the area disturbed by the roadway improvements along with the disturbances that would result for connecting any cross streets, driveways, and adjacent properties to the roadway. There are also engineering considerations that include providing for elevation changes, drainage needs, utility requirements, transit, pedestrian and bicycle accommodations, and safety considerations. **Table 5** summarizes the qualitative evaluation on providing for sound geometric design conditions.

Table 5: Provide for Sound Geometric Design Conditions Summary Table

Engineering Constraint*	No-Build	B1	B2	B3
Amount of property affected to improve the roadway to achieve sound geometric design conditions	Neutral	Slight Adverse	Slight Adverse	Slight Adverse

**As identified in the Longlist Evaluation*

No-Build: The No-Build scenario was included as a benchmark from which to evaluate and compare the geometric design conditions of the Build alternatives, so the impact for the No-Build scenario for this criterion would be "Neutral."

***Alternatives B1, B2, B3*:** In terms of providing for sound geometric design conditions, the target for this criterion is to evaluate the amount of property affected to achieve sound geometric design conditions for each alternative. The amount of property affected includes the area disturbed by the roadway improvements along with the disturbances which would result for connecting any cross streets, driveways, and adjacent properties to the roadway. There are also engineering considerations that include providing for elevation changes, drainage needs, utility requirements, transit, pedestrian and bicycle accommodations, and safety considerations. These elements also would result in design and construction costs. For additional information on controlling roadway elevations refer to Section 4.3. Cost information is provided in **Section 7: Cost Estimate** of this evaluation. The ranking for this criterion is focused on the ability to achieve reasonable design standards. Overall Alternatives B1, B2, and B3 would have a "Slight Adverse" impact by providing the ability to achieve reasonable design standards with minor challenges as it would be a new roadway facility through primary undeveloped land.

4.2 Roadway Alignments

The identified design criteria were the main factor in determining how each Build alternative horizontal alignment was chosen with each alignment adhering to the minimum and maximum requirements. Most notably, the design speed and superelevation rates set the minimum horizontal curve radius. Additionally, more general considerations and industry best practices identified by AASHTO were also followed, such as keeping a consistent design to avoid abrupt changes in geometry, avoiding use of minimum curve radius values, and coordinating the horizontal design with the vertical design of the profiles. Adhering to these attributes has the benefit of providing a comfortable and consistent travel way, enhanced vehicle control, uniform speed, optimal operation, and improved appearance.

The variety of environmental and geographic considerations present in the study area were additional factors determining the horizontal alignments. Existing rock quarries, bodies of water such as Meagre Bay Pond, and established residential and commercial properties, were a few of the features that were avoided where possible. Waterlogged and densely vegetated areas were also avoided as much as possible. Environmental areas such as the Central Mangrove Wetland, the Mastic Reserve, the Mastic Trail, and parrot nesting habitats were also considered in the design of the location of the roadway alignment, and the impacts to them were avoided and minimized where possible. Impacts to these and other features can be found in the Assessment of Alternatives

documents for Cultural & Natural Heritage, Geo-Environmental features, Socio-Economics, and Terrestrial Ecology.

Figures comparing the original gazetted corridor to the changes in the roadway alignments that were made based on the previously discussed factors can be found in **Attachment A**.

The ability to provide an alternative roadway facility to accommodate travel in the event of a roadway closure was identified as one of the CSFs for the project. **Table 6** summarizes the qualitative impact of each alternative to create an alternative travel route to the existing two-lane Bodden Town Road.

Table 6: Create an alternative travel route to the existing two-lane Bodden Town Road Summary Table

CSF*	No-Build	B1	B2	B3
Provide an alternative roadway facility to accommodate travel in the event of a roadway closure (Also included in the Traffic Assessment)	Neutral	Large Beneficial	Large Beneficial	Large Beneficial

**As identified in the Longlist Evaluation*

No-Build: Under the No-Build scenario, there are no current alternative routes for east-west travel in the event of a roadway closure on Bodden Town Road, so the No-Build would have a "neutral" impact.

***Alternatives B1, B2, B3*:** In terms of providing an alternate travel route, the target of this criterion is to provide an alternative roadway facility that accommodates travel in the event of a road closure along with existing east-west route. Overall Alternatives B1, B2, and B3 would have a "Large Beneficial" impact by providing an alternate route in the event of road closures or emergency events along the existing coastal road.

4.3 Roadway Profiles

As part of the design criteria previously described, much of the design of the roadway profile was set by minimum and maximum vertical grades as well as by speed for the design of vertical curve length and sight distance. The vertical profile grade is the percent of elevation change along the centreline of the proposed roadway. Vertical grades are necessary and often undulate to assure drainage of storm water within the roadway to inlets or outfall locations. The overall elevation of the vertical profile was set based on the various rainfall and storm conditions that the roadway may be subjected to.

The vertical grade elevation was determined based on the rainfall and storm surge water elevations associated with simulated storm event data that was provided by W.F. Baird and Remington & Vernick Engineers in their respective reports (Baird; Remington & Vernick). A 50-year event was chosen as the design storm, and the determination was made to raise the profile of the roadway enough so that most parts of the corridor either remained unaffected during the storm event or the flooded portions of the corridor were elevated enough to minimize the time for water to recede and clear the road surface. The rainfall and storm surge water elevations range from 6.5 feet (2 m)

to 10.5 feet (3.2 m) along the length of the alternative corridors. It should be noted that Baird did not model sea level rise for this study but recommended that sea level rise be considered during the final design of the road. Preliminary profiles for each alternative can be found in **Attachment F**.

The elevation and profile of the road was also determined based on the presence of hydraulic openings including bridges and other structures. For the bridge openings, 3 feet (0.9 m) of vertical clearance was added for freeboard or drift clearance to accommodate the passage of debris and other detritus floating on the water surface and to avoid or minimize damming of water at these structures. The low chord or lowest beam elevation of these structures was also set based on the storm surge and other storm event data to ensure that water can appropriately interact with the hydraulic openings that the structures span.

The ability to improve resiliency of the travel route to flooding from sea level rise, storm surge, wave overtopping, and rainfall was identified as one of the CSFs for the project. This factor is attributed to the vertical grade elevation of the roadway profile. **Table 7** summarizes the qualitative impact of each alternative to improve resiliency of the existing roadway between North Side/East End and George Town/West Bay.

Table 7: Improve Resiliency of Existing Roadway Between North Side/East End and George Town/West Bay Summary Table

CSF*	No-Build	B1	B2	B3
Improve resiliency of the travel route to flooding from sea level rise, storm surge, wave overtopping, and rainfall (Also included in the Traffic Assessment)	Neutral	Large Beneficial	Large Beneficial	Large Beneficial

**As identified in the Longlist Evaluation*

No-Build: Under the No-Build scenario, there are no improvements to the resiliency of the existing travel route, so the No-Build would have a "neutral" impact on resiliency.

***Alternatives B1, B2, B3*:** In terms of resiliency, the target of this criterion is to improve the travel route's resiliency to flooding from sea level rise, storm surge, wave overtopping, and rainfall. The ranking for this criterion is based on the preliminary Coastal Risk (Storm Surge and Wave Overtopping) and preliminary Hydrologic/Hydraulic (Rainfall Flooding) studies that were completed for the project area by Baird and Remington & Vernick Engineers, respectively. Overall Alternatives B1, B2, and B3 would have a "Large Beneficial" impact by (1) providing an alternate route in the event of road closures or emergency events along the existing coastal road, (2) improving the existing road's overall safety and travel time reliability by shifting most of the east-west traffic volume to the EWA, (3) providing a design for an elevation above mean sea level to accommodate a 50-year storm event, and (4) providing the opportunity to include additional design components such as a higher vertical elevation, bridges, and other drainages structures that would further improve the storm surge resiliency factor for most of the alternative.

4.4 Intersections

The proposed intersections for the EWA can be categorized into 2 groups for the purpose of the EIA Shortlist. These groups are Full Access intersections and Partial or Limited Access intersections (**Table 8**). Full access intersections could include the following types of intersections: Stop Sign Controlled, Traffic Signal Controlled, or Roundabouts. The exact full access intersection type has yet to be determined. The objective in selecting the proper type of intersection control is to provide for the safety of all modes of traffic while allowing the intersection to operate efficiently. Property impacts and greenhouse gas emissions also are considered. It is also possible that initially the intersection could be controlled by one type of intersection then later converted to a different type of intersection in the future when traffic volumes increase. Partial Access intersection control is to be considered as a yield controlled left-in/left-out access point.

Table 8: Full and Partial Access Intersections

Alternatives	Proposed Intersections	
	Full Access	Partial Access
No-Build	N/A	N/A
B1	8	9
B2	7	9
B3	7	9

As mentioned above, all modes of traffic need to be considered. This includes the future years where additional components are added for pedestrians, bicycles, micromobility users, and even bus rapid transit (BRT) lanes. For example, the initial build could have a roundabout as a full access intersection. The approach roadway is two lanes with one lane in each direction. The roundabout intersection control may be a 1 or 2 lane roundabout where pedestrians, bicycles, and micromobility users would only cross the southern approach leg via a crosswalk. The initial roundabout should be designed to be expanded to 2 or 3 lanes in the future if operations traffic operations predict additional traffic growth. All traffic will use the roundabout until the future expansion where the BRT lanes are added. It is anticipated that the BRT lanes will be constructed to the south for easy pedestrian access. During this future scenario all the EWA traffic will use the roundabout to navigate the intersection except the BRT will have a bypass across the southern approach leg. This would likely be an at grade crossing with the southern leg to and from the roundabout which is signalized to stop approach traffic so the buses can by bypass the intersection safely.

The placement of intersections has been considered along the lengths of Alternatives B1, B2, and B3 to provide connections to other travel routes and access to adjacent developments. For this initial conceptual evaluation, all the full access intersections utilize a roundabout design footprint for functionality, cost, and impact purposes. Additional limited access intersections that are left-turn in and left-turn out only were also included to serve minor connector roads that link to existing and future residential and commercial areas. Intersections and structure locations may need adjusted in the 30% design to avoid conflict and eliminate any sight visibility concerns from structures being too close to intersecting traffic.

For Section 2 of the corridor (Woodland Drive to Lookout Road), each of the Build alternatives have the same number and type of intersection locations. Specifically, a full access intersection is anticipated at the western end of the corridor at the end of Section 1, two other full access intersections are anticipated farther along the corridor to connect to the Will T Connector, and another is anticipated to connect to Lookout Road.

Within Section 3 of the corridor (Lookout Road to Frank Sound Road), the intersection locations differ due to differences in the locations of the alternatives, but the intent of the connections remains the same. The intersection locations in Section 3 are provided primarily for access to future developments south of the corridor. Each of the Build alternatives also includes a full access intersection connecting to Frank Sound Road.

Figure 12 shows the proposed intersection locations along Alternatives B1, B2, and B3. Additional details related to the intersection types, locations, and lane configurations will be further developed once a Preferred Alternative has been selected.

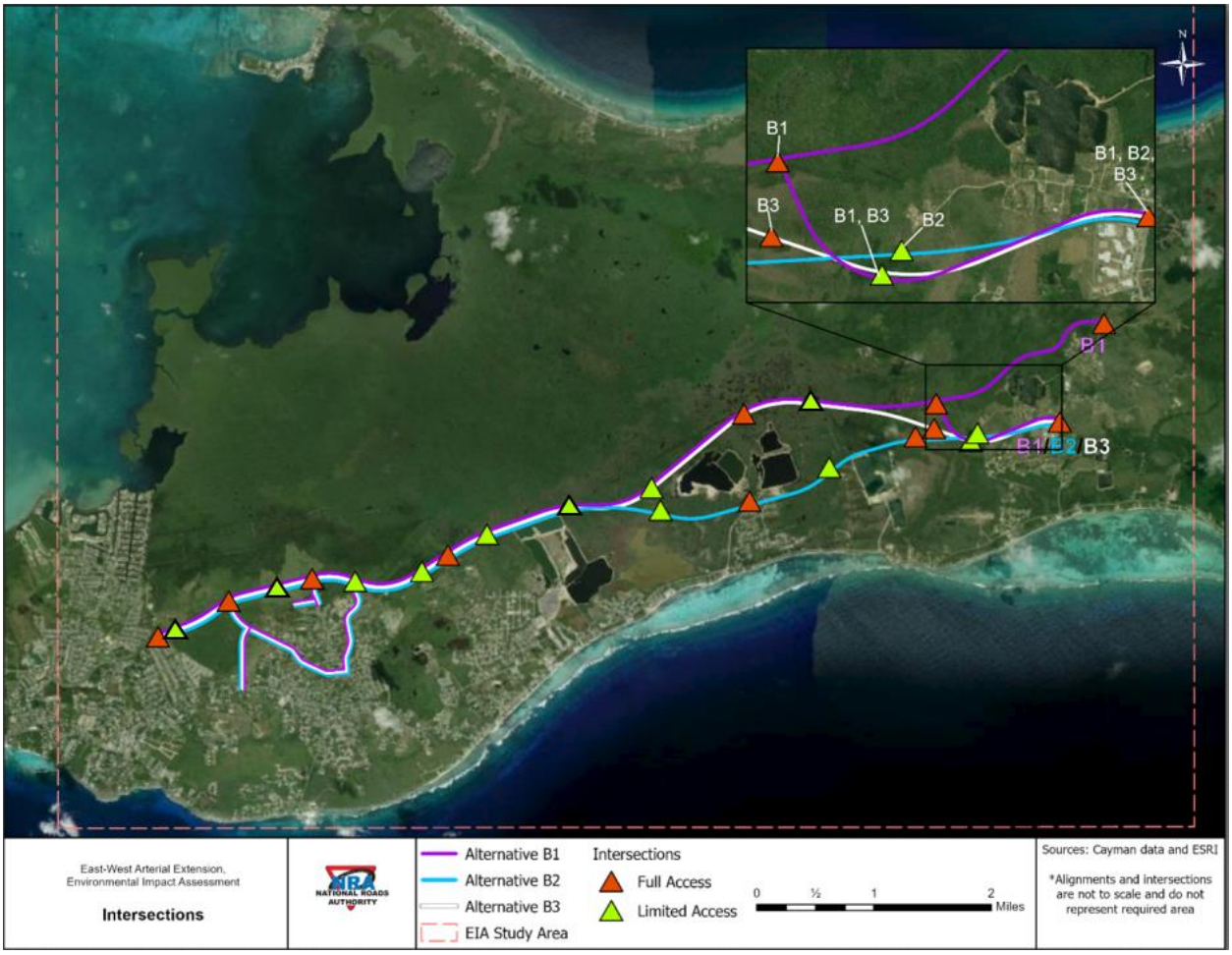


Figure 12: Conceptual Intersection Locations for Build Alternatives B1, B2, and B3

4.5 Bridges

The need for elevated structures along the new roadway corridor has been analysed as a component of the alternatives analysis process. The primary need for bridges along Alternatives B1, B2, and

B3 is to maintain hydraulic connectivity across the proposed roadway embankment in order to minimize hydrologic impacts to the Central Mangrove Wetland, avoid flooding of adjacent properties, and minimize the duration of flooding along the roadway corridor after major storm events. In addition, bridges were also investigated to minimize impacts to environmental and cultural resources, although in many cases avoidance of these resources was achievable through shifting the location of the roadway alignments.

A series of hydraulic and hydrologic studies have been performed to evaluate the number, location, and size of hydraulic openings in the roadway embankment needed to accommodate both rainfall and storm surge events (refer to the Hydrology and Drainage report for more detailed information on the methodology used in the hydraulic and hydrologic studies). Bridges or cross culverts (box culverts or pipes) are potential options for providing the anticipated hydraulic openings. The type of structure provided at each opening location may depend on a variety of factors including, but not limited to, the required opening size, geotechnical conditions, and impacts to the environment and natural resources. **Table 9** presents the number and size of the proposed bridge openings anticipated for each of the Build alternatives and the No-Build scenario. In addition, **Figure 13** presents a map of the conceptual bridge opening locations identified for each alternative.

In addition to the bridge openings identified in this report, smaller hydraulic openings in the form of pipes or small box culverts may also be needed at certain locations throughout the corridor to address localized drainage needs. Further determination of additional drainage needs will be investigated during the analysis of the Preferred Alternative as applicable.

Table 9: Summary of Bridge Openings for Each Alternative

Alternative	Bridge Openings		
	Number	Length*	Bridge Function
No-Build	N/A	N/A	N/A
B1	7	330 feet (100.6 m)	Hydraulic Connectivity
	10	150 feet (45.7 m)	Hydraulic Connectivity
	1	30 feet (9.1 m)	Mastic Trail Crossing
B2	7	330 feet (100.6 m)	Hydraulic Connectivity
	9	150 feet (45.7 m)	Hydraulic Connectivity
B3	7	330 feet (100.6 m)	Hydraulic Connectivity
	8	150 feet (45.7 m)	Hydraulic Connectivity

**Length is clear opening between abutment faces.*

Typical sections for the bridge crossings were developed in conjunction with the roadway typical sections and are presented in **Attachment B** of this report. The ultimate bridge typical section shown for the year 2074 consists of a single vehicular bridge carrying four general purpose travel lanes (divided with median barrier) along with two dedicated bus lanes separated from the travel lanes by traffic barrier. In addition, a separate bridge is proposed to accommodate the proposed sidewalk and separate micromobility path. Since traffic demands do not necessitate the ultimate typical section in the initial build year, typical sections have been developed for Sections 2 and 3 for the years 2026, 2036, 2046, and 2074 to depict the initial construction in each Section and to illustrate how the facility is anticipated to be expanded over time to accommodate increased demand (details provided in **Section 2: Shortlist of Alternatives** of this report).

As the initial construction for both Sections 2 and 3 of the project includes two travel lanes, a series of bridge widenings will be necessary at each bridge location in subsequent build years to achieve the ultimate typical section for the vehicular bridge. In addition, a separate bridge to accommodate the two proposed pedestrian features (sidewalk and separate micromobility path) will be constructed at each location at the time the pedestrian features are added to the corridor. Accommodating the pedestrian features on a separate bridge will allow the structure to be designed for lighter loads associated with pedestrian traffic as well as lighter maintenance or emergency vehicles and will also help minimize horizontal alignment transitions for these features. Although there are challenges associated with widening existing bridges including maintenance and protection of existing traffic and protection of the existing structure from movement or damage during the construction operations, bridge widening is common practice in the expansion of transportation facilities. Monitoring the stability of existing bridges will take place during any future construction phases involving bridge widening or new bridge construction in close proximity to an existing structure.

In terms of the additional features to be added to the corridor including highway lighting, utilities, and the solar array canopy, there will be unique considerations for each of these items at the bridge locations. If lighting is required on the bridges, traffic barrier mounted light poles can be used consistent with the approach roadway lighting; however, provisions for future lighting (conduits, mounting hardware, etc.) would need to be included in the initial traffic barrier construction to minimize reconstruction at the time of lighting installation. In addition, utilities may be accommodated in a number of ways depending on the utility type. Potential options would include, but are not limited to: buried facilities, utility conduits in the bridge concrete traffic railing, deck mounted utility hangers between bridge beams, utility supports attached to the outside of the bridge traffic railing and/or deck slab, and aerial utility crossings. Regarding the potential solar array, for the purposes of this study it is anticipated that the solar array would be terminated at each end of each of the bridges and would not be extended across the bridge deck due to the substantial wind loading this feature would otherwise transfer to the bridge.

Based on the anticipated opening lengths of 150 feet (45.7 m) and 330 feet (100.6 m) needed for hydraulic purposes, a bridge structure has been assumed at each of the openings in lieu of a box culvert. The required hydraulic clearance established for the project is 3 feet (0.9 m) above the 50-year design high water elevation, measured between the lowest horizontal member of the bridge and the water surface elevation. The bridges built with the initial construction of the corridor will be constructed at an elevation such that any planned future bridge widening will satisfy the required hydraulic clearance.

Since the roadway vertical profile will need to be raised at each bridge location to meet the required hydraulic clearance, it is desirable to use a shallow structure depth to avoid further increases in the vertical profile elevation. Therefore, for this evaluation a cast-in-place flat slab structure has been assumed with typical span lengths in the range of 30 to 40 feet (9.1 to 12.2 m), which would result in a slab depth less than 2 feet (0.6 m). Potential options to support the slabs include reinforced concrete wall piers and abutments or reinforced concrete pile bents. Based on the available existing geotechnical information, it appears that rock exists at shallow depths throughout the majority of the project corridor, which should allow for the use of shallow spread footing foundations at most of the bridge locations. In areas where the rock elevation is deeper, deep foundations (i.e. piles)

may be necessary. Both deep and shallow foundations will be evaluated as appropriate based on-site conditions and loading requirements. A similar structure type is assumed at the Mastic Trail crossing, consisting of a single span flat slab structure providing a minimum of 10 feet (3.0 m) vertical clearance over the trail to accommodate pedestrian traffic.

Additional details related to the bridge types will be further determined during the analysis of the Preferred Alternative. Intersections and structure locations may need adjusted in the 30% design to avoid conflict and eliminate any sight visibility concerns from structures being too close to intersecting traffic.

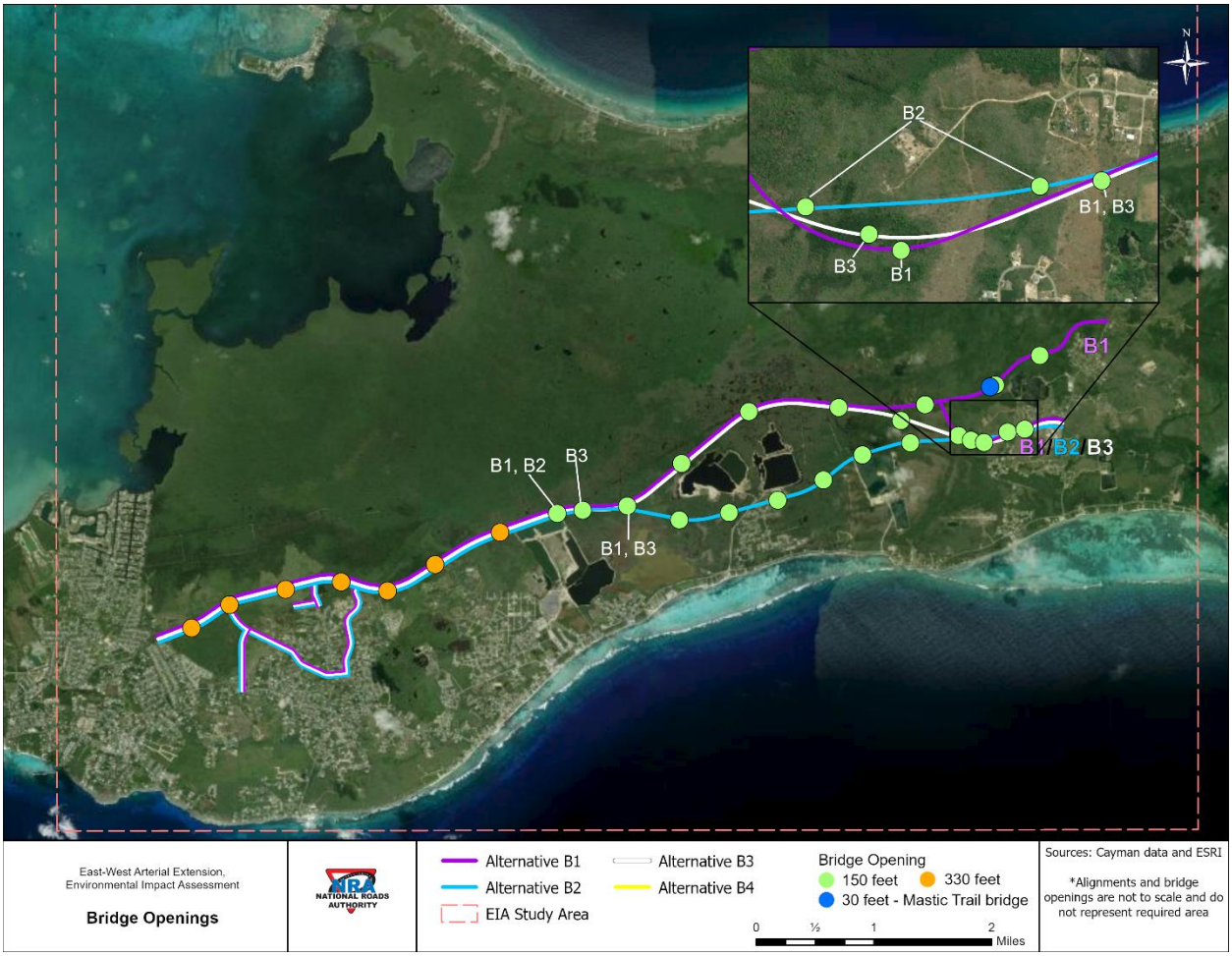


Figure 13: Conceptual Bridge Locations for Build Alternatives B1, B2, and B3

4.6 Sidewalk and Micromobility Path

For Build alternatives B1, B2, and B3, a wide sidewalk and a separate micromobility pathway are potential features that would run parallel with and adjacent to the proposed roadway corridor. As indicated in the ToR, the needs for pedestrian facilities as well as facilities for alternative modes of transportation due to the variety of means of travel on the island were identified. A wider than typical sidewalk of 10 feet (3.0 m) in width can accommodate many pedestrians for both travel and leisure. Walking, jogging, and slow speed bicycles are all potential users of the wide sidewalk. In addition, a separate asphalt paved, 14-feet (4.3-m) wide micromobility path is proposed

alongside the sidewalk, separated by a buffer space. Micromobility refers to transportation using lightweight vehicles, especially electric ones, such as scooters, bikes, carts, and other similar devices. Since the size and speed of these devices and vehicles can differ significantly from a walking pedestrian or a slower, conventional bicycle, a separate pathway is proposed for safety and efficiency. **Table 10** shows a sample of some of the devices and vehicles that may utilize this pathway as seen in *The basics of micromobility and related motorized devices for personal transport* published by the Pedestrian and Bicycle Information Center.

Table 10: Common Micromobility Devices (Sandt, 2019)

Device	Electric standing or sitting scooters (e scooters)	Electric bicycles (e-bikes)			Other[1]
		 			
		Class 1 Pedal assist (pedalec)	Class 2 Throttle assist	Class 3 Pedal assist (pedalec) at higher speed	
Example brands	**Shared:** Bird, Lime, and many others **Owned:** Inboard Glider, Segway 9Bot	**Shared:** Lime, Mobike, Ofo, Pace, Spin, and many others **Owned:** Most major bike brands; multiple passenger versions include Organic Transit (ELF) and Yuba	**Owned:** Several bike brands (less common than Class 1 and 3)	**Owned:** Several major brands; multiple passenger versions include Better Bike (PEBL), and Podride	**Owned:** Boosted, Inboard, Mellow Boards, Metroboard
Weight	Typically < 50 lbs	Typically < 100 lbs; multiple passenger versions near 200 lbs	Typically < 100 lbs	Typically < 100 lbs; multiple passenger versions near 200 lbs	< 50 lbs
Occupants	Single rider	Usually a single rider; some cargo e-bikes or bike cars designed for multiple riders	Typically designed for single riders	Usually a single rider; some designed for multiple riders	Single rider
Power supply	Electric motor typically < 750 watts	Electric motor typically < 750 watts	Electric motor typically < 750 watts	Electric motor typically < 750 watts	Electric motor typically < 750 watts
Product speed[2]	20 MPH or less; some cities apply additional speed restrictions	20 MPH or less	20 MPH or less	28 MPH or less	Most are 20 MPH or less though some can go up to 30 MPH
Operating space	Varies by place;[3] some cities restrict in crowded places	Varies by place;[3] usually allowed on bike transportation facilities and paths	Varies by place;[3] usually allowed on bike transportation facilities and paths	Varies by place;[3] some States restrict access on bike paths	Varies by place[3]
Regulated by	Consumer Product Safety Commission (CPSC), for personally owned devices[4]	CPSC (only for personally owned devices)	CPSC (only for personally owned devices)	CPSC (only for personally owned devices)	CPSC (only for personally owned devices)

[1] This category includes e-skateboards; e-skates; e-boards or other self-balancing devices (sometimes called hoverboards or balance wheels).

[2] Speed intended for usage by manufacturer; this may be regulated by State or local ordinances and may differ from actual operating speeds or modifications made by the device user.

[3] In some circumstances, paths may have restrictions based on the Federal or State regulations, or the source of funding. These restrictions are often marked at the entrance to the facility, but not always.

[4] CPSC is a regulatory body that identifies if a product is safe to sell in the U.S. under the Consumer Product Safety Act. It does not regulate who can purchase a device or where or when devices can be legally ridden.

[5] Moped/scooter/motorcycle definitions are highly variable by State. For example, in North Carolina, there is no separate category for scooter; "scooters" may be mopeds or motorcycles depending on engine capacity. These devices and motorcycles are often regulated at the Federal level through the Consumer Product Safety Commission, although they are not regulated by the Federal Motor Vehicle Safety Standards (FMVSS). Still, States may define and regulate them at the State level and enforce regulations through the Department of Motor Vehicles (DMV) or other mechanism.

The establishment of dedicated pedestrian and bicycle facilities adjacent to the vehicular travel lanes was identified as one of the CSFs for the project. **Table 11** summarizes the qualitative impact of each alternative to provide for these facilities for safe pedestrian and bicycle travel.

Table 11: Provide Opportunity for Enhanced and Safe Pedestrian and Bicycle Travel Summary Table

CSF*	No-Build	B1	B2	B3
Establish dedicated pedestrian and bicycle facilities adjacent to vehicular travel lanes (Also included in the Traffic Assessment)	Neutral	Large Beneficial	Large Beneficial	Large Beneficial

**As identified in the Longlist Evaluation*

No-Build: The No-Build scenario would not improve walk, bike, or micromobility facilities along any existing roadways, so the impact to non-vehicular access is determined to be "Neutral."

***Alternatives B1, B2, B3*:** In terms of pedestrian and bicycle travel, the target for this criterion focuses on the opportunity to accommodate safe pedestrian and bicycle travel (i.e., space requirements/amenities); it does not assess user behaviour. Overall, Alternatives B1, B2, and B3 would have a "Large Beneficial" impact by (1) providing dedicated sidewalks within the new roadway corridor connecting Hirst Road to Frank Sound Road, (2) providing a parallel micromobility path separate from vehicular traffic that can be used by cyclists, pedestrians, or emerging modes such as e-bikes or electric scooters, which enhances accessibility between the western and northern/eastern areas of the island, (3) reducing the volume of traffic using existing Shamrock Road/Bodden Town Road, thereby lowering the level of traffic stress on the existing roadway network, resulting in more pedestrians and cyclists potentially feeling more comfortable traveling on the existing roadway network, and (4) improving multimodal access to key destinations such as the Mastic Trail, Clifton Hunter High School, and Bodden Town Valu-Med Pharmacy. Additional information regarding pedestrian and bicycle travel can be found in the Traffic Technical Report.

4.7 Right of Way (ROW) and Acquisitions

Alternatives B1, B2, and B3 would impact land parcels along the entire length of the proposed facility, in some instances resulting in a partial take (where part of the property would be purchased and impacted, but part of the parcel would remain) or full taking (where the full parcel would be purchased and impacted) of that land parcel. **Table 12** provides a summary of the estimated total acreage impacted for each of the Build alternatives and No-Build scenario. A further breakdown of the impacts for each alternative can be found in **Attachment E**. The monetary cost of these takings and relocations is further discussed in the Cost Benefit Analysis for the EWA EIA Shortlist Evaluation.

In some instances, the structure on the parcel would be impacted and in other instances it would not be. **Table 13** summarizes how each alternative is estimated to impact residential, commercial, and emergency service structures.

Table 12: Summary of Parcel Impacts for Alternatives B1, B2, and B3

Alternative	Total Impact Area Acres (Hectare)
No-Build	0
B1	286.78 (116.06 hectare)
B2	253.2 (102.47 hectare)
B3	247.86 (100.31 hectare)

Table 13: Structural Acquisitions for Alternatives B1, B2, and B3

	No-Build	B1	B2	B3
Residential Structures	0	2	3	2
Commercial Structures	0	0	0	0
Emergency Structures	0	1	1	1
Total Structure Impacts	**0**	**3**	**4**	**3**

4.8 Constructability

Constructability refers to the ease of construction or the time, effort, and complexity involved with the construction process. There are several factors that influence constructability for Alternatives B1, B2, and B3. For each of the Build alternatives, the proposed corridor passes through areas that contain mangroves and wetted areas as well as areas of peat, which is an organic, mucky material. These peat areas vary in size and depth throughout the proposed corridor paths. To safely construct the roadway embankment over these areas and ensure that the proposed roadway and its embankment remain stable, special action would need to be undertaken to remove the presence of the peat material. One potential approach would be to excavate out the peat and replace it with a stabilized subgrade material. The excavation itself would be in large quantity and a slow process to ensure that the peat is fully excavated and then removed from the site. Additionally, a large amount of subgrade material would be required to fill the void left from the peat excavation. This fill material would also have to be laid and compacted in place. Since most of these areas are within heavily vegetated and wetted areas, access roads for equipment and personnel would need to be constructed and maintained to carry out this effort. As mentioned, this process of peat removal would need to occur at various locations along the entire length of the corridor with deeper areas requiring more excavation, material, and time. Another approach for possible consideration is the use of geotechnical methods that could stabilize the subsurface without removing the peat. These options may include but are not limited to using layers of geogrids or open cellular foundation mattress systems which may be constructed over the peat areas without any peat removal possibly accelerating the construction schedule and cutting costs. In order to further determine the feasibility of these approaches, additional geotechnical evaluation is required. For the purpose of this evaluation, it is assumed that the peat would be fully removed.

The ability to provide for the necessary areas required for construction staging and for construction activities was identified as one of the Engineering Constraints for the project. **Table 14** summarizes the qualitative evaluation on providing the areas necessary for construction.

Table 14: Provide for the Areas Necessary for Construction Summary Table

Engineering Constraint*	No-Build	B1	B2	B3
Provide areas required for construction staging and for construction activities *(while maintaining traffic/property access)*	Neutral	Slight Adverse	Slight Adverse	Slight Adverse

**As identified in the Longlist Evaluation*

No-Build: The No-Build scenario was included as a benchmark from which to evaluate and compare the construction impacts of the Build alternatives so the impact for the No-Build scenario for construction would be "Neutral."

***Alternatives B1, B2, B3*:** In terms of providing for the areas necessary for construction, the target for this criterion is to provide the areas required for construction staging and construction activities, while maintaining traffic/property access. Overall Alternatives B1, B2, and B3 would have a "Slight Adverse" impact by providing adequate space for maintenance of traffic and property access during construction as it is a new roadway facility, with minor anticipated construction related inconveniences.

5. Utilities

As previously described in **Section 2: Shortlist of Alternatives**, a few potential features of the EWA extension include transit transportation considerations, lighting/utilities, and a solar panel canopy. These features are not within the ambit of the NRA and their inclusion within the corridor would be dependent on the appropriate responsible entity. The following further describes the utilities and solar panel canopy.

Each of the Build alternatives B1, B2, and B3 includes accommodations for both existing and future utilities. Within the typical section of each of the Build alternatives specific space has been allotted on both the north and south sides of the corridor to allow for the construction of several utilities, such as but not limited to, sanitary sewer, water, fibre, and electricity. Typical sections for each alternative are included in **Attachment B** of this report. In addition, a number of electrical duct banks are possible to run alongside and within the roadway section to allow for highway lighting and accommodate the potential solar panel canopy. High mast, electric lines may also utilize area on the northern side of the corridor to transfer power across the island. Sanitary sewer and water lines may act similarly but in an area on the southern side of the corridor.

Utilities crossing need to be considered at structure locations. The are multiple options for the utilities to cross the structure openings. One option is the utilities may simply be buried under ground. Alternate options include mounting the utilities to the outside of the bridge barrier or the

utilities could have their own structure. The appropriate place for the utility crossings will need to be determined during a later design phase when more information is available.

The ability to accommodate utility expansion was identified as one of the CSFs for the project. **Table 15** summarizes the qualitative impact of each alternative for accommodating utilities.

Table 15: Accommodate Utility Expansion Summary Table

CSF*	No-Build	B1	B2	B3
Accommodate utility expansion (electricity, fibre, water, central sewage) **	Neutral	Large Beneficial	Large Beneficial	Large Beneficial

**As identified in the Longlist Evaluation*

*** These criteria are to provide opportunities to accommodate these features. It is outside of the ambit of the NRA to provide utilities or public transportation.*

No-Build: The No-Build scenario was included as a benchmark from which to evaluate and compare the ability to accommodate utilities expansion of the Build alternatives so the impact for the No-Build scenario for this criterion would be "Neutral."

***Alternatives B1, B2, B3*:** In terms of accommodating utilities expansion, the target of this criterion is to have the ability to accommodate utility expansion needs between Woodland Drive and Frank Sound Road. It is outside of the ambit of the NRA to provide and install utilities. Overall, Alternatives B1, B2, and B3 would have a "Large Beneficial" impact by (1) including a new roadway through an undeveloped area; therefore, the land needed could be acquired to accommodate utility expansion between Woodland Drive and Frank Sound Road, (2) including area for the inclusion of underground utility ducts that could run the length of the new roadway corridor, and (3) reducing the amount of above ground utilities that could be affected by storm events.

Solar Array (Solar Panel Canopy)

A preliminary assessment for a solar photovoltaic (PV) canopy was conducted for each of the Build alternatives. This assessment is included as **Attachment C** of this Engineering Evaluation Report. The assessment provides a preliminary PV system size, a Class 5 (+/- 30%) cost estimate, and an energy production forecast estimate.

For Alternatives B1, B2, and B3 this solar panel canopy was evaluated for a 6 mile (9.6 km) long section. The concept solar canopy consists of a 40-feet (12.2-m) wide array of solar panels located over top of the proposed micromobility path and sidewalk. The cost breakdown analysis consists of a Class 5 financial estimate in USD +/- 30%. The estimated capital expenditure (CAPEX) to build this system is estimated at approximately $78,154,056 US ($65,649,407 CI). To operate and run the system, an annual operational expenditure (OPEX) cost is estimated to be $380,201 US ($319,369 CI). The 22.23-megawatt solar array would be anticipated to offset approximately 703,556 tons of CO_2 emissions over a 30-year period.

Based on available electricity consumption and source data from WorldMeters.info for Cayman Islands in 2016, the 22.23 MW PV canopy would offset 703,556.1 tons of CO_2 emissions over a 30-year period. The average energy production would save the Cayman Islands 2,556,400 gallons (9,677,026 litres) of diesel fuel every year, and supply 5.6% of the Cayman Islands annual electricity demand based on year 2016 available data.

A cost benefit analysis of the solar panel canopy can be found as part of the separate Shortlist Evaluation document.

6. Transit

Current public transit services are provided through the Ministry of Planning, Agriculture, Housing, Infrastructure, Transport & Development's Public Transport Unit. The Public Transport Unit is directed by the Public Transport Board and oversees the issuance of permits for the operation of public passenger vehicles and the staffing and safety of public transport services (**Figure 14**). (Public Transport Unit (caymantransport.ky))



Figure 14: Grand Cayman Public Buses
Source: explorecayman.com 1

Currently twelve routes serve West Bay, George Town, Bodden Town, North Side, and East End. All routes begin and end at the bus depot on Edward Street in George Town. Bus routes are both numbered and named. A listing and brief description of these routes is provided in **Table 16**.

Table 16: Existing Public Bus Routes

Route Number	Name	Description
1WB	Yellow	From bus depot north to West Bay, serving West Bay Road, Hell, Cayman Turtle Centre, and Governor's Residence.
2WB	Green	From bus depot north to West Bay along West Bay Road with different routing in West Bay than route 1.
3WB	Purple	From bus depot north to West Bay along Esterly Tibbetts Highway, connecting to airport
4B	Bright Blue	From bus depot circulating through central George Town, connecting to Government Hospital, Sports Complex, and University College
5A	Pink	From bus depot to airport
5B	Pink	From bus depot to airport
7A	Red	From bus depot to East End via Crewe Road, Shamrock Road, passing through Bodden Town
7B	Light Green	From bus depot to East End, but first serving South Sound Road past Smith Cove rather than Crewe Road (route 7A)
8A	Orange	From bus depot to North Side via Crewe Road, Shamrock Road (not serving East End)
8B	Light Green	From bus depot to North Side via South Sound Road (rather than Crewe Road), East-West Arterial
9A	Dark Blue	From bus depot to North Side around Queens Highway through East End
9B	Light Green	From bus depot to North Side first serving South Sound Road, Shamrock Road, around Queens Highway through East End

These routes are shown in **Figure 15** along with the locations of Alternatives B1, B2, and B3.

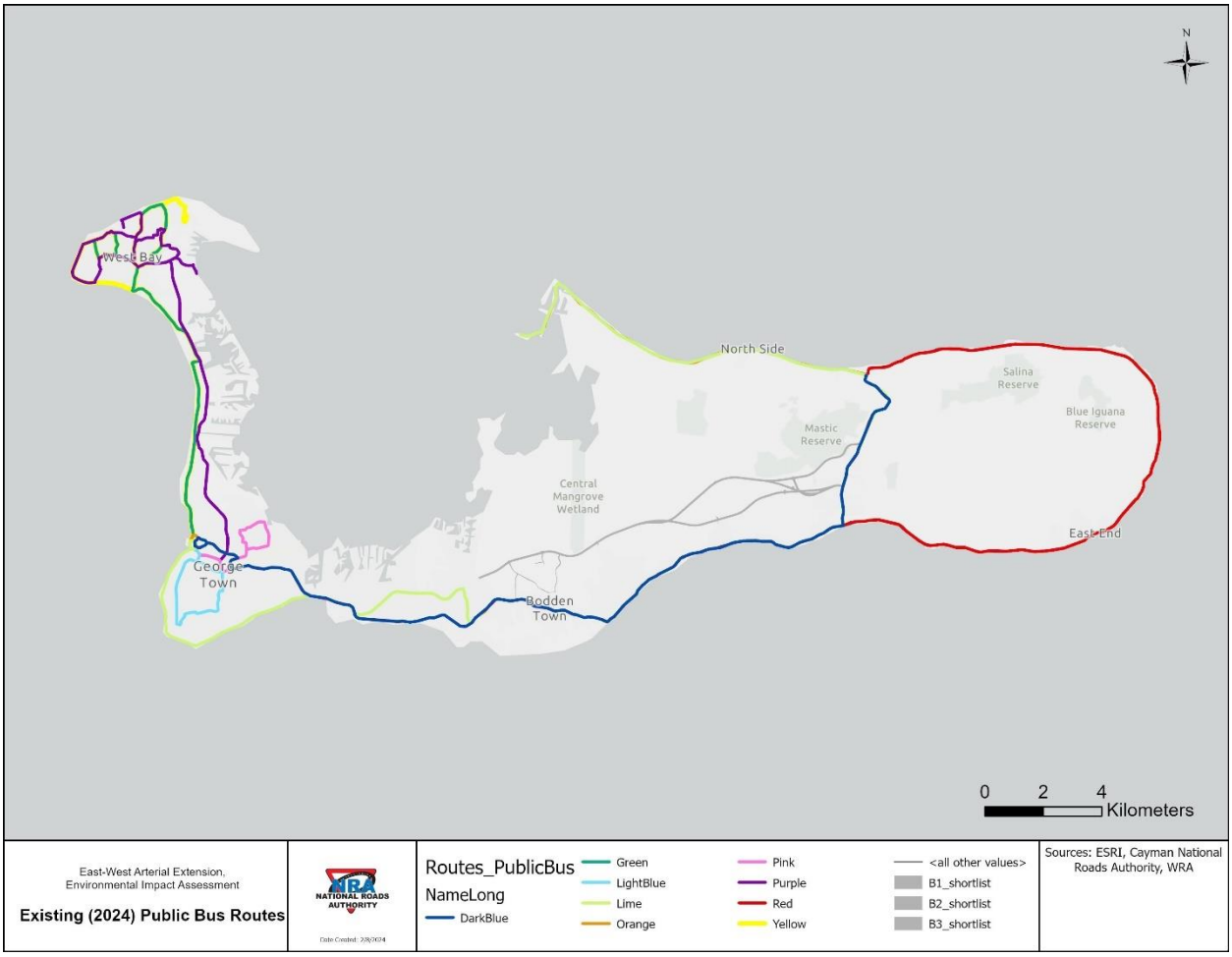


Figure 15: Existing (2024) Public Bus Routes

There are over 100 bus stops throughout Grand Cayman. Transit shelters are generally provided at stops, typically on one side of the road (**Figure 16**). Since each Build alternative is anticipated to ultimately have two travel lanes in each direction, future transit stops and shelters are recommended to be considered on each side of the roadway transit section. Pedestrians would utilize at grade crossings of the bus travel lanes to access the bus stops.



Figure 16: A Grand Cayman Bus Stop
Source: signsolutions.ky

This analysis examines the inclusion of transit infrastructure and services along Alternatives B1, B2, and B3 and integrating these services in ways that complement existing transit services. In addition, this analysis considers the Public Transport Board's policies and plans for continuing to improve transit service across the island. The Public Transport Board has a five-year Strategic Plan which is based on seven goals:

1. Governance
2. Strategic & Future Planning
3. Education & Training
4. Human & Financial Resources
5. Internal Stakeholder Engagement
6. External Community Engagement
7. Innovation

In addition, a Public Transport Strategy was adopted in 2022 (LTCT-PTU2022-001: Assessment of a Public Transport Strategy, by Deloitte). This strategy provides a longer-range vision of public transit on the island as described through strategic priority areas:

1. Increase utilization (includes capacity and quality of vehicles, dedicated bus lanes and more)
2. Improve customer experience (includes dedicated bus stops with adequate shelters and more)
3. Enhance human resources
4. Reduce emissions (includes transition toward use of electric vehicles)
5. Strengthen structural and organizational efficiencies

Collectively, the Strategic Plan and the Public Transport Strategy point toward the types of transit infrastructure and services which are most appropriate in the planned EWA project. Potential Transit Features for Build alternatives B1, B2, and B3 include:

- Modification or addition of transit routes and services
- Inclusion of transit stops and shelters along the EWA
- Inclusion of appropriate transit customer amenities (shelters, benches, lights, rider information such as routes, schedules, and real-time arrival information)
- Planning for future clean transit vehicles and infrastructure such as:
    - Battery-electric vehicles
    - Bus shelters with solar powered lights
    - Solar infrastructure to collect and store electricity
    - Vehicle charging infrastructure – depot charging and potential on-route charging

6.1 Modification or Addition of Bus Routes

Each Build alternative (B1, B2, and B3) provides the same ability in meeting the provision for transit elements and services. Depending on the Ministry's objectives for frequency of transit service, new routes could be added to the system or existing routes could be modified to serve destinations along the EWA Extension. This analysis anticipates a scenario where two of the existing routes serving the east end of the island are relocated to utilize and serve the EWA. **Figure 17** shows one proposal where the Orange and Dark Blue routes are modified to serve the EWA. Currently, all routes serving Bodden Town and East End travel along Shamrock Road. Modifying the Orange and Dark Blue routes would leave four other routes still serving Shamrock Road.

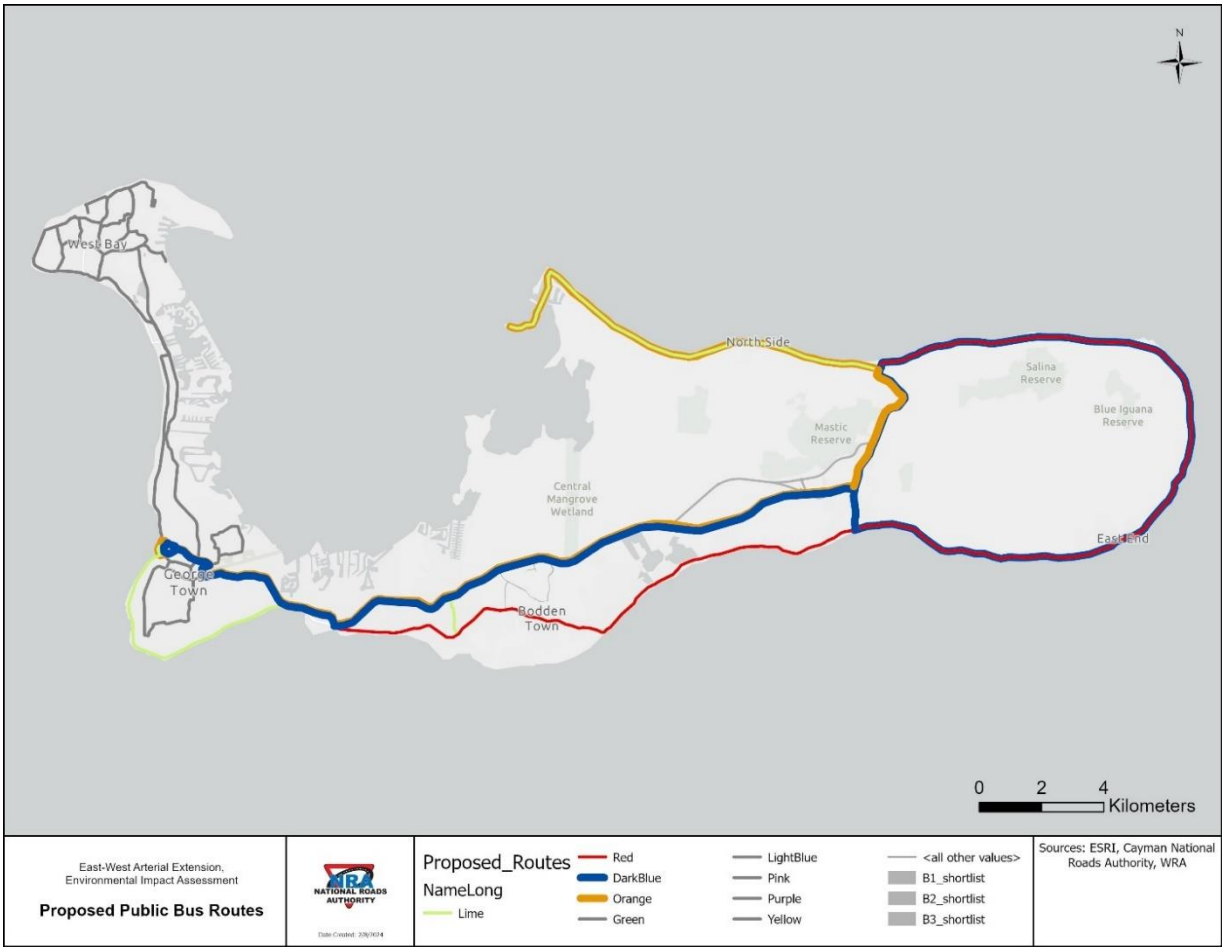


Figure 17: Proposed Public Bus Routes

6.2 Transit Stops and Shelters

The addition of new transit service along Build alternatives B1, B2, and B3 would require the installation of new bus stops and shelters (**Table 17**). As mentioned previously, along the four-lane sections, bus stops and shelters are recommended on each side of the roadway with two stops and shelters in each location. Pedestrian crosswalks will likely be necessary to provide safe places for pedestrians to cross the divided roadway. Therefore, the exact shelter locations should be coordinated with final roadway design. A preliminary assessment of the possible locations of number of stops and shelters was completed to assess the order-of-magnitude costs of transit elements and to determine if the overall costs are significantly different between alternatives.

Existing bus stops in the vicinity of Sections 1 and 2 are shown in **Figure 18**. Preliminary stop locations were also identified along Sections 1 and 2 based on the location of intersections and proximity to nearby neighbourhoods or other destinations. Five locations were identified as shown in **Figure 18**. (Five locations x two stops per location = 10 bus stops and 10 bus shelters.)

Table 17: Bus Stops and Shelters

EWA Section	Number of Bus Stops with Shelters	Estimated Cost US $ (CI$)
1 and 2	10	$250,000 US ($210,000 CI)
3	14	$350,000 US ($294,000 CI)
Total	**24**	**$600,000** US ($504,000 CI)

Estimated construction of a bus stop with a shelter can range from $15,000 - $75,000 US ($12,600 - $63,000 CI) per location based on the level of customization and customer amenities. Bus shelter amenities may include items such as but not limited to benches, trash bins, lights, rider information (static route maps, or real-time arrival information) and more. For this analysis a cost of $25,000 US ($21,000 CI) per location was used as an assumption. The number of stops and shelters is estimated in **Table 16**. These quantities are based on the locations shown in **Figure 18** plus four additional shelters assumed to be constructed commensurate with planned developments in the vicinity of Lookout Drive.

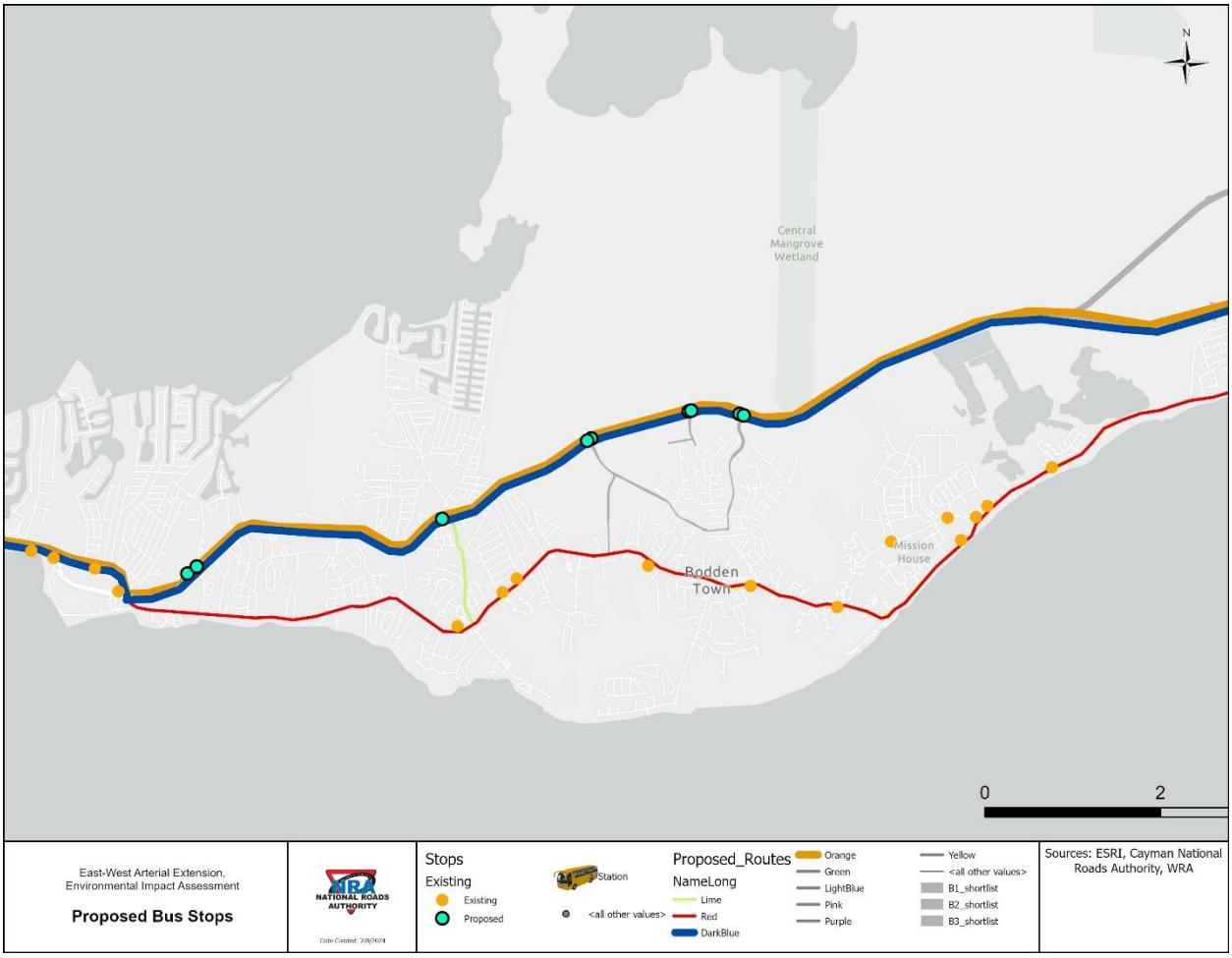


Figure 18: Existing and Proposed Bus Stops

6.3 Transit Customer Amenities

As mentioned in the previous section, there are many possible transit customer amenities available (**Figures 19** and **20**) that can be considered for the EWA corridor. Some practical and helpful amenities recommended for consideration at new stops and shelters include covered shelters with lights and rider information. Modern LED lighting uses less electricity than older technologies and can even be solar powered. Shelters can have roof-mounted solar panels and batteries to extend the lighting late into the night. The solar array discussed previously in this report is also a potential source for powering the lights and real-time rider information. Transit shelters should have information about bus routes and schedules at a minimum. Electronic, real-time rider information is also recommended to enhance the rider experience. These "smart" shelters can be equipped to display the location and predicted arrival time of the next bus – useful information to a waiting customer.



Figure 19: Example of a Public Bus Stop With an Electronic Schedule Display
Source: TourDigital



Figure 20: Example of a Public Bus Stop with Safety Lighting
Source: Handi-Hut.com

6.4 Planning for Clean and Sustainable Transit

Transit service in the new EWA corridor provides an opportunity to further implement the Public Transport Board's vision for clean, efficient, and sustainable transit. To further compliment solar-powered lights and customer information electronics, consideration can also be given to future transit vehicles using battery electric propulsion. Battery electric vehicles have been growing in the vehicle mix as the technologies have been rapidly advancing. Advancements in battery technology, charging systems, electric grid resiliency and operational planning have all contributed to the continued growth in the use of battery electric buses. (FTA Report No. 0253 – Procuring and Maintaining Battery Electric Buses and Charging Systems – Best Practices)

Using battery electric transit vehicles, however, does require careful system planning. In particular, the requirements for range and for recharging public transit vehicles is an important consideration. Battery electric buses may not be a practical solution in locations with very cold weather, hilly terrain, and long routes; however, Grand Cayman may be well suited for battery electric buses or vans based on the climate, flat terrain, and relatively short route distances.

While depot-charging (charging buses at the bus depot) may be an acceptable approach to charging, future bus routes on the EWA to East End and North Side (which are the longer routes) should consider the use of on-route quick charging (**Figures 21** and **22**). This type of charging is capable of returning most of the vehicle's battery charge much faster than traditional depot-charging. Ideally, the battery electric vehicle would recharge at each end of its route – at the bus depot and at an end-of-the-line station on the east end of the island.

Battery Electric Bus (BEB) Charging

1. BEB range can vary from less than 100 miles (161 km) to over 200 miles (322 km) depending on the size of the battery pack and many operating variables (terrain, temperature, use of on-board heating, etc.). So, careful planning is required to match vehicle capabilities with the operating expectations, considering the length of bus routes, daily hours of service, and hours of downtime for charging.
2. Depot charging can typically provide 40-125 kW and charge time may vary between 1-8 hours.
3. On-route fast charging may deliver higher power (125-500 kW) with reduced charge time of 5-20 minutes per charge. On-route charging may allow the use of vehicles with small onboard batteries and allow vehicles to remain in service for an entire day. Planning is necessary, however, to ensure that vehicle dwell time at an on-route charger (typically at an end-of-the-line station) is adequate to replenish the batteries.
4. Regardless of the charging strategy, system planning must also consider back-up charging in the event of a wide-spread power outage.



Figure 21: Example of Typical Bus Depot Charging
Source: EVSE Australia



Figure 22: Example of On-Route Quick Charging
Source: USDOT

The establishment of public transportation facilities and improved bus travel reliability was identified as one of the CSFs for the project. **Table 18** summarizes the qualitative impact of each alternative for providing for the opportunity to safely accommodate and expand public transportation.

Table 18: Safely Accommodate and Expand Public Transportation Summary Table

CSF*	No-Build	B1	B2	B3
Establish public transportation facilities and improve bus travel reliability**	Neutral	Large Beneficial	Large Beneficial	Large Beneficial

**As identified in the Longlist Evaluation*

*** These criteria are to provide opportunities to accommodate these features. It is outside of the ambit of the NRA to provide utilities or public transportation.*

No-Build: The No-Build scenario provides little opportunity to improve public transportation facilities along the existing east-west roadway network due to limited availability of space, so the impact to bus travel reliability is determined to be "Neutral."

***Alternatives B1, B2, B3*:** In terms of accommodating public transportation, this evaluation/ranking focuses on the ability to accommodate safe and efficient public transportation (i.e., space requirements); it does not include the specific design of a public transportation system (i.e., stops, fares, scheduling, etc.) or analysis of user behaviour. This criterion is an opportunity to provide for public transit features within the proposed new roadway corridor. It is outside of the ambit of the NRA to provide public transportation. Overall, Alternatives B1, B2, and B3 would have a "Large Beneficial" impact by (1) including a new roadway through an undeveloped area; therefore,

ROW could be acquired to accommodate a Dedicated Bus Lane between Woodland Drive and Frank Sound Road, and (2) including the necessary dedicated transit stops along the new roadway corridor.

7. Cost Estimate

The section describes the cost estimates that have been prepared for Build alternatives B1, B2, and B3 as well as the No-Build scenario. Each estimate includes estimated costs for construction of the new facility and maintenance & rehabilitation repairs for the identified 50-year time cycle. ROW/property acquisition costs are also included and are described in **Section 7.2: Right of Way (ROW) Costs** of this report. Other costs that will also need to be considered are the costs associated with utility relocations and mitigation measures. These costs will be evaluated and estimated, as applicable, for the Preferred Alternative. Costs associated with features outside the ambit of the NRA (i.e. utilities, solar panel canopy, bus shelters) are not included within the estimated costs. See the separate Cost Benefit Analysis for present value estimates.

7.1 Construction Costs

To determine the construction costs for the alternatives, a preliminary list of construction materials and activities required to build the proposed project was developed. These materials and activities reflect the items that are quantifiable at this stage of the project design and are considered to have the largest impact on cost. These items were quantified for each build year scenario previously described in **Tables 1** and **2** for the years 2026, 2036, 2046, 2060, and 2074. Additionally, materials and activities related to the identified 50-year time cycle of the facility, such as maintenance and reconstruction, were also considered. The items quantified for the roadway construction include excavation, embankment material and rock for the slopes of the roadway, asphalt and rock for the roadway pavement, concrete for sidewalks, curbs and medians, concrete barrier, paint for pavement markings, highway lighting, and a drainage and stormwater allowance. Drainage and stormwater management will be further evaluated as part of the Preferred Alternative. Construction cost estimate sheets can be found in **Attachment D**.

To determine the excavation and required fill material for the roadway embankment, a 3D model was created from the proposed alignment, profile, and typical sections utilizing Bentley OpenRoads Designer, a computer modelling and roadway design software. This model was used in conjunction with the surveyed terrain of the project area to produce a model that reflects how the proposed roadway corridor would interact with the existing area. To determine the peat removal volumes, a vertical profile of the bottom of peat areas was created based on the test pit data collected for the areas along the original gazetted corridor. Using this profile, a 3D model of the peat depth layer was created and then the computer software was used to calculate volumes of excavation and fill from the generated model. See the Geo-Environmental Technical Report for additional information regarding underlying geology, including maps of peat depth along the corridor.

A preliminary pavement structure for the roadway was determined based on previous similar projects constructed by the NRA on the island. The total area of material for the pavement structure was then quantified by overlaying the lane configuration of the roadway onto the proposed alignments and creating a closed, measurable shape file that reflects the proposed shape of the

roadway pavement surface. The structure for the proposed concrete curb, sidewalk, micromobility pathway and median barrier were also determined using this methodology. Speciality items that include highway lighting were determined based on a set distance along the proposed alignment for spacing purposes as well as total pavement area per each lighting structure.

Construction costs for the proposed bridges along the corridor were determined based on a unit cost per square foot (metre) of bridge deck area. To establish a typical square foot (metre) unit cost for this analysis, conceptual bridge geometry was developed for a representative bridge type and quantities were developed for the major cost items including concrete, reinforcing steel, traffic barriers, and slope protection. The total cost of the representative bridge was calculated based on these quantities, and the resulting cost per square foot (metre) was applied to the proposed number of bridges for each of the Build alternatives. For future build years where widening existing bridges would be necessary to construct additional travel lanes, a 20% cost premium was placed on the widened portions of the structures to account for the increased cost of bridge widening versus new construction.

The No-Build scenario estimate includes the use of the existing roadway footprint from the end of Section 1 of the EWA now under construction, along Hirst Road, then along Shamrock Road to Bodden Town Road, and finally continuing to the intersection with Frank Sound Road. These sections of existing road were considered the most comparable route within the existing road network (No-Build scenario) to that of the other Build alternatives. The total pavement area was then used to calculate estimated rehabilitation quantities/costs throughout the build years. Similar to the Build alternatives, pavement resurfacing was considered for the build years, as well as one iteration of total reconstruction.

Unit rate costs were developed using HCSS HeavyBid, a professional construction estimating software package utilized by over 50,000 estimating professionals and 44 of the top 50 ENR Heavy Civil Contractors in the US. In order to generate unit rate costs, current labour, equipment, and materials rates were entered into an estimation database developed specifically for the EWA Project. Crews were then developed, and job task activities were generated to represent the anticipated work to be undertaken as part of the EWA Project. These include activities such as asphalt paving, bridge structure construction, drainage construction, and earthwork excavation and backfill. Using crews populated with labour, equipment, and materials unique for each activity, production rates were established based on past performance data from dozens of other similar projects, and these production rates were applied to representative quantities to develop costs incurred in performing the work. The software package also includes calculations for fuel and maintenance costs of equipment, labour overtime calculations, workmen's compensation costs, and taxes, fees, and tariffs. All of this information was compiled within the software to produce a comprehensive and extensive analysis of actual anticipated cost expenditures for the project, which were exported as unit rate costs and then applied to the various quantity variations across Alternatives B1, B2, and B3 and the No-Build scenario.

Table 19 (a and **b)** presents the estimated construction and maintenance costs for the No-Build scenario, as well as each of the Build alternatives B1, B2, and B3 broken down by build year. The

No-build costs include maintenance updates to the coastal road only. Maintenance for the build alternatives includes maintenance of the components from the previous build years.

Table 19a: Construction and Maintenance Costs for Alternatives B1, B2, and B3 (US Dollars)

		New Construction Cost	Maintenance Construction Cost	Total Construction Cost Subtotal By Year	Estimated Construction Cost Subtotal	Contingency (%)	Total Estimated Construction Cost (US$)
No Build Summary	**2026 Totals:**	$0.00	$11,283,931.54	$11,283,931.54	$59,713,524.54	20%	$71,656,229.45
	2036 Totals:	$0.00	$11,283,931.54	$11,283,931.54			
	2046 Totals:	$0.00	$14,577,798.38	$14,577,798.38			
	2060 Totals:	$0.00	$11,283,931.54	$11,283,931.54			
	2074 Totals:	$0.00	$11,283,931.54	$11,283,931.54			
Alternate B1 Summary	**2026 Totals:**	$236,461,638.13	$0.00	$236,461,638.13	$751,369,526.61	20%	$901,643,431.93
	2036 Totals:	$150,965,173.15	$17,785,263.36	$168,750,436.51			
	2046 Totals:	$131,962,249.52	$25,533,020.45	$157,495,269.97			
	2060 Totals:	$0.00	$30,525,031.91	$30,525,031.91			
	2074 Totals:	$100,401,121.67	$57,736,028.42	$158,137,150.09			
Alternate B2 Summary	**2026 Totals:**	$211,924,577.94	$0.00	$211,924,577.94	$675,066,949.15	20%	$810,080,338.98
	2036 Totals:	$142,551,915.69	$15,162,565.93	$157,714,481.62			
	2046 Totals:	$123,018,337.55	$22,487,171.10	$145,505,508.64			
	2060 Totals:	$0.00	$26,659,592.89	$26,659,592.89			
	2074 Totals:	$93,644,146.63	$39,618,641.42	$133,262,788.05			
Alternate B3 Summary	**2026 Totals:**	$212,007,580.38	$0.00	$212,007,580.38	$678,218,670.56	20%	$813,862,404.67
	2036 Totals:	$139,599,273.05	$15,418,971.30	$155,018,244.35			
	2046 Totals:	$123,854,993.41	$22,950,142.55	$146,805,135.97			
	2060 Totals:	$0.00	$27,228,629.23	$27,228,629.23			
	2074 Totals:	$85,041,015.20	$52,118,065.43	$137,159,080.63			

** Further cost breakdown information is provided in Attachment D of this report.*

***Anticipated components included in each year are shown in Tables 1 and 2 of this report*

Table 19b: Construction and Maintenance Costs for Alternatives B1, B2, and B3 (CI Dollars)

		New Construction Cost	Maintenance Construction Cost	Total Construction Cost Subtotal By Year	Estimated Construction Cost Subtotal	Contingency (%)	Total Estimated Construction Cost (CI$)
No Build Summary	**2026 Totals:**	$0.00	$9,478,502.49	$9,478,502.49	$50,159,360.62	20%	$60,191,232.74
	2036 Totals:	$0.00	$9,478,502.49	$9,478,502.49			
	2046 Totals:	$0.00	$12,245,350.64	$12,245,350.64			
	2060 Totals:	$0.00	$9,478,502.49	$9,478,502.49			
	2074 Totals:	$0.00	$9,478,502.49	$9,478,502.49			
Alternate B1 Summary	**2026 Totals:**	$198,627,776.03	$0.00	$198,627,776.03	$631,150,402.35	20%	$757,380,482.82
	2036 Totals:	$126,810,745.45	$14,939,621.22	$141,750,366.67			
	2046 Totals:	$110,848,289.60	$21,447,737.18	$132,296,026.78			
	2060 Totals:	$0.00	$25,641,026.80	$25,641,026.80			
	2074 Totals:	$84,336,942.20	$48,498,263.87	$132,835,206.08			
Alternate B2 Summary	**2026 Totals:**	$178,016,645.47	$0.00	$178,016,645.47	$567,056,237.28	20%	$680,467,484.74
	2036 Totals:	$119,743,609.18	$12,736,555.38	$132,480,164.56			
	2046 Totals:	$103,335,403.54	$18,889,223.72	$122,224,627.26			
	2060 Totals:	$0.00	$22,394,058.03	$22,394,058.03			
	2074 Totals:	$78,661,083.17	$33,279,658.80	$111,940,741.96			
Alternate B3 Summary	**2026 Totals:**	$178,086,367.52	$0.00	$178,086,367.52	$569,703,683.27	20%	$683,644,419.92
	2036 Totals:	$117,263,389.36	$12,951,935.89	$130,215,325.25			
	2046 Totals:	$104,038,194.47	$19,278,119.75	$123,316,314.21			
	2060 Totals:	$0.00	$22,872,048.55	$22,872,048.55			
	2074 Totals:	$71,434,452.77	$43,779,174.96	$115,213,627.73			

** Further cost breakdown information is provided in Attachment D of this report.*

***Anticipated components included in each year are shown in Tables 1 and 2 of this report.*

7.2 Right of Way (ROW) Costs

To determine the cost of acquiring ROW to construct Alternatives B1, B2, and B3, a corridor width of 220 feet (67.1 m) was used as the maximum possible disturbance area to determine impacts. For this analysis a property and parcel map provided by the NRA was utilized to determine which properties and how much of the properties would be impacted by each of the Build alternatives. Each parcel was analysed individually with some properties requiring partial takes of the area and others requiring most or all of the property area for a parcel. The presence of homes, commercial buildings, and other structures such as fences, walls, gates, and landscaping were also considered as part of the property impact as well as the effort required to demolish the existing structures. Additional property considerations within each of the Build alternative corridors included the presence of wetlands, parrot habitat, and impact to the National Trust lands. For these factors, the Cayman Islands Land & Survey Department Valuation Office determined and provided an estimated cost per square foot (metre) as well as additional costs for impact to buildings and other structures. A breakdown of the square foot (metre) impact and cost for each parcel impacted can be found in **Attachment E** for each of the Build alternatives.

Table 20 presents the estimated ROW costs for each of the Build alternatives B1, B2, and B3 and No-Build scenario.

Table 20: Estimated ROW Costs

	No-Build	B1	B2	B3
Estimated Cost* 2023 US Dollars (CI Dollars)	$0	$22,542,686 ($18,935,856)	$21,509,800 ($18,068,232)	$20,158,564 ($16,933,193)

**Further cost breakdown information is provided in Attachment E of this report. Values shown for each alternative include Will T Connector costs.*

7.3 Total Costs

Overall estimated total costs were calculated from combining the estimated construction costs shown in **Table 19** and estimated ROW costs shown in **Table 20**, which includes any possible maintenance and rehabilitation costs for each of the Build alternatives B1, B2 and B3 and No-Build scenario through horizon year 2074. Further cost breakdown information is provided in **Attachment D** and **Attachment E**.

Table 21 presents the estimated total costs for each of the alternatives.

Table 21: Estimated Total Costs

	No-Build	B1	B2	B3
Estimated Construction and Maintenance Cost US Dollars (CI Dollars)	$71,656,230 ($60,191,233)	$901,643,432 ($757,380,483)	$810,080,339 ($680,467,485)	$813,862,405 ($683,644,420)
Estimated ROW Cost US Dollars (CI Dollars)	$0	$22,542,686 ($18,935,856)	$21,509,800 ($18,068,232)	$20,158,564 ($16,933,193)
Estimated Total Cost US Dollars (CI Dollars)	$71,656,230 ($60,191,233)	$924,186,118 ($776,316,339)	$831,590,139 ($698,535,717)	$834,020,969 ($700,577,613)

8. Shortlist Evaluation

8.1 Quantitative

Table 22 summarizes the results of the quantitative analysis of the Shortlist of Alternatives including the No-Build scenario and Build alternatives B1, B2, and B3. **Table 22** provides an evaluation of the primary east-west corridor (excluding the Will T Connector). These alternatives were evaluated in relation to the CSFs relevant to the engineering features and to the Engineering Constraints identified in the Final ToR and in the Longlist Evaluation. Further information on the evaluation of each of these criteria is provided in the previous sections of this report.

Table 22: Summary Table of Quantitative Engineering Features Evaluated

Feature	No-Build	B1	B2	B3
Corridor Width	Varies 24 feet (7.3 m) to 34 feet (10.4 m)	220 feet (67 m)	220 feet (67 m)	220 feet (67 m)
Mainline Corridor Length (excludes Will T Connector)	9.2 miles (14.8 km)	9.7 miles (15.5 km)	7.6 miles (12.2 km)	7.9 miles (12.7 km)
Vertical Profile	Varies	Roadway surface elevation above 50-year storm event. Bridge clearance 3 feet (0.9 m) above 50-year high water elevation	Roadway surface elevation above 50-year storm event. Bridge clearance 3 feet (0.9 m) above 50-year high water elevation	Roadway surface elevation above 50-year storm event. Bridge clearance 3 feet (0.9 m) above 50-year high water elevation
Number of Travel Lanes (Year 2026/2074)	2	2/4	2/4	2/4

Feature	No-Build	B1	B2	B3
Number of Bridges	0	18	16	15
Pedestrian Sidewalk	As Existing	Entire Length - Section 2 and Section 3	Entire Length - Section 2 and Section 3	Entire Length - Section 2 and Section 3
Micromobility Path	None	Entire Length - Section 2 and Section 3	Entire Length - Section 2 and Section 3	Entire Length - Section 2 and Section 3
Solar Array* Accommodations	None	6 miles (9.6 km) long	6 miles (9.6 km) long	6 miles (9.6 km) long
Utilities* Accommodations	Existing	Underground Utilities Ducts for Power and communication, Water Supply, & Sanitary Sewer. Aerial transmission power lines optional	Underground Utilities Ducts for Power and communication, Water Supply, & Sanitary Sewer. Aerial transmission power lines optional	Underground Utilities Ducts for Power and communication, Water Supply, & Sanitary Sewer. Aerial transmission power lines optional
Transit* Accommodations	None	2 Transit Lanes	2 Transit Lanes	2 Transit Lanes
Estimated Total Cost**	$71,656,230 ($60,191,233)	$924,186,118 ($776,316,339)	$831,590,139 ($698,535,717)	$834,020,969 ($700,577,613)
Constructability Considerations	None	Peat Removal or Subgrade Stabilization using Geotechnical Enhancements	Peat Removal or Subgrade Stabilization using Geotechnical Enhancements	Peat Removal or Subgrade Stabilization using Geotechnical Enhancements

* *These criteria are to provide opportunities to accommodate these features. It is outside of the ambit of the NRA to provide the solar array, utilities or public transportation.*

** *Includes estimated costs for construction, ROW, & Maintenance. Does not include estimated costs for mitigation and utilities relocation and the mitigation measures.*

8.2 Qualitative

The following **Table 23** summarizes the results of the qualitative analysis of the Shortlist of Alternatives including the No-Build scenario and three Build alternatives (B1, B2, and B3). These alternatives were evaluated in relation to the CSFs relevant to the engineering features and to the Engineering Constraints identified in the Longlist Evaluation. Further information on the evaluation of each of these criteria is provided in the previous sections of this report.

Table 23: Summary Table of Qualitative Assessment of CSFs and Engineering Constraints

	No-Build	B1	B2	B3
CSFs Relevant to the Engineering Features*				
CSF: Create an alternative travel route to the existing two-lane Bodden Town Road				
Provide an alternative roadway facility to accommodate travel in the event of a roadway closure (Also included in the Traffic Assessment)	Neutral	Large Beneficial	Large Beneficial	Large Beneficial
CSF: Improve resiliency of existing roadway between North Side/East End and George Town/West Bay				
Improve resiliency of the travel route to flooding from sea level rise, storm surge, wave overtopping, and rainfall (Also included in the Traffic Assessment)	Neutral	Large Beneficial	Large Beneficial	Large Beneficial
CSF: Accommodate utility expansion (electricity, fiber, water, central sewage) **				
Establish area adjacent to roadway to provide for utility needs	Neutral	Large Beneficial	Large Beneficial	Large Beneficial
CSF: Provide opportunity to safely accommodate and expand public transportation **				
Establish public transportation facilities and improve bus travel reliability (Also included in the Socioeconomic Assessment)	Neutral	Large Beneficial	Large Beneficial	Large Beneficial
CSF: Provide opportunity for enhanced and safe pedestrian and bicycle travel				
Establish dedicated pedestrian and bicycle facilities adjacent to vehicular travel lanes (Also included in the Traffic Assessment)	Neutral	Large Beneficial	Large Beneficial	Large Beneficial
CSF: Overall Qualitative Rating	**Neutral**	**Large Beneficial**	**Large Beneficial**	**Large Beneficial**
Engineering Constraints*				
Provide for sound geometric design conditions				
Amount of property affected to improve roadway to achieve sound geometric design conditions	Neutral	Slight Adverse	Slight Adverse	Slight Adverse
Provide for the areas necessary for construction				
Provide areas required for construction staging and for construction activities	Neutral	Slight Adverse	Slight Adverse	Slight Adverse
Engineering Constraints: Overall Qualitative Rating	**Neutral**	**Slight Adverse**	**Slight Adverse**	**Slight Adverse**

**As identified in the Longlist Evaluation*

*** These criteria are to provide opportunities to accommodate these features. It is outside of ambit of the NRA to provide utilities or public transportation.*

8.3 Monetary

Select inflation adjusted monetary values are presented in **Tables 18, 19,** and **20**. As part of the Cost Benefit Analysis prepared for this project, the engineering impacts of each alternative including the No-Build scenario and Build alternatives B1, B2, and B3 will be further monetized. See the separate Cost Benefit Analysis and Shortlist Evaluation Document for details regarding the engineering monetary valuation in relation to the overall project horizon year (2074).

9. Shortlist Evaluation Summary

This Shortlist Evaluation includes a quantitative analysis for the engineering features evaluated as shown in **Table 22** for the No-Build scenario and each of the Build alternatives (B1, B2, and B3). Also included in **Table 23** is a qualitative analysis of the engineering features in relation to the CSFs and the Engineering Constraints that were established in the Final ToR and in the Longlist Evaluation. The CSFs are the aspects of the project that are vital to its success. These are the main goals that the completed project would accomplish. The CSFs were developed based on the Final ToR for the EWA Extension. The Engineering Constraints include the necessities to construct the proposed project. The goal of the project is to construct a sound and resilient roadway that best meets the identified purpose and needs for the project. **Table 24** summarizes the qualitative results of each evaluation for the relevant CSFs to the engineering features and to the identified Engineering Constraints.

For the unavoidable impacts resulting from each of the Build alternatives, mitigation measures to aid in offsetting impacts may be possible. Mitigation measures have not been considered as part of this Shortlist Evaluation but will be investigated and identified for the Preferred Alternative and documented in the forthcoming Environmental Statement Document.

Table 24: Summary Table of Engineering Analysis

	No-Build	B1	B2	B3
CSFs: Overall Qualitative Rating	**Neutral**	**Large Beneficial**	**Large Beneficial**	**Large Beneficial**
Engineering Constraints: Overall Qualitative Rating	**Neutral**	**Slight Adverse**	**Slight Adverse**	**Slight Adverse**
Estimated Total Cost US Dollars (CI Dollars)	$71,656,230 ($60,191,233)	$924,186,118 ($776,316,339)	$831,590,139 ($698,535,717)	$834,020,969 ($700,577,613)

The following summarizes the results of the engineering analysis:

- *No-Build* – The No-Build scenario was evaluated as the baseline for comparison against the Build alternatives, and the engineering evaluation results generally indicate that travel conditions will continue to deteriorate within the study area without any large-scale roadway infrastructure improvements. This alternative would also not satisfy any of the CSFs identified for the engineering features for this project. Any individual improvement projects to the existing roadway network would not result in the magnitude of impacts compared to any of the Build alternatives thus resulting in an overall **Neutral** qualitative rating.

- *Alternative B2* – Alternative B2 is anticipated to be the least impactful of the three Build alternatives, while meeting the CSFs. Although Alternative B2 has the same qualitative ratings as Alternative B1 and Alternative B3, Alternative B2 is anticipated to require less ROW and have lower total costs.

- *Alternative B3* – Alternative B3 is anticipated to be the second least impactful of the three Build alternatives, while meeting the CSFs. Although Alternative B3 has the same qualitative ratings as Alternative B1 and Alternative B2, Alternative B3 is anticipated to have the second highest total costs.

- *Alternative B1* - Alternative B1 is anticipated to be the most impactful of the three Build alternatives, while meeting the CSFs. Although Alternative B1 has the same qualitative ratings as Alternative B2 and Alternative B3, Alternative B1 is anticipated to have the highest impacts and costs due to the addition of a northern spur connection to Frank Sound Road which would include two additional bridges for waterway openings and a bridge over the existing Mastic Trail.

This Engineering Assessment is one in a series of Technical Reports that have been prepared for the Shortlist Evaluation. The level of impacts and the identification of the least impactful alternative will differ based on the resource/feature evaluated in each of the Technical Reports. Therefore, the least impactful alternative described in this evaluation summary and in each technical document **does not** move an alternative forward to the Preferred Evaluation nor does it constitute any special weighting or extra consideration in the Shortlist Evaluation Document. The comprehensive analysis of all the resources/features evaluated along with the rationale for the identification of the Preferred Alternative are presented in the Shortlist Evaluation Document.

References

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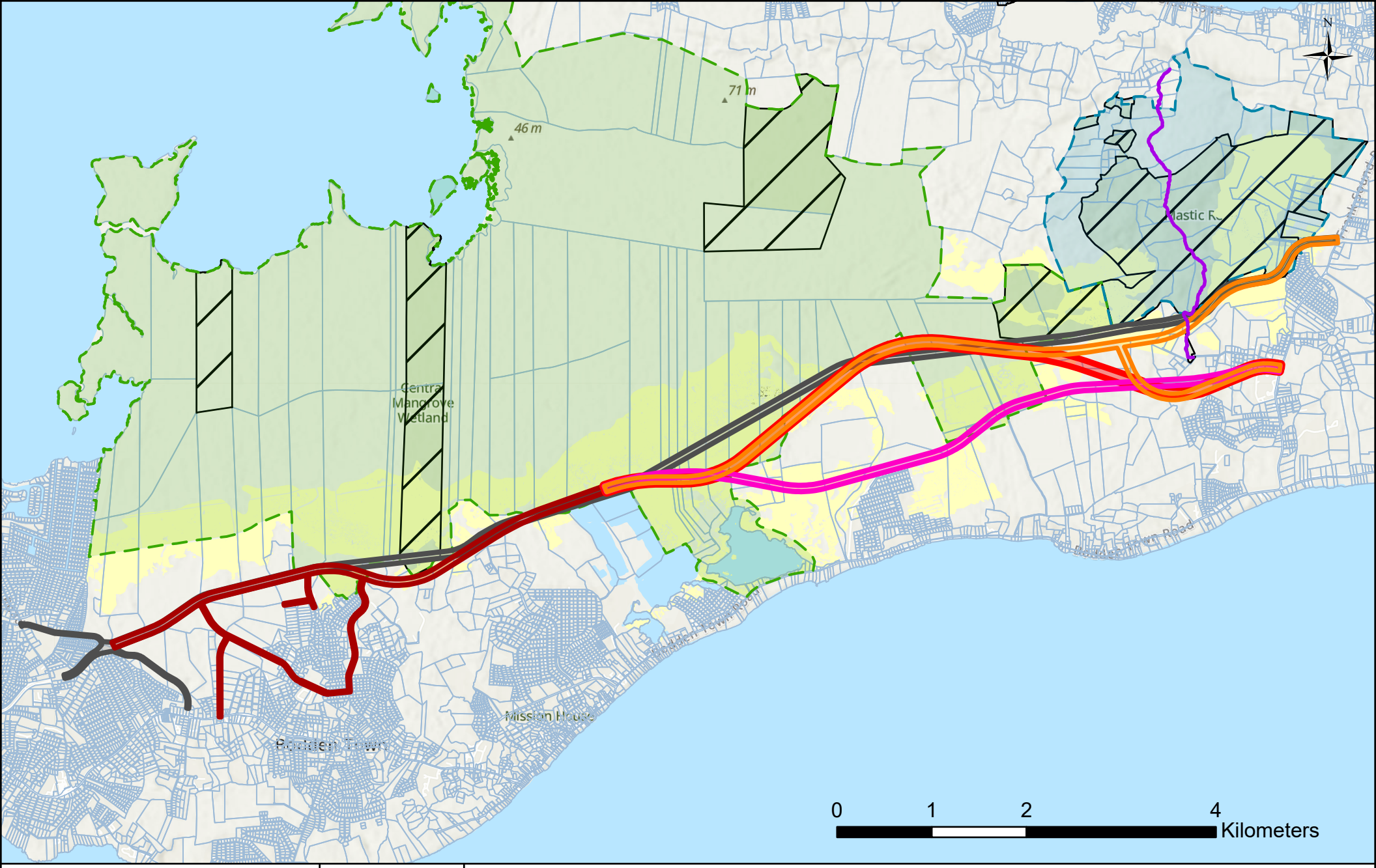
Attachment A

Comparison to Original Gazetted Alternative

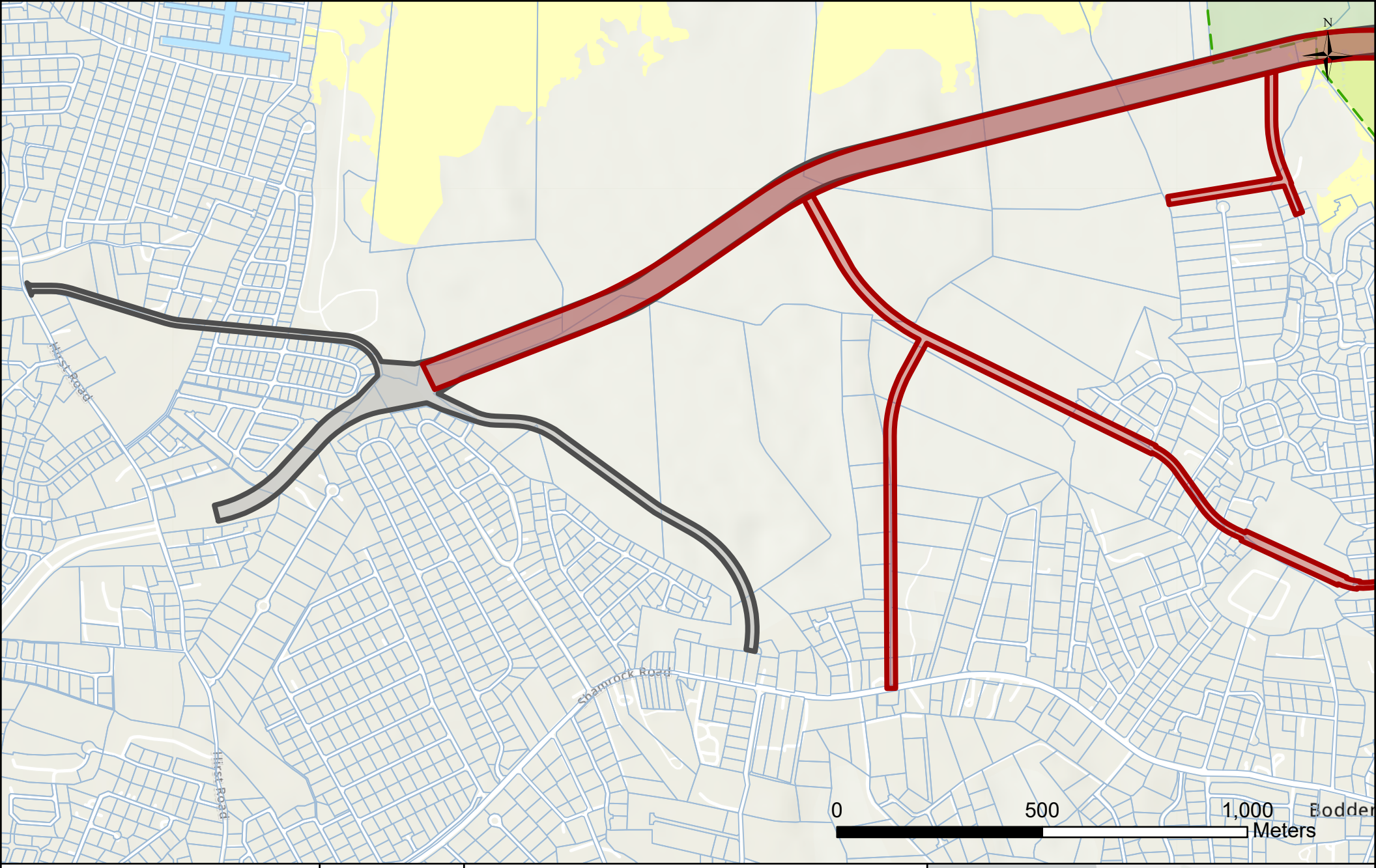


East-West Arterial Extension, Environmental Impact Assessment

Gazetted Corridor and Alternatives B1 - B3

NRA NATIONAL ROADS AUTHORITY

- Section 2
- B1
- B2
- B3
- Original Gazetted Corridor
- Mastic Reserve
- Central Mangrove Wetland
- National Trust Land
- Parcels
- Parrot Nesting Habitat
- Parcels
- Mastic Trail



East-West Arterial Extension,
Environmental Impact Assessment

Gazetted Corridor and Alternatives B1 - B3: Map 1 of 5

NRA NATIONAL ROADS AUTHORITY

- Section 2
- B1
- B2
- B3
- Original Gazetted Corridor
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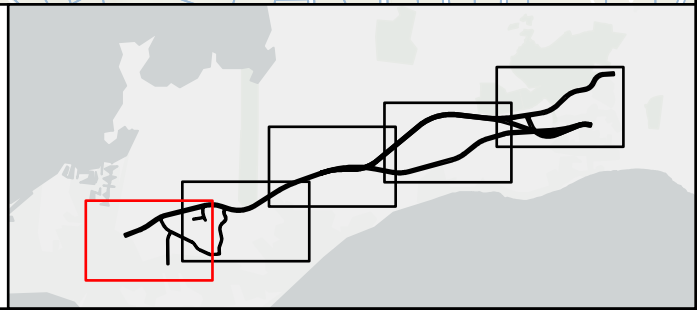
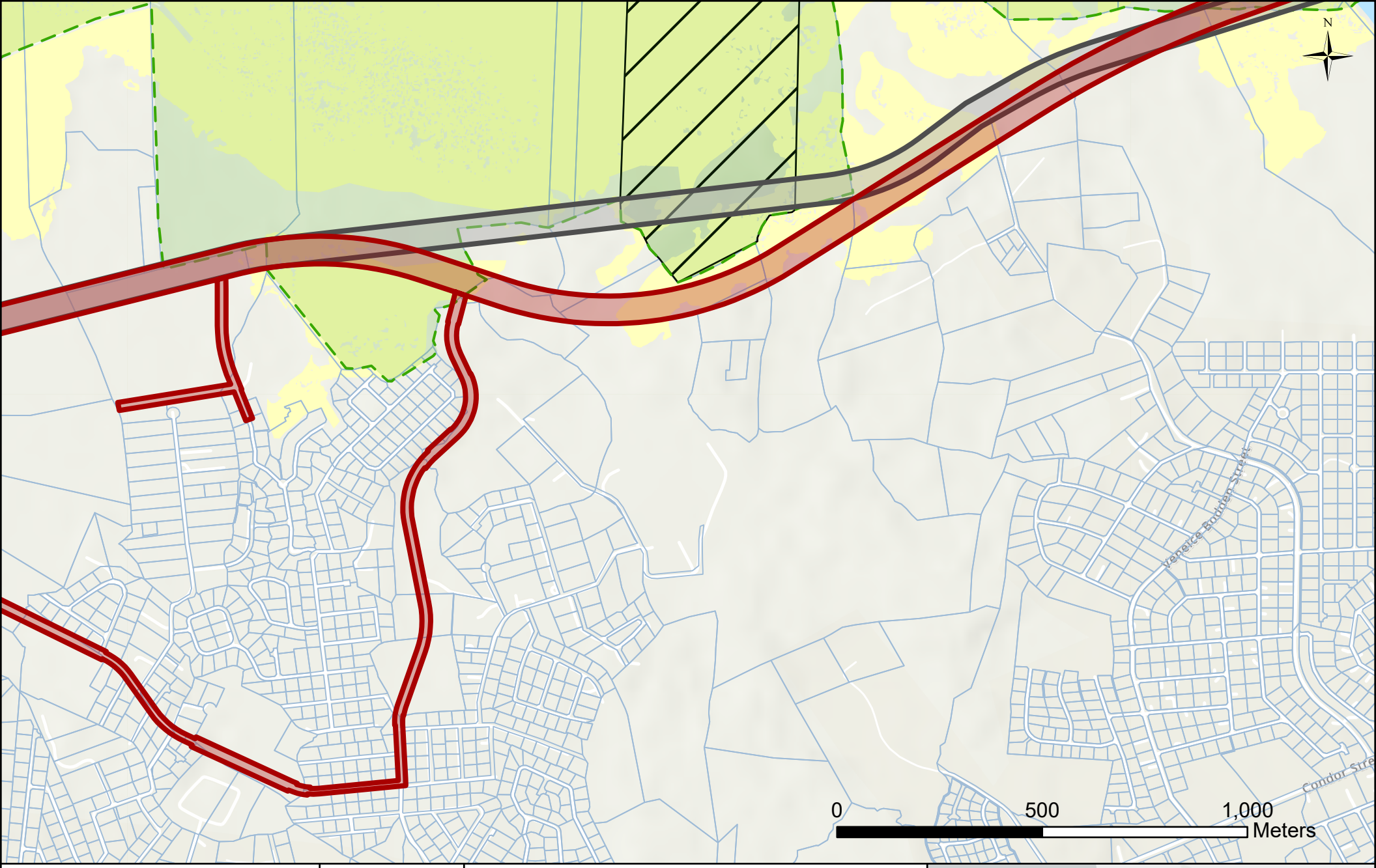
- Parcels
- Mastic Trail





East-West Arterial Extension,
Environmental Impact Assessment

Gazetted Corridor and Alternatives B1 - B3: Map 2 of 5

NRA
NATIONAL ROADS AUTHORITY

- Section 2
- B1
- B2
- B3
- Original Gazetted Corridor
- Mastic Reserve
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- National Trust Land
- Parcels
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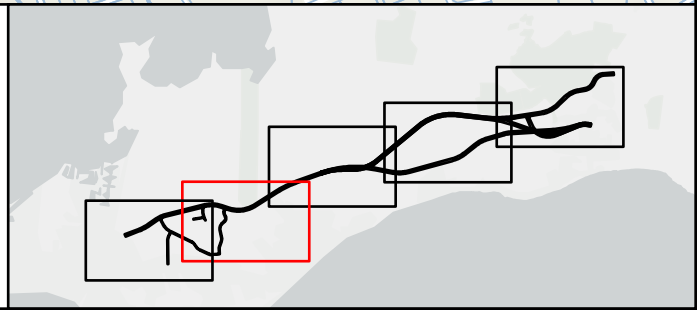
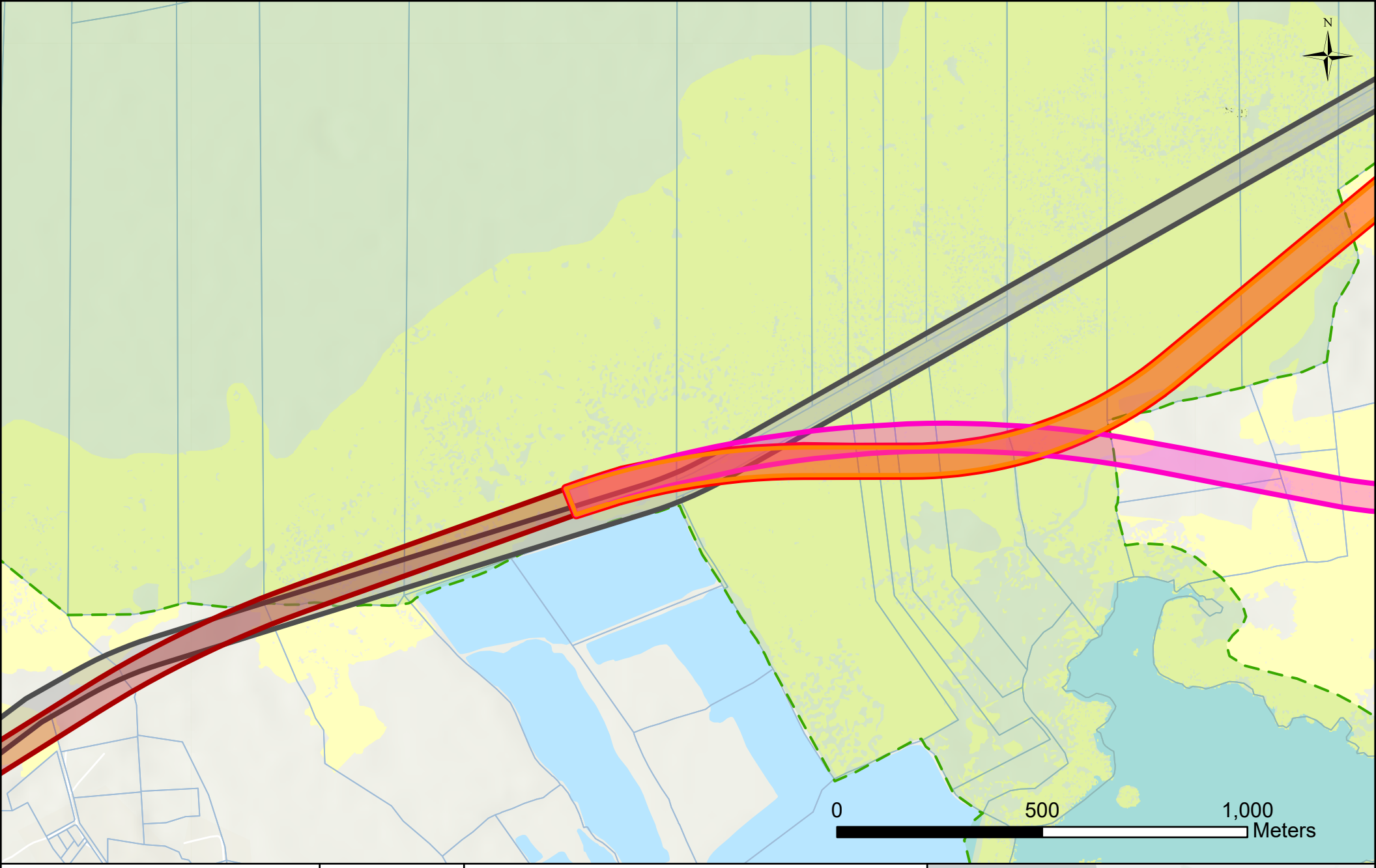
- Parcels
- Mastic Trail



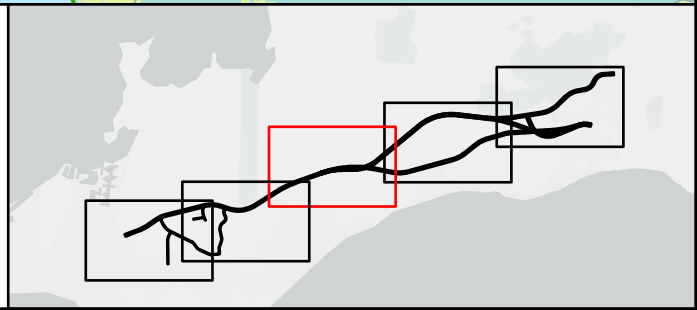


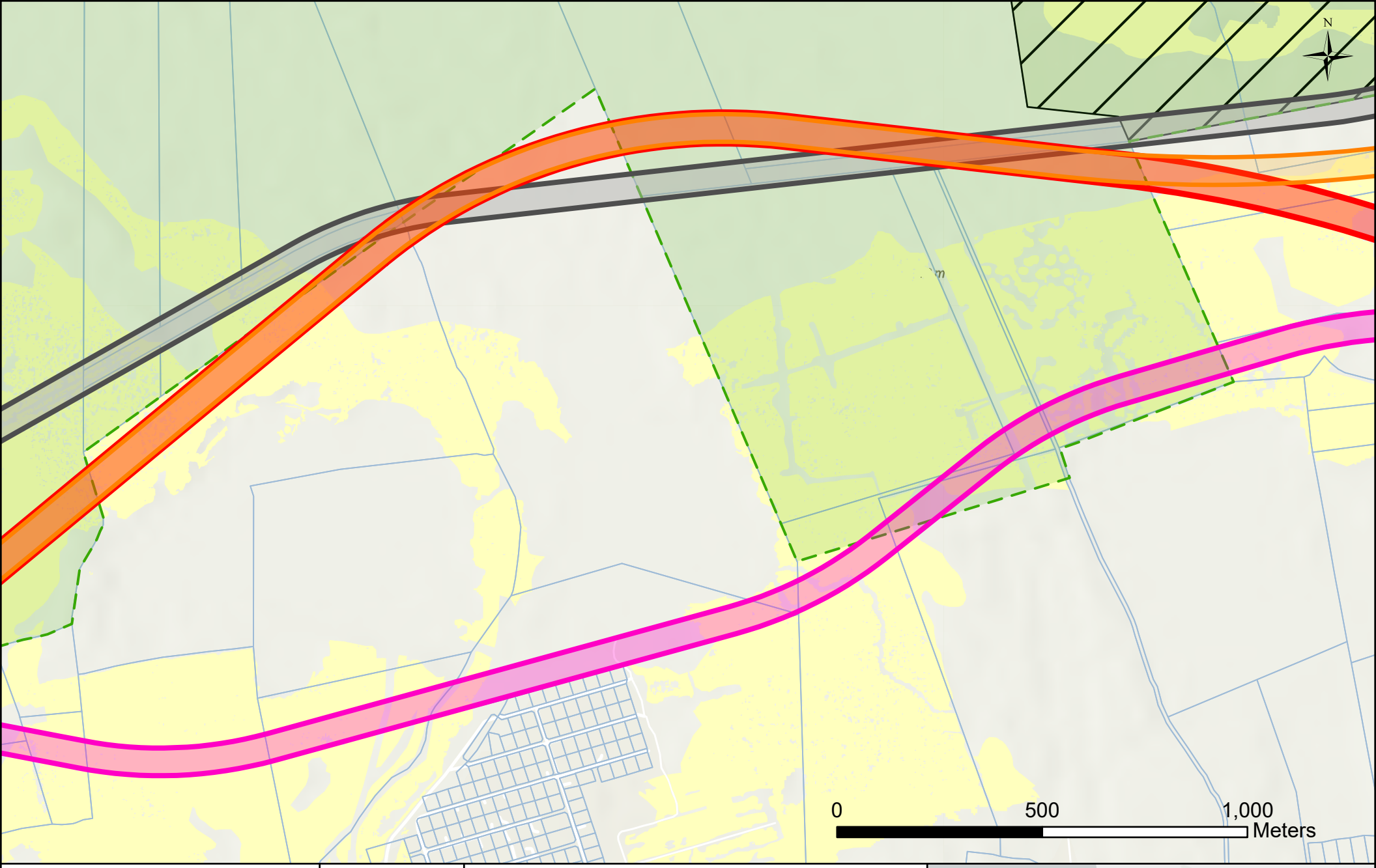
East-West Arterial Extension,
Environmental Impact Assessment

Gazetted Corridor and Alternatives B1 - B3: Map 3 of 5

NRA NATIONAL ROADS AUTHORITY

- Section 2
- B1
- B2
- B3
- Original Gazetted Corridor
- Mastic Reserve
- Central Mangrove Wetland
- National Trust Land
- Parcels
- Parrot Nesting Habitat
- Parcels
- Mastic Trail



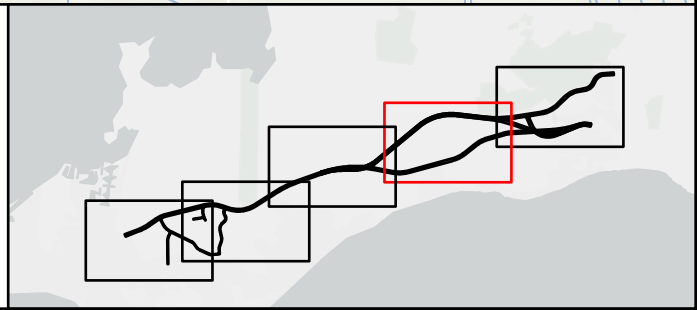


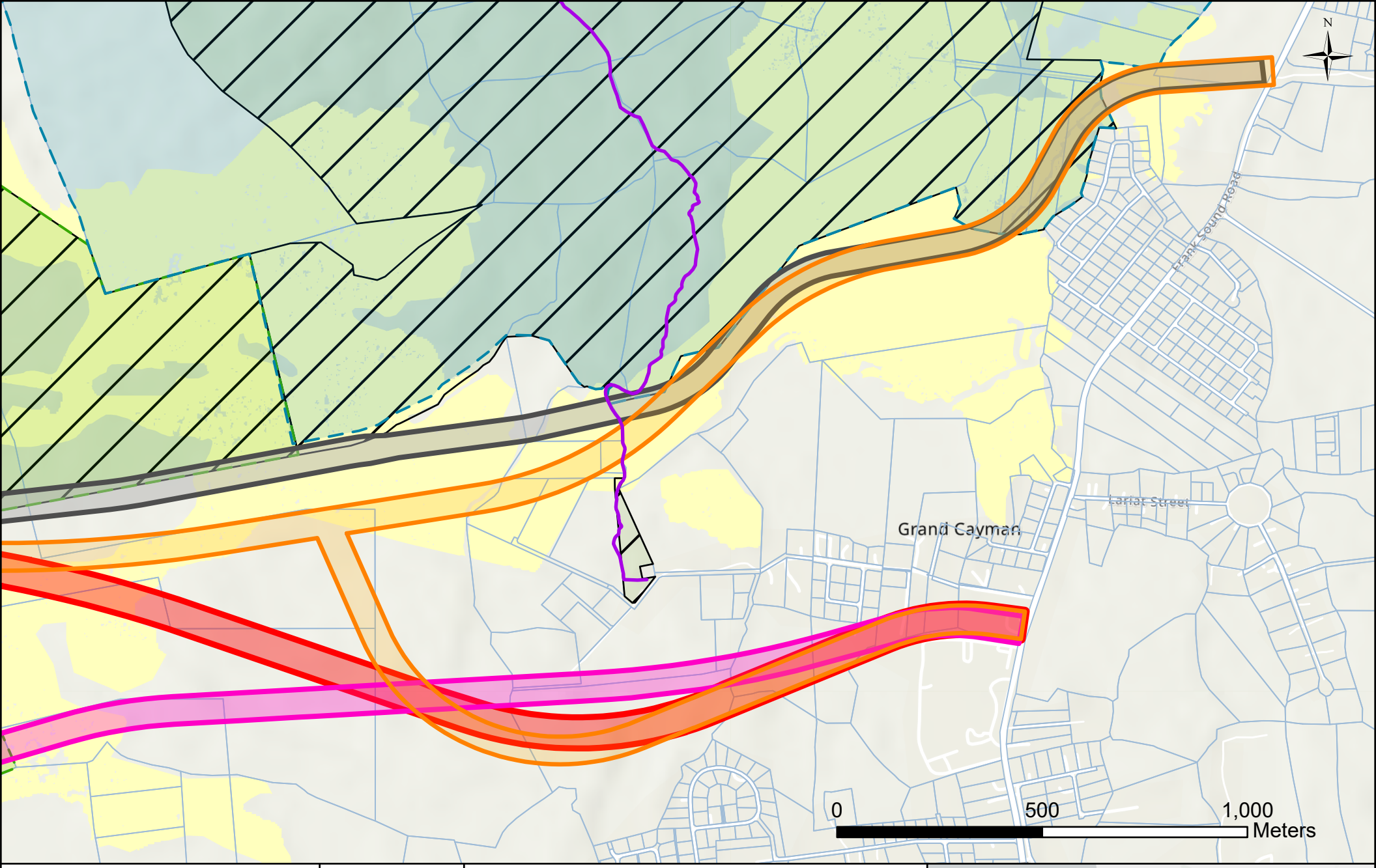
East-West Arterial Extension,
Environmental Impact Assessment

Gazetted Corridor and Alternatives B1 - B3: Map 4 of 5

NRA NATIONAL ROADS AUTHORITY

- Section 2
- B1
- B2
- B3
- Original Gazetted Corridor
- Mastic Reserve
- Central Mangrove Wetland
- National Trust Land
- Parcels
- Parrot Nesting Habitat
- Parcels
- Mastic Trail





East-West Arterial Extension,
Environmental Impact Assessment

Gazetted Corridor and Alternatives B1 - B3: Map 5 of 5

NRA NATIONAL ROADS AUTHORITY

- Section 2
- B1
- B2
- B3
- Original Gazetted Corridor
- Mastic Reserve
- Central Mangrove Wetland
- National Trust Land
- Parcels
- Parrot Nesting Habitat
- Parcels
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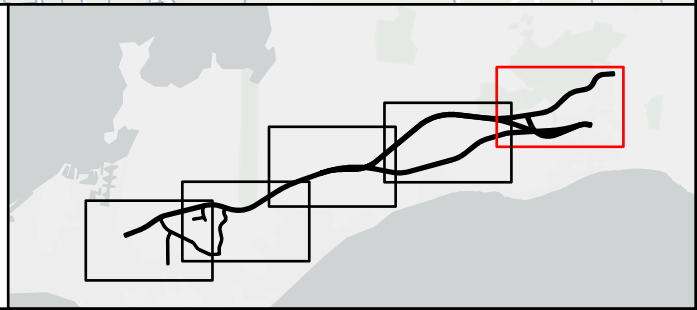
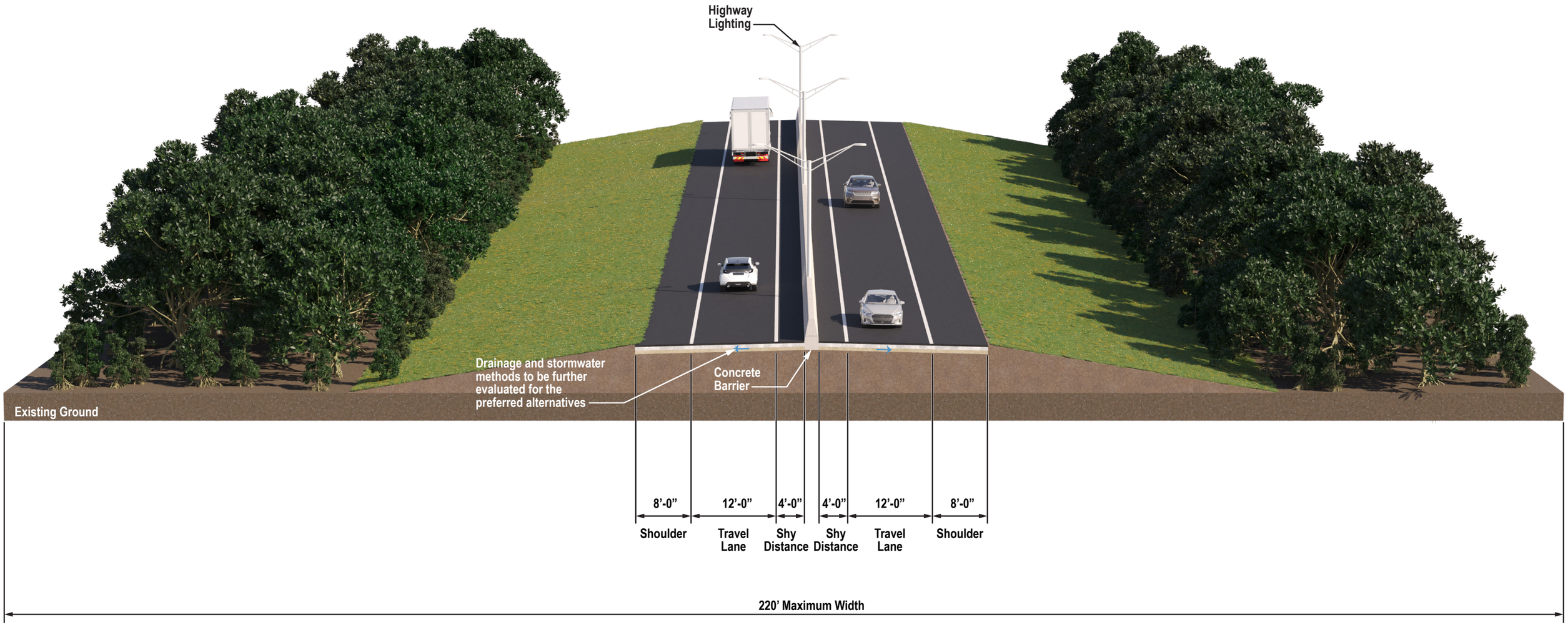


Attachment B

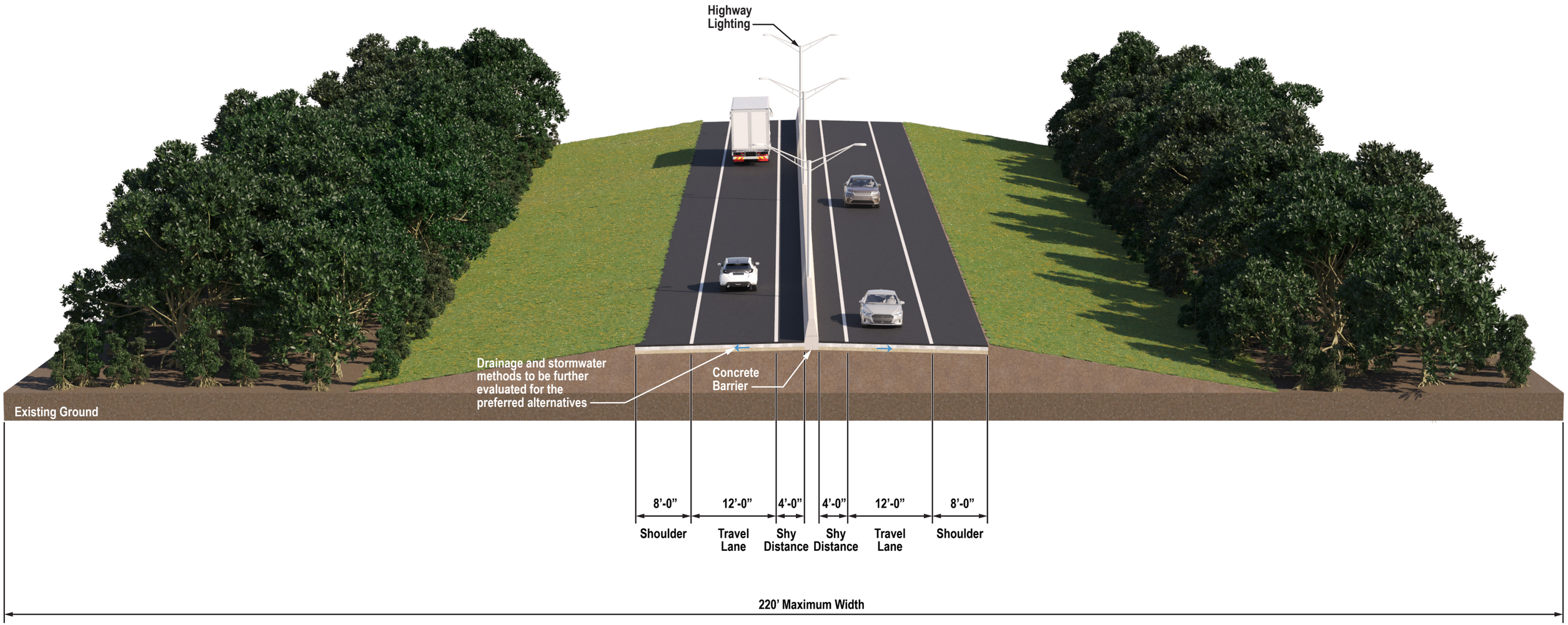
Typical Sections



East-West Arterial Typical Section (Section 2 - 2026 Build)

Alternatives B1/B2/B3 - Section 1 to Lookout Road

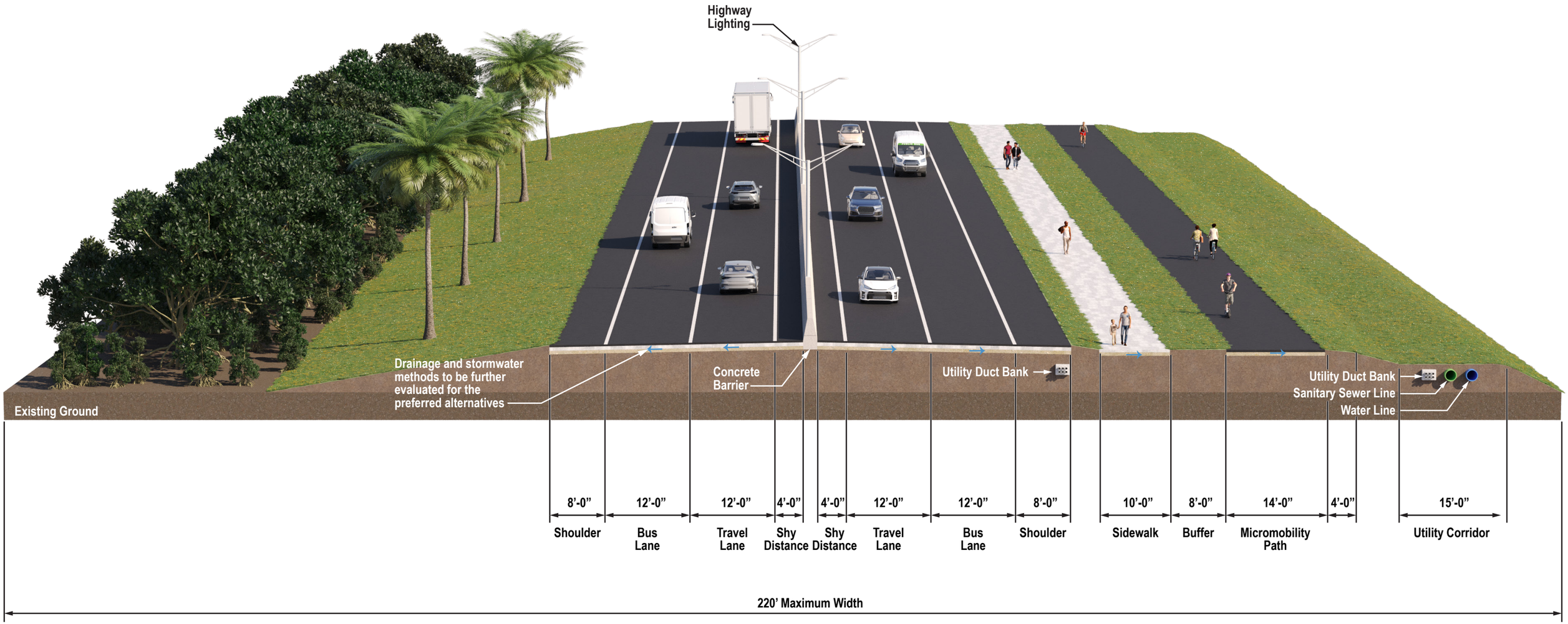
Not to Scale
West to East



East-West Arterial Typical Section (Section 3 - 2026 Build)

Alternatives B1/B2/B3 - Lookout Road to Frank Sound Road

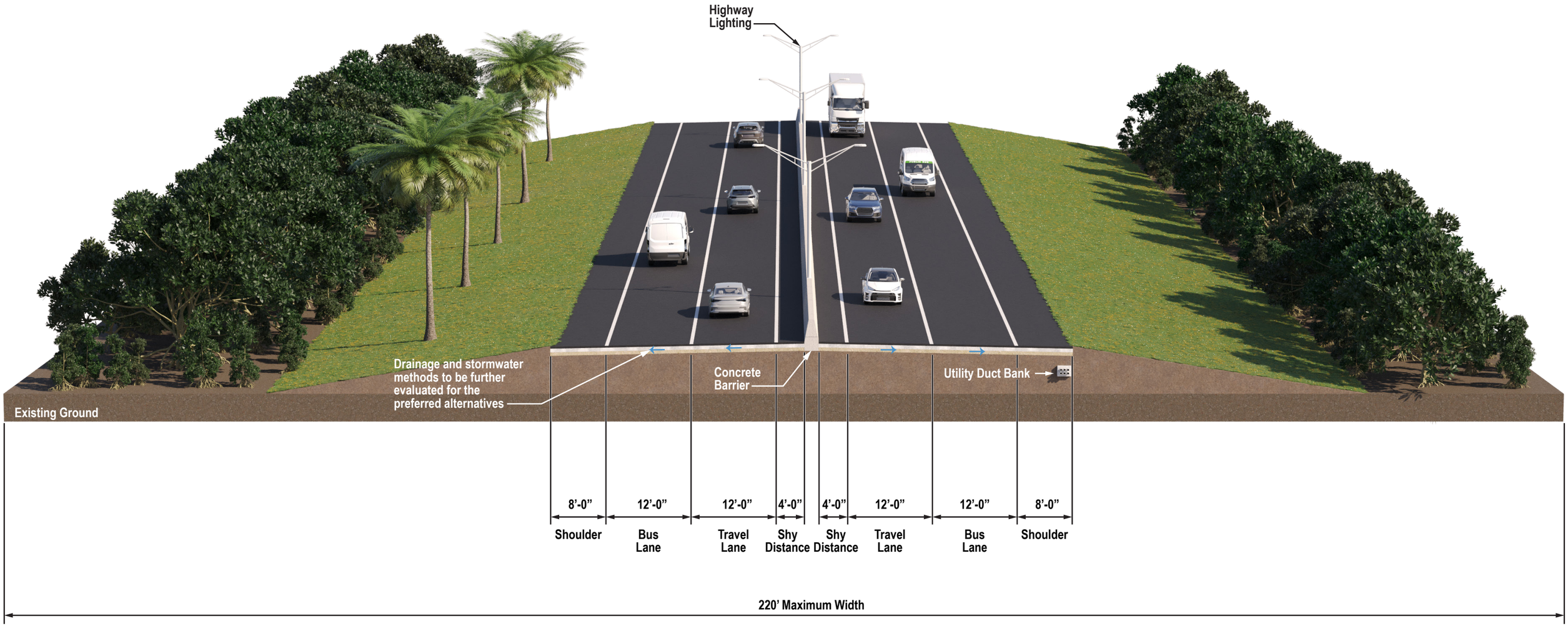
Not to Scale
West to East



East-West Arterial Typical Section (Section 2 - 2036 Build)

Alternatives B1/B2/B3 - Section 1 to Lookout Road

Not to Scale
West to East



East-West Arterial Typical Section (Section 3 - 2036 Build)

Alternatives B1/B2/B3 - Lookout Road to Frank Sound Road

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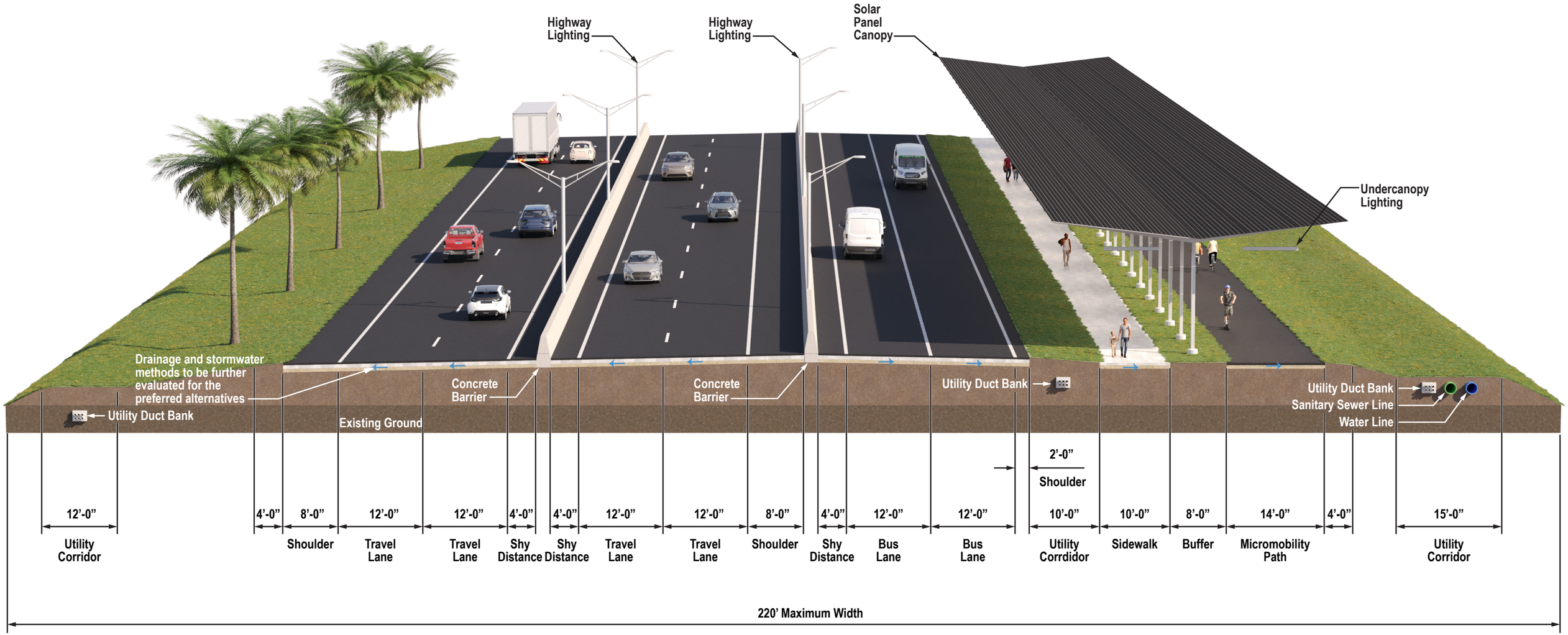
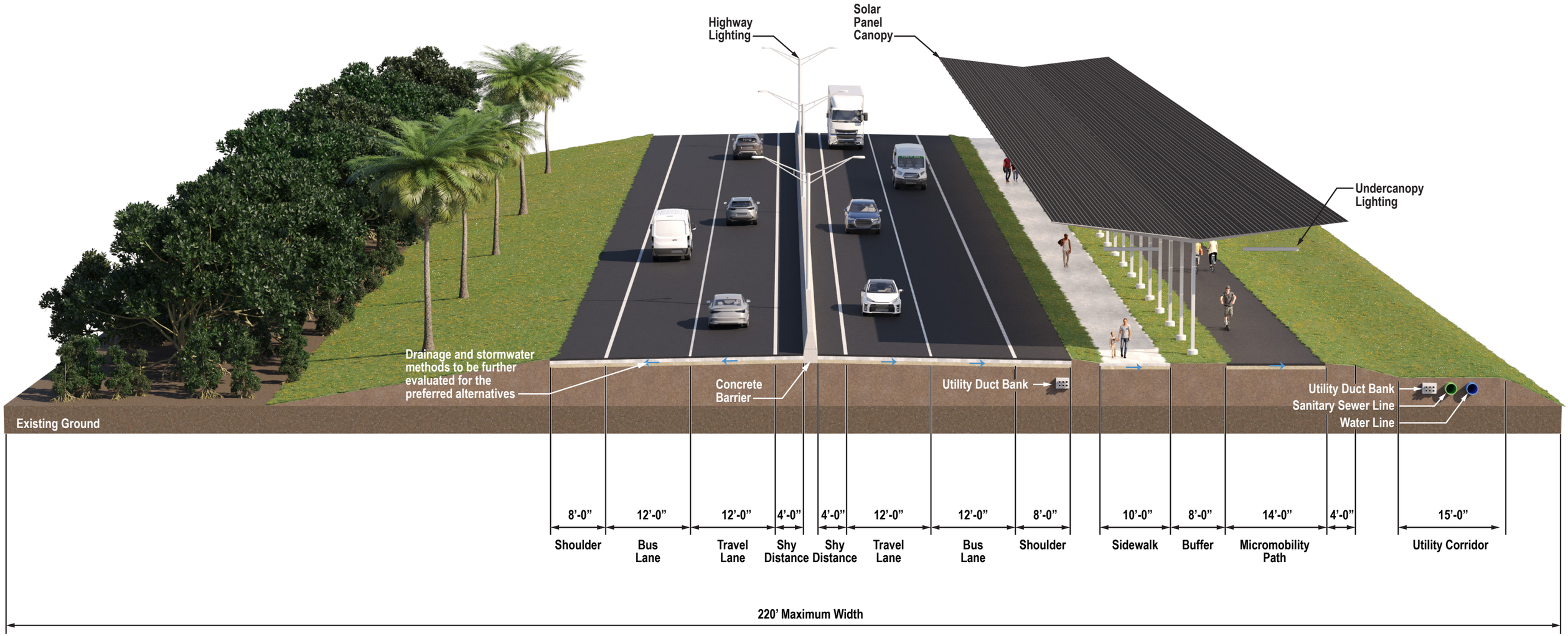
West to East



East-West Arterial Typical Section (Section 2 - 2046 Build)

Alternatives B1/B2/B3 - Section 1 to Lookout Road

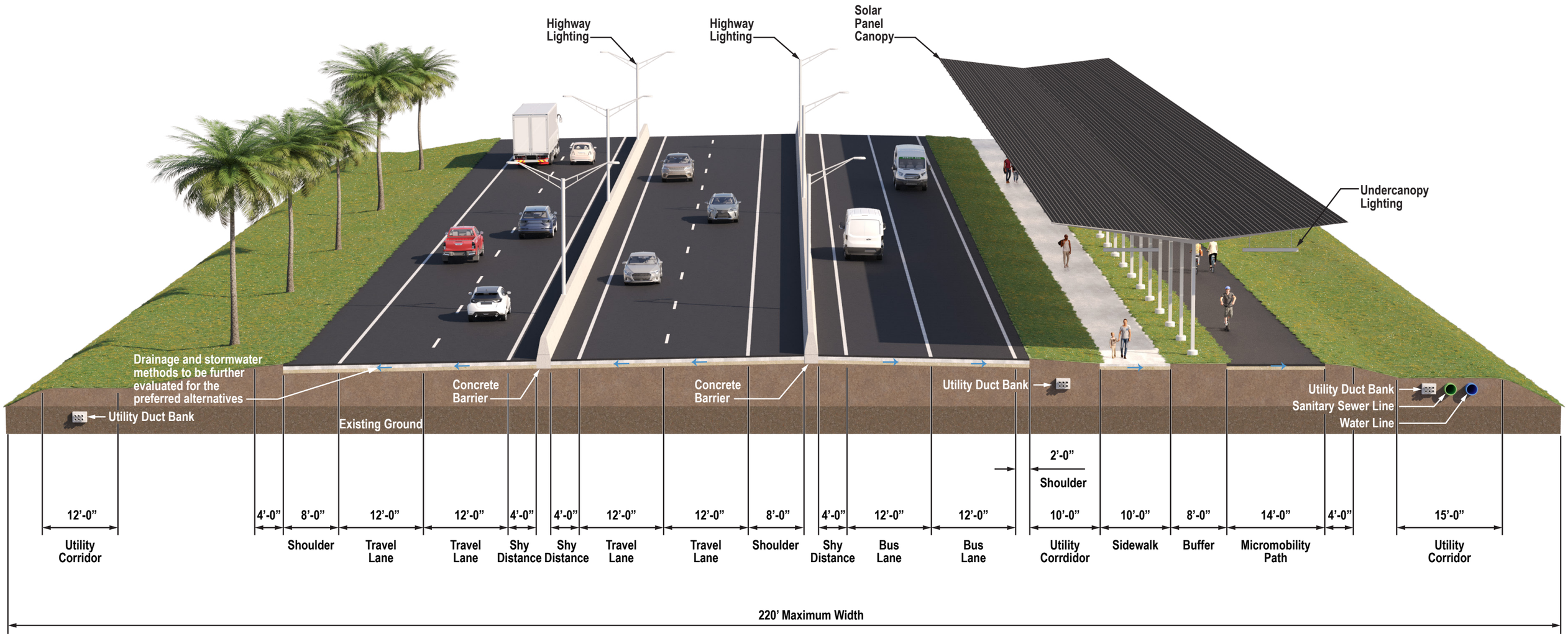
Not to Scale
West to East



East-West Arterial Typical Section (Section 3 - 2046 Build)

Alternatives B1/B2/B3 - Lookout Road to Frank Sound Road

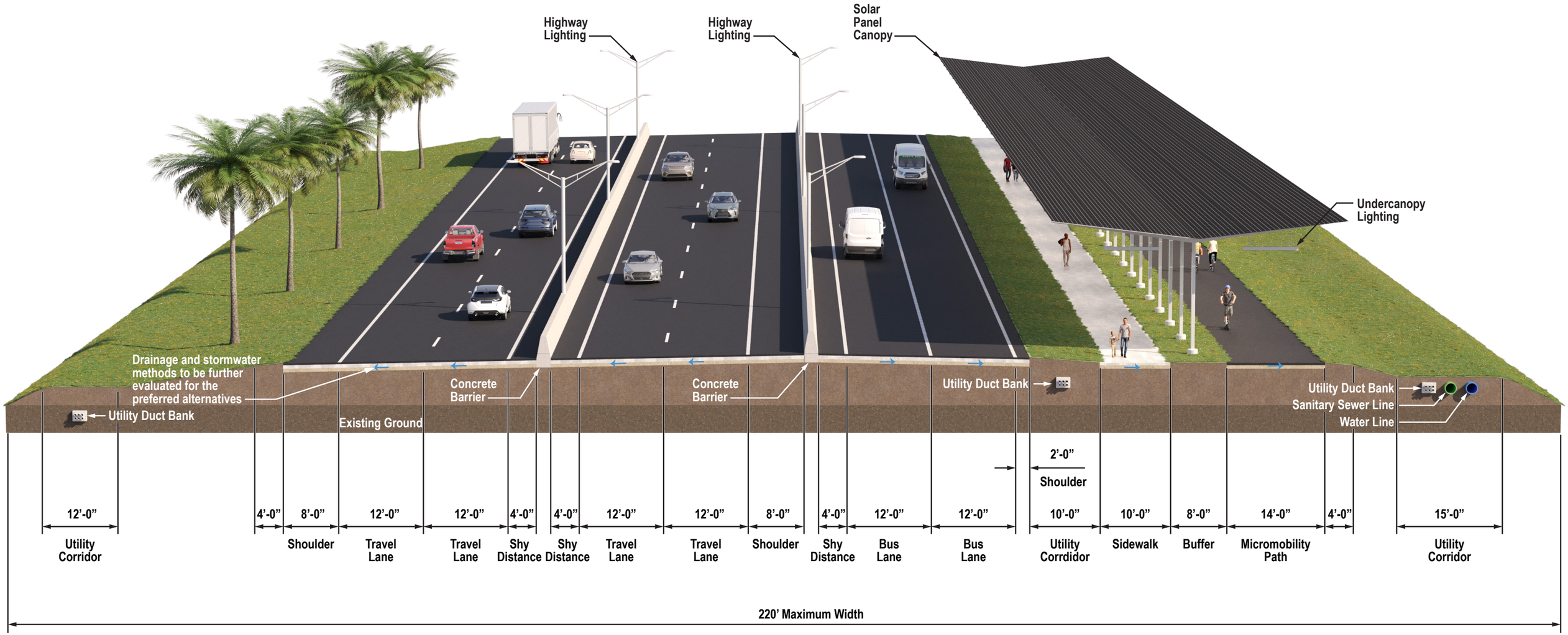
Not to Scale
West to East



East-West Arterial Typical Section (Section 2 - 2074 Build)

Alternatives B1/B2/B3 - Section 1 to Lookout Road

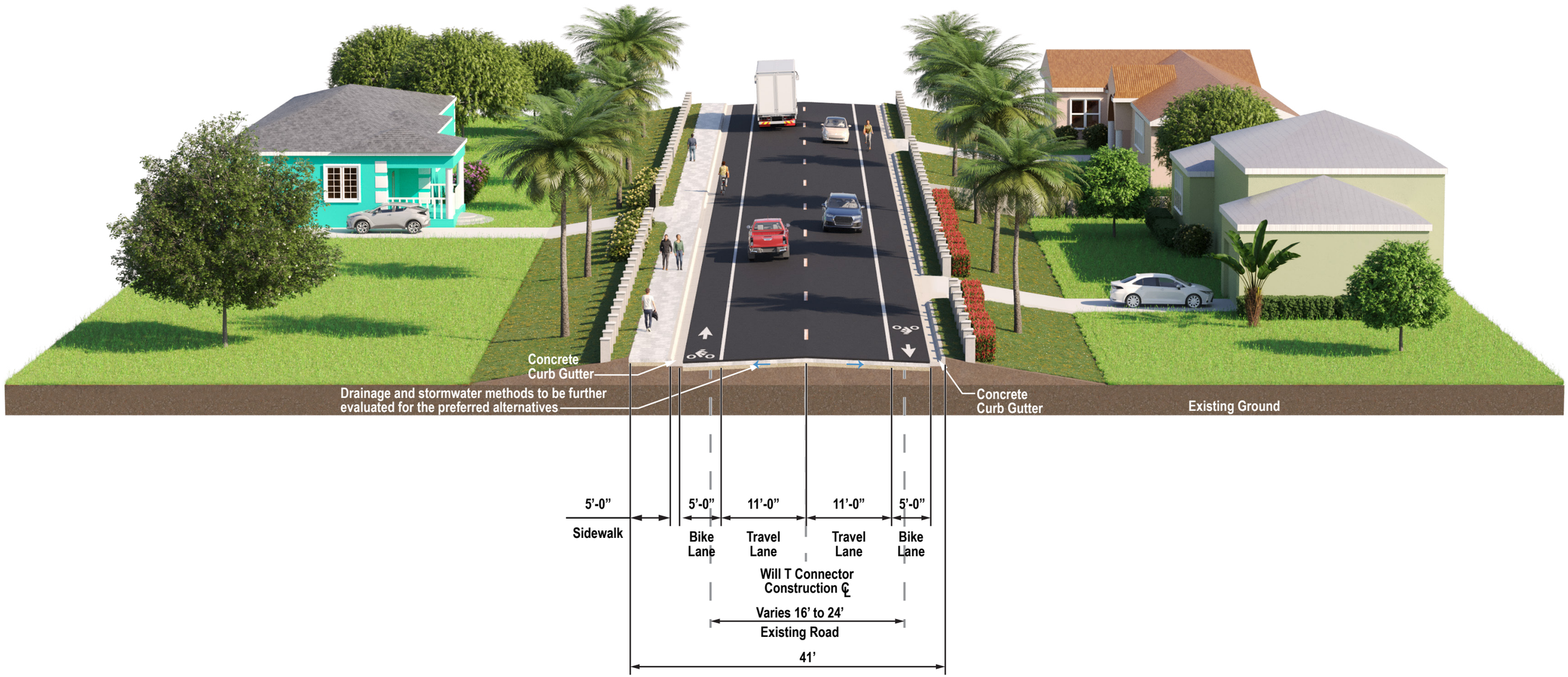
Not to Scale
West to East



East-West Arterial Typical Section (Section 3 - 2074 Build)

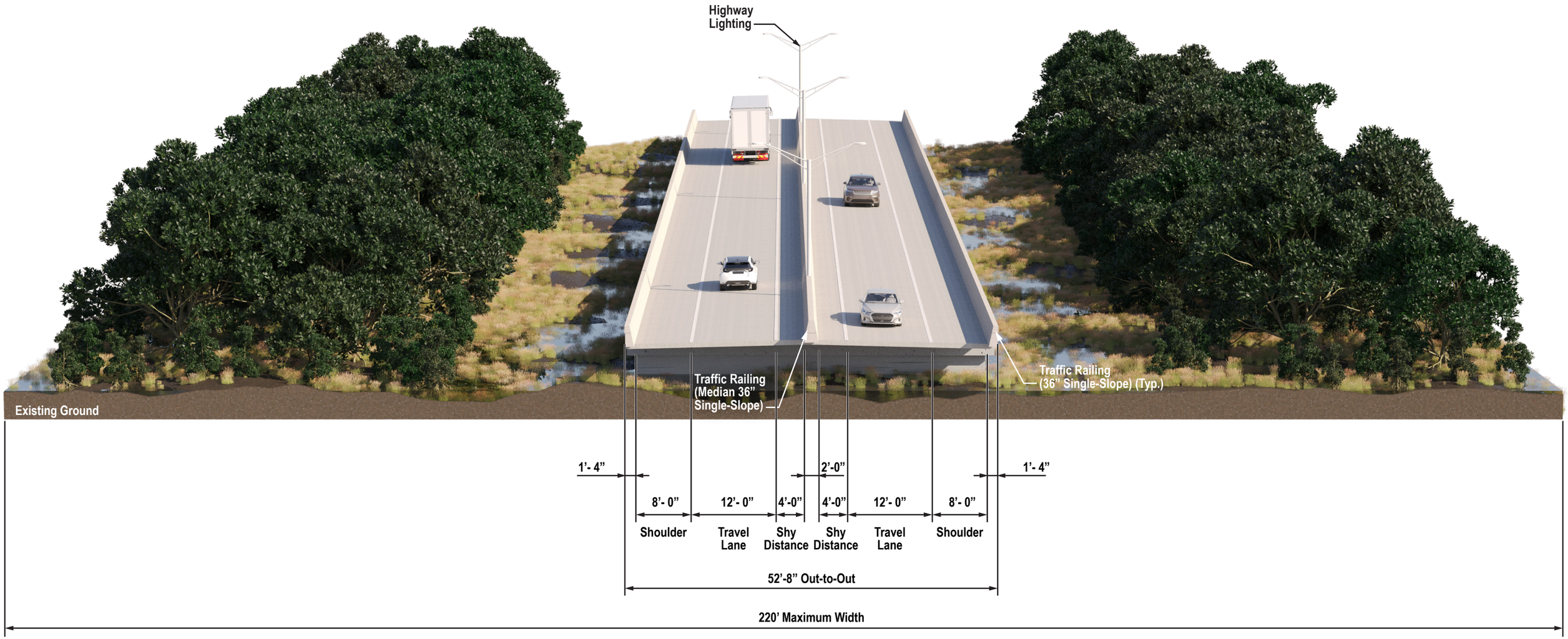
Alternatives B1/B2/B3 - Lookout Road to Frank Sound Road

Not to Scale
West to East



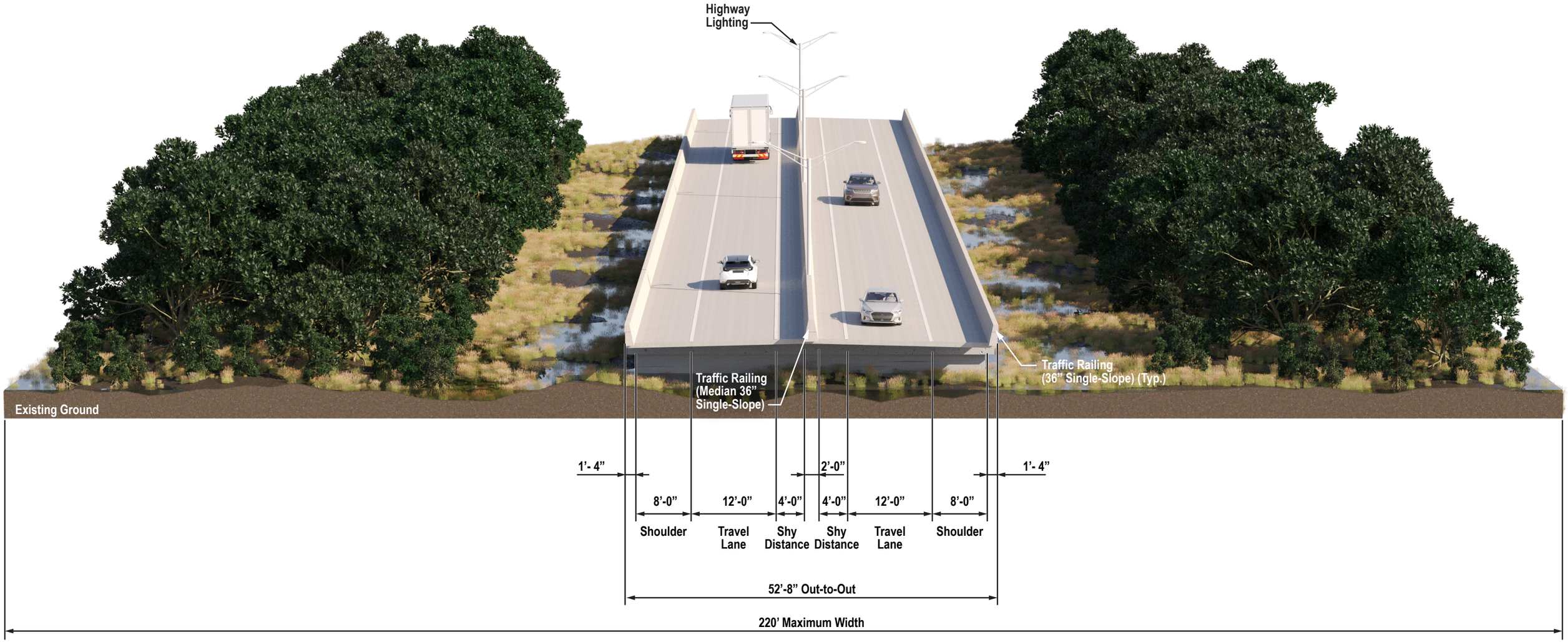
Will T Connector Typical Section

Not to Scale



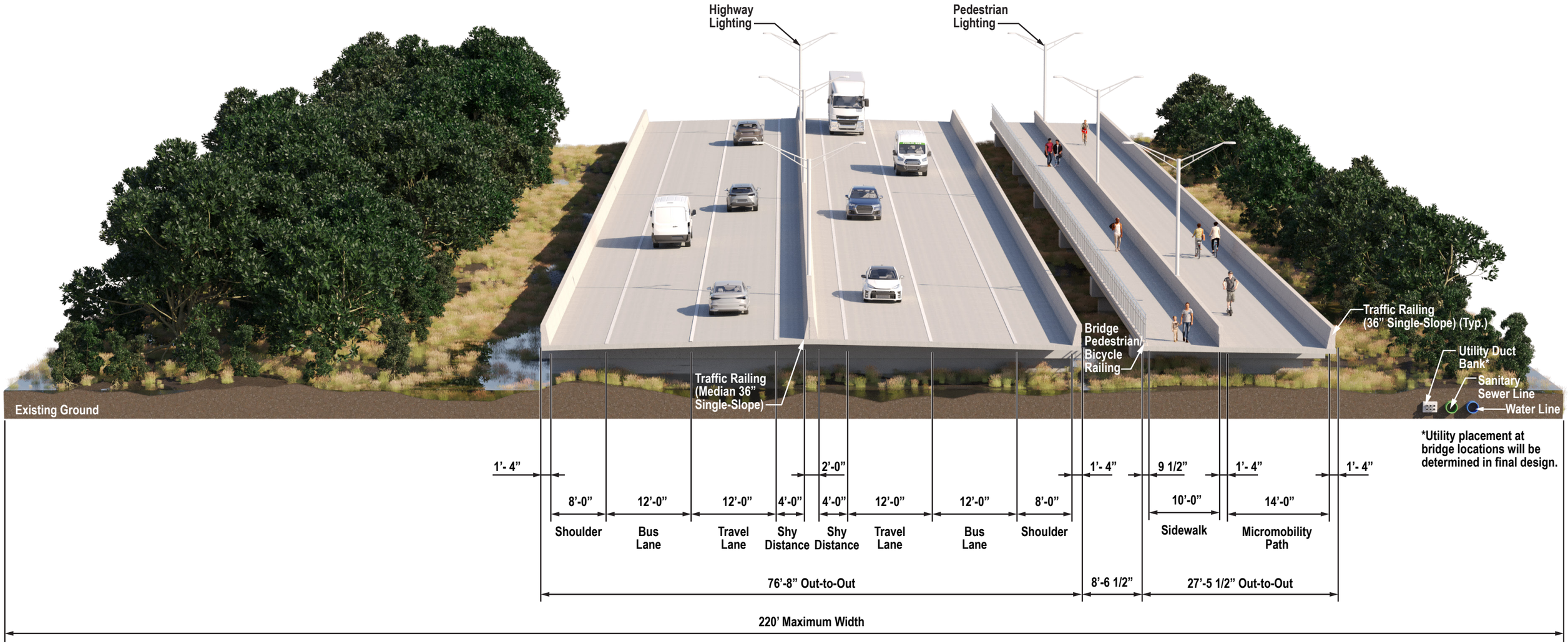
East-West Arterial Typical Section - Bridge Crossings (Section 2 - 2026 Build)

Not to Scale
West to East



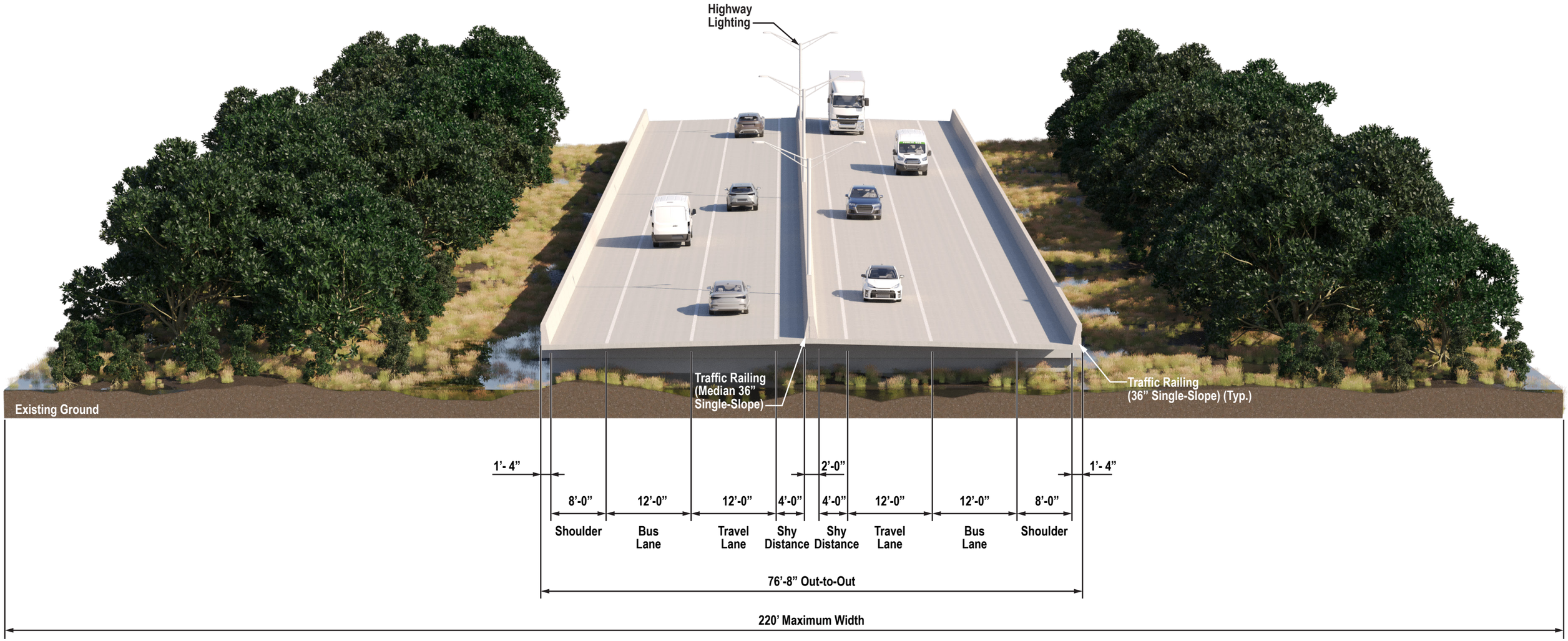
East-West Arterial Typical Section - Bridge Crossings (Section 3 - 2026 Build)

Not to Scale
West to East



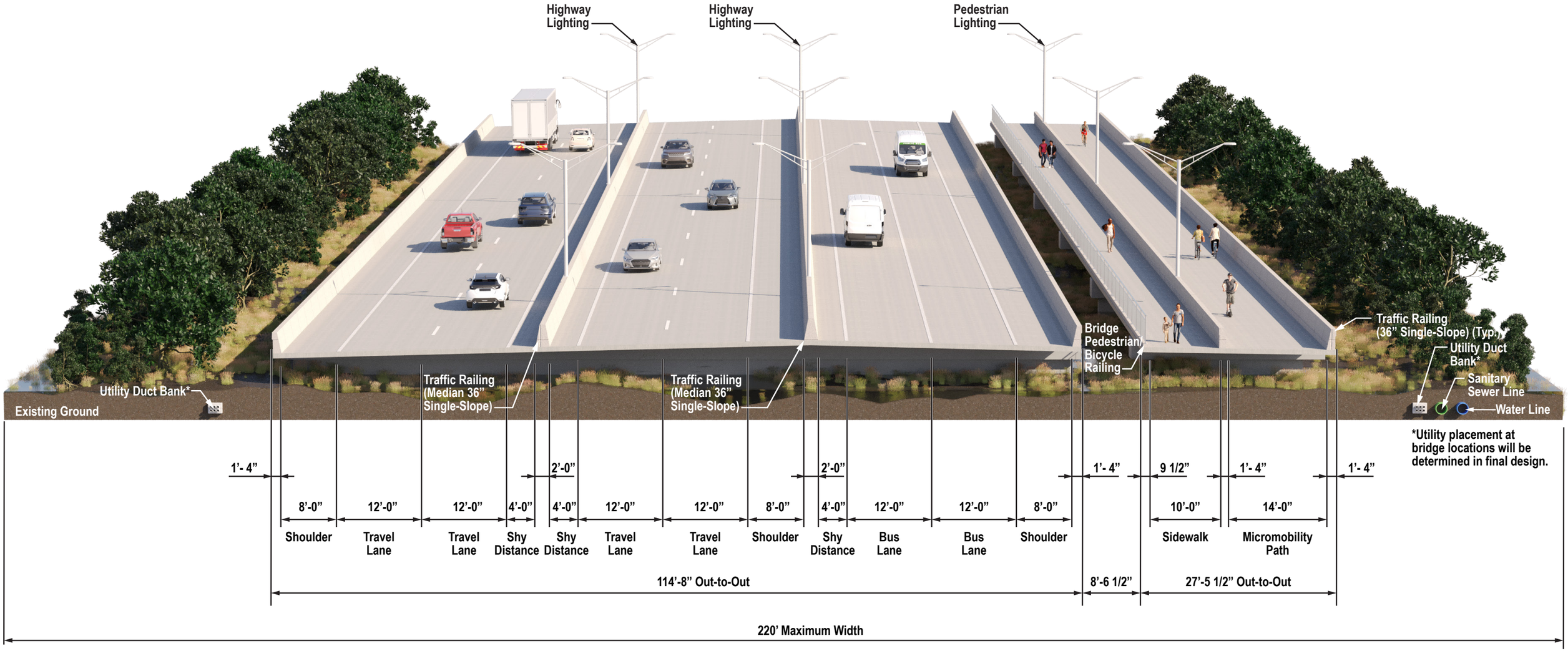
East-West Arterial Typical Section - Bridge Crossings (Section 2 - 2036 Build)

Not to Scale
West to East



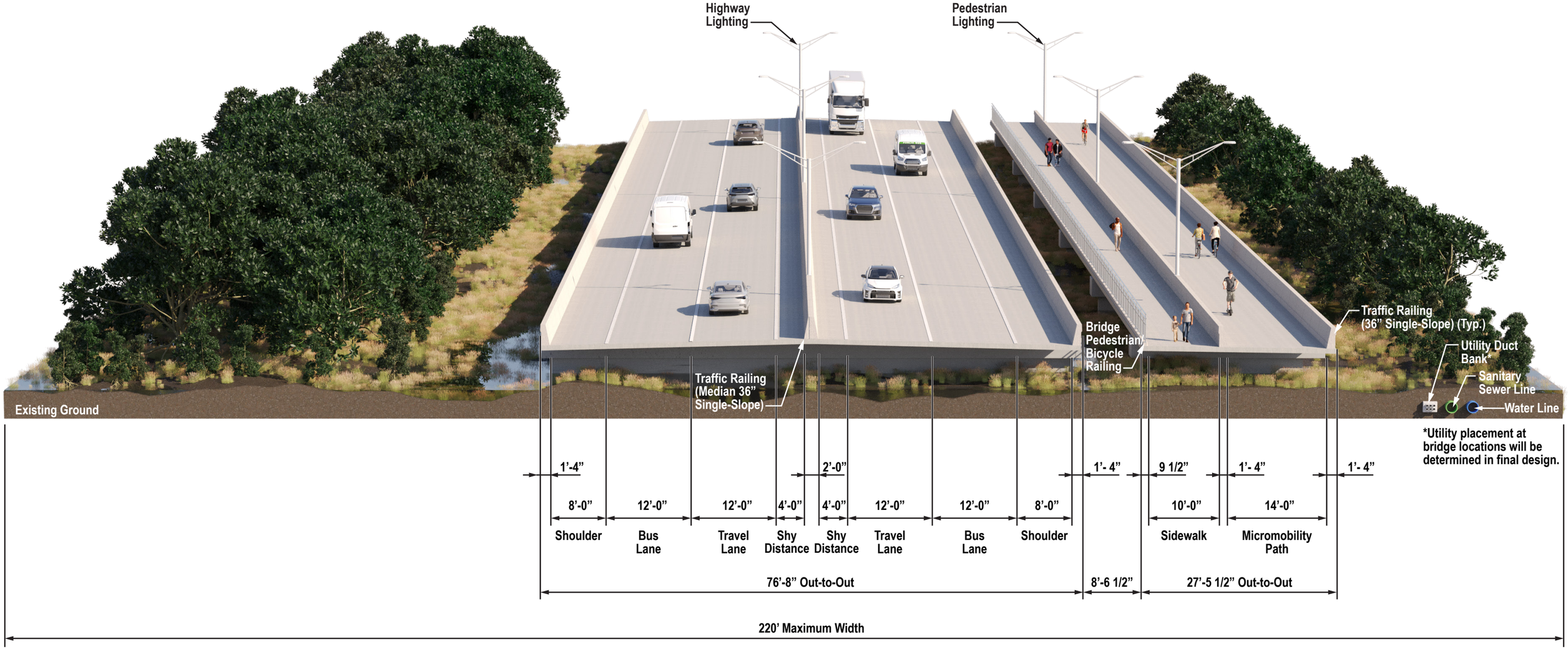
East-West Arterial Typical Section - Bridge Crossings (Section 3 - 2036 Build)

Not to Scale
West to East



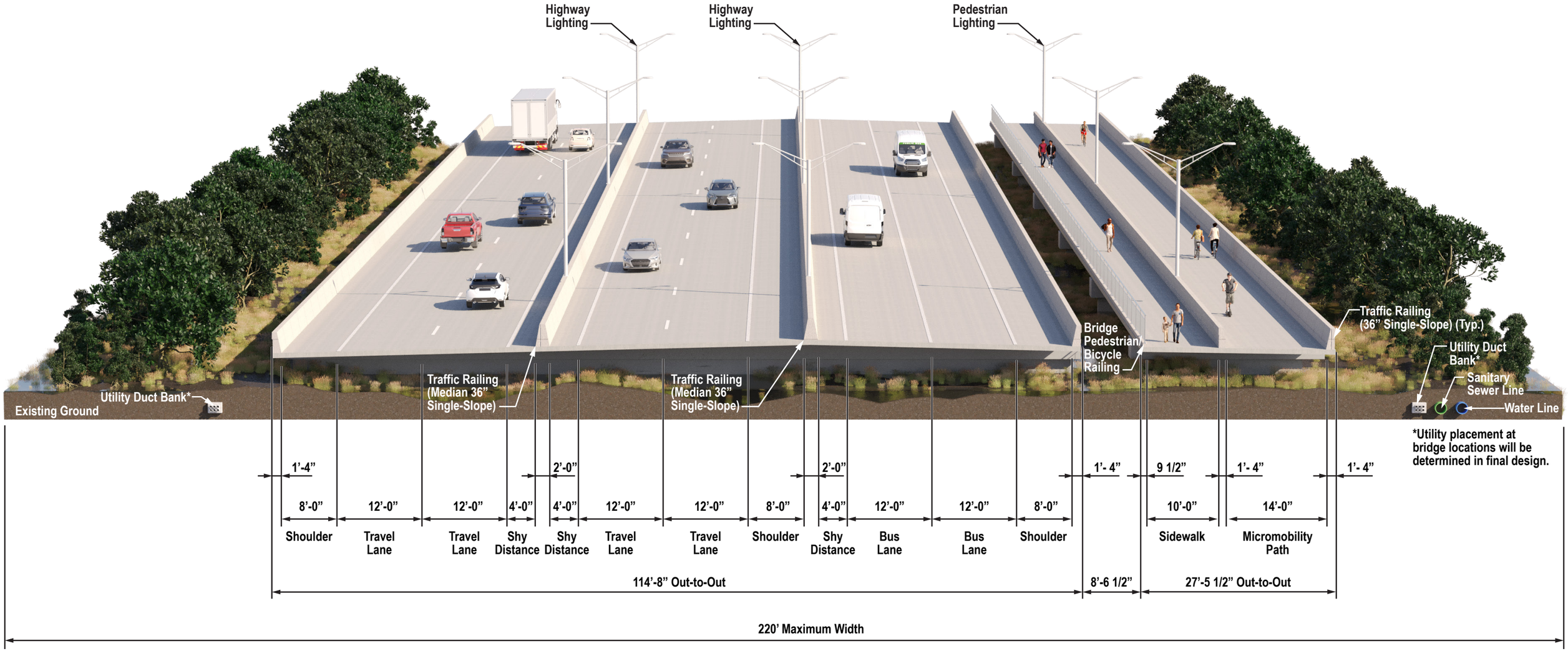
East-West Arterial Typical Section - Bridge Crossings (Section 2 - 2046 Build)

Not to Scale
West to East



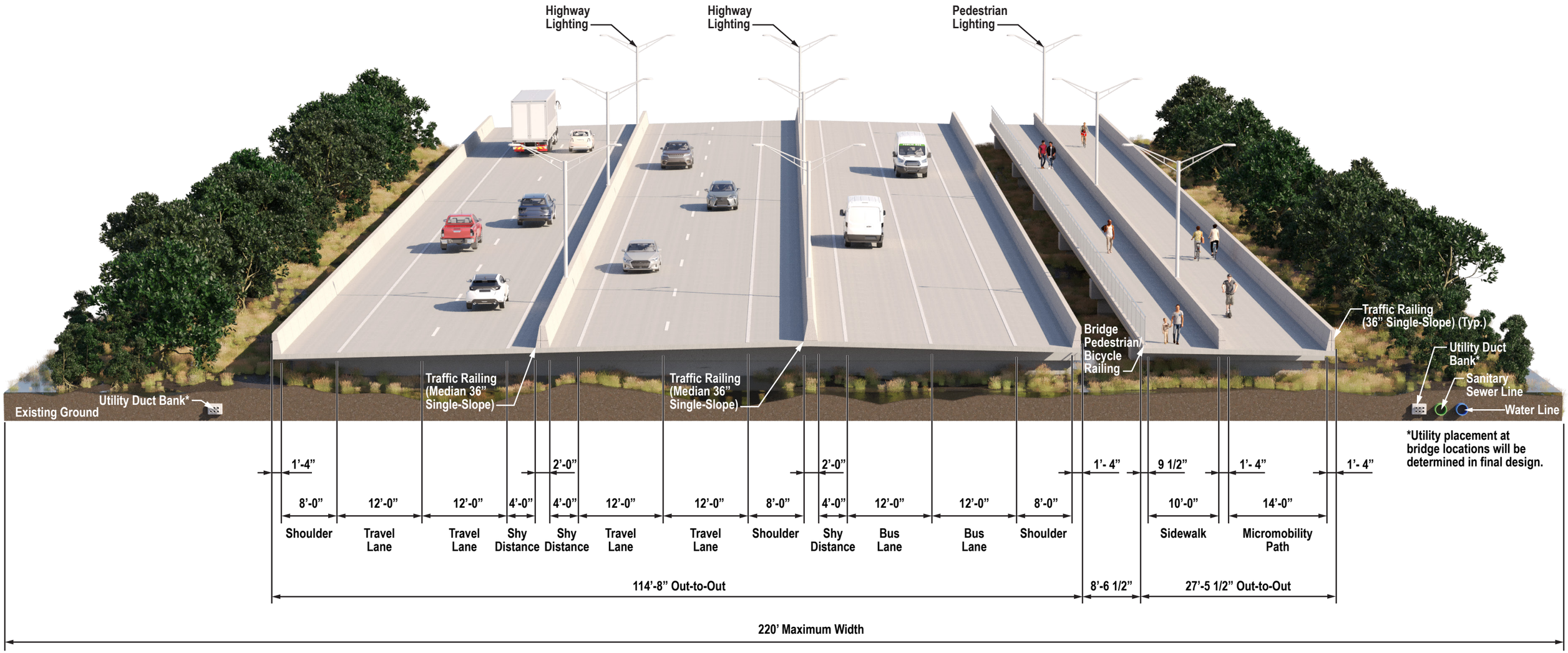
East-West Arterial Typical Section - Bridge Crossings (Section 3 - 2046 Build)

Not to Scale
West to East



East-West Arterial Typical Section - Bridge Crossings (Section 2 - 2074 Build)

Not to Scale
West to East



East-West Arterial Typical Section - Bridge Crossings (Section 3 - 2074 Build)

Not to Scale
West to East

Attachment C

Solar Array Memo

Stantec

Memo

To:	Whitman, Requardt & Associates, LLP	From:	Stantec Consulting Ltd. 100-300 Hagey Boulevard, Waterloo ON N2L 0A4
File:	18210907144_Cayman Islands	Date:	December 22, 2023
Reference:	Prefeasibility - Cayman Islands Pathway PV Canopy		

1.0 PRELIMINARY SOLAR PV ASSESSMENT

This assessment is for a solar photovoltaic (pv) canopy over a future 6 mile (9.65 km) long by 40 feet (12.19 m) wide micro-mobility path and sidewalk at Grand Cayman Island. The assessment provides a preliminary pv system size, a class 5 (+/- 30%) cost estimate, and an energy production forecast estimate.

For the Solar PV assessment Stantec determined the solar array size based on the available area. The concept solar canopy consists of 74.514 m long segments containing 8 strings of bifacial modules with 31 modules per string. Where the solar modules would be connected to string inverter positioned underneath the canopy, and the string inverters could be connected to underground utility transformers along the utility corridor.

Table 1: PV system summary

PV System Item	6 Mile PV Canopy
AC size (MW)	19.350
DC size (MW)	22.234
Module Power (Watts DC)	695 Bifacial
Quantity of Modules	31,992
Inverter Power (kWac)	150
Quantity of Inverters	129
Quantity of Canopy Sections	129
Racking Type	Y-shape canopy
Module tilt and Azimuth	Tilt 5°, Azimuth varies by road segment

2.0 COST BREAKDOWN ANALYSIS

The cost breakdown analysis consists of a Class 5 Financial Estimate in USD +/- 30%. The estimated CAPEX (Capital Expenditure) to build this system is approximately $78,154,056. To operate and run the system, an annual OPEX (Operational Expenditure) cost is estimated to be $380,201.

2.1 CAPEX

The CAPEX calculation is provided in high level categories and includes the entire development process from design, to procurement, construction and commissioning. The cost assessment is based on NREL's 2021 industry benchmark pricing report and includes a 1.5x multiplier to take into account shipping the equipment to the island and re-enforcement adders to better withstand local conditions of salt and hurricanes. Table 2.1 shows the breakdown of costs:

Table 2.1: CAPEX for Cayman Islands solar canopy

***Costs based on NREL 2021 industry benchmark pricing**

Sl. no	Items	Per unit cost (USD/W_{DC})	Total cost (USD)
1	Module	0.50	11,006,047.80
2	Inverter	0.11	2,334,616.20
3	Canopy Structure and PV Racking	1.50	33,351,660.00
4	Balance of plant	0.35	7,670,881.80
5	Design	0.10	2,223,444.00
6	Project management	0.30	6,670,332.00
7	Installation	0.30	6,670,332.00
8	Overhead, tax, profit	0.34	7,559,709.60
9	Permitting	0.03	667,033.20
TOTAL		**3.52**	**78,154,056.60**

The cost attributed to “Canopy Structure and PV Racking” in the estimate includes the canopy foundation, structures, rails and fasteners for the solar panels. The “Balance of plant” includes the capital cost for all other equipment, inclusive of electrical cables, conduits, combiner boxes, disconnects, transformers, SCADA equipment, connectors, bolts, etc.

2.2 OPEX

Operations and Maintenance (O&M) costs in the PV O&M cost model include preventative maintenance, scheduled at regular intervals, as well as corrective maintenance to replace components. The O&M cost per year shown in table 2.2 is in today’s dollars and does not include any inflation. To forecast future years, inflation and escalations can be added as needed.

Table 2.2: OPEX for Cayman Islands solar canopy

***Costs based on NREL 2021 industry benchmark pricing**

Sl. no	Items	Per unit cost (USD/kW_{DC}/year)	Total cost (USD/ year)
1	Preventive maintenance Corrective maintenance Monitoring Insurance	17.10	380,201.40
TOTAL		**17.10**	**380,201.40**

3.0 PV ENERGY GENERATION

For the system modelling and energy generation, the following placeholder equipment items were used: Canadian Solar CS7N-695TB-AG Module, and SMA Sunny highpower SHP150-US-20-PEAK3 inverter. Generation of the annual energy production was simulated using PVsyst software. The solar radiation resource was obtained from SolarAnywhere which provides the long-term average from satellite images for the exact project location and is considered a bankable source in the industry. Table 3 shows the 30 years average energy production forecast inclusive of the system’s annual degradation.

Table 3: 30 years energy production forecast

Year	EUseful (GWh)	PR (%)
1	39.51	87.28
2	39.38	86.99
3	39.22	86.64
4	39.05	86.25
5	38.85	85.82
6	38.62	85.31
7	38.36	84.73
8	38.08	84.13
9	37.81	83.51
10	37.53	82.91
11	37.29	82.37
12	37.08	81.91
13	36.88	81.47
14	36.70	81.06
15	36.52	80.68
16	36.38	80.36

17	36.26	80.09
18	36.13	79.81
19	35.98	79.49
20	35.81	79.10
21	35.56	78.54
22	35.22	77.81
23	34.86	77.01
24	34.48	76.16
25	34.08	75.28
26	33.69	74.43
27	33.32	73.61
28	32.95	72.79
29	32.58	71.97
30	32.21	71.15

4.0 ENVIRONMENTAL ASSESSMENT

Based on available electricity consumption and source data from WorldMeters.info for Cayman Islands in 2016, the 22.23 MW PV canopy would offset 703,556.1 tons of CO_2 emissions over a 30 year period.

The average energy production would save the Island 2,556,400 gallons of diesel fuel every year, and supply 5.6% of the Islands annual electricity demand based on year 2016 available data.

5.0 ALTERNATIVE 2-MILE-LONG PV CANOPY

An alternative being considered is to develop a 2 mile long PV canopy instead of a 6 miles long PV canopy. A shorter canopy would have a lower overall capital cost and could even serve as a phase 1 pilot project for a potential future expansion.

For prefeasibility purposes, the unit energy generation of a shorter canopy would be the same as the 6 mile long canopy, with a value of 1,864 kWh/kWdc for the first year of energy production, and an annual degradation factor of 0.4% per year for subsequent years.

The unit cost of a shorter canopy would be lower due to a smaller economy of scale. For prefeasibility purposes the following table serves as a guide:

CANOPY LENGTH (miles)	POWER SIZE (MW DC)	UNIT CAPITAL COST ESTIMATE (USD/Watt)
1 to 2	3.6 to 7.4	4.5 to 4.05
2 to 4	7.4 to 14.8	4.05 to 3.75
4 to 6	14.8 to 22.2	3.75 to 3.52

6.0 NEXT STEPS

This preliminary solar PV assessment provides the estimated system size, cost and energy generation amount. This information can be utilized by the project developers to decide whether to proceed or not with the project. The next steps for developing the solar PV canopy would be:

1. Initial permitting requirements consultation with the City and the local utility company;
2. Secure project funding as needed;
3. Detailed engineering design and analysis; and,
4. Construction & Commissioning.

APPENDIX A: PVsyst – Simulation Report

APPENDIX B: Hourly generation report (Excel format)

Version 7.4.0

PVsyst - Simulation report

Grid-Connected System

Project: Cayman Island Solar Canopy

Variant: Solar Canopy with 40 feet shade

Feasibility Revised Version 1

System power: 22.23 MWp

19.300843304782436 -81.2383075991375 - Cayman Islands

Tasin Rahman

Stantec consulting ltd (Canada)

PVsyst V7.4.0
VC1, Simulation date:
12/21/23 18:37
with v7.4.0

Project summary

Geographical Site
19.300843304782436 -81.2383075991375
Cayman Islands

Situation

Latitude	19.35 °N
Longitude	-81.25 °W
Altitude	3 m
Time zone	UTC-5

Project settings
Albedo 0.35

Meteo data
19.300843304782436 -81.2383075991375
Solar Anywhere, satellite data, SUNY model - TMY

System summary

Grid-Connected System
Simulation for year no 1

Feasibility Revised Version 1

PV Field Orientation

Fixed planes	2 orientations
Tilts/azimuths	5 / 180 ° 5 / 0 °

Near Shadings
According to strings
Electrical effect 80 %

User's needs
Unlimited load (grid)

System information

PV Array

Nb. of modules	31992 units
Pnom total	22.23 MWp

Inverters

Nb. of units	129 units
Pnom total	19.35 MWac
Pnom ratio	1.149

Results summary

Produced Energy	39513376 kWh/year	Specific production	1777 kWh/kWp/year	Perf. Ratio PR	87.28 %

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Attachment A

PVsyst V7.4.0
VC1, Simulation date:
12/21/23 18:37
with v7.4.0

General parameters

Grid-Connected System — **Feasibility Revised Version 1**

PV Field Orientation

Orientation		Sheds configuration		Models used	
Fixed planes	2 orientations			Transposition	Perez
Tilts/azimuths	5 / 180 °			Diffuse	Imported
	5 / 0 °			Circumsolar	separate

Horizon	Near Shadings		User's needs
Free Horizon	According to strings		Unlimited load (grid)
	Electrical effect	80 %	

PV Array Characteristics

PV module

Manufacturer	CSI Solar
Model	CS7N-695TB-AG 1500V
(Original PVsyst database)	
Unit Nom. Power	695 Wp
Number of PV modules	31992 units
Nominal (STC)	22.23 MWp

Inverter

Manufacturer	SMA
Model	Sunny Highpower SHP150-US-20-PEAK3
(Original PVsyst database)	
Unit Nom. Power	150 kWac
Number of inverters	129 units
Total power	19350 kWac

Array #1 - PV Array 1

Orientation	#1		
Tilt/Azimuth	5/180 °		
Number of PV modules	15996 units	Number of inverters	65 units
Nominal (STC)	11.12 MWp	Total power	9750 kWac
Modules	516 Strings x 31 In series		
At operating cond. (50°C)		Operating voltage	855-1450 V
Pmpp	10.31 MWp	Pnom ratio (DC:AC)	1.14
U mpp	1134 V		
I mpp	9094 A		

Array #2 - PV array #2

Orientation	#2		
Tilt/Azimuth	5/0 °		
Number of PV modules	15996 units	Number of inverters	64 units
Nominal (STC)	11.12 MWp	Total power	9600 kWac
Modules	516 Strings x 31 In series		
At operating cond. (50°C)		Operating voltage	855-1450 V
Pmpp	10.31 MWp	Pnom ratio (DC:AC)	1.16
U mpp	1134 V		
I mpp	9094 A		

Total PV power

Nominal (STC)	22234 kWp
Total	31992 modules
Module area	99378 m²

Total inverter power

Total power	19350 kWac
Number of inverters	129 units
Pnom ratio	1.15

Array losses

Array Soiling Losses

Average loss Fraction 2.4 %

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
2.5%	3.6%	4.6%	5.7%	4.0%	1.3%	2.4%	1.4%	0.6%	0.4%	1.0%	1.6%

Thermal Loss factor

Module temperature according to irradiance
Uc (const) 26.0 W/m²K
Uv (wind) 1.2 W/m²K/m/s

DC wiring losses

Global array res. 0.68 mΩ
Global wiring resistance 0.34 mΩ
Loss Fraction 0.5 % at STC

Module Quality Loss

Loss Fraction -6.0 %

Module mismatch losses

Loss Fraction 1.0 % at MPP

Strings Mismatch loss

Loss Fraction 0.1 %

Module average degradation

Year no 1
Loss factor 0.4 %/year

Mismatch due to degradation

Imp RMS dispersion 0.4 %/year
Vmp RMS dispersion 0.4 %/year

IAM loss factor

Incidence effect (IAM): Fresnel, AR coating, n(glass)=1.526, n(AR)=1.290

0°	30°	50°	60°	70°	75°	80°	85°	90°
1.000	0.999	0.987	0.962	0.892	0.816	0.681	0.440	0.000

Spectral correction

FirstSolar model
Precipitable water estimated from relative humidity

Coefficient Set	C0	C1	C2	C3	C4	C5
Monocrystalline Si	0.85914	-0.02088	-0.0058853	0.12029	0.026814	-0.001781

System losses

Unavailability of the system

Time fraction 3.0 %
10.9 days,
3 periods

AC wiring losses

Inv. output line up to MV transfo

Inverter voltage 600 Vac tri
Loss Fraction 1.55 % at STC

Inverter: Sunny Highpower SHP150-US-20-PEAK3

Wire section (129 Inv.) Copper 129 x 3 x 70 mm²
Average wires length 123 m

MV line up to Injection

MV Voltage 13.4 kV
Wires Copper 3 x 400 mm²
Length 874 m
Loss Fraction 0.50 % at STC

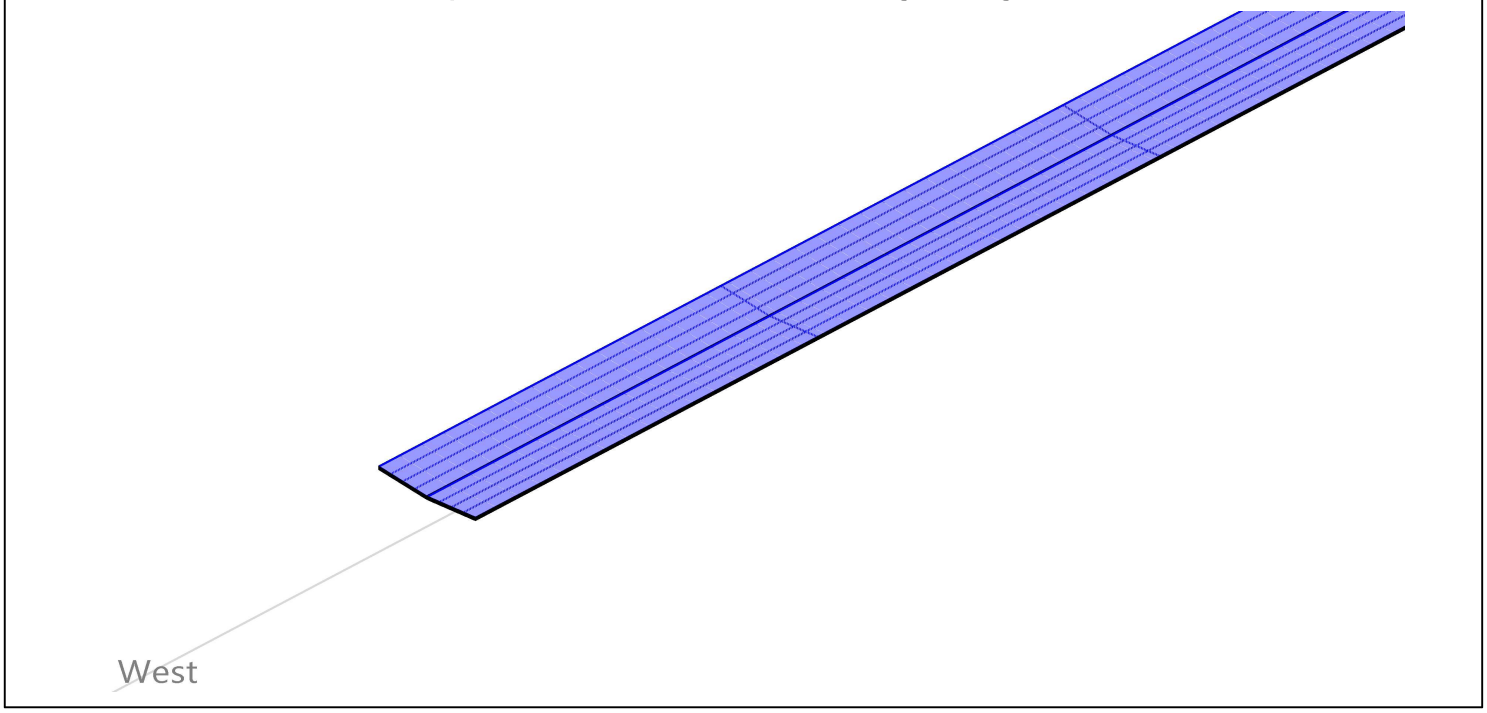
AC losses in transformers

MV transfo

Medium voltage	13.4 kV
Transformer parameters	
Nominal power at STC	21.85 MVA
Iron Loss (24/24 Connexion)	20.97 kVA
Iron loss fraction	0.10 % at STC
Copper loss	226.78 kVA
Copper loss fraction	1.04 % at STC
Coils equivalent resistance	3 x 0.17 mΩ

Near shadings parameter

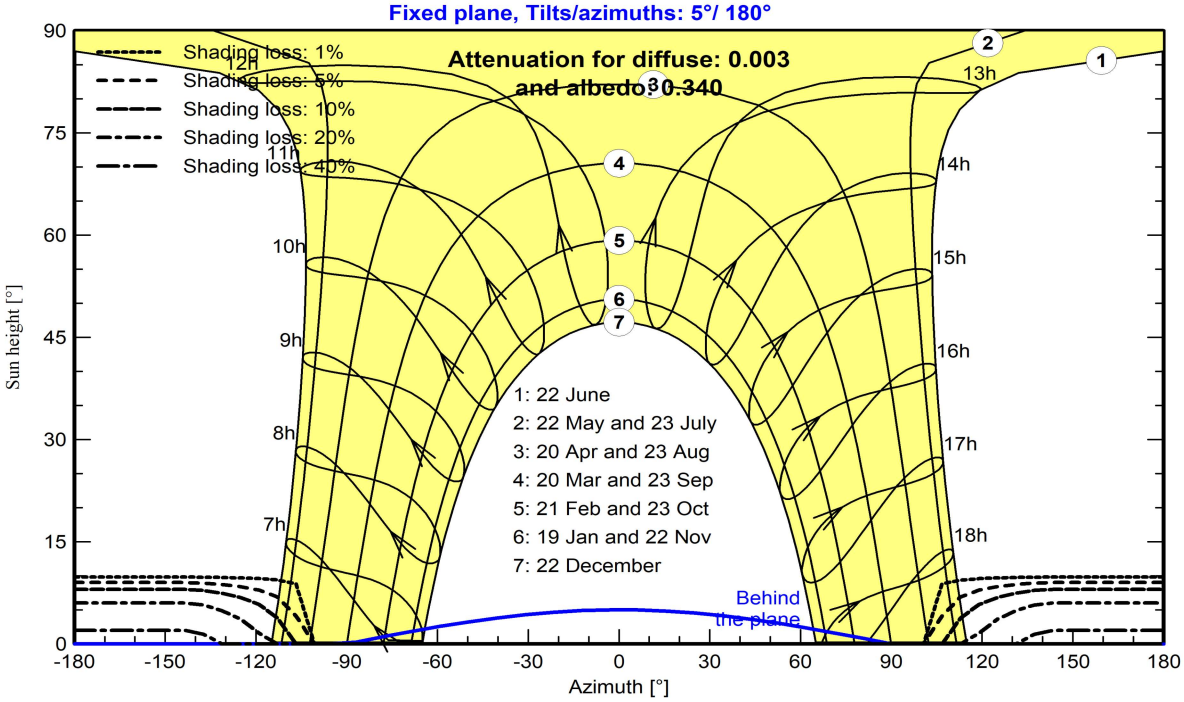
Perspective of the PV-field and surrounding shading scene



Iso-shadings diagram

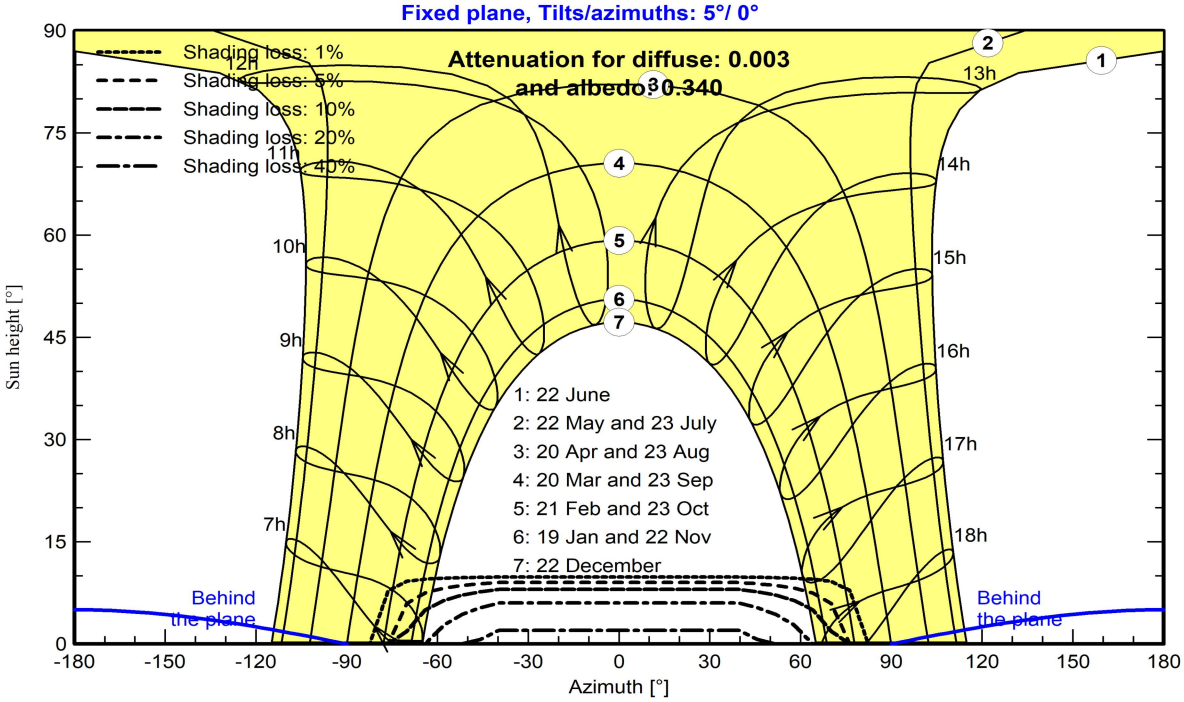
Orientation #1

Fixed plane, Tilts/azimuths: 5°/ 180°



Orientation #2

Fixed plane, Tilts/azimuths: 5°/ 0°



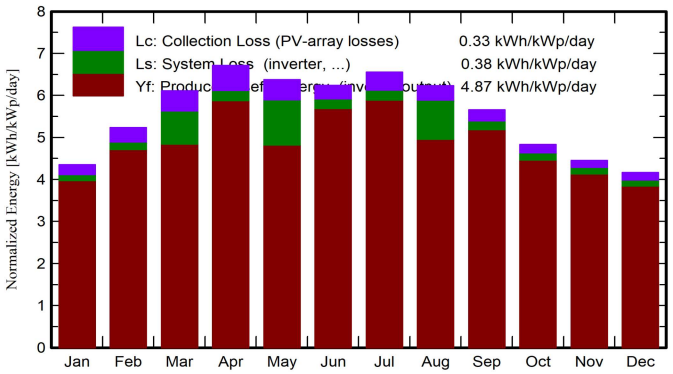
PVsyst V7.4.0
VC1, Simulation date:
12/21/23 18:37
with v7.4.0

Main results

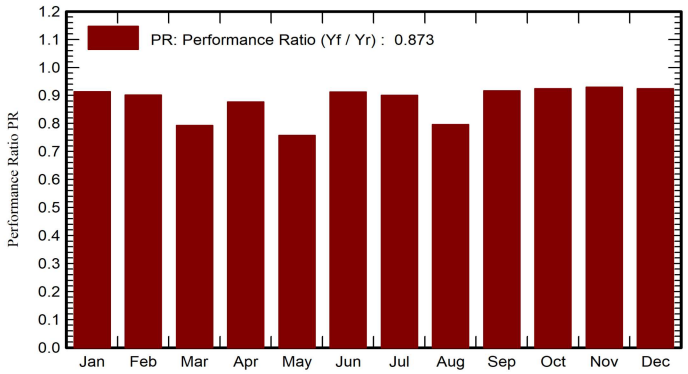
System Production

Produced Energy	39513376 kWh/year	Specific production	1777 kWh/kWp/year
		Perf. Ratio PR	87.28 %

Normalized productions (per installed kWp)



Performance Ratio PR



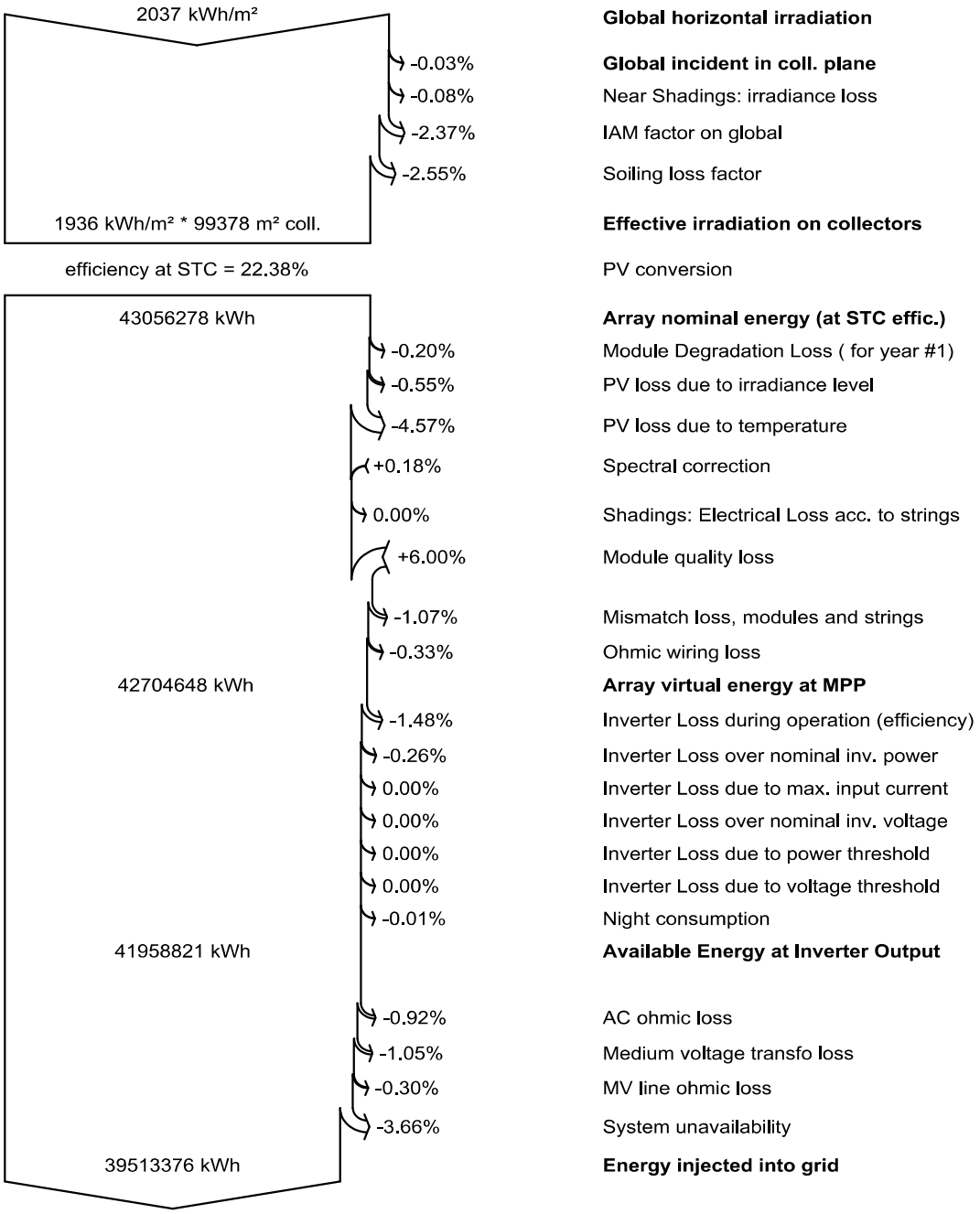
Balances and main results

	GlobHor kWh/m²	DiffHor kWh/m²	T_Amb °C	GlobInc kWh/m²	GlobEff kWh/m²	EArray kWh	E_Grid kWh	PR ratio
January	135.1	50.52	25.82	135.0	127.0	2843432	2741755	0.913
February	146.6	46.60	25.73	146.5	137.2	3050233	2935661	0.901
March	189.5	57.42	25.75	189.5	176.4	3885248	3339921	0.793
April	201.3	62.36	26.10	201.3	186.0	4083968	3924903	0.877
May	197.7	72.89	27.45	197.7	185.9	4067413	3326966	0.757
June	187.4	66.42	27.58	187.3	181.2	3953411	3800824	0.913
July	203.2	66.65	28.45	203.1	194.3	4228156	4065790	0.900
August	193.2	63.95	27.97	193.1	186.7	4063766	3420453	0.797
September	169.8	53.47	27.70	169.8	165.2	3601851	3461779	0.917
October	149.9	50.21	27.81	149.9	145.3	3198904	3079513	0.924
November	133.5	45.23	25.93	133.5	128.0	2864414	2759620	0.930
December	129.2	46.47	25.79	129.2	122.5	2754237	2656192	0.925
Year	2036.5	682.19	26.85	2036.0	1935.6	42595034	39513376	0.873

Legends

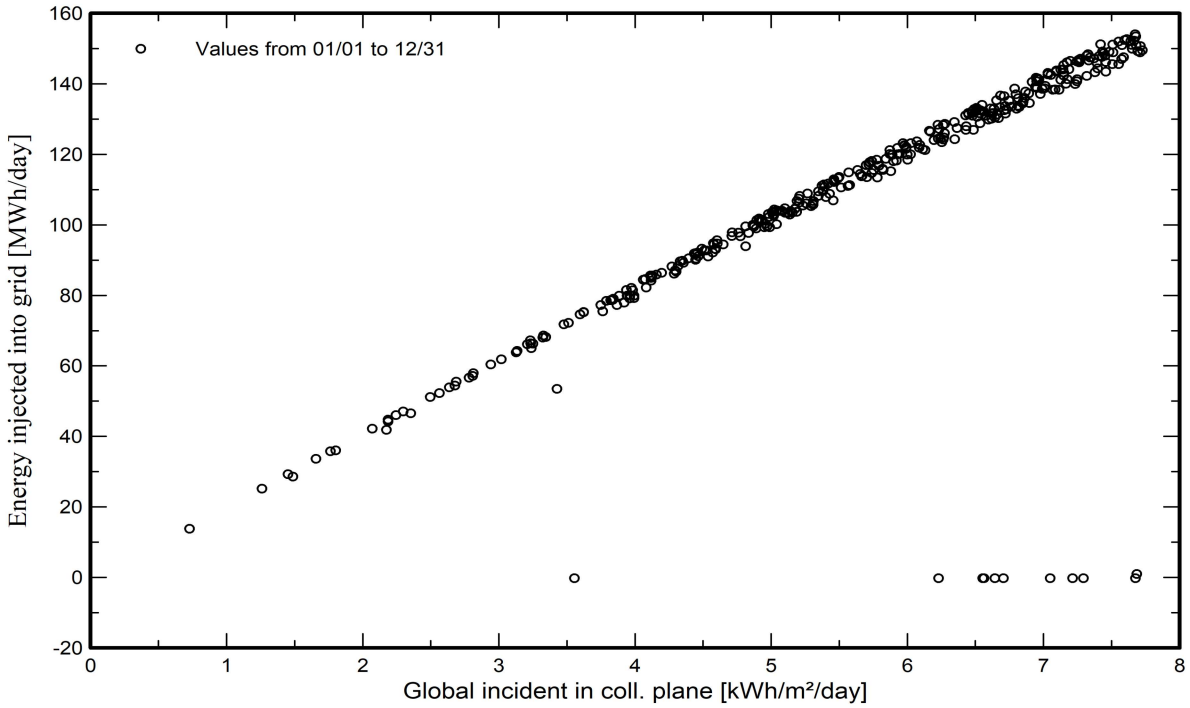
GlobHor	Global horizontal irradiation
DiffHor	Horizontal diffuse irradiation
T_Amb	Ambient Temperature
GlobInc	Global incident in coll. plane
GlobEff	Effective Global, corr. for IAM and shadings
EArray	Effective energy at the output of the array
E_Grid	Energy injected into grid
PR	Performance Ratio

Loss diagram

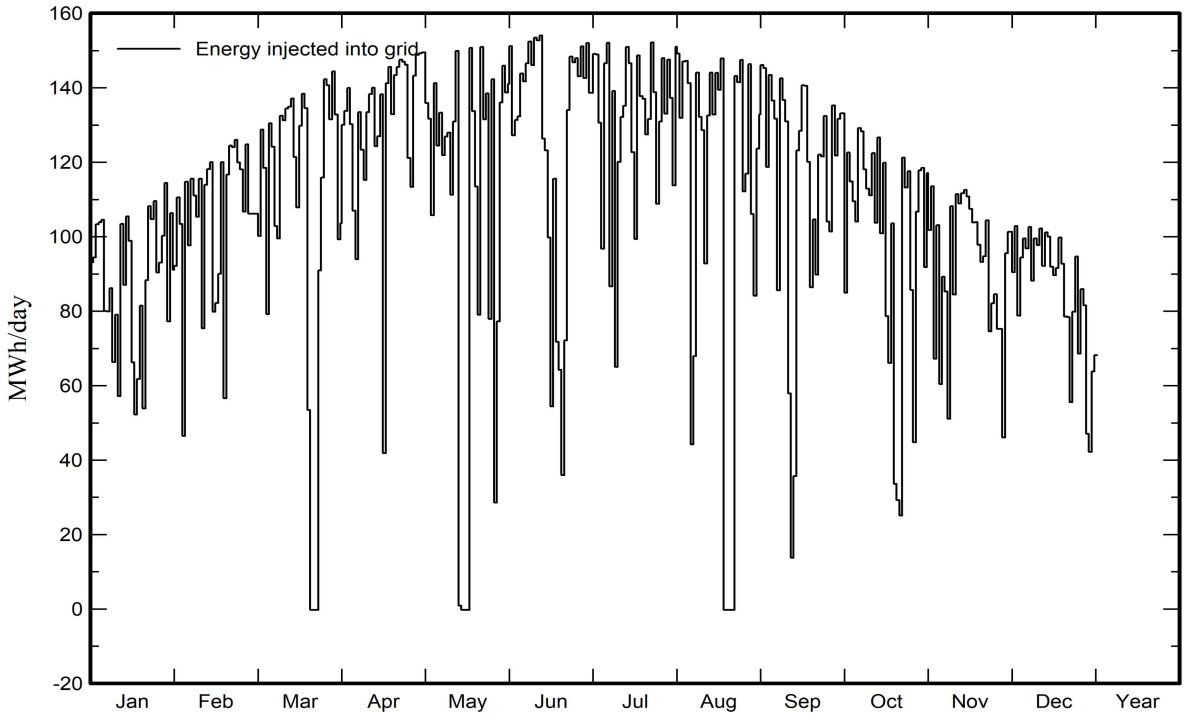


Predef. graphs

Daily Input/Output diagram

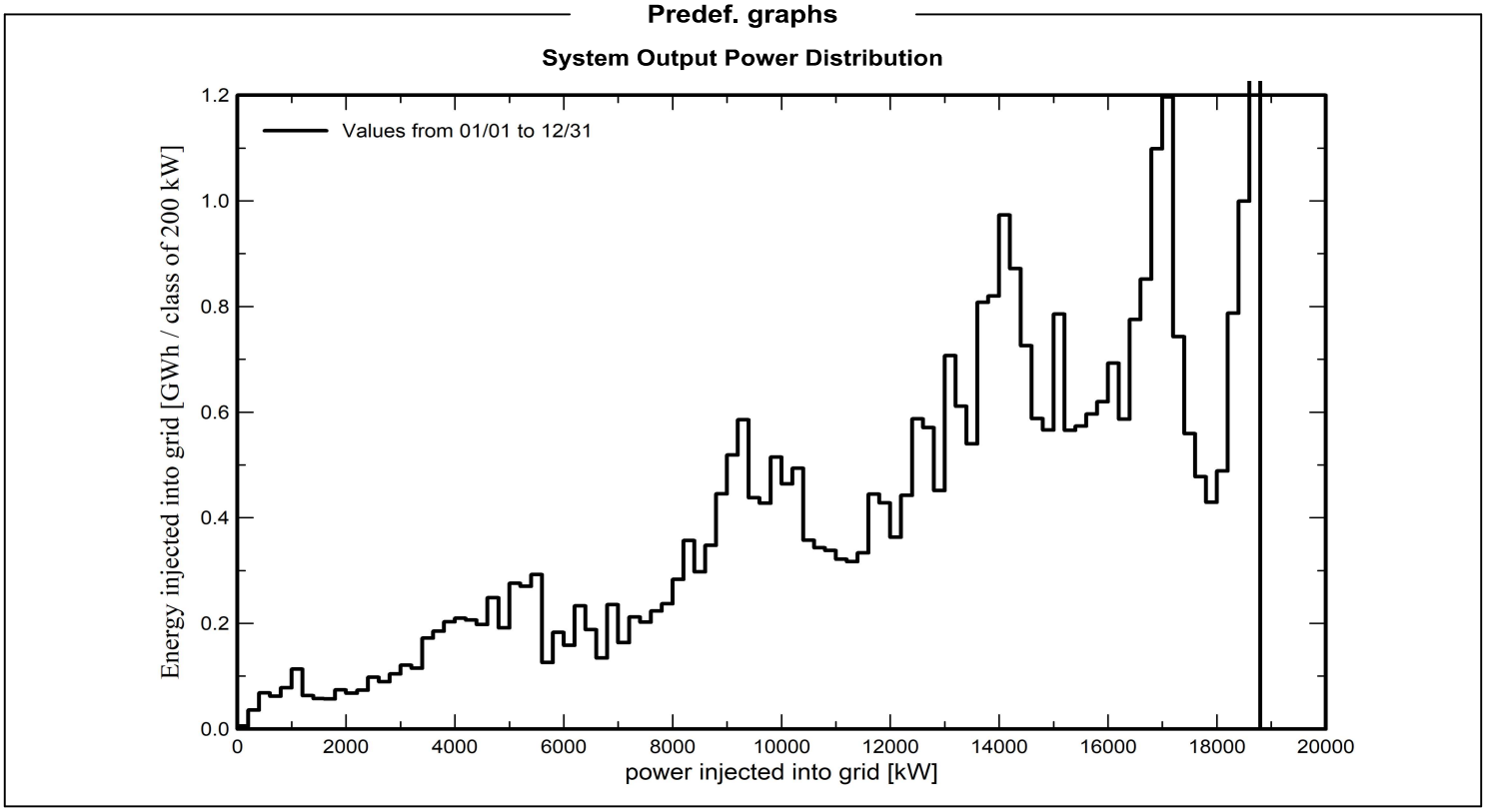


Daily System Output Energy



PVsyst V7.4.0
VC1, Simulation date:
12/21/23 18:37
with v7.4.0

Predef. graphs



Aging Tool

Aging Parameters

Time span of simulation 30 years

Module average degradation

Loss factor 0.4 %/year

Mismatch due to degradation

Imp RMS dispersion 0.4 %/year

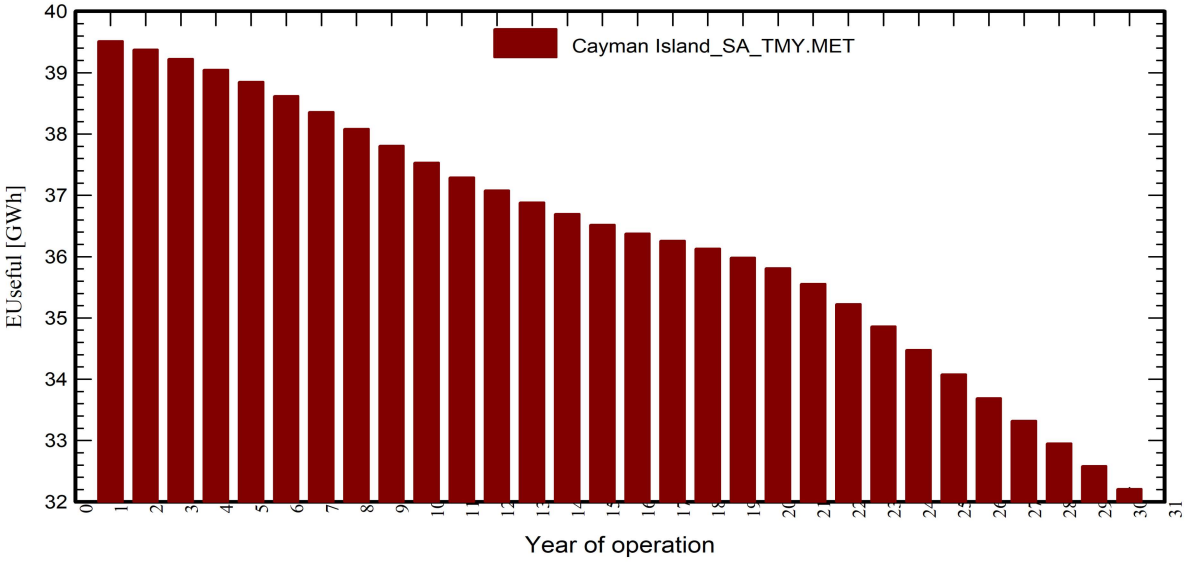
Vmp RMS dispersion 0.4 %/year

Meteo used in the simulation

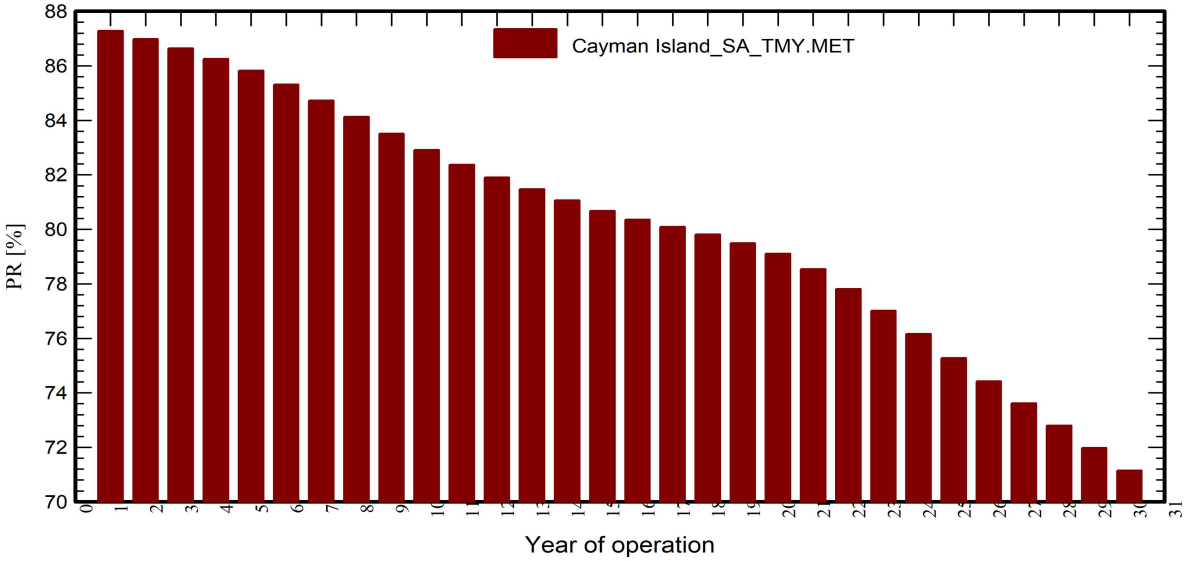
Cayman Island SA TMY

Years reference year

Useful out system energy



Performance Ratio



PVsyst V7.4.0
VC1, Simulation date:
12/21/23 18:37
with v7.4.0

Aging Tool

Aging Parameters

Time span of simulation 30 years

Module average degradation

Loss factor 0.4 %/year

Mismatch due to degradation

Imp RMS dispersion 0.4 %/year

Vmp RMS dispersion 0.4 %/year

Meteo used in the simulation

Cayman Island SA TMY

Years reference year

	EUseful	PR	PR loss
Year	GWh	%	%
1	39.51	87.28	-0.17
2	39.38	86.99	-0.51
3	39.22	86.64	-0.90
4	39.05	86.25	-1.35
5	38.85	85.82	-1.85
6	38.62	85.31	-2.43
7	38.36	84.73	-3.09
8	38.08	84.13	-3.78
9	37.81	83.51	-4.48
10	37.53	82.91	-5.17
11	37.29	82.37	-5.79
12	37.08	81.91	-6.32
13	36.88	81.47	-6.82
14	36.70	81.06	-7.29
15	36.52	80.68	-7.73
16	36.38	80.36	-8.09
17	36.26	80.09	-8.40
18	36.13	79.81	-8.72
19	35.98	79.49	-9.09
20	35.81	79.10	-9.53
21	35.56	78.54	-10.17
22	35.22	77.81	-11.01
23	34.86	77.01	-11.92
24	34.48	76.16	-12.89
25	34.08	75.28	-13.90
26	33.69	74.43	-14.87
27	33.32	73.61	-15.81
28	32.95	72.79	-16.74
29	32.58	71.97	-17.68
30	32.21	71.15	-18.62

P50 - P90 evaluation

Meteo data

SourceSolar Anywhere, satellite data, SUNY model	
Kind	Monthly averages
TMY - Multi-year average	
Year-to-year variability(Variance)	4.0 %
Specified Deviation	
Climate change	0.0 %

Simulation and parameters uncertainties

PV module modelling/parameters	1.0 %
Inverter efficiency uncertainty	0.5 %
Soiling and mismatch uncertainties	1.0 %
Degradation uncertainty	1.0 %

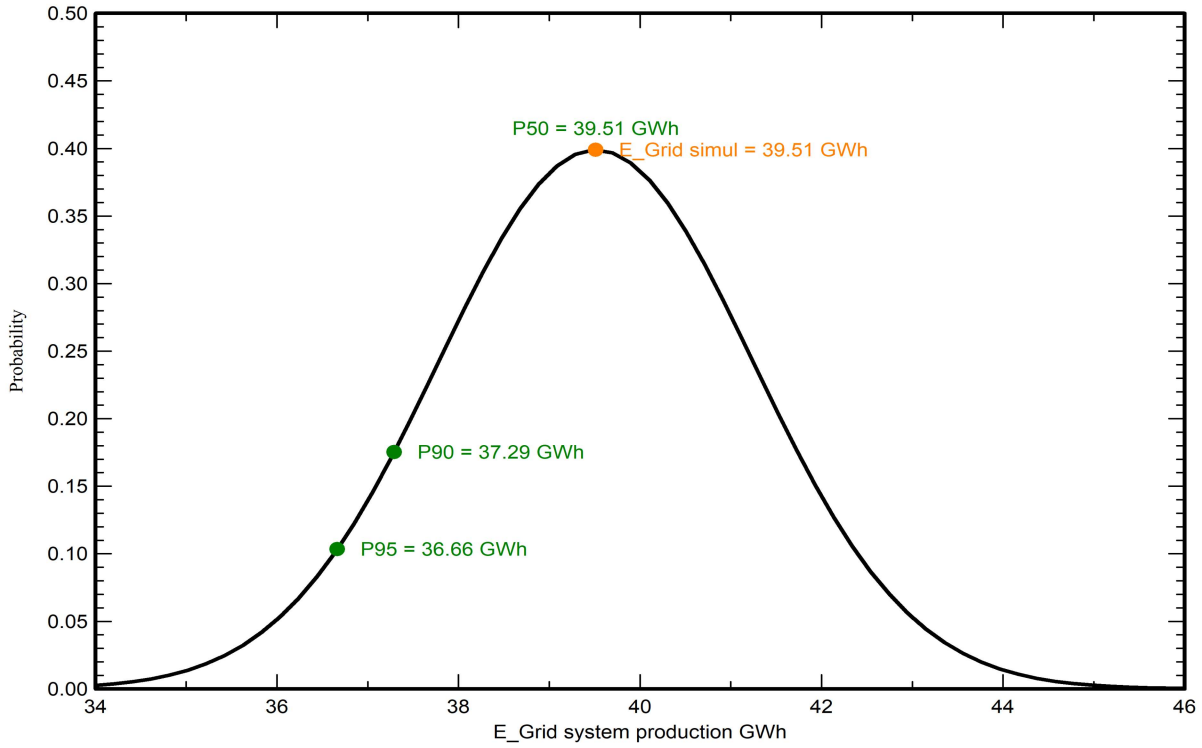
Global variability (meteo + system)

Variability (Quadratic sum)	4.4 %

Annual production probability

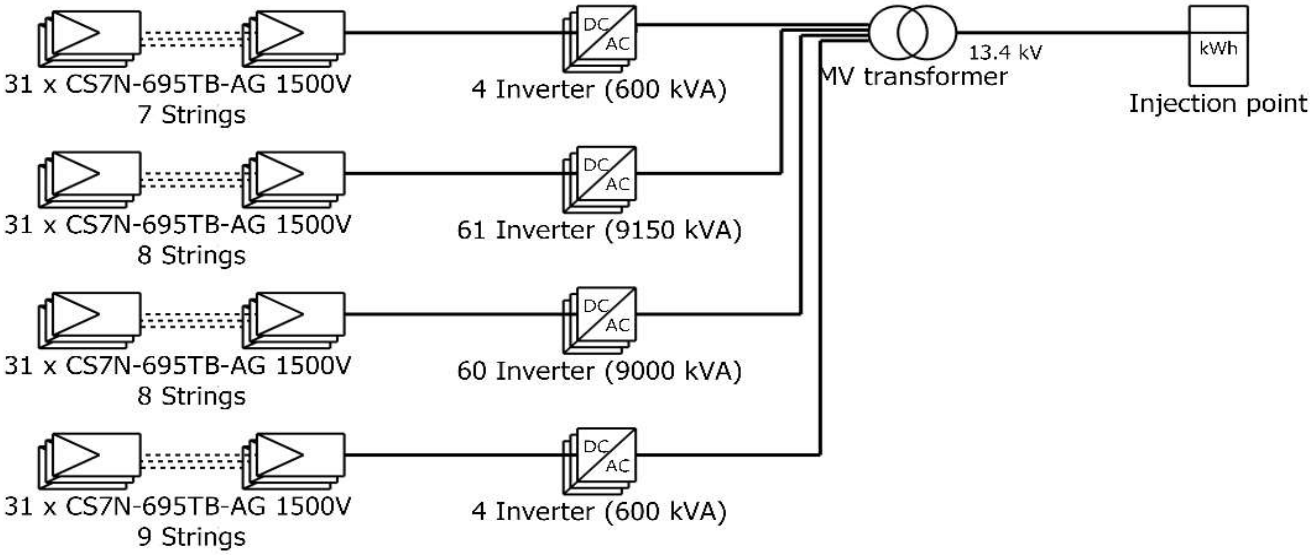
Variability	1.73 GWh
P50	39.51 GWh
P90	37.29 GWh
P95	36.66 GWh

Probability distribution



Single-line diagram

PVsyst V7.4.0
VC1, Simulation date:
12/21/23 18:37
with v7.4.0



PV module	CS7N-695TB-AG 1500V
Inverter	Sunny Highpower SHP150-US-20-PEAK3
String	31 x CS7N-695TB-AG 1500V

	Cayman Island Solar Canopy	Stantec consulting ltd (Canad
	VC1 : Solar Canopy with 40 feet shade	12/21/23

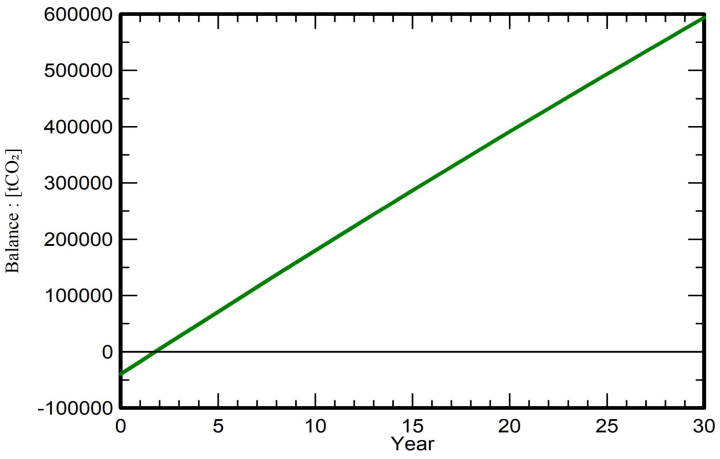
CO_2 Emission Balance

Total: 593889.0 tCO_2

Generated emissions
Total: 39548.16 tCO_2
Source: Detailed calculation from table below

Replaced Emissions
Total: 670937.1 tCO_2
System production: 39513.38 MWh/yr
Grid Lifecycle Emissions: 566 gCO_2/kWh
Source: Custom value supplied by user
Lifetime: 30 years
Annual degradation: 0.4 %

Saved CO_2 Emission vs. Time



System Lifecycle Emissions Details

Item	LCE	Quantity	Subtotal
			[$kgCO_2$]
Modules	1713 kgCO2/kWp	22234 kWp	38081370
Supports	4.40 kgCO2/kg	319920 kg	1408352
Inverters	436 kgCO2/units	134 units	58441

PVSYST 7.4.0

	File	File date	Description		
Project	Cayman Island Solar Canopy_Project.PRJ	07/12/23 01h39	Cayman Island Solar Canopy		
Geographical Site	19.300843304782436 - 81.2383075991375_SA_TMY.SIT	07/12/23 01h39	19.300843304782436 - 81.2383075991375;Cayman Islands;North_America;		
Meteo data	Cayman Island_SA_TMY.MET	01/11/23 20h20	19.300843304782436 - 81.2383075991375;Solar Anywhere	satellite data	SUNY model;TMY
Simulation variant	Cayman Island Solar Canopy_Project.VC1	21/12/23 18h37	Solar Canopy with 40 feet shade		
Simulation date		09/01/24 10h43			

Simulation:	Hourly values	from 01/01/90	to 31/12/90

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
1/1/1990 0:00	0	-21.619	0	27	8.0001
1/1/1990 1:00	0	-21.619	0	27	8.0001
1/1/1990 2:00	0	-21.619	0	26	6.9999
1/1/1990 3:00	0	-21.619	0	26	6.9999
1/1/1990 4:00	0	-21.619	0	27	6.9999
1/1/1990 5:00	0	-21.619	0	27	8.0001
1/1/1990 6:00	0	-21.619	1	27	8.0001
1/1/1990 7:00	1126.4	1078.1	71.001	27	8.9997
1/1/1990 8:00	5371.8	5239.8	271	27	8.9997
1/1/1990 9:00	10024	9731	471.01	27	8.9997
1/1/1990 10:00	13391	12933	623.99	27	8.9997
1/1/1990 11:00	13149	12705	614.99	27	8.9997
1/1/1990 12:00	14560	14035	681.99	27	8.9997
1/1/1990 13:00	12422	12017	579.99	27	8.9997
1/1/1990 14:00	11983	11600	558.99	27	8.9997
1/1/1990 15:00	8632.3	8396.4	406.01	27	8.9997
1/1/1990 16:00	4825.8	4708.3	242	27	8.9997
1/1/1990 17:00	980.71	934.61	62.001	27	8.9997
1/1/1990 18:00	0	-21.619	1	26	8.9997
1/1/1990 19:00	0	-21.619	0	26	8.9997
1/1/1990 20:00	0	-21.619	0	26	8.0001
1/1/1990 21:00	0	-21.619	0	27	8.0001
1/1/1990 22:00	0	-21.619	0	27	8.0001
1/1/1990 23:00	0	-21.619	0	27	6.9999
2/1/1990 0:00	0	-21.619	0	27	6.9999
2/1/1990 1:00	0	-21.619	0	27	6.9999
2/1/1990 2:00	0	-21.619	0	27	6.9999
2/1/1990 3:00	0	-21.619	0	27	8.0001
2/1/1990 4:00	0	-21.619	0	27	8.0001
2/1/1990 5:00	0	-21.619	0	26	8.0001
2/1/1990 6:00	0	-21.619	1	26	8.9997
2/1/1990 7:00	1122.9	1074.5	69.001	26	8.9997
2/1/1990 8:00	5356.6	5225.2	267	26	8.9997
2/1/1990 9:00	7579.6	7381	355.01	26	8.9997
2/1/1990 10:00	12260	11862	571.99	27	8.9997
2/1/1990 11:00	15658	15064	733	27	8.9997
2/1/1990 12:00	15624	15033	732	27	8.9997
2/1/1990 13:00	15490	14907	726	27	8.0001
2/1/1990 14:00	13086	12645	610.99	27	8.0001
2/1/1990 15:00	7035.1	6854.5	332.01	27	8.0001
2/1/1990 16:00	3808.9	3714.8	189	27	8.0001
2/1/1990 17:00	971.1	925.17	58.001	27	8.0001
2/1/1990 18:00	0	-21.619	0	27	6.9999

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
2/1/1990 19:00	0	-21.619	0	27	6.9999
2/1/1990 20:00	0	-21.619	0	27	6.9999
2/1/1990 21:00	0	-21.619	0	27	6.0002
2/1/1990 22:00	0	-21.619	0	27	6.0002
2/1/1990 23:00	0	-21.619	0	27	6.0002
3/1/1990 0:00	0	-21.619	0	26	6.0002
3/1/1990 1:00	0	-21.619	0	26	6.0002
3/1/1990 2:00	0	-21.619	0	26	6.9999
3/1/1990 3:00	0	-21.619	0	26	6.9999
3/1/1990 4:00	0	-21.619	0	26	6.9999
3/1/1990 5:00	0	-21.619	0	26	6.9999
3/1/1990 6:00	0	-21.619	1	26	6.9999
3/1/1990 7:00	1099.5	1051.4	71.001	26	6.9999
3/1/1990 8:00	5328.7	5197.8	269	26	8.0001
3/1/1990 9:00	9978.6	9687.6	468.01	26	8.0001
3/1/1990 10:00	13552	13085	631.99	26	6.9999
3/1/1990 11:00	15640	15048	735	27	6.9999
3/1/1990 12:00	16333	15695	771	27	6.0002
3/1/1990 13:00	15609	15019	735	27	6.0002
3/1/1990 14:00	13443	12984	630.99	27	5
3/1/1990 15:00	9942.2	9652.8	470.01	27	5
3/1/1990 16:00	5299	5168.9	270	27	5
3/1/1990 17:00	1072.5	1025	68.001	27	5
3/1/1990 18:00	0	-21.619	1	27	5
3/1/1990 19:00	0	-21.619	0	27	5
3/1/1990 20:00	0	-21.619	0	26	5
3/1/1990 21:00	0	-21.619	0	26	5
3/1/1990 22:00	0	-21.619	0	26	5
3/1/1990 23:00	0	-21.619	0	26	5
4/1/1990 0:00	0	-21.619	0	26	3.9998
4/1/1990 1:00	0	-21.619	0	26	3.9998
4/1/1990 2:00	0	-21.619	0	26	3.9998
4/1/1990 3:00	0	-21.619	0	25	3.9998
4/1/1990 4:00	0	-21.619	0	25	3.9998
4/1/1990 5:00	0	-21.619	0	25	3.9998
4/1/1990 6:00	0	-21.619	1	25	3.9998
4/1/1990 7:00	1097.5	1049.4	70.001	25	3.9998
4/1/1990 8:00	5418.7	5285.3	274	25	5
4/1/1990 9:00	10097	9801.1	474.01	25	5
4/1/1990 10:00	13613	13143	634.99	25	5
4/1/1990 11:00	15693	15097	738	26	5
4/1/1990 12:00	16410	15766	774	26	5
4/1/1990 13:00	15692	15097	738	26	5
4/1/1990 14:00	13552	13086	633.99	26	5
4/1/1990 15:00	10070	9775.4	474.01	26	5
4/1/1990 16:00	5209.9	5082.3	263	26	5
4/1/1990 17:00	1058.7	1011.3	69.001	26	5
4/1/1990 18:00	0	-21.619	1	26	5
4/1/1990 19:00	0	-21.619	0	26	5
4/1/1990 20:00	0	-21.619	0	26	5
4/1/1990 21:00	0	-21.619	0	26	5
4/1/1990 22:00	0	-21.619	0	26	5
4/1/1990 23:00	0	-21.619	0	26	3.9998
5/1/1990 0:00	0	-21.619	0	26	3.9998
5/1/1990 1:00	0	-21.619	0	26	3.9998
5/1/1990 2:00	0	-21.619	0	25	3.9998
5/1/1990 3:00	0	-21.619	0	25	5
5/1/1990 4:00	0	-21.619	0	25	5
5/1/1990 5:00	0	-21.619	0	25	5
5/1/1990 6:00	0	-21.619	1	25	5

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
5/1/1990 7:00	1095.1	1047	70.001	25	5
5/1/1990 8:00	5392.3	5259.5	273	25	5
5/1/1990 9:00	10104	9807.5	474.01	25	6.0002
5/1/1990 10:00	13651	13178	635.99	25	6.0002
5/1/1990 11:00	15729	15131	740	26	5
5/1/1990 12:00	16463	15816	777	26	5
5/1/1990 13:00	15769	15168	742	26	5
5/1/1990 14:00	13632	13161	637.99	26	5
5/1/1990 15:00	10128	9830.8	477.01	26	5
5/1/1990 16:00	5467.3	5332.6	277	26	5
5/1/1990 17:00	1117.5	1069.2	74.001	26	5
5/1/1990 18:00	0	-21.619	1	26	5
5/1/1990 19:00	0	-21.619	0	26	5
5/1/1990 20:00	0	-21.619	0	26	5
5/1/1990 21:00	0	-21.619	0	26	5
5/1/1990 22:00	0	-21.619	0	26	5
5/1/1990 23:00	0	-21.619	0	26	5
6/1/1990 0:00	0	-21.619	0	25	5
6/1/1990 1:00	0	-21.619	0	25	5
6/1/1990 2:00	0	-21.619	0	25	5
6/1/1990 3:00	0	-21.619	0	25	5
6/1/1990 4:00	0	-21.619	0	25	5
6/1/1990 5:00	0	-21.619	0	25	5
6/1/1990 6:00	0	-21.619	1	25	5
6/1/1990 7:00	1079.4	1031.5	68.001	25	5
6/1/1990 8:00	5333.9	5202.9	269	25	5
6/1/1990 9:00	9965.6	9675.3	469.01	26	5
6/1/1990 10:00	13330	12876	622.99	26	5
6/1/1990 11:00	14244	13738	668.99	26	5
6/1/1990 12:00	14347	13835	674.99	26	5
6/1/1990 13:00	9220.7	8963.2	436.01	26	3.9998
6/1/1990 14:00	5740	5598.7	272	26	3.9998
6/1/1990 15:00	4239.5	4136.4	203	26	3.9998
6/1/1990 16:00	4212.2	4109.5	208	26	3.9998
6/1/1990 17:00	1181.2	1131.9	71.001	26	5
6/1/1990 18:00	0	-21.619	1	26	5
6/1/1990 19:00	0	-21.619	0	26	5
6/1/1990 20:00	0	-21.619	0	25	6.0002
6/1/1990 21:00	0	-21.619	0	25	6.0002
6/1/1990 22:00	0	-21.619	0	25	6.0002
6/1/1990 23:00	0	-21.619	0	26	6.0002
7/1/1990 0:00	0	-21.619	0	26	6.0002
7/1/1990 1:00	0	-21.619	0	26	6.9999
7/1/1990 2:00	0	-21.619	0	25	6.0002
7/1/1990 3:00	0	-21.619	0	25	6.0002
7/1/1990 4:00	0	-21.619	0	25	6.0002
7/1/1990 5:00	0	-21.619	0	25	6.0002
7/1/1990 6:00	0	-21.619	1	26	6.0002
7/1/1990 7:00	769.19	726.18	41.001	26	6.0002
7/1/1990 8:00	4141.1	4039.9	204	26	6.0002
7/1/1990 9:00	9300.8	9038.8	437.01	26	6.0002
7/1/1990 10:00	11983	11600	558.99	26	5
7/1/1990 11:00	12881	12452	604.99	26	3.9998
7/1/1990 12:00	9887.6	9602.7	468.01	26	3.9998
7/1/1990 13:00	12553	12141	592.99	26	3.0001
7/1/1990 14:00	6956	6778.1	329	26	3.0001
7/1/1990 15:00	7649.6	7448.7	361.01	26	3.0001
7/1/1990 16:00	5405.1	5272.4	269	26	3.0001
7/1/1990 17:00	1133	1084.5	74.001	26	3.0001
7/1/1990 18:00	0	-21.619	1	26	3.0001

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
7/1/1990 19:00	0	-21.619	0	26	3.0001
7/1/1990 20:00	0	-21.619	0	26	3.9998
7/1/1990 21:00	0	-21.619	0	26	3.9998
7/1/1990 22:00	0	-21.619	0	26	3.9998
7/1/1990 23:00	0	-21.619	0	26	3.9998
8/1/1990 0:00	0	-21.619	0	26	3.9998
8/1/1990 1:00	0	-21.619	0	26	3.0001
8/1/1990 2:00	0	-21.619	0	26	3.0001
8/1/1990 3:00	0	-21.619	0	26	3.0001
8/1/1990 4:00	0	-21.619	0	26	3.0001
8/1/1990 5:00	0	-21.619	0	26	3.0001
8/1/1990 6:00	0	-21.619	1	26	3.0001
8/1/1990 7:00	1019.3	972.5	64.001	26	3.0001
8/1/1990 8:00	5307.8	5177.5	269	26	3.0001
8/1/1990 9:00	10004	9712.5	472.01	26	3.0001
8/1/1990 10:00	13178	12733	618.99	26	1.9999
8/1/1990 11:00	15014	14463	711	26	1.0002
8/1/1990 12:00	13364	12910	632.99	26	1.0002
8/1/1990 13:00	12421	12017	589.99	26	0
8/1/1990 14:00	7596.7	7397.7	360.01	26	1.0002
8/1/1990 15:00	5450.2	5316.8	260	26	1.0002
8/1/1990 16:00	4688.7	4574.7	232	26	1.9999
8/1/1990 17:00	1188.9	1139.5	76.001	26	1.9999
8/1/1990 18:00	0	-21.619	1	26	3.0001
8/1/1990 19:00	0	-21.619	0	26	3.0001
8/1/1990 20:00	0	-21.619	0	26	3.0001
8/1/1990 21:00	0	-21.619	0	26	3.0001
8/1/1990 22:00	0	-21.619	0	26	3.0001
8/1/1990 23:00	0	-21.619	0	26	3.0001
9/1/1990 0:00	0	-21.619	0	26	3.0001
9/1/1990 1:00	0	-21.619	0	26	3.0001
9/1/1990 2:00	0	-21.619	0	25	3.0001
9/1/1990 3:00	0	-21.619	0	25	3.0001
9/1/1990 4:00	0	-21.619	0	24	3.9998
9/1/1990 5:00	0	-21.619	0	25	5
9/1/1990 6:00	0	-21.619	1	24	6.0002
9/1/1990 7:00	448.45	409.71	24	24	6.0002
9/1/1990 8:00	1979.3	1916.1	97.001	24	6.9999
9/1/1990 9:00	1997.7	1934.1	98.001	24	8.0001
9/1/1990 10:00	5190.8	5064.3	246	24	8.9997
9/1/1990 11:00	11139	10797	517.99	24	8.9997
9/1/1990 12:00	13108	12666	606.99	24	8.9997
9/1/1990 13:00	15804	15200	736	25	8.9997
9/1/1990 14:00	11280	10931	524.99	25	8.9997
9/1/1990 15:00	4651.5	4538.6	221	25	8.0001
9/1/1990 16:00	2489.6	2418.7	121	25	8.0001
9/1/1990 17:00	790.52	747.1	44.001	25	8.9997
9/1/1990 18:00	0	-21.619	0	25	8.9997
9/1/1990 19:00	0	-21.619	0	25	8.9997
9/1/1990 20:00	0	-21.619	0	25	8.0001
9/1/1990 21:00	0	-21.619	0	25	8.0001
9/1/1990 22:00	0	-21.619	0	25	8.0001
9/1/1990 23:00	0	-21.619	0	25	8.0001
10/1/1990 0:00	0	-21.619	0	25	8.0001
10/1/1990 1:00	0	-21.619	0	25	8.0001
10/1/1990 2:00	0	-21.619	0	25	8.0001
10/1/1990 3:00	0	-21.619	0	26	8.0001
10/1/1990 4:00	0	-21.619	0	25	8.9997
10/1/1990 5:00	0	-21.619	0	25	8.9997
10/1/1990 6:00	0	-21.619	0	24	10

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
10/1/1990 7:00	501.37	461.93	26	24	11
10/1/1990 8:00	2531.9	2460.1	123	24	11
10/1/1990 9:00	3151.4	3069.7	151	24	11
10/1/1990 10:00	10901	10571	505.01	24	11
10/1/1990 11:00	14194	13691	656.99	24	11
10/1/1990 12:00	13975	13485	649.99	25	10
10/1/1990 13:00	12635	12218	588.99	25	10
10/1/1990 14:00	10185	9886.5	474.01	25	8.9997
10/1/1990 15:00	8498.1	8267.4	397.01	25	10
10/1/1990 16:00	4297.8	4193.3	209	25	8.9997
10/1/1990 17:00	1057.6	1010.1	61.001	25	8.9997
10/1/1990 18:00	0	-21.619	1	25	8.9997
10/1/1990 19:00	0	-21.619	0	26	8.9997
10/1/1990 20:00	0	-21.619	0	26	8.9997
10/1/1990 21:00	0	-21.619	0	26	8.9997
10/1/1990 22:00	0	-21.619	0	26	8.9997
10/1/1990 23:00	0	-21.619	0	26	8.9997
11/1/1990 0:00	0	-21.619	0	26	8.9997
11/1/1990 1:00	0	-21.619	0	26	10
11/1/1990 2:00	0	-21.619	0	26	10
11/1/1990 3:00	0	-21.619	0	26	10
11/1/1990 4:00	0	-21.619	0	26	10
11/1/1990 5:00	0	-21.619	0	26	10
11/1/1990 6:00	0	-21.619	1	26	8.9997
11/1/1990 7:00	858.26	813.93	48.001	26	8.9997
11/1/1990 8:00	4318.6	4213.5	213	26	10
11/1/1990 9:00	7092.7	6910.3	333.01	26	10
11/1/1990 10:00	9052.3	8801.2	424.01	26	10
11/1/1990 11:00	7804	7598.1	371.01	27	10
11/1/1990 12:00	9552.5	9281.7	451.01	27	10
11/1/1990 13:00	4723.9	4609.2	229	27	10
11/1/1990 14:00	5915.6	5769.5	281	26	8.9997
11/1/1990 15:00	7332.8	7142.6	346.01	27	8.9997
11/1/1990 16:00	1959.5	1897.1	96.001	27	8.9997
11/1/1990 17:00	436.77	398.32	23	27	8.9997
11/1/1990 18:00	0	-21.619	0	27	8.0001
11/1/1990 19:00	0	-21.619	0	27	8.0001
11/1/1990 20:00	0	-21.619	0	27	6.9999
11/1/1990 21:00	0	-21.619	0	27	6.9999
11/1/1990 22:00	0	-21.619	0	27	6.9999
11/1/1990 23:00	0	-21.619	0	27	6.9999
12/1/1990 0:00	0	-21.619	0	27	6.9999
12/1/1990 1:00	0	-21.619	0	27	6.9999
12/1/1990 2:00	0	-21.619	0	27	6.0002
12/1/1990 3:00	0	-21.619	0	27	6.9999
12/1/1990 4:00	0	-21.619	0	27	6.9999
12/1/1990 5:00	0	-21.619	0	27	8.0001
12/1/1990 6:00	0	-21.619	1	27	8.0001
12/1/1990 7:00	976.3	930.3	58.001	27	6.9999
12/1/1990 8:00	4789.8	4673.2	239	27	6.9999
12/1/1990 9:00	9912.5	9624.7	466.01	27	6.9999
12/1/1990 10:00	13553	13086	632.99	27	6.9999
12/1/1990 11:00	15795	15193	742	27	6.9999
12/1/1990 12:00	15044	14490	708	27	6.0002
12/1/1990 13:00	15824	15220	745	27	6.0002
12/1/1990 14:00	13916	13429	648.99	26	6.9999
12/1/1990 15:00	10516	10202	492.01	26	6.9999
12/1/1990 16:00	5803	5659.1	288	26	6.9999
12/1/1990 17:00	1256.9	1206.3	78.001	26	6.0002
12/1/1990 18:00	0	-21.619	2	26	6.0002

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
12/1/1990 19:00	0	-21.619	0	26	6.0002
12/1/1990 20:00	0	-21.619	0	26	6.0002
12/1/1990 21:00	0	-21.619	0	26	6.0002
12/1/1990 22:00	0	-21.619	0	26	6.9999
12/1/1990 23:00	0	-21.619	0	26	6.9999
13/01/90 00:00	0	-21.619	0	26	6.9999
13/01/90 01:00	0	-21.619	0	26	6.9999
13/01/90 02:00	0	-21.619	0	26	6.9999
13/01/90 03:00	0	-21.619	0	26	6.9999
13/01/90 04:00	0	-21.619	0	26	6.9999
13/01/90 05:00	0	-21.619	0	26	6.9999
13/01/90 06:00	0	-21.619	1	26	6.9999
13/01/90 07:00	959.32	913.47	57.001	26	6.9999
13/01/90 08:00	5144.5	5018.8	258	26	6.0002
13/01/90 09:00	9866.1	9580.2	463.01	26	6.0002
13/01/90 10:00	13602	13133	634.99	26	6.0002
13/01/90 11:00	15773	15172	742	26	5
13/01/90 12:00	16370	15729	771	26	5
13/01/90 13:00	13052	12614	612.99	26	3.9998
13/01/90 14:00	9182.2	8926	430.01	26	3.9998
13/01/90 15:00	2930.1	2852.4	142	26	3.0001
13/01/90 16:00	2781.1	2705.8	138	26	3.0001
13/01/90 17:00	723.07	680.7	44.001	26	3.0001
13/01/90 18:00	0	-21.619	2	26	3.0001
13/01/90 19:00	0	-21.619	0	26	3.0001
13/01/90 20:00	0	-21.619	0	26	3.0001
13/01/90 21:00	0	-21.619	0	26	3.0001
13/01/90 22:00	0	-21.619	0	26	3.0001
13/01/90 23:00	0	-21.619	0	26	1.9999
14/01/90 00:00	0	-21.619	0	26	1.9999
14/01/90 01:00	0	-21.619	0	26	1.9999
14/01/90 02:00	0	-21.619	0	26	1.9999
14/01/90 03:00	0	-21.619	0	25	1.9999
14/01/90 04:00	0	-21.619	0	25	1.9999
14/01/90 05:00	0	-21.619	0	25	1.0002
14/01/90 06:00	0	-21.619	1	25	1.0002
14/01/90 07:00	984.68	938.37	59.001	25	1.0002
14/01/90 08:00	5157.5	5031.4	258	25	1.0002
14/01/90 09:00	9503.3	9232.8	447.01	25	1.0002
14/01/90 10:00	13100	12659	613.99	25	1.0002
14/01/90 11:00	15879	15272	750	25	1.9999
14/01/90 12:00	16673	16013	793	26	1.9999
14/01/90 13:00	16095	15474	763	26	1.9999
14/01/90 14:00	14086	13589	662.99	26	1.9999
14/01/90 15:00	10699	10377	504.01	26	1.9999
14/01/90 16:00	6037.7	5887.1	300	26	1.9999
14/01/90 17:00	1281.4	1230.5	81.001	26	1.9999
14/01/90 18:00	0	-21.619	2	26	1.9999
14/01/90 19:00	0	-21.619	0	26	3.0001
14/01/90 20:00	0	-21.619	0	26	3.0001
14/01/90 21:00	0	-21.619	0	26	3.0001
14/01/90 22:00	0	-21.619	0	26	3.0001
14/01/90 23:00	0	-21.619	0	26	3.0001
15/01/90 00:00	0	-21.619	0	26	3.0001
15/01/90 01:00	0	-21.619	0	26	3.0001
15/01/90 02:00	0	-21.619	0	26	1.9999
15/01/90 03:00	0	-21.619	0	25	1.9999
15/01/90 04:00	0	-21.619	0	25	1.9999
15/01/90 05:00	0	-21.619	0	26	1.9999
15/01/90 06:00	0	-21.619	1	26	1.9999

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
15/01/90 07:00	1002.6	956.06	63.001	26	1.9999
15/01/90 08:00	5176.6	5049.9	262	26	3.0001
15/01/90 09:00	10083	9788	475.01	26	3.0001
15/01/90 10:00	13629	13159	638.99	26	3.0001
15/01/90 11:00	14613	14086	687.99	26	3.0001
15/01/90 12:00	16718	16054	793	26	3.0001
15/01/90 13:00	14731	14197	695.99	26	1.9999
15/01/90 14:00	11522	11162	540.99	26	1.9999
15/01/90 15:00	9101.3	8847.7	428.01	26	1.9999
15/01/90 16:00	5362.6	5231.2	262	25	1.9999
15/01/90 17:00	708.55	666.41	38.001	26	1.9999
15/01/90 18:00	0	-21.619	1	26	1.9999
15/01/90 19:00	0	-21.619	0	26	1.9999
15/01/90 20:00	0	-21.619	0	26	1.9999
15/01/90 21:00	0	-21.619	0	26	1.0002
15/01/90 22:00	0	-21.619	0	26	1.0002
15/01/90 23:00	0	-21.619	0	26	1.0002
16/01/90 00:00	0	-21.619	0	26	1.0002
16/01/90 01:00	0	-21.619	0	25	1.0002
16/01/90 02:00	0	-21.619	0	25	1.0002
16/01/90 03:00	0	-21.619	0	25	1.0002
16/01/90 04:00	0	-21.619	0	25	1.9999
16/01/90 05:00	0	-21.619	0	25	3.0001
16/01/90 06:00	0	-21.619	1	25	1.9999
16/01/90 07:00	841.71	797.57	45.001	25	1.9999
16/01/90 08:00	3518.2	3430	172	25	1.9999
16/01/90 09:00	4315.2	4210.4	206	25	1.9999
16/01/90 10:00	9487.1	9218.6	445.01	25	1.9999
16/01/90 11:00	11452	11095	539.99	26	3.0001
16/01/90 12:00	12778	12354	603.99	26	3.0001
16/01/90 13:00	12472	12064	586.99	25	3.0001
16/01/90 14:00	6940.9	6763.5	329	25	3.0001
16/01/90 15:00	4021.5	3923.4	193	25	3.9998
16/01/90 16:00	2289.7	2222.1	111	25	3.9998
16/01/90 17:00	481.77	442.65	25	25	5
16/01/90 18:00	0	-21.619	1	25	6.0002
16/01/90 19:00	0	-21.619	0	25	6.0002
16/01/90 20:00	0	-21.619	0	25	6.9999
16/01/90 21:00	0	-21.619	0	25	6.9999
16/01/90 22:00	0	-21.619	0	25	6.9999
16/01/90 23:00	0	-21.619	0	25	6.9999
17/01/90 00:00	0	-21.619	0	25	6.9999
17/01/90 01:00	0	-21.619	0	25	6.0002
17/01/90 02:00	0	-21.619	0	25	6.0002
17/01/90 03:00	0	-21.619	0	25	6.0002
17/01/90 04:00	0	-21.619	0	25	5
17/01/90 05:00	0	-21.619	0	25	5
17/01/90 06:00	0	-21.619	1	25	5
17/01/90 07:00	620.41	579.42	32	25	6.0002
17/01/90 08:00	2422.3	2352.5	117	25	6.0002
17/01/90 09:00	4741.4	4626.3	226	25	6.0002
17/01/90 10:00	7560.6	7362.9	357.01	25	6.0002
17/01/90 11:00	6400	6239.5	305	25	5
17/01/90 12:00	7236	7049.1	347.01	25	5
17/01/90 13:00	6480.7	6317.7	311	25	5
17/01/90 14:00	7479.5	7284.5	355.01	26	5
17/01/90 15:00	6479.4	6316.4	307	26	5
17/01/90 16:00	3542.4	3453.8	171	26	5
17/01/90 17:00	961.54	915.69	49.001	26	5
17/01/90 18:00	0	-21.619	2	26	5

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
17/01/90 19:00	0	-21.619	0	26	5
17/01/90 20:00	0	-21.619	0	26	5
17/01/90 21:00	0	-21.619	0	26	6.0002
17/01/90 22:00	0	-21.619	0	25	5
17/01/90 23:00	0	-21.619	0	25	5
18/01/90 00:00	0	-21.619	0	25	5
18/01/90 01:00	0	-21.619	0	24	5
18/01/90 02:00	0	-21.619	0	24	5
18/01/90 03:00	0	-21.619	0	24	5
18/01/90 04:00	0	-21.619	0	24	6.0002
18/01/90 05:00	0	-21.619	0	25	6.9999
18/01/90 06:00	0	-21.619	1	25	8.9997
18/01/90 07:00	715.2	672.87	38.001	25	10
18/01/90 08:00	2335.5	2267	114	25	10
18/01/90 09:00	3915.5	3819.8	188	26	10
18/01/90 10:00	7536.6	7339.7	354.01	26	10
18/01/90 11:00	7341.4	7150.9	346.01	26	10
18/01/90 12:00	11071	10732	520.99	26	8.9997
18/01/90 13:00	10722	10399	504.01	26	8.9997
18/01/90 14:00	8521.8	8290.4	400.01	26	8.9997
18/01/90 15:00	8130.3	7912.8	381.01	26	8.0001
18/01/90 16:00	2809.1	2733.3	136	26	8.0001
18/01/90 17:00	827.64	783.78	43.001	26	6.9999
18/01/90 18:00	0	-21.619	2	26	6.9999
18/01/90 19:00	0	-21.619	0	26	6.9999
18/01/90 20:00	0	-21.619	0	26	8.0001
18/01/90 21:00	0	-21.619	0	26	8.0001
18/01/90 22:00	0	-21.619	0	26	8.0001
18/01/90 23:00	0	-21.619	0	26	8.9997
19/01/90 00:00	0	-21.619	0	26	8.9997
19/01/90 01:00	0	-21.619	0	26	8.9997
19/01/90 02:00	0	-21.619	0	26	10
19/01/90 03:00	0	-21.619	0	26	10
19/01/90 04:00	0	-21.619	0	26	10
19/01/90 05:00	0	-21.619	0	25	11
19/01/90 06:00	0	-21.619	0	25	11
19/01/90 07:00	438.52	399.96	23	25	11
19/01/90 08:00	4284.6	4180.3	209	25	12
19/01/90 09:00	4727.3	4612.5	224	25	12
19/01/90 10:00	6548.5	6383.4	309	25	11
19/01/90 11:00	7078.4	6896.6	335.01	25	11
19/01/90 12:00	14419	13903	670.99	25	11
19/01/90 13:00	15402	14824	717	26	11
19/01/90 14:00	13630	13160	631.99	26	11
19/01/90 15:00	10538	10223	490.01	26	11
19/01/90 16:00	5811.8	5668	283	26	11
19/01/90 17:00	1518.3	1463.4	90.001	26	10
19/01/90 18:00	0	-21.619	2	26	11
19/01/90 19:00	0	-21.619	0	26	11
19/01/90 20:00	0	-21.619	0	26	11
19/01/90 21:00	0	-21.619	0	27	12
19/01/90 22:00	0	-21.619	0	26	12
19/01/90 23:00	0	-21.619	0	26	12
20/01/90 00:00	0	-21.619	0	26	12
20/01/90 01:00	0	-21.619	0	26	12
20/01/90 02:00	0	-21.619	0	26	12
20/01/90 03:00	0	-21.619	0	25	12
20/01/90 04:00	0	-21.619	0	25	12
20/01/90 05:00	0	-21.619	0	26	10
20/01/90 06:00	0	-21.619	0	26	10

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
20/01/90 07:00	564.59	524.41	30	26	10
20/01/90 08:00	3869.9	3774.7	189	26	10
20/01/90 09:00	6502.8	6339	306	26	11
20/01/90 10:00	7651.9	7451.1	361.01	26	11
20/01/90 11:00	5264.3	5135.9	252	26	11
20/01/90 12:00	8938.9	8692	417.01	26	10
20/01/90 13:00	9366.7	9103.4	440.01	26	10
20/01/90 14:00	6054.8	5904.5	288	26	10
20/01/90 15:00	4228.7	4125.9	202	26	10
20/01/90 16:00	2316.5	2248.3	112	25	10
20/01/90 17:00	880.08	835.34	46.001	25	11
20/01/90 18:00	0	-21.619	2	26	11
20/01/90 19:00	0	-21.619	0	26	11
20/01/90 20:00	0	-21.619	0	26	12
20/01/90 21:00	0	-21.619	0	26	12
20/01/90 22:00	0	-21.619	0	26	12
20/01/90 23:00	0	-21.619	0	25	12
21/01/90 00:00	0	-21.619	0	25	12
21/01/90 01:00	0	-21.619	0	25	12
21/01/90 02:00	0	-21.619	0	25	11
21/01/90 03:00	0	-21.619	0	25	11
21/01/90 04:00	0	-21.619	0	25	11
21/01/90 05:00	0	-21.619	0	25	10
21/01/90 06:00	0	-21.619	1	25	10
21/01/90 07:00	1026.1	979.13	61.001	25	10
21/01/90 08:00	4516.7	4406.9	222	25	10
21/01/90 09:00	8559.2	8326.2	401.01	26	10
21/01/90 10:00	8868	8623.8	414.01	26	8.9997
21/01/90 11:00	14103	13606	658.99	26	8.9997
21/01/90 12:00	12058	11671	564.99	26	8.9997
21/01/90 13:00	13089	12648	610.99	26	8.9997
21/01/90 14:00	13715	13240	638.99	26	8.0001
21/01/90 15:00	9446.3	9178.9	441.01	26	8.0001
21/01/90 16:00	4768.2	4652.3	230	26	8.9997
21/01/90 17:00	1317.6	1265.9	72.001	25	8.9997
21/01/90 18:00	0	-21.619	3	25	8.9997
21/01/90 19:00	0	-21.619	0	25	8.9997
21/01/90 20:00	0	-21.619	0	25	8.9997
21/01/90 21:00	0	-21.619	0	26	8.0001
21/01/90 22:00	0	-21.619	0	26	8.0001
21/01/90 23:00	0	-21.619	0	26	8.0001
22/01/90 00:00	0	-21.619	0	26	6.9999
22/01/90 01:00	0	-21.619	0	26	6.9999
22/01/90 02:00	0	-21.619	0	26	6.9999
22/01/90 03:00	0	-21.619	0	26	6.0002
22/01/90 04:00	0	-21.619	0	26	6.9999
22/01/90 05:00	0	-21.619	0	26	6.0002
22/01/90 06:00	0	-21.619	1	26	6.0002
22/01/90 07:00	859.55	815.22	46.001	26	6.9999
22/01/90 08:00	3799.8	3706	186	26	6.9999
22/01/90 09:00	10219	9918.6	479.01	26	6.0002
22/01/90 10:00	14062	13567	656.99	26	6.0002
22/01/90 11:00	15787	15186	741	26	6.0002
22/01/90 12:00	17140	16446	812	26	5
22/01/90 13:00	16367	15727	776	27	3.9998
22/01/90 14:00	14634	14104	686.99	26	3.9998
22/01/90 15:00	11283	10933	528.99	26	3.9998
22/01/90 16:00	6615	6447.2	325	26	3.9998
22/01/90 17:00	1720	1661.9	109	26	3.9998
22/01/90 18:00	0	-21.619	3	26	3.9998

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
22/01/90 19:00	0	-21.619	0	26	3.9998
22/01/90 20:00	0	-21.619	0	26	5
22/01/90 21:00	0	-21.619	0	26	5
22/01/90 22:00	0	-21.619	0	26	5
22/01/90 23:00	0	-21.619	0	26	6.0002
23/01/90 00:00	0	-21.619	0	26	6.0002
23/01/90 01:00	0	-21.619	0	26	6.0002
23/01/90 02:00	0	-21.619	0	26	6.0002
23/01/90 03:00	0	-21.619	0	26	6.0002
23/01/90 04:00	0	-21.619	0	26	6.0002
23/01/90 05:00	0	-21.619	0	26	5
23/01/90 06:00	0	-21.619	1	26	5
23/01/90 07:00	1082.2	1034.5	68.001	26	5
23/01/90 08:00	5315.3	5185.2	264	26	5
23/01/90 09:00	5023.2	4901	238	26	6.0002
23/01/90 10:00	12495	12085	583.99	26	6.0002
23/01/90 11:00	16242	15610	763	26	6.0002
23/01/90 12:00	17339	16631	820	26	6.0002
23/01/90 13:00	16748	16082	791	26	5
23/01/90 14:00	14766	14228	691.99	26	5
23/01/90 15:00	11366	11012	531.99	26	5
23/01/90 16:00	6719.8	6548.9	328	26	5
23/01/90 17:00	1690.8	1633	99.002	26	5
23/01/90 18:00	0	-21.619	2	26	6.0002
23/01/90 19:00	0	-21.619	0	26	6.0002
23/01/90 20:00	0	-21.619	0	26	6.0002
23/01/90 21:00	0	-21.619	0	26	6.0002
23/01/90 22:00	0	-21.619	0	26	6.0002
23/01/90 23:00	0	-21.619	0	26	6.0002
24/01/90 00:00	0	-21.619	0	26	5
24/01/90 01:00	0	-21.619	0	26	5
24/01/90 02:00	0	-21.619	0	26	5
24/01/90 03:00	0	-21.619	0	26	5
24/01/90 04:00	0	-21.619	0	26	6.9999
24/01/90 05:00	0	-21.619	0	26	6.9999
24/01/90 06:00	0	-21.619	1	26	6.9999
24/01/90 07:00	1025.4	978.51	61.001	26	6.9999
24/01/90 08:00	5244.7	5116.4	261	26	6.9999
24/01/90 09:00	10150	9852.7	475.01	26	6.9999
24/01/90 10:00	13593	13125	632.99	26	6.9999
24/01/90 11:00	16351	15711	767	26	6.9999
24/01/90 12:00	17219	16519	810	26	8.0001
24/01/90 13:00	16346	15706	766	26	8.0001
24/01/90 14:00	14724	14188	685.99	26	8.0001
24/01/90 15:00	11262	10913	523.99	26	8.9997
24/01/90 16:00	6405.5	6244.4	310	26	8.9997
24/01/90 17:00	1510	1455.2	84.001	26	8.0001
24/01/90 18:00	0	-21.619	1	26	8.0001
24/01/90 19:00	0	-21.619	0	26	8.0001
24/01/90 20:00	0	-21.619	0	26	8.0001
24/01/90 21:00	0	-21.619	0	26	8.0001
24/01/90 22:00	0	-21.619	0	26	8.0001
24/01/90 23:00	0	-21.619	0	26	6.9999
25/01/90 00:00	0	-21.619	0	26	6.9999
25/01/90 01:00	0	-21.619	0	26	6.9999
25/01/90 02:00	0	-21.619	0	26	8.0001
25/01/90 03:00	0	-21.619	0	26	8.0001
25/01/90 04:00	0	-21.619	0	26	8.0001
25/01/90 05:00	0	-21.619	0	26	8.0001
25/01/90 06:00	0	-21.619	1	26	8.0001

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
25/01/90 07:00	979.37	933.23	57.001	26	8.0001
25/01/90 08:00	5212.2	5084.8	259	26	8.0001
25/01/90 09:00	9659.4	9383	452.01	26	8.0001
25/01/90 10:00	10845	10517	507.01	26	8.0001
25/01/90 11:00	13981	13492	655.99	27	8.0001
25/01/90 12:00	14791	14252	695.99	27	6.9999
25/01/90 13:00	11631	11266	547.99	27	6.9999
25/01/90 14:00	11138	10796	522.99	27	6.9999
25/01/90 15:00	8773.2	8532.4	412.01	27	6.9999
25/01/90 16:00	4986.7	4865.3	242	27	6.9999
25/01/90 17:00	1600.2	1544	93.001	27	6.0002
25/01/90 18:00	0	-21.619	3	27	6.0002
25/01/90 19:00	0	-21.619	0	27	6.0002
25/01/90 20:00	0	-21.619	0	27	6.9999
25/01/90 21:00	0	-21.619	0	26	6.9999
25/01/90 22:00	0	-21.619	0	26	6.9999
25/01/90 23:00	0	-21.619	0	26	6.9999
26/01/90 00:00	0	-21.619	0	26	6.9999
26/01/90 01:00	0	-21.619	0	26	6.9999
26/01/90 02:00	0	-21.619	0	26	6.9999
26/01/90 03:00	0	-21.619	0	26	6.0002
26/01/90 04:00	0	-21.619	0	26	6.0002
26/01/90 05:00	0	-21.619	0	26	5
26/01/90 06:00	0	-21.619	1	26	5
26/01/90 07:00	1009.7	963.05	63.001	26	5
26/01/90 08:00	5074.2	4950.5	252	26	5
26/01/90 09:00	10272	9969	481.01	26	6.0002
26/01/90 10:00	9504.2	9234.9	444.01	26	6.0002
26/01/90 11:00	12145	11754	569.99	26	6.0002
26/01/90 12:00	14255	13749	669.99	26	6.0002
26/01/90 13:00	9429.4	9163.4	443.01	27	6.0002
26/01/90 14:00	14681	14149	689.99	27	5
26/01/90 15:00	11391	11036	533.99	27	5
26/01/90 16:00	6694.6	6524.5	327	27	6.0002
26/01/90 17:00	1894.6	1833.9	115	27	6.9999
26/01/90 18:00	0	-21.619	4.0001	27	6.9999
26/01/90 19:00	0	-21.619	0	27	6.9999
26/01/90 20:00	0	-21.619	0	27	6.9999
26/01/90 21:00	0	-21.619	0	26	6.9999
26/01/90 22:00	0	-21.619	0	26	6.9999
26/01/90 23:00	0	-21.619	0	26	6.9999
27/01/90 00:00	0	-21.619	0	26	6.9999
27/01/90 01:00	0	-21.619	0	26	6.9999
27/01/90 02:00	0	-21.619	0	26	6.9999
27/01/90 03:00	0	-21.619	0	26	6.9999
27/01/90 04:00	0	-21.619	0	26	6.9999
27/01/90 05:00	0	-21.619	0	26	6.0002
27/01/90 06:00	0	-21.619	1	26	6.0002
27/01/90 07:00	1089.5	1041.6	68.001	26	6.9999
27/01/90 08:00	5626.2	5487.3	282	26	6.9999
27/01/90 09:00	10318	10014	484.01	27	6.9999
27/01/90 10:00	10556	10241	495.01	27	6.9999
27/01/90 11:00	13523	13059	634.99	27	6.9999
27/01/90 12:00	12940	12508	609.99	27	6.9999
27/01/90 13:00	15007	14455	706	27	6.9999
27/01/90 14:00	14336	13825	670.99	27	6.9999
27/01/90 15:00	11617	11252	543.99	27	6.0002
27/01/90 16:00	6964	6785.3	340.01	27	6.0002
27/01/90 17:00	1956	1894.4	119	27	6.0002
27/01/90 18:00	0	-21.619	4.0001	27	6.0002

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
27/01/90 19:00	0	-21.619	0	27	6.0002
27/01/90 20:00	0	-21.619	0	27	6.0002
27/01/90 21:00	0	-21.619	0	26	6.0002
27/01/90 22:00	0	-21.619	0	27	6.0002
27/01/90 23:00	0	-21.619	0	26	6.0002
28/01/90 00:00	0	-21.619	0	26	6.0002
28/01/90 01:00	0	-21.619	0	26	6.0002
28/01/90 02:00	0	-21.619	0	26	6.0002
28/01/90 03:00	0	-21.619	0	26	6.0002
28/01/90 04:00	0	-21.619	0	26	6.0002
28/01/90 05:00	0	-21.619	0	26	6.0002
28/01/90 06:00	0	-21.619	1	26	6.0002
28/01/90 07:00	1109.2	1061	67.001	26	6.9999
28/01/90 08:00	5597	5459	280	26	8.0001
28/01/90 09:00	10534	10220	493.01	26	6.9999
28/01/90 10:00	14375	13861	670.99	26	6.9999
28/01/90 11:00	16747	16080	788	26	6.9999
28/01/90 12:00	17624	16896	835	26	6.0002
28/01/90 13:00	17104	16413	808	26	6.0002
28/01/90 14:00	15138	14577	709	26	6.0002
28/01/90 15:00	11753	11381	548.99	26	6.0002
28/01/90 16:00	7069.6	6887.6	343.01	26	6.9999
28/01/90 17:00	1916.9	1855.6	113	26	6.9999
28/01/90 18:00	0	-21.619	3	26	8.0001
28/01/90 19:00	0	-21.619	0	26	8.0001
28/01/90 20:00	0	-21.619	0	26	6.9999
28/01/90 21:00	0	-21.619	0	26	6.9999
28/01/90 22:00	0	-21.619	0	26	6.9999
28/01/90 23:00	0	-21.619	0	26	6.9999
29/01/90 00:00	0	-21.619	0	26	6.9999
29/01/90 01:00	0	-21.619	0	26	6.9999
29/01/90 02:00	0	-21.619	0	26	8.0001
29/01/90 03:00	0	-21.619	0	25	8.9997
29/01/90 04:00	0	-21.619	0	24	10
29/01/90 05:00	0	-21.619	0	24	10
29/01/90 06:00	0	-21.619	0	24	11
29/01/90 07:00	419.94	381.57	22	24	12
29/01/90 08:00	2536.2	2464.3	122	24	12
29/01/90 09:00	7871	7662.7	367.01	24	12
29/01/90 10:00	12249	11852	565.99	24	11
29/01/90 11:00	7144.4	6960.5	338.01	25	11
29/01/90 12:00	6865.5	6690.5	326	25	11
29/01/90 13:00	12691	12272	592.99	25	10
29/01/90 14:00	11234	10887	518.99	24	10
29/01/90 15:00	11313	10962	523.99	24	10
29/01/90 16:00	5904	5757.9	282	24	10
29/01/90 17:00	1696.2	1637.8	92.001	24	8.9997
29/01/90 18:00	0	-21.619	3	25	8.9997
29/01/90 19:00	0	-21.619	0	25	8.9997
29/01/90 20:00	0	-21.619	0	25	10
29/01/90 21:00	0	-21.619	0	25	10
29/01/90 22:00	0	-21.619	0	25	10
29/01/90 23:00	0	-21.619	0	25	10
30/01/90 00:00	0	-21.619	0	25	10
30/01/90 01:00	0	-21.619	0	25	10
30/01/90 02:00	0	-21.619	0	25	10
30/01/90 03:00	0	-21.619	0	24	10
30/01/90 04:00	0	-21.619	0	24	10
30/01/90 05:00	0	-21.619	0	24	8.9997
30/01/90 06:00	0	-21.619	1	24	8.9997

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
30/01/90 07:00	997.69	951.05	56.001	24	8.9997
30/01/90 08:00	5460.7	5326.7	268	24	10
30/01/90 09:00	10152	9854.4	472.01	25	10
30/01/90 10:00	10862	10533	505.01	25	10
30/01/90 11:00	14868	14325	692.99	25	10
30/01/90 12:00	17667	16934	829	25	10
30/01/90 13:00	15976	15361	744	25	10
30/01/90 14:00	14601	14073	677.99	25	8.9997
30/01/90 15:00	10963	10629	508.01	25	8.9997
30/01/90 16:00	6813.4	6639.6	328	25	8.9997
30/01/90 17:00	2068.1	2004.3	121	26	8.0001
30/01/90 18:00	0	-21.619	4.0001	26	8.9997
30/01/90 19:00	0	-21.619	0	26	8.9997
30/01/90 20:00	0	-21.619	0	26	8.9997
30/01/90 21:00	0	-21.619	0	26	8.9997
30/01/90 22:00	0	-21.619	0	26	8.9997
30/01/90 23:00	0	-21.619	0	26	8.9997
31/01/90 00:00	0	-21.619	0	26	8.9997
31/01/90 01:00	0	-21.619	0	26	8.9997
31/01/90 02:00	0	-21.619	0	26	8.9997
31/01/90 03:00	0	-21.619	0	26	8.9997
31/01/90 04:00	0	-21.619	0	26	8.0001
31/01/90 05:00	0	-21.619	0	25	8.0001
31/01/90 06:00	0	-21.619	1	25	8.9997
31/01/90 07:00	988.73	942.23	57.001	24	8.9997
31/01/90 08:00	4465.8	4357.3	218	25	8.9997
31/01/90 09:00	6932.5	6755.2	324	25	8.9997
31/01/90 10:00	6276.9	6120	295	25	8.9997
31/01/90 11:00	12096	11708	564.99	25	8.9997
31/01/90 12:00	13329	12876	619.99	25	8.0001
31/01/90 13:00	16607	15949	775	25	8.9997
31/01/90 14:00	15075	14518	699.99	25	8.9997
31/01/90 15:00	9423.8	9157.4	437.01	25	8.0001
31/01/90 16:00	7103.8	6920.8	342.01	26	8.0001
31/01/90 17:00	2163	2097.7	127	26	6.9999
31/01/90 18:00	0	-21.619	4.0001	26	6.9999
31/01/90 19:00	0	-21.619	0	26	6.9999
31/01/90 20:00	0	-21.619	0	26	6.0002
31/01/90 21:00	0	-21.619	0	26	6.0002
31/01/90 22:00	0	-21.619	0	26	6.0002
31/01/90 23:00	0	-21.619	0	26	5
1/2/1990 0:00	0	-21.619	0	25	6.9999
1/2/1990 1:00	0	-21.619	0	25	6.0002
1/2/1990 2:00	0	-21.619	0	25	6.9999
1/2/1990 3:00	0	-21.619	0	25	6.9999
1/2/1990 4:00	0	-21.619	0	26	6.9999
1/2/1990 5:00	0	-21.619	0	26	6.0002
1/2/1990 6:00	0	-21.619	0	26	6.0002
1/2/1990 7:00	1004.4	957.86	61.001	26	6.9999
1/2/1990 8:00	5473.2	5338.9	273	26	6.9999
1/2/1990 9:00	8709.4	8471	413.01	26	6.9999
1/2/1990 10:00	12493	12084	589.99	27	8.0001
1/2/1990 11:00	15602	15013	741	27	8.0001
1/2/1990 12:00	14476	13956	686.99	27	8.9997
1/2/1990 13:00	13340	12886	631.99	27	8.9997
1/2/1990 14:00	10502	10189	500.01	27	8.9997
1/2/1990 15:00	8248.4	8026.8	391.01	27	8.9997
1/2/1990 16:00	4334.9	4229.6	211	27	8.9997
1/2/1990 17:00	1316.7	1265.3	70.001	27	8.9997
1/2/1990 18:00	0	-21.619	3	27	8.9997

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
1/2/1990 19:00	0	-21.619	0	27	8.9997
1/2/1990 20:00	0	-21.619	0	27	8.0001
1/2/1990 21:00	0	-21.619	0	27	6.9999
1/2/1990 22:00	0	-21.619	0	27	8.0001
1/2/1990 23:00	0	-21.619	0	27	8.0001
2/2/1990 0:00	0	-21.619	0	27	8.0001
2/2/1990 1:00	0	-21.619	0	27	8.0001
2/2/1990 2:00	0	-21.619	0	26	8.0001
2/2/1990 3:00	0	-21.619	0	26	8.0001
2/2/1990 4:00	0	-21.619	0	26	8.0001
2/2/1990 5:00	0	-21.619	0	26	8.0001
2/2/1990 6:00	0	-21.619	1	26	8.0001
2/2/1990 7:00	1076.4	1028.7	67.001	26	8.0001
2/2/1990 8:00	5614.7	5476.3	283	27	8.0001
2/2/1990 9:00	10633	10315	503.01	27	8.9997
2/2/1990 10:00	14424	13907	680.99	27	8.9997
2/2/1990 11:00	16812	16140	800	27	8.9997
2/2/1990 12:00	17560	16836	841	27	8.0001
2/2/1990 13:00	15643	15051	743	27	8.0001
2/2/1990 14:00	14359	13846	677.99	27	8.9997
2/2/1990 15:00	9998.5	9708.1	472.01	27	8.0001
2/2/1990 16:00	6735.3	6564.1	328	27	8.9997
2/2/1990 17:00	2033.9	1970.7	116	27	8.9997
2/2/1990 18:00	0	-21.619	3	27	8.0001
2/2/1990 19:00	0	-21.619	0	27	8.0001
2/2/1990 20:00	0	-21.619	0	27	8.0001
2/2/1990 21:00	0	-21.619	0	27	8.0001
2/2/1990 22:00	0	-21.619	0	27	8.0001
2/2/1990 23:00	0	-21.619	0	27	8.0001
3/2/1990 0:00	0	-21.619	0	27	8.0001
3/2/1990 1:00	0	-21.619	0	27	8.0001
3/2/1990 2:00	0	-21.619	0	26	8.0001
3/2/1990 3:00	0	-21.619	0	26	8.0001
3/2/1990 4:00	0	-21.619	0	27	6.9999
3/2/1990 5:00	0	-21.619	0	26	6.0002
3/2/1990 6:00	0	-21.619	1	26	6.9999
3/2/1990 7:00	1209.8	1160	71.001	26	6.9999
3/2/1990 8:00	4622.9	4510.6	228	26	8.0001
3/2/1990 9:00	7061.8	6880.5	336.01	26	8.0001
3/2/1990 10:00	9961.1	9673	471.01	26	8.0001
3/2/1990 11:00	15268	14700	726	27	8.0001
3/2/1990 12:00	16148	15522	768	27	8.0001
3/2/1990 13:00	16837	16165	804	27	6.9999
3/2/1990 14:00	15296	14726	724	26	6.9999
3/2/1990 15:00	11796	11422	555.99	26	6.0002
3/2/1990 16:00	7058.2	6876.7	345.01	27	5
3/2/1990 17:00	2158.4	2093.3	125	27	3.9998
3/2/1990 18:00	0	-21.619	4.0001	27	5
3/2/1990 19:00	0	-21.619	0	26	5
3/2/1990 20:00	0	-21.619	0	26	6.0002
3/2/1990 21:00	0	-21.619	0	26	6.9999
3/2/1990 22:00	0	-21.619	0	26	6.9999
3/2/1990 23:00	0	-21.619	0	26	6.9999
4/2/1990 0:00	0	-21.619	0	26	6.9999
4/2/1990 1:00	0	-21.619	0	26	6.9999
4/2/1990 2:00	0	-21.619	0	26	6.9999
4/2/1990 3:00	0	-21.619	0	26	6.0002
4/2/1990 4:00	0	-21.619	0	26	6.9999
4/2/1990 5:00	0	-21.619	0	26	6.0002
4/2/1990 6:00	0	-21.619	0	26	6.9999

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
4/2/1990 7:00	270.44	233.99	15	26	6.9999
4/2/1990 8:00	1228.6	1178.5	62.001	26	6.9999
4/2/1990 9:00	1724.7	1666.3	87.001	26	6.9999
4/2/1990 10:00	2267.7	2200.5	114	26	6.9999
4/2/1990 11:00	2745.1	2670.6	138	27	6.0002
4/2/1990 12:00	3771.1	3678.3	187	26	6.0002
4/2/1990 13:00	4866.6	4748.4	237	26	5
4/2/1990 14:00	11468	11110	544.99	26	5
4/2/1990 15:00	10232	9931.3	483.01	26	5
4/2/1990 16:00	7381.7	7189.6	359.01	26	5
4/2/1990 17:00	2254	2187.1	131	26	5
4/2/1990 18:00	0	-21.619	4.0001	26	5
4/2/1990 19:00	0	-21.619	0	26	5
4/2/1990 20:00	0	-21.619	0	26	3.9998
4/2/1990 21:00	0	-21.619	0	26	3.9998
4/2/1990 22:00	0	-21.619	0	26	3.9998
4/2/1990 23:00	0	-21.619	0	26	3.9998
5/2/1990 0:00	0	-21.619	0	26	3.9998
5/2/1990 1:00	0	-21.619	0	26	3.9998
5/2/1990 2:00	0	-21.619	0	26	3.9998
5/2/1990 3:00	0	-21.619	0	26	3.9998
5/2/1990 4:00	0	-21.619	0	25	5
5/2/1990 5:00	0	-21.619	0	26	5
5/2/1990 6:00	0	-21.619	0	26	5
5/2/1990 7:00	901.75	856.79	54.001	26	5
5/2/1990 8:00	4669.8	4556.4	231	26	5
5/2/1990 9:00	10085	9790.3	477.01	26	5
5/2/1990 10:00	14495	13974	685.99	26	5
5/2/1990 11:00	16841	16168	805	26	5
5/2/1990 12:00	17848	17104	858	26	5
5/2/1990 13:00	17355	16647	832	26	5
5/2/1990 14:00	15378	14804	732	26	3.9998
5/2/1990 15:00	12054	11667	570.99	26	3.0001
5/2/1990 16:00	7417.9	7224.5	362.01	26	3.0001
5/2/1990 17:00	2291.5	2224	133	26	3.0001
5/2/1990 18:00	0	-21.619	4.0001	26	3.0001
5/2/1990 19:00	0	-21.619	0	26	3.0001
5/2/1990 20:00	0	-21.619	0	26	3.9998
5/2/1990 21:00	0	-21.619	0	26	3.9998
5/2/1990 22:00	0	-21.619	0	26	3.9998
5/2/1990 23:00	0	-21.619	0	26	5
6/2/1990 0:00	0	-21.619	0	26	6.0002
6/2/1990 1:00	0	-21.619	0	26	8.0001
6/2/1990 2:00	0	-21.619	0	25	8.9997
6/2/1990 3:00	0	-21.619	0	25	8.9997
6/2/1990 4:00	0	-21.619	0	26	8.9997
6/2/1990 5:00	0	-21.619	0	26	8.9997
6/2/1990 6:00	0	-21.619	0	26	8.9997
6/2/1990 7:00	461.43	422.62	25	26	8.9997
6/2/1990 8:00	4904.9	4785.6	241	26	8.9997
6/2/1990 9:00	5224.9	5097.5	251	26	8.9997
6/2/1990 10:00	8179.4	7960.4	391.01	26	8.9997
6/2/1990 11:00	15140	14580	716	26	10
6/2/1990 12:00	16683	16020	790	26	10
6/2/1990 13:00	16721	16055	791	26	10
6/2/1990 14:00	14441	13923	678.99	26	10
6/2/1990 15:00	11168	10825	523.99	26	8.9997
6/2/1990 16:00	6500.2	6336.4	314	26	8.9997
6/2/1990 17:00	2030.4	1967	111	26	8.9997
6/2/1990 18:00	0	-21.619	5.0001	26	8.9997

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
6/2/1990 19:00	0	-21.619	0	26	8.9997
6/2/1990 20:00	0	-21.619	0	26	8.9997
6/2/1990 21:00	0	-21.619	0	26	10
6/2/1990 22:00	0	-21.619	0	26	10
6/2/1990 23:00	0	-21.619	0	26	10
7/2/1990 0:00	0	-21.619	0	26	10
7/2/1990 1:00	0	-21.619	0	26	10
7/2/1990 2:00	0	-21.619	0	26	10
7/2/1990 3:00	0	-21.619	0	26	8.9997
7/2/1990 4:00	0	-21.619	0	26	8.9997
7/2/1990 5:00	0	-21.619	0	26	8.0001
7/2/1990 6:00	0	-21.619	1	26	8.0001
7/2/1990 7:00	1034.8	987.84	59.001	26	8.0001
7/2/1990 8:00	5231.3	5103.7	258	26	8.0001
7/2/1990 9:00	10775	10450	508.01	26	8.0001
7/2/1990 10:00	14417	13901	678.99	26	8.0001
7/2/1990 11:00	16467	15819	781	26	8.0001
7/2/1990 12:00	17735	16998	849	26	6.9999
7/2/1990 13:00	17575	16850	840	26	6.9999
7/2/1990 14:00	15554	14968	737	26	6.9999
7/2/1990 15:00	11781	11408	553.99	26	6.9999
7/2/1990 16:00	7312.9	7123.2	354.01	26	6.9999
7/2/1990 17:00	2328.5	2260.3	133	26	6.9999
7/2/1990 18:00	0	-21.619	5.0001	26	6.9999
7/2/1990 19:00	0	-21.619	0	26	6.9999
7/2/1990 20:00	0	-21.619	0	26	6.9999
7/2/1990 21:00	0	-21.619	0	26	6.9999
7/2/1990 22:00	0	-21.619	0	26	6.9999
7/2/1990 23:00	0	-21.619	0	26	6.9999
8/2/1990 0:00	0	-21.619	0	26	6.9999
8/2/1990 1:00	0	-21.619	0	26	6.9999
8/2/1990 2:00	0	-21.619	0	26	6.0002
8/2/1990 3:00	0	-21.619	0	26	6.0002
8/2/1990 4:00	0	-21.619	0	26	6.0002
8/2/1990 5:00	0	-21.619	0	26	5
8/2/1990 6:00	0	-21.619	0	26	5
8/2/1990 7:00	1090	1042.2	68.001	26	3.9998
8/2/1990 8:00	5752.5	5610.5	286	26	3.9998
8/2/1990 9:00	8786.5	8545.2	416.01	26	3.9998
8/2/1990 10:00	10942	10609	515.99	26	3.9998
8/2/1990 11:00	17142	16449	822	26	3.9998
8/2/1990 12:00	18070	17311	872	26	3.9998
8/2/1990 13:00	17447	16733	841	26	3.0001
8/2/1990 14:00	15338	14766	731	26	3.0001
8/2/1990 15:00	11659	11291	550.99	26	3.0001
8/2/1990 16:00	7178.8	6993.4	348.01	26	3.0001
8/2/1990 17:00	2031.6	1968.3	112	26	3.0001
8/2/1990 18:00	0	-21.619	5.0001	26	3.0001
8/2/1990 19:00	0	-21.619	0	26	3.9998
8/2/1990 20:00	0	-21.619	0	26	3.9998
8/2/1990 21:00	0	-21.619	0	26	3.9998
8/2/1990 22:00	0	-21.619	0	26	5
8/2/1990 23:00	0	-21.619	0	26	5
9/2/1990 0:00	0	-21.619	0	26	5
9/2/1990 1:00	0	-21.619	0	26	5
9/2/1990 2:00	0	-21.619	0	26	6.0002
9/2/1990 3:00	0	-21.619	0	25	6.0002
9/2/1990 4:00	0	-21.619	0	25	6.0002
9/2/1990 5:00	0	-21.619	0	25	3.9998
9/2/1990 6:00	0	-21.619	1	25	3.9998

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
9/2/1990 7:00	1223.6	1173.7	73.001	26	3.0001
9/2/1990 8:00	6033.5	5883.3	302	26	3.0001
9/2/1990 9:00	11083	10744	525.99	26	3.0001
9/2/1990 10:00	14815	14276	705	26	3.0001
9/2/1990 11:00	17211	16513	826	26	3.9998
9/2/1990 12:00	18148	17382	876	26	3.9998
9/2/1990 13:00	17630	16902	849	26	3.9998
9/2/1990 14:00	12657	12240	601.99	26	3.0001
9/2/1990 15:00	3206.6	3124.1	158	26	3.0001
9/2/1990 16:00	5140.7	5015.4	249	26	3.0001
9/2/1990 17:00	2420.7	2350.9	132	25	3.9998
9/2/1990 18:00	0	-21.619	5.0001	25	3.9998
9/2/1990 19:00	0	-21.619	0	25	3.9998
9/2/1990 20:00	0	-21.619	0	25	3.9998
9/2/1990 21:00	0	-21.619	0	25	3.9998
9/2/1990 22:00	0	-21.619	0	25	3.9998
9/2/1990 23:00	0	-21.619	0	25	3.0001
10/2/1990 0:00	0	-21.619	0	25	3.0001
10/2/1990 1:00	0	-21.619	0	25	3.0001
10/2/1990 2:00	0	-21.619	0	25	3.0001
10/2/1990 3:00	0	-21.619	0	25	3.0001
10/2/1990 4:00	0	-21.619	0	25	3.9998
10/2/1990 5:00	0	-21.619	0	25	3.0001
10/2/1990 6:00	0	-21.619	0	26	3.0001
10/2/1990 7:00	1180.5	1131.2	76.001	26	3.9998
10/2/1990 8:00	6191.4	6036.6	310	26	3.9998
10/2/1990 9:00	11182	10837	529.99	26	3.9998
10/2/1990 10:00	14921	14375	709	26	3.9998
10/2/1990 11:00	17282	16578	830	26	3.9998
10/2/1990 12:00	18001	17247	871	26	3.0001
10/2/1990 13:00	17523	16804	845	26	3.0001
10/2/1990 14:00	11753	11382	560.99	26	1.9999
10/2/1990 15:00	11737	11366	555.99	26	1.9999
10/2/1990 16:00	7783.2	7577.6	378.01	26	3.0001
10/2/1990 17:00	2586.7	2514.5	150	26	3.0001
10/2/1990 18:00	104.6	-21.619	7.0001	26	3.9998
10/2/1990 19:00	0	-21.619	0	26	3.9998
10/2/1990 20:00	0	-21.619	0	26	3.9998
10/2/1990 21:00	0	-21.619	0	26	3.9998
10/2/1990 22:00	0	-21.619	0	26	3.9998
10/2/1990 23:00	0	-21.619	0	26	3.9998
11/2/1990 0:00	0	-21.619	0	26	3.9998
11/2/1990 1:00	0	-21.619	0	26	5
11/2/1990 2:00	0	-21.619	0	26	5
11/2/1990 3:00	0	-21.619	0	26	5
11/2/1990 4:00	0	-21.619	0	26	5
11/2/1990 5:00	0	-21.619	0	26	3.9998
11/2/1990 6:00	0	-21.619	1	26	3.9998
11/2/1990 7:00	1243.3	1193	75.001	26	3.9998
11/2/1990 8:00	5669	5529.4	281	26	3.9998
11/2/1990 9:00	8701.5	8463.4	411.01	26	5
11/2/1990 10:00	13821	13341	652.99	26	6.0002
11/2/1990 11:00	15185	14623	722	26	6.0002
11/2/1990 12:00	9820.2	9538.3	469.01	26	6.0002
11/2/1990 13:00	5564.1	5427.7	270	26	6.9999
11/2/1990 14:00	4043.8	3945.2	199	26	6.9999
11/2/1990 15:00	5641.8	5503.3	269	26	6.9999
11/2/1990 16:00	7165.7	6980.9	345.01	26	6.9999
11/2/1990 17:00	1206.3	1156.6	69.001	26	6.0002
11/2/1990 18:00	0	-21.619	6.0001	26	6.0002

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
11/2/1990 19:00	0	-21.619	0	25	6.9999
11/2/1990 20:00	0	-21.619	0	25	6.9999
11/2/1990 21:00	0	-21.619	0	25	6.9999
11/2/1990 22:00	0	-21.619	0	25	6.9999
11/2/1990 23:00	0	-21.619	0	25	6.9999
12/2/1990 0:00	0	-21.619	0	25	6.0002
12/2/1990 1:00	0	-21.619	0	26	6.0002
12/2/1990 2:00	0	-21.619	0	26	5
12/2/1990 3:00	0	-21.619	0	26	6.0002
12/2/1990 4:00	0	-21.619	0	25	6.9999
12/2/1990 5:00	0	-21.619	0	25	6.9999
12/2/1990 6:00	0	-21.619	1	25	6.0002
12/2/1990 7:00	1287	1235.9	74.001	25	6.0002
12/2/1990 8:00	5990.1	5841.4	295	25	6.0002
12/2/1990 9:00	10390	10083	490.01	26	6.0002
12/2/1990 10:00	14288	13780	674.99	26	6.0002
12/2/1990 11:00	16501	15851	785	26	6.0002
12/2/1990 12:00	17030	16344	813	26	6.0002
12/2/1990 13:00	16925	16246	807	26	6.0002
12/2/1990 14:00	14751	14216	701	27	6.0002
12/2/1990 15:00	11819	11444	558.99	27	5
12/2/1990 16:00	7320.2	7130.4	354.01	27	5
12/2/1990 17:00	2082.3	2018.1	110	27	3.9998
12/2/1990 18:00	0	-21.619	4.0001	27	5
12/2/1990 19:00	0	-21.619	0	27	5
12/2/1990 20:00	0	-21.619	0	27	6.0002
12/2/1990 21:00	0	-21.619	0	27	6.0002
12/2/1990 22:00	0	-21.619	0	27	6.0002
12/2/1990 23:00	0	-21.619	0	27	6.0002
13/02/90 00:00	0	-21.619	0	26	6.0002
13/02/90 01:00	0	-21.619	0	26	6.0002
13/02/90 02:00	0	-21.619	0	26	6.0002
13/02/90 03:00	0	-21.619	0	26	5
13/02/90 04:00	0	-21.619	0	26	6.0002
13/02/90 05:00	0	-21.619	0	25	5
13/02/90 06:00	0	-21.619	1	26	6.0002
13/02/90 07:00	1221.7	1171.8	71.001	26	5
13/02/90 08:00	6077.7	5926.4	301	26	3.9998
13/02/90 09:00	11062	10723	523.99	26	3.0001
13/02/90 10:00	14723	14189	699.99	26	3.0001
13/02/90 11:00	16888	16213	811	27	3.9998
13/02/90 12:00	18178	17411	879	27	5
13/02/90 13:00	17378	16669	835	27	5
13/02/90 14:00	15433	14855	733	26	5
13/02/90 15:00	12077	11689	568.99	26	5
13/02/90 16:00	7363.6	7172.3	355.01	26	5
13/02/90 17:00	2506.7	2436	140	27	6.0002
13/02/90 18:00	0	-21.619	5.0001	27	6.0002
13/02/90 19:00	0	-21.619	0	26	5
13/02/90 20:00	0	-21.619	0	26	5
13/02/90 21:00	0	-21.619	0	26	5
13/02/90 22:00	0	-21.619	0	26	6.0002
13/02/90 23:00	0	-21.619	0	26	6.0002
14/02/90 00:00	0	-21.619	0	26	6.0002
14/02/90 01:00	0	-21.619	0	26	5
14/02/90 02:00	0	-21.619	0	26	5
14/02/90 03:00	0	-21.619	0	26	5
14/02/90 04:00	0	-21.619	0	26	5
14/02/90 05:00	0	-21.619	0	26	5
14/02/90 06:00	0	-21.619	1	26	3.9998

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
14/02/90 07:00	1371.8	1319.4	84.001	26	3.9998
14/02/90 08:00	6211.8	6056.5	308	26	3.9998
14/02/90 09:00	11248	10900	531.99	26	3.9998
14/02/90 10:00	14750	14215	699.99	26	3.9998
14/02/90 11:00	17031	16345	817	26	3.9998
14/02/90 12:00	17934	17184	864	26	3.9998
14/02/90 13:00	17785	17046	857	26	3.9998
14/02/90 14:00	15731	15135	751	26	3.0001
14/02/90 15:00	12166	11774	574.99	26	3.0001
14/02/90 16:00	7958.2	7746.6	385.01	26	3.0001
14/02/90 17:00	2654.5	2581.5	150	27	3.0001
14/02/90 18:00	0	-21.619	6.0001	27	3.0001
14/02/90 19:00	0	-21.619	0	27	3.0001
14/02/90 20:00	0	-21.619	0	26	3.0001
14/02/90 21:00	0	-21.619	0	26	3.0001
14/02/90 22:00	0	-21.619	0	26	3.9998
14/02/90 23:00	0	-21.619	0	26	3.9998
15/02/90 00:00	0	-21.619	0	26	3.9998
15/02/90 01:00	0	-21.619	0	26	3.9998
15/02/90 02:00	0	-21.619	0	26	3.9998
15/02/90 03:00	0	-21.619	0	26	3.9998
15/02/90 04:00	0	-21.619	0	26	3.9998
15/02/90 05:00	0	-21.619	0	26	3.0001
15/02/90 06:00	0	-21.619	2	26	3.0001
15/02/90 07:00	1484.8	1430.5	92.001	26	3.0001
15/02/90 08:00	6486.2	6322.7	320	26	3.0001
15/02/90 09:00	8139.4	7921.7	387.01	26	1.9999
15/02/90 10:00	6021.4	5872.1	291	26	1.9999
15/02/90 11:00	7971.3	7759.5	382.01	26	3.9998
15/02/90 12:00	15836	15231	756	25	3.9998
15/02/90 13:00	14144	13645	675.99	26	5
15/02/90 14:00	8022	7808.5	386.01	26	3.9998
15/02/90 15:00	8056.4	7841.7	384.01	26	3.0001
15/02/90 16:00	4438.8	4331	215	26	3.0001
15/02/90 17:00	2037.3	1973.7	106	26	1.9999
15/02/90 18:00	0	-21.619	3	26	3.0001
15/02/90 19:00	0	-21.619	0	26	3.0001
15/02/90 20:00	0	-21.619	0	26	3.0001
15/02/90 21:00	0	-21.619	0	26	3.9998
15/02/90 22:00	0	-21.619	0	26	3.9998
15/02/90 23:00	0	-21.619	0	26	3.9998
16/02/90 00:00	0	-21.619	0	26	3.9998
16/02/90 01:00	0	-21.619	0	26	3.9998
16/02/90 02:00	0	-21.619	0	26	3.9998
16/02/90 03:00	0	-21.619	0	26	3.9998
16/02/90 04:00	0	-21.619	0	26	3.9998
16/02/90 05:00	0	-21.619	0	25	3.9998
16/02/90 06:00	0	-21.619	1	25	3.0001
16/02/90 07:00	1422.7	1369.4	86.001	25	3.0001
16/02/90 08:00	5980.4	5832	294	25	1.9999
16/02/90 09:00	6771.1	6599.1	320	24	1.9999
16/02/90 10:00	14530	14008	692.99	25	1.9999
16/02/90 11:00	12009	11625	568.99	25	1.9999
16/02/90 12:00	11247	10900	534.99	25	1.9999
16/02/90 13:00	10187	9889.4	488.01	25	1.9999
16/02/90 14:00	8372.6	8146.7	397.01	25	1.9999
16/02/90 15:00	6337.3	6178.6	301	26	3.0001
16/02/90 16:00	6457.6	6295.3	311	26	3.0001
16/02/90 17:00	1714.2	1655.9	87.001	26	3.9998
16/02/90 18:00	0	-21.619	3	26	3.9998

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
16/02/90 19:00	0	-21.619	0	26	5
16/02/90 20:00	0	-21.619	0	26	6.0002
16/02/90 21:00	0	-21.619	0	26	6.9999
16/02/90 22:00	0	-21.619	0	26	6.9999
16/02/90 23:00	0	-21.619	0	26	8.0001
17/02/90 00:00	0	-21.619	0	25	8.0001
17/02/90 01:00	0	-21.619	0	25	8.0001
17/02/90 02:00	0	-21.619	0	25	8.9997
17/02/90 03:00	0	-21.619	0	25	8.9997
17/02/90 04:00	0	-21.619	0	25	8.9997
17/02/90 05:00	0	-21.619	0	24	8.9997
17/02/90 06:00	0	-21.619	0	24	8.9997
17/02/90 07:00	1308.7	1257.1	76.001	24	8.9997
17/02/90 08:00	5883.6	5738	286	24	10
17/02/90 09:00	10917	10585	511.01	24	8.9997
17/02/90 10:00	7196.2	7010.6	343.01	24	8.9997
17/02/90 11:00	4247.8	4144.5	208	24	8.9997
17/02/90 12:00	10562	10247	493.01	24	8.9997
17/02/90 13:00	16581	15925	783	24	8.0001
17/02/90 14:00	14084	13588	661.99	24	8.0001
17/02/90 15:00	12144	11753	566.99	24	8.0001
17/02/90 16:00	8068.3	7853	385.01	24	8.0001
17/02/90 17:00	2302.1	2233.9	122	24	8.0001
17/02/90 18:00	106.78	-21.619	7.0001	24	8.0001
17/02/90 19:00	0	-21.619	0	24	8.0001
17/02/90 20:00	0	-21.619	0	24	8.0001
17/02/90 21:00	0	-21.619	0	24	6.9999
17/02/90 22:00	0	-21.619	0	24	6.9999
17/02/90 23:00	0	-21.619	0	24	6.9999
18/02/90 00:00	0	-21.619	0	24	6.9999
18/02/90 01:00	0	-21.619	0	24	6.9999
18/02/90 02:00	0	-21.619	0	24	6.9999
18/02/90 03:00	0	-21.619	0	24	8.0001
18/02/90 04:00	0	-21.619	0	24	8.0001
18/02/90 05:00	0	-21.619	0	24	8.0001
18/02/90 06:00	0	-21.619	2	24	8.0001
18/02/90 07:00	515.09	475.46	29	24	8.0001
18/02/90 08:00	3332	3247.1	162	24	8.9997
18/02/90 09:00	11483	11124	537.99	24	8.9997
18/02/90 10:00	15559	14972	730	24	10
18/02/90 11:00	18016	17258	854	24	10
18/02/90 12:00	18836	18016	905	24	10
18/02/90 13:00	18538	17741	879	23	10
18/02/90 14:00	16573	15917	778	23	10
18/02/90 15:00	13107	12665	611.99	24	10
18/02/90 16:00	7166.9	6982.1	342.01	24	10
18/02/90 17:00	1807	1746.6	96.001	24	10
18/02/90 18:00	125.52	90.67	8.0001	25	10
18/02/90 19:00	0	-21.619	0	24	10
18/02/90 20:00	0	-21.619	0	23	11
18/02/90 21:00	0	-21.619	0	23	11
18/02/90 22:00	0	-21.619	0	24	10
18/02/90 23:00	0	-21.619	0	24	10
19/02/90 00:00	0	-21.619	0	24	11
19/02/90 01:00	0	-21.619	0	23	11
19/02/90 02:00	0	-21.619	0	23	11
19/02/90 03:00	0	-21.619	0	22	11
19/02/90 04:00	0	-21.619	0	22	11
19/02/90 05:00	0	-21.619	0	22	10
19/02/90 06:00	0	-21.619	0	22	10

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
19/02/90 07:00	1294.7	1242.9	70.001	21	10
19/02/90 08:00	3385.3	3299.5	164	21	10
19/02/90 09:00	3346.6	3261.5	162	21	8.9997
19/02/90 10:00	8330.2	8105.8	391.01	21	8.9997
19/02/90 11:00	7178.4	6993.3	339.01	21	8.0001
19/02/90 12:00	9554.4	9283.7	451.01	21	8.0001
19/02/90 13:00	9559.7	9288.8	450.01	21	8.0001
19/02/90 14:00	5269.3	5140.8	255	22	8.0001
19/02/90 15:00	5527.8	5392.5	265	22	8.0001
19/02/90 16:00	3728.4	3636.3	179	22	8.0001
19/02/90 17:00	1289.4	1237.8	64.001	22	8.9997
19/02/90 18:00	0	-21.619	3	23	8.9997
19/02/90 19:00	0	-21.619	0	23	8.9997
19/02/90 20:00	0	-21.619	0	23	8.9997
19/02/90 21:00	0	-21.619	0	23	8.9997
19/02/90 22:00	0	-21.619	0	24	8.9997
19/02/90 23:00	0	-21.619	0	24	8.9997
20/02/90 00:00	0	-21.619	0	25	8.9997
20/02/90 01:00	0	-21.619	0	25	8.0001
20/02/90 02:00	0	-21.619	0	25	8.9997
20/02/90 03:00	0	-21.619	0	25	8.9997
20/02/90 04:00	0	-21.619	0	24	8.9997
20/02/90 05:00	0	-21.619	0	24	8.0001
20/02/90 06:00	0	-21.619	1	25	8.0001
20/02/90 07:00	1112.5	1064.2	60.001	25	8.0001
20/02/90 08:00	6221.8	6066.5	303	25	8.0001
20/02/90 09:00	11427	11071	535.99	25	8.0001
20/02/90 10:00	15150	14589	715	25	6.9999
20/02/90 11:00	17259	16556	821	25	6.9999
20/02/90 12:00	13255	12806	629.99	25	6.9999
20/02/90 13:00	16032	15414	763	25	6.0002
20/02/90 14:00	16371	15730	777	25	6.0002
20/02/90 15:00	13043	12605	612.99	25	6.0002
20/02/90 16:00	8321.3	8096.9	399.01	25	6.0002
20/02/90 17:00	2886.6	2809.4	160	26	6.0002
20/02/90 18:00	199.17	163.54	12	26	6.0002
20/02/90 19:00	0	-21.619	0	26	6.0002
20/02/90 20:00	0	-21.619	0	26	6.0002
20/02/90 21:00	0	-21.619	0	26	5
20/02/90 22:00	0	-21.619	0	26	5
20/02/90 23:00	0	-21.619	0	26	5
21/02/90 00:00	0	-21.619	0	26	5
21/02/90 01:00	0	-21.619	0	26	5
21/02/90 02:00	0	-21.619	0	25	3.9998
21/02/90 03:00	0	-21.619	0	25	5
21/02/90 04:00	0	-21.619	0	25	5
21/02/90 05:00	0	-21.619	0	25	6.0002
21/02/90 06:00	0	-21.619	3	25	6.0002
21/02/90 07:00	1687.6	1629.6	102	25	6.0002
21/02/90 08:00	6680.6	6511.2	327	25	6.0002
21/02/90 09:00	11805	11430	554.99	25	6.0002
21/02/90 10:00	15538	14953	738	26	6.0002
21/02/90 11:00	17531	16809	839	26	6.0002
21/02/90 12:00	17614	16887	846	26	5
21/02/90 13:00	17890	17144	863	27	5
21/02/90 14:00	16113	15490	770	27	5
21/02/90 15:00	13052	12614	617.99	27	5
21/02/90 16:00	8309.6	8085.6	401.01	27	3.9998
21/02/90 17:00	3034.2	2954.8	170	27	3.9998
21/02/90 18:00	218.1	182.29	13	27	3.9998

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
21/02/90 19:00	0	-21.619	0	27	5
21/02/90 20:00	0	-21.619	0	27	5
21/02/90 21:00	0	-21.619	0	26	5
21/02/90 22:00	0	-21.619	0	26	5
21/02/90 23:00	0	-21.619	0	26	5
22/02/90 00:00	0	-21.619	0	26	5
22/02/90 01:00	0	-21.619	0	25	5
22/02/90 02:00	0	-21.619	0	25	5
22/02/90 03:00	0	-21.619	0	25	5
22/02/90 04:00	0	-21.619	0	25	5
22/02/90 05:00	0	-21.619	0	25	3.9998
22/02/90 06:00	0	-21.619	3	25	5
22/02/90 07:00	1220.8	1170.8	69.001	25	5
22/02/90 08:00	6890.9	6714.9	336.01	25	5
22/02/90 09:00	11398	11043	535.99	25	5
22/02/90 10:00	15705	15109	743	25	6.0002
22/02/90 11:00	17810	17068	851	25	6.0002
22/02/90 12:00	17025	16339	814	26	6.0002
22/02/90 13:00	18095	17333	871	26	5
22/02/90 14:00	16226	15595	774	26	5
22/02/90 15:00	12993	12558	612.99	26	5
22/02/90 16:00	8394.7	8167.7	403.01	26	6.0002
22/02/90 17:00	3087.6	3007.1	171	26	6.0002
22/02/90 18:00	219.79	183.94	13	26	6.0002
22/02/90 19:00	0	-21.619	0	26	6.0002
22/02/90 20:00	0	-21.619	0	26	6.9999
22/02/90 21:00	0	-21.619	0	26	6.0002
22/02/90 22:00	0	-21.619	0	26	6.0002
22/02/90 23:00	0	-21.619	0	26	6.0002
23/02/90 00:00	0	-21.619	0	26	6.0002
23/02/90 01:00	0	-21.619	0	26	6.9999
23/02/90 02:00	0	-21.619	0	25	6.9999
23/02/90 03:00	0	-21.619	0	26	8.0001
23/02/90 04:00	0	-21.619	0	26	8.0001
23/02/90 05:00	0	-21.619	0	25	8.0001
23/02/90 06:00	0	-21.619	2	25	8.0001
23/02/90 07:00	1667.5	1609.9	95.001	25	8.9997
23/02/90 08:00	6430.8	6269.2	312	25	8.9997
23/02/90 09:00	11988	11605	561.99	25	8.0001
23/02/90 10:00	15778	15177	744	25	8.0001
23/02/90 11:00	17814	17071	848	25	8.0001
23/02/90 12:00	18404	17618	880	25	8.0001
23/02/90 13:00	18283	17507	874	25	6.9999
23/02/90 14:00	16457	15809	779	25	6.9999
23/02/90 15:00	13148	12705	616.99	25	6.9999
23/02/90 16:00	8028.4	7814.5	383.01	25	6.9999
23/02/90 17:00	3058.5	2978.4	167	25	6.0002
23/02/90 18:00	146.12	111.05	9.0001	25	6.0002
23/02/90 19:00	0	-21.619	0	25	6.0002
23/02/90 20:00	0	-21.619	0	25	6.0002
23/02/90 21:00	0	-21.619	0	25	6.9999
23/02/90 22:00	0	-21.619	0	25	6.9999
23/02/90 23:00	0	-21.619	0	25	6.9999
24/02/90 00:00	0	-21.619	0	25	6.0002
24/02/90 01:00	0	-21.619	0	25	6.0002
24/02/90 02:00	0	-21.619	0	25	6.0002
24/02/90 03:00	0	-21.619	0	25	6.9999
24/02/90 04:00	0	-21.619	0	25	6.9999
24/02/90 05:00	0	-21.619	0	25	6.9999
24/02/90 06:00	0	-21.619	2	25	6.9999

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
24/02/90 07:00	1750	1690.9	97.001	25	6.9999
24/02/90 08:00	4930.9	4811	239	25	6.9999
24/02/90 09:00	7821.3	7614.7	368.01	26	6.9999
24/02/90 10:00	13934	13448	660.99	26	6.9999
24/02/90 11:00	17981	17227	861	26	6.9999
24/02/90 12:00	18852	18033	911	26	6.9999
24/02/90 13:00	17762	17024	849	26	6.9999
24/02/90 14:00	16646	15986	792	26	6.9999
24/02/90 15:00	13264	12814	623.99	26	6.9999
24/02/90 16:00	8544	8311.6	409.01	26	6.9999
24/02/90 17:00	3146.1	3064.5	173	26	6.9999
24/02/90 18:00	221.62	185.74	13	26	6.9999
24/02/90 19:00	0	-21.619	0	26	6.9999
24/02/90 20:00	0	-21.619	0	26	8.0001
24/02/90 21:00	0	-21.619	0	26	8.0001
24/02/90 22:00	0	-21.619	0	26	8.0001
24/02/90 23:00	0	-21.619	0	26	8.0001
25/02/90 00:00	0	-21.619	0	26	8.0001
25/02/90 01:00	0	-21.619	0	26	6.9999
25/02/90 02:00	0	-21.619	0	26	6.9999
25/02/90 03:00	0	-21.619	0	26	6.9999
25/02/90 04:00	0	-21.619	0	25	6.9999
25/02/90 05:00	0	-21.619	0	26	6.0002
25/02/90 06:00	0	-21.619	1	26	6.0002
25/02/90 07:00	1756.1	1697.1	98.001	26	6.9999
25/02/90 08:00	5055	4932	246	26	6.9999
25/02/90 09:00	11527	11167	541.99	26	6.9999
25/02/90 10:00	13554	13088	640.99	26	6.9999
25/02/90 11:00	15368	14794	734	27	6.0002
25/02/90 12:00	18721	17913	906	27	6.0002
25/02/90 13:00	17442	16727	837	27	6.0002
25/02/90 14:00	15117	14560	721	27	5
25/02/90 15:00	12938	12506	611.99	27	5
25/02/90 16:00	8415.1	8187.4	404.01	27	5
25/02/90 17:00	2828.2	2752.3	152	27	5
25/02/90 18:00	0	-21.619	5.0001	26	5
25/02/90 19:00	0	-21.619	0	26	5
25/02/90 20:00	0	-21.619	0	26	5
25/02/90 21:00	0	-21.619	0	27	6.0002
25/02/90 22:00	0	-21.619	0	27	6.0002
25/02/90 23:00	0	-21.619	0	26	6.0002
26/02/90 00:00	0	-21.619	0	26	6.0002
26/02/90 01:00	0	-21.619	0	26	6.0002
26/02/90 02:00	0	-21.619	0	26	6.0002
26/02/90 03:00	0	-21.619	0	26	6.9999
26/02/90 04:00	0	-21.619	0	26	6.9999
26/02/90 05:00	0	-21.619	0	26	5
26/02/90 06:00	0	-21.619	3	26	5
26/02/90 07:00	1784	1724.6	103	26	5
26/02/90 08:00	6889.3	6713.5	335.01	26	5
26/02/90 09:00	11984	11601	563.99	26	6.0002
26/02/90 10:00	14786	14249	699.99	26	6.0002
26/02/90 11:00	15565	14979	744	27	6.0002
26/02/90 12:00	13723	13249	656.99	27	6.0002
26/02/90 13:00	14926	14382	713	27	6.0002
26/02/90 14:00	10380	10074	494.01	27	6.0002
26/02/90 15:00	10413	10105	494.01	27	6.0002
26/02/90 16:00	7526.3	7329.6	361.01	27	5
26/02/90 17:00	2522.5	2451.6	132	27	5
26/02/90 18:00	164.62	129.39	10	27	5

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
26/02/90 19:00	0	-21.619	0	27	5
26/02/90 20:00	0	-21.619	0	27	5
26/02/90 21:00	0	-21.619	0	27	6.0002
26/02/90 22:00	0	-21.619	0	26	6.0002
26/02/90 23:00	0	-21.619	0	26	6.0002
27/02/90 00:00	0	-21.619	0	26	6.9999
27/02/90 01:00	0	-21.619	0	26	6.0002
27/02/90 02:00	0	-21.619	0	26	6.0002
27/02/90 03:00	0	-21.619	0	26	6.0002
27/02/90 04:00	0	-21.619	0	26	6.0002
27/02/90 05:00	0	-21.619	0	26	3.9998
27/02/90 06:00	0	-21.619	3	26	3.9998
27/02/90 07:00	1913.2	1851.7	110	26	3.9998
27/02/90 08:00	7042.2	6861.5	342.01	26	5
27/02/90 09:00	12139	11748	571.99	26	5
27/02/90 10:00	15413	14837	736	27	3.9998
27/02/90 11:00	17979	17227	869	27	3.9998
27/02/90 12:00	18403	17620	892	27	3.9998
27/02/90 13:00	17811	17070	858	27	5
27/02/90 14:00	15675	15082	748	27	5
27/02/90 15:00	12709	12289	600.99	27	5
27/02/90 16:00	7837.3	7630.1	376.01	27	5
27/02/90 17:00	2809.3	2733.7	149	27	5
27/02/90 18:00	165.11	129.88	10	27	5
27/02/90 19:00	0	-21.619	0	27	5
27/02/90 20:00	0	-21.619	0	27	5
27/02/90 21:00	0	-21.619	0	27	6.0002
27/02/90 22:00	0	-21.619	0	27	6.0002
27/02/90 23:00	0	-21.619	0	27	6.0002
28/02/90 00:00	0	-21.619	0	26	6.0002
28/02/90 01:00	0	-21.619	0	26	5
28/02/90 02:00	0	-21.619	0	26	6.0002
28/02/90 03:00	0	-21.619	0	26	6.0002
28/02/90 04:00	0	-21.619	0	26	6.0002
28/02/90 05:00	0	-21.619	0	27	5
28/02/90 06:00	0	-21.619	3	27	6.0002
28/02/90 07:00	1993.3	1930.7	117	27	6.0002
28/02/90 08:00	6823.4	6649.6	332.01	27	6.0002
28/02/90 09:00	11297	10947	533.99	27	6.0002
28/02/90 10:00	15388	14813	732	27	6.0002
28/02/90 11:00	16602	15946	794	27	6.0002
28/02/90 12:00	8794.3	8552.9	422.01	27	6.0002
28/02/90 13:00	8458.2	8229.2	406.01	27	6.0002
28/02/90 14:00	15983	15369	764	27	5
28/02/90 15:00	12881	12452	609.99	27	3.9998
28/02/90 16:00	8413.2	8185.6	404.01	27	3.9998
28/02/90 17:00	3233.7	3150.8	176	27	3.9998
28/02/90 18:00	222.11	186.25	13	27	3.9998
28/02/90 19:00	0	-21.619	0	27	5
28/02/90 20:00	0	-21.619	0	27	6.0002
28/02/90 21:00	0	-21.619	0	27	6.0002
28/02/90 22:00	0	-21.619	0	27	6.0002
28/02/90 23:00	0	-21.619	0	27	6.9999
1/3/1990 0:00	0	-21.619	0	26	6.0002
1/3/1990 1:00	0	-21.619	0	26	5
1/3/1990 2:00	0	-21.619	0	26	5
1/3/1990 3:00	0	-21.619	0	26	5
1/3/1990 4:00	0	-21.619	0	26	6.0002
1/3/1990 5:00	0	-21.619	0	26	6.0002
1/3/1990 6:00	0	-21.619	4.0001	25	6.9999

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
1/3/1990 7:00	1886	1824.6	105	25	6.9999
1/3/1990 8:00	1744.8	1686	88.001	26	6.9999
1/3/1990 9:00	6612.3	6445.3	320	26	6.0002
1/3/1990 10:00	11896	11517	570.99	26	6.0002
1/3/1990 11:00	10208	9909.7	493.01	26	6.0002
1/3/1990 12:00	16084	15463	777	26	6.0002
1/3/1990 13:00	14657	14128	704	26	5
1/3/1990 14:00	16046	15427	770	26	6.0002
1/3/1990 15:00	12884	12455	612.99	26	6.0002
1/3/1990 16:00	8579.7	8346.1	414.01	26	6.0002
1/3/1990 17:00	3064.6	2984.4	167	26	6.0002
1/3/1990 18:00	294.42	257.69	17	26	6.0002
1/3/1990 19:00	0	-21.619	0	26	6.0002
1/3/1990 20:00	0	-21.619	0	26	6.0002
1/3/1990 21:00	0	-21.619	0	26	5
1/3/1990 22:00	0	-21.619	0	26	5
1/3/1990 23:00	0	-21.619	0	26	5
2/3/1990 0:00	0	-21.619	0	26	5
2/3/1990 1:00	0	-21.619	0	26	5
2/3/1990 2:00	0	-21.619	0	26	5
2/3/1990 3:00	0	-21.619	0	26	5
2/3/1990 4:00	0	-21.619	0	26	5
2/3/1990 5:00	0	-21.619	0	26	6.0002
2/3/1990 6:00	0	-21.619	4.0001	26	6.0002
2/3/1990 7:00	2118.2	2053.3	123	26	5
2/3/1990 8:00	7383.9	7191.9	362.01	26	5
2/3/1990 9:00	12327	11927	586.99	26	5
2/3/1990 10:00	16038	15420	772	26	5
2/3/1990 11:00	18263	17490	892	26	3.9998
2/3/1990 12:00	18434	17649	903	27	3.9998
2/3/1990 13:00	17166	16471	832	26	3.9998
2/3/1990 14:00	16744	16078	809	26	3.9998
2/3/1990 15:00	13341	12887	636.99	26	3.9998
2/3/1990 16:00	8642.9	8407	418.01	26	3.9998
2/3/1990 17:00	3283	3199.1	180	26	3.9998
2/3/1990 18:00	295.22	258.48	17	26	3.0001
2/3/1990 19:00	0	-21.619	0	26	3.0001
2/3/1990 20:00	0	-21.619	0	26	3.0001
2/3/1990 21:00	0	-21.619	0	26	3.0001
2/3/1990 22:00	0	-21.619	0	26	3.0001
2/3/1990 23:00	0	-21.619	0	26	3.0001
3/3/1990 0:00	0	-21.619	0	26	3.0001
3/3/1990 1:00	0	-21.619	0	26	3.0001
3/3/1990 2:00	0	-21.619	0	26	3.0001
3/3/1990 3:00	0	-21.619	0	26	3.0001
3/3/1990 4:00	0	-21.619	0	26	3.9998
3/3/1990 5:00	0	-21.619	0	26	3.9998
3/3/1990 6:00	0	-21.619	3	26	3.9998
3/3/1990 7:00	2152.5	2087.1	124	26	3.9998
3/3/1990 8:00	7512.7	7316.5	368.01	26	3.9998
3/3/1990 9:00	12477	12069	594.99	26	3.9998
3/3/1990 10:00	16149	15524	779	26	3.9998
3/3/1990 11:00	18458	17671	902	26	3.9998
3/3/1990 12:00	18939	18115	931	26	3.9998
3/3/1990 13:00	13526	13063	649.99	26	3.9998
3/3/1990 14:00	12127	11737	583.99	26	3.9998
3/3/1990 15:00	9882	9597.5	473.01	26	3.9998
3/3/1990 16:00	8715	8476.4	421.01	26	3.9998
3/3/1990 17:00	2880	2803	156	26	3.9998
3/3/1990 18:00	311.41	274.48	18	26	3.0001

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
3/3/1990 19:00	0	-21.619	0	26	3.0001
3/3/1990 20:00	0	-21.619	0	26	3.9998
3/3/1990 21:00	0	-21.619	0	26	3.9998
3/3/1990 22:00	0	-21.619	0	26	3.9998
3/3/1990 23:00	0	-21.619	0	26	3.9998
4/3/1990 0:00	0	-21.619	0	26	3.9998
4/3/1990 1:00	0	-21.619	0	26	5
4/3/1990 2:00	0	-21.619	0	26	3.9998
4/3/1990 3:00	0	-21.619	0	26	3.9998
4/3/1990 4:00	0	-21.619	0	26	3.9998
4/3/1990 5:00	0	-21.619	0	26	3.0001
4/3/1990 6:00	0	-21.619	4.0001	26	3.9998
4/3/1990 7:00	2261.4	2194.4	133	26	5
4/3/1990 8:00	7473.1	7278.3	365.01	26	5
4/3/1990 9:00	8946.4	8699.4	428.01	26	5
4/3/1990 10:00	6373.2	6213.5	311	26	5
4/3/1990 11:00	8882.1	8637.5	430.01	26	5
4/3/1990 12:00	11762	11390	571.99	27	5
4/3/1990 13:00	9069.5	8817.9	439.01	26	3.9998
4/3/1990 14:00	7614.6	7415.1	368.01	26	3.9998
4/3/1990 15:00	9902.3	9617.1	475.01	26	3.9998
4/3/1990 16:00	6718.7	6548.3	325	26	3.9998
4/3/1990 17:00	2444.8	2374.9	131	26	3.9998
4/3/1990 18:00	312.48	275.53	18	26	3.9998
4/3/1990 19:00	0	-21.619	0	26	3.9998
4/3/1990 20:00	0	-21.619	0	26	3.9998
4/3/1990 21:00	0	-21.619	0	26	3.9998
4/3/1990 22:00	0	-21.619	0	26	3.9998
4/3/1990 23:00	0	-21.619	0	26	3.9998
5/3/1990 0:00	0	-21.619	0	26	3.9998
5/3/1990 1:00	0	-21.619	0	26	3.9998
5/3/1990 2:00	0	-21.619	0	26	3.9998
5/3/1990 3:00	0	-21.619	0	26	3.9998
5/3/1990 4:00	0	-21.619	0	26	3.0001
5/3/1990 5:00	0	-21.619	0	26	3.0001
5/3/1990 6:00	0	-21.619	4.0001	26	1.9999
5/3/1990 7:00	2316.5	2248.6	136	26	3.0001
5/3/1990 8:00	7650.3	7449.4	375.01	26	3.0001
5/3/1990 9:00	12026	11641	573.99	26	3.0001
5/3/1990 10:00	15332	14762	739	26	3.0001
5/3/1990 11:00	18351	17572	898	26	3.0001
5/3/1990 12:00	18223	17453	891	26	3.0001
5/3/1990 13:00	18836	18021	926	26	3.0001
5/3/1990 14:00	16902	16226	820	26	3.0001
5/3/1990 15:00	13528	13064	647.99	26	3.0001
5/3/1990 16:00	8896.6	8651.3	430.01	26	3.9998
5/3/1990 17:00	3391.2	3305.4	186	26	3.0001
5/3/1990 18:00	331.53	294.35	19	26	3.9998
5/3/1990 19:00	0	-21.619	0	26	3.9998
5/3/1990 20:00	0	-21.619	0	26	3.9998
5/3/1990 21:00	0	-21.619	0	26	3.9998
5/3/1990 22:00	0	-21.619	0	26	3.9998
5/3/1990 23:00	0	-21.619	0	26	3.9998
6/3/1990 0:00	0	-21.619	0	26	3.9998
6/3/1990 1:00	0	-21.619	0	26	3.9998
6/3/1990 2:00	0	-21.619	0	26	3.9998
6/3/1990 3:00	0	-21.619	0	26	5
6/3/1990 4:00	0	-21.619	0	26	5
6/3/1990 5:00	0	-21.619	0	26	6.0002
6/3/1990 6:00	0	-21.619	4.0001	26	6.9999

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
6/3/1990 7:00	2267.3	2200.1	128	26	6.9999
6/3/1990 8:00	7482.4	7287.2	364.01	26	6.9999
6/3/1990 9:00	12675	12257	601.99	26	6.9999
6/3/1990 10:00	15894	15285	761	26	6.9999
6/3/1990 11:00	18149	17383	882	27	6.9999
6/3/1990 12:00	18770	17959	915	27	6.9999
6/3/1990 13:00	17712	16978	859	27	6.9999
6/3/1990 14:00	15956	15343	764	26	8.0001
6/3/1990 15:00	12205	11811	580.99	26	6.9999
6/3/1990 16:00	5651	5512.2	273	26	8.0001
6/3/1990 17:00	2221.7	2155.4	115	27	8.0001
6/3/1990 18:00	277.67	241.14	16	26	8.0001
6/3/1990 19:00	0	-21.619	0	26	8.0001
6/3/1990 20:00	0	-21.619	0	26	8.9997
6/3/1990 21:00	0	-21.619	0	26	8.9997
6/3/1990 22:00	0	-21.619	0	26	8.9997
6/3/1990 23:00	0	-21.619	0	26	8.9997
7/3/1990 0:00	0	-21.619	0	26	8.9997
7/3/1990 1:00	0	-21.619	0	26	8.9997
7/3/1990 2:00	0	-21.619	0	26	10
7/3/1990 3:00	0	-21.619	0	25	10
7/3/1990 4:00	0	-21.619	0	25	10
7/3/1990 5:00	0	-21.619	0	25	10
7/3/1990 6:00	0	-21.619	4.0001	25	10
7/3/1990 7:00	2254.6	2187.4	124	25	10
7/3/1990 8:00	6384.8	6224.7	309	25	10
7/3/1990 9:00	11871	11494	561.99	25	10
7/3/1990 10:00	9061.9	8810.6	434.01	25	10
7/3/1990 11:00	10395	10088	491.01	25	10
7/3/1990 12:00	9840.4	9557.9	474.01	26	8.9997
7/3/1990 13:00	16550	15897	795	26	8.9997
7/3/1990 14:00	15185	14623	727	26	8.0001
7/3/1990 15:00	13101	12660	621.99	26	8.0001
7/3/1990 16:00	8252.9	8031.2	397.01	26	8.0001
7/3/1990 17:00	3340	3255	180	26	8.0001
7/3/1990 18:00	315.28	278.3	18	26	8.0001
7/3/1990 19:00	0	-21.619	0	25	8.0001
7/3/1990 20:00	0	-21.619	0	26	8.9997
7/3/1990 21:00	0	-21.619	0	26	8.9997
7/3/1990 22:00	0	-21.619	0	25	10
7/3/1990 23:00	0	-21.619	0	25	10
8/3/1990 0:00	0	-21.619	0	25	10
8/3/1990 1:00	0	-21.619	0	25	10
8/3/1990 2:00	0	-21.619	0	25	10
8/3/1990 3:00	0	-21.619	0	25	10
8/3/1990 4:00	0	-21.619	0	25	10
8/3/1990 5:00	0	-21.619	0	25	10
8/3/1990 6:00	0	-21.619	4.0001	25	10
8/3/1990 7:00	2168.4	2102.5	117	25	8.9997
8/3/1990 8:00	6874.1	6698.8	332.01	25	8.9997
8/3/1990 9:00	11781	11408	556.99	25	8.9997
8/3/1990 10:00	14779	14243	704	25	8.9997
8/3/1990 11:00	11973	11590	566.99	25	8.9997
8/3/1990 12:00	18066	17305	869	25	8.9997
8/3/1990 13:00	9552.1	9281.6	459.01	25	8.9997
8/3/1990 14:00	9550.9	9280.6	459.01	25	8.0001
8/3/1990 15:00	8247.9	8026.5	395.01	25	8.0001
8/3/1990 16:00	6386.8	6226.7	307	25	8.0001
8/3/1990 17:00	3425.7	3339.2	182	26	8.0001
8/3/1990 18:00	352.67	315.23	20	26	8.0001

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
8/3/1990 19:00	0	-21.619	0	26	6.9999
8/3/1990 20:00	0	-21.619	0	26	6.9999
8/3/1990 21:00	0	-21.619	0	26	6.9999
8/3/1990 22:00	0	-21.619	0	26	6.9999
8/3/1990 23:00	0	-21.619	0	26	8.0001
9/3/1990 0:00	0	-21.619	0	26	8.9997
9/3/1990 1:00	0	-21.619	0	26	8.9997
9/3/1990 2:00	0	-21.619	0	26	8.9997
9/3/1990 3:00	0	-21.619	0	26	8.9997
9/3/1990 4:00	0	-21.619	0	26	8.9997
9/3/1990 5:00	0	-21.619	0	26	8.9997
9/3/1990 6:00	0	-21.619	4.0001	26	8.9997
9/3/1990 7:00	2286.1	2218.6	126	26	8.9997
9/3/1990 8:00	6872.3	6697.1	333.01	26	8.0001
9/3/1990 9:00	12313	11913	583.99	26	8.0001
9/3/1990 10:00	16106	15482	771	26	8.0001
9/3/1990 11:00	18250	17476	883	26	8.0001
9/3/1990 12:00	19320	18466	961	26	8.0001
9/3/1990 13:00	18934	18111	923	27	8.0001
9/3/1990 14:00	17116	16423	824	26	6.9999
9/3/1990 15:00	13780	13302	655.99	26	6.9999
9/3/1990 16:00	9101.3	8848.3	438.01	26	6.9999
9/3/1990 17:00	3544.5	3455.9	194	27	6.0002
9/3/1990 18:00	367.04	329.46	21	27	6.0002
9/3/1990 19:00	0	-21.619	0	27	6.0002
9/3/1990 20:00	0	-21.619	0	27	6.0002
9/3/1990 21:00	0	-21.619	0	26	6.0002
9/3/1990 22:00	0	-21.619	0	26	6.0002
9/3/1990 23:00	0	-21.619	0	26	6.9999
10/3/1990 0:00	0	-21.619	0	26	6.9999
10/3/1990 1:00	0	-21.619	0	26	6.9999
10/3/1990 2:00	0	-21.619	0	26	6.9999
10/3/1990 3:00	0	-21.619	0	26	8.0001
10/3/1990 4:00	0	-21.619	0	26	8.0001
10/3/1990 5:00	0	-21.619	0	26	8.0001
10/3/1990 6:00	0	-21.619	5.0001	26	8.0001
10/3/1990 7:00	2359.5	2290.8	130	26	8.0001
10/3/1990 8:00	7488.9	7293.6	363.01	26	8.0001
10/3/1990 9:00	12671	12253	600.99	26	8.0001
10/3/1990 10:00	15396	14820	738	27	8.0001
10/3/1990 11:00	16782	16113	810	27	8.0001
10/3/1990 12:00	19216	18369	951	27	8.0001
10/3/1990 13:00	19059	18224	935	27	8.0001
10/3/1990 14:00	17209	16511	830	27	8.0001
10/3/1990 15:00	13759	13282	656.99	27	6.9999
10/3/1990 16:00	8854.4	8610.8	427.01	27	6.9999
10/3/1990 17:00	3540.6	3452.1	194	27	6.9999
10/3/1990 18:00	385.96	348.15	22	27	6.9999
10/3/1990 19:00	0	-21.619	0	27	6.9999
10/3/1990 20:00	0	-21.619	0	27	6.9999
10/3/1990 21:00	0	-21.619	0	27	6.9999
10/3/1990 22:00	0	-21.619	0	26	6.0002
10/3/1990 23:00	0	-21.619	0	26	6.0002
11/3/1990 0:00	0	-21.619	0	26	6.9999
11/3/1990 1:00	0	-21.619	0	26	6.9999
11/3/1990 2:00	0	-21.619	0	26	8.0001
11/3/1990 3:00	0	-21.619	0	26	8.0001
11/3/1990 4:00	0	-21.619	0	26	8.0001
11/3/1990 5:00	0	-21.619	0	26	6.9999
11/3/1990 6:00	104.21	-21.619	7.0001	26	6.9999

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
11/3/1990 7:00	2640.2	2567.1	148	26	8.0001
11/3/1990 8:00	8068	7852.9	391.01	26	6.9999
11/3/1990 9:00	13077	12637	620.99	26	6.9999
11/3/1990 10:00	16752	16085	805	26	6.9999
11/3/1990 11:00	18991	18162	926	26	6.9999
11/3/1990 12:00	19398	18538	970	26	6.9999
11/3/1990 13:00	19105	18267	938	26	6.9999
11/3/1990 14:00	17216	16517	831	27	6.9999
11/3/1990 15:00	12095	11707	575.99	27	6.9999
11/3/1990 16:00	8803.8	8562	423.01	26	6.9999
11/3/1990 17:00	3532.9	3444.6	192	27	6.9999
11/3/1990 18:00	387.02	349.2	22	27	6.9999
11/3/1990 19:00	0	-21.619	0	26	6.9999
11/3/1990 20:00	0	-21.619	0	26	6.0002
11/3/1990 21:00	0	-21.619	0	26	6.0002
11/3/1990 22:00	0	-21.619	0	26	6.0002
11/3/1990 23:00	0	-21.619	0	26	6.0002
12/3/1990 0:00	0	-21.619	0	26	6.0002
12/3/1990 1:00	0	-21.619	0	26	6.0002
12/3/1990 2:00	0	-21.619	0	26	6.0002
12/3/1990 3:00	0	-21.619	0	26	6.0002
12/3/1990 4:00	0	-21.619	0	26	6.9999
12/3/1990 5:00	0	-21.619	0	26	6.9999
12/3/1990 6:00	122.24	87.435	8.0001	26	6.9999
12/3/1990 7:00	2578.6	2506.5	143	26	6.9999
12/3/1990 8:00	7460.6	7266.2	361.01	26	6.9999
12/3/1990 9:00	12800	12375	607.99	26	6.9999
12/3/1990 10:00	16831	16159	809	26	6.9999
12/3/1990 11:00	18990	18161	922	25	6.9999
12/3/1990 12:00	19423	18561	972	26	6.9999
12/3/1990 13:00	19103	18265	937	26	6.9999
12/3/1990 14:00	17156	16461	826	26	6.9999
12/3/1990 15:00	13904	13419	661.99	26	6.9999
12/3/1990 16:00	9157.3	8902.2	440.01	26	6.9999
12/3/1990 17:00	2981.4	2902.7	159	26	6.0002
12/3/1990 18:00	146.33	111.28	9.0001	26	6.0002
12/3/1990 19:00	0	-21.619	0	26	6.0002
12/3/1990 20:00	0	-21.619	0	26	6.0002
12/3/1990 21:00	0	-21.619	0	26	6.0002
12/3/1990 22:00	0	-21.619	0	26	5
12/3/1990 23:00	0	-21.619	0	26	3.9998
13/03/90 00:00	0	-21.619	0	26	3.9998
13/03/90 01:00	0	-21.619	0	26	5
13/03/90 02:00	0	-21.619	0	26	6.0002
13/03/90 03:00	0	-21.619	0	26	6.0002
13/03/90 04:00	0	-21.619	0	26	6.9999
13/03/90 05:00	0	-21.619	0	26	6.0002
13/03/90 06:00	123.35	88.535	8.0001	26	6.9999
13/03/90 07:00	2657.9	2584.5	146	26	6.9999
13/03/90 08:00	8218.7	7998.2	397.01	26	8.0001
13/03/90 09:00	13192	12746	625.99	26	8.0001
13/03/90 10:00	16871	16195	810	26	8.0001
13/03/90 11:00	19067	18231	931	26	8.0001
13/03/90 12:00	19499	18630	978	26	8.0001
13/03/90 13:00	19208	18362	946	26	8.0001
13/03/90 14:00	17204	16506	829	26	6.9999
13/03/90 15:00	13729	13254	652.99	26	6.9999
13/03/90 16:00	9174.1	8918.4	441.01	26	6.9999
13/03/90 17:00	3596.8	3507.2	195	26	6.0002
13/03/90 18:00	389.89	351.99	22	26	6.9999

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
13/03/90 19:00	0	-21.619	0	26	6.9999
13/03/90 20:00	0	-21.619	0	26	6.0002
13/03/90 21:00	0	-21.619	0	26	6.0002
13/03/90 22:00	0	-21.619	0	26	6.0002
13/03/90 23:00	0	-21.619	0	26	6.0002
14/03/90 00:00	0	-21.619	0	26	6.0002
14/03/90 01:00	0	-21.619	0	26	6.0002
14/03/90 02:00	0	-21.619	0	26	6.0002
14/03/90 03:00	0	-21.619	0	26	6.0002
14/03/90 04:00	0	-21.619	0	26	6.0002
14/03/90 05:00	0	-21.619	0	26	6.0002
14/03/90 06:00	159.5	124.31	10	26	6.9999
14/03/90 07:00	2824.9	2748.8	157	26	6.9999
14/03/90 08:00	8106.6	7890.1	392.01	26	6.9999
14/03/90 09:00	12655	12238	600.99	26	6.9999
14/03/90 10:00	16275	15640	781	26	6.9999
14/03/90 11:00	14673	14144	704	26	6.9999
14/03/90 12:00	18845	18028	917	26	6.9999
14/03/90 13:00	16553	15900	796	26	6.9999
14/03/90 14:00	14886	14343	714	26	6.9999
14/03/90 15:00	11054	10716	525.99	26	6.9999
14/03/90 16:00	6326.6	6168.3	305	26	6.9999
14/03/90 17:00	3445.1	3358.4	183	27	6.9999
14/03/90 18:00	407.58	369.5	23	27	6.9999
14/03/90 19:00	0	-21.619	0	27	6.9999
14/03/90 20:00	0	-21.619	0	27	6.9999
14/03/90 21:00	0	-21.619	0	26	6.0002
14/03/90 22:00	0	-21.619	0	26	6.0002
14/03/90 23:00	0	-21.619	0	26	6.0002
15/03/90 00:00	0	-21.619	0	26	5
15/03/90 01:00	0	-21.619	0	26	5
15/03/90 02:00	0	-21.619	0	26	5
15/03/90 03:00	0	-21.619	0	26	6.0002
15/03/90 04:00	0	-21.619	0	26	6.9999
15/03/90 05:00	0	-21.619	0	26	6.0002
15/03/90 06:00	124.15	89.325	8.0001	26	6.0002
15/03/90 07:00	2628.8	2556	142	26	6.0002
15/03/90 08:00	7989.3	7776.9	386.01	26	6.9999
15/03/90 09:00	12951	12518	614.99	26	6.9999
15/03/90 10:00	15929	15318	763	26	8.0001
15/03/90 11:00	6658.3	6489.9	325	26	8.0001
15/03/90 12:00	12414	12009	591.99	26	6.9999
15/03/90 13:00	12214	11820	586.99	26	6.9999
15/03/90 14:00	14757	14223	707	26	6.9999
15/03/90 15:00	13537	13072	644.99	26	6.0002
15/03/90 16:00	8527.3	8295.8	411.01	27	6.9999
15/03/90 17:00	3639.1	3548.8	195	27	6.0002
15/03/90 18:00	391.77	353.89	23	27	6.0002
15/03/90 19:00	0	-21.619	0	27	6.0002
15/03/90 20:00	0	-21.619	0	27	6.0002
15/03/90 21:00	0	-21.619	0	26	6.0002
15/03/90 22:00	0	-21.619	0	26	6.0002
15/03/90 23:00	0	-21.619	0	26	5
16/03/90 00:00	0	-21.619	0	26	5
16/03/90 01:00	0	-21.619	0	26	5
16/03/90 02:00	0	-21.619	0	26	3.9998
16/03/90 03:00	0	-21.619	0	26	5
16/03/90 04:00	0	-21.619	0	26	5
16/03/90 05:00	0	-21.619	0	26	5
16/03/90 06:00	215.31	179.5	13	26	5

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
16/03/90 07:00	3115.6	3034.6	175	26	5
16/03/90 08:00	8522.6	8291.2	412.01	26	6.0002
16/03/90 09:00	12286	11887	583.99	26	6.0002
16/03/90 10:00	13543	13078	647.99	26	6.0002
16/03/90 11:00	17548	16826	852	26	5
16/03/90 12:00	19399	18539	971	26	5
16/03/90 13:00	17983	17230	874	26	5
16/03/90 14:00	16960	16279	818	26	5
16/03/90 15:00	12449	12042	593.99	26	5
16/03/90 16:00	8984.6	8736.1	432.01	26	5
16/03/90 17:00	3654.8	3564.1	197	26	5
16/03/90 18:00	389.99	352.09	23	26	5
16/03/90 19:00	0	-21.619	0	26	5
16/03/90 20:00	0	-21.619	0	26	5
16/03/90 21:00	0	-21.619	0	26	5
16/03/90 22:00	0	-21.619	0	26	3.9998
16/03/90 23:00	0	-21.619	0	26	3.9998
17/03/90 00:00	0	-21.619	0	26	3.0001
17/03/90 01:00	0	-21.619	0	25	3.0001
17/03/90 02:00	0	-21.619	0	25	3.9998
17/03/90 03:00	0	-21.619	0	25	3.9998
17/03/90 04:00	0	-21.619	0	25	5
17/03/90 05:00	0	-21.619	0	26	5
17/03/90 06:00	198.88	163.25	12	26	6.0002
17/03/90 07:00	2950	2871.8	161	26	6.0002
17/03/90 08:00	8675.5	8438.5	419.01	26	6.0002
17/03/90 09:00	13555	13090	646.99	26	5
17/03/90 10:00	17149	16455	829	26	5
17/03/90 11:00	19175	18332	946	26	5
17/03/90 12:00	19542	18671	990	26	3.9998
17/03/90 13:00	19159	18317	947	26	3.9998
17/03/90 14:00	16294	15660	786	26	3.9998
17/03/90 15:00	13962	13475	670.99	27	3.0001
17/03/90 16:00	9326.5	9065	450.01	26	3.0001
17/03/90 17:00	3784.3	3691.2	207	27	3.0001
17/03/90 18:00	424.13	385.85	25	27	3.0001
17/03/90 19:00	0	-21.619	0	26	3.0001
17/03/90 20:00	0	-21.619	0	26	3.0001
17/03/90 21:00	0	-21.619	0	26	3.0001
17/03/90 22:00	0	-21.619	0	26	3.0001
17/03/90 23:00	0	-21.619	0	26	3.0001
18/03/90 00:00	0	-21.619	0	26	3.0001
18/03/90 01:00	0	-21.619	0	26	3.9998
18/03/90 02:00	0	-21.619	0	26	3.9998
18/03/90 03:00	0	-21.619	0	26	3.9998
18/03/90 04:00	0	-21.619	0	26	3.9998
18/03/90 05:00	0	-21.619	0	25	3.0001
18/03/90 06:00	238.21	202.11	14	25	3.0001
18/03/90 07:00	3236.3	3153.1	177	25	3.0001
18/03/90 08:00	8338.5	8113.8	402.01	25	3.0001
18/03/90 09:00	13564	13098	648.99	26	3.0001
18/03/90 10:00	17135	16443	832	26	3.0001
18/03/90 11:00	19172	18329	950	26	3.0001
18/03/90 12:00	19518	18650	993	26	1.9999
18/03/90 13:00	18685	17882	919	26	1.9999
18/03/90 14:00	15641	15051	757	26	1.9999
18/03/90 15:00	11448	11092	547.99	26	1.9999
18/03/90 16:00	8976.8	8728.6	433.01	26	1.9999
18/03/90 17:00	3692.5	3601.1	200	26	1.9999
18/03/90 18:00	426.65	388.29	25	26	1.9999

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
18/03/90 19:00	0	-21.619	0	26	1.0002
18/03/90 20:00	0	-21.619	0	26	1.0002
18/03/90 21:00	0	-21.619	0	26	1.0002
18/03/90 22:00	0	-21.619	0	26	1.0002
18/03/90 23:00	0	-21.619	0	26	1.9999
19/03/90 00:00	0	-21.619	0	26	1.9999
19/03/90 01:00	0	-21.619	0	26	1.9999
19/03/90 02:00	0	-21.619	0	26	1.9999
19/03/90 03:00	0	-21.619	0	26	1.0002
19/03/90 04:00	0	-21.619	0	26	1.0002
19/03/90 05:00	0	-21.619	0	26	1.0002
19/03/90 06:00	273.22	236.75	16	26	1.0002
19/03/90 07:00	3234.2	3151.3	180	26	0
19/03/90 08:00	8456.6	8227.6	410.01	26	1.0002
19/03/90 09:00	13085	12646	627.99	26	1.0002
19/03/90 10:00	15698	15105	763	26	1.0002
19/03/90 11:00	8322.5	8098.5	404.01	26	1.0002
19/03/90 12:00	3172.8	3090.9	161	26	1.9999
19/03/90 13:00	3194.9	3112.6	162	26	1.9999
19/03/90 14:00	3352.6	0	169	26	3.0001
19/03/90 15:00	3904.1	0	194	26	3.0001
19/03/90 16:00	3327.4	0	164	26	3.0001
19/03/90 17:00	3024.6	0	157	27	3.0001
19/03/90 18:00	373.84	0	22	27	3.0001
19/03/90 19:00	0	-21.619	0	27	1.9999
19/03/90 20:00	0	-21.619	0	26	1.9999
19/03/90 21:00	0	-21.619	0	26	1.9999
19/03/90 22:00	0	-21.619	0	26	1.9999
19/03/90 23:00	0	-21.619	0	26	1.9999
20/03/90 00:00	0	-21.619	0	26	1.9999
20/03/90 01:00	0	-21.619	0	26	3.0001
20/03/90 02:00	0	-21.619	0	26	3.0001
20/03/90 03:00	0	-21.619	0	26	3.0001
20/03/90 04:00	0	-21.619	0	26	3.0001
20/03/90 05:00	0	-21.619	0	26	3.9998
20/03/90 06:00	311.78	0	18	26	3.9998
20/03/90 07:00	3373.2	0	188	26	3.9998
20/03/90 08:00	8980.1	0	434.01	26	3.9998
20/03/90 09:00	13780	0	658.99	26	3.9998
20/03/90 10:00	17306	0	839	26	3.9998
20/03/90 11:00	19169	0	946	26	3.9998
20/03/90 12:00	19606	0	994	26	5
20/03/90 13:00	19264	0	953	26	5
20/03/90 14:00	12874	0	616.99	26	5
20/03/90 15:00	9185.1	0	442.01	26	5
20/03/90 16:00	6433.3	0	310	26	6.0002
20/03/90 17:00	2938.4	0	153	25	6.0002
20/03/90 18:00	267.49	0	16	25	5
20/03/90 19:00	0	-21.619	0	25	5
20/03/90 20:00	0	-21.619	0	25	5
20/03/90 21:00	0	-21.619	0	25	5
20/03/90 22:00	0	-21.619	0	25	5
20/03/90 23:00	0	-21.619	0	25	5
21/03/90 00:00	0	-21.619	0	25	5
21/03/90 01:00	0	-21.619	0	25	5
21/03/90 02:00	0	-21.619	0	25	5
21/03/90 03:00	0	-21.619	0	25	6.0002
21/03/90 04:00	0	-21.619	0	25	6.0002
21/03/90 05:00	0	-21.619	0	25	6.0002
21/03/90 06:00	0	-21.619	6.0001	25	6.0002

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
21/03/90 07:00	1657	0	83.001	25	6.9999
21/03/90 08:00	4929.5	0	239	25	6.9999
21/03/90 09:00	8580.7	0	411.01	25	6.9999
21/03/90 10:00	16845	0	807	25	6.9999
21/03/90 11:00	18835	0	913	25	6.9999
21/03/90 12:00	19468	0	968	25	6.9999
21/03/90 13:00	19384	0	959	25	6.9999
21/03/90 14:00	17181	0	824	25	6.9999
21/03/90 15:00	14035	0	666.99	25	6.9999
21/03/90 16:00	9501.2	0	455.01	25	6.9999
21/03/90 17:00	3827.5	0	206	25	6.9999
21/03/90 18:00	422.83	0	26	25	6.9999
21/03/90 19:00	0	-21.619	0	25	6.9999
21/03/90 20:00	0	-21.619	0	25	6.9999
21/03/90 21:00	0	-21.619	0	25	8.0001
21/03/90 22:00	0	-21.619	0	25	8.0001
21/03/90 23:00	0	-21.619	0	25	8.0001
22/03/90 00:00	0	-21.619	0	25	8.0001
22/03/90 01:00	0	-21.619	0	25	8.9997
22/03/90 02:00	0	-21.619	0	25	8.9997
22/03/90 03:00	0	-21.619	0	25	8.9997
22/03/90 04:00	0	-21.619	0	25	8.9997
22/03/90 05:00	0	-21.619	0	25	8.9997
22/03/90 06:00	314.08	0	18	25	8.9997
22/03/90 07:00	3155.3	0	168	25	8.9997
22/03/90 08:00	8075	0	386.01	24	8.9997
22/03/90 09:00	11002	0	518.99	24	8.9997
22/03/90 10:00	17191	0	821	24	8.0001
22/03/90 11:00	19098	0	924	24	8.0001
22/03/90 12:00	14852	0	709	24	6.9999
22/03/90 13:00	12032	0	570.99	24	6.9999
22/03/90 14:00	17599	0	844	24	6.9999
22/03/90 15:00	13934	0	659.99	24	6.9999
22/03/90 16:00	8623.9	0	412.01	24	6.9999
22/03/90 17:00	3221.4	0	168	25	6.0002
22/03/90 18:00	413.67	0	24	25	6.0002
22/03/90 19:00	0	-21.619	0	25	6.0002
22/03/90 20:00	0	-21.619	0	25	6.0002
22/03/90 21:00	0	-21.619	0	25	6.0002
22/03/90 22:00	0	-21.619	0	25	6.0002
22/03/90 23:00	0	-21.619	0	25	5
23/03/90 00:00	0	-21.619	0	25	5
23/03/90 01:00	0	-21.619	0	26	5
23/03/90 02:00	0	-21.619	0	26	5
23/03/90 03:00	0	-21.619	0	26	6.0002
23/03/90 04:00	0	-21.619	0	26	6.0002
23/03/90 05:00	0	-21.619	0	25	6.0002
23/03/90 06:00	0	-21.619	3	24	6.0002
23/03/90 07:00	2251.4	2184	116	24	6.0002
23/03/90 08:00	5590.3	5453.2	269	24	6.0002
23/03/90 09:00	8492.8	8262.6	406.01	24	6.0002
23/03/90 10:00	12141	11750	582.99	24	6.0002
23/03/90 11:00	14261	13757	683.99	24	6.9999
23/03/90 12:00	15156	14596	728	25	6.0002
23/03/90 13:00	5723.9	5583.2	279	24	6.0002
23/03/90 14:00	10081	9788.4	484.01	24	6.0002
23/03/90 15:00	9731.9	9454.1	463.01	24	6.0002
23/03/90 16:00	7569.1	7371.2	362.01	24	6.0002
23/03/90 17:00	2710.2	2635.8	140	25	6.0002
23/03/90 18:00	434.02	395.52	25	25	6.0002

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
23/03/90 19:00	0	-21.619	0	25	6.0002
23/03/90 20:00	0	-21.619	0	25	6.0002
23/03/90 21:00	0	-21.619	0	25	6.0002
23/03/90 22:00	0	-21.619	0	25	6.0002
23/03/90 23:00	0	-21.619	0	26	6.0002
24/03/90 00:00	0	-21.619	0	25	6.0002
24/03/90 01:00	0	-21.619	0	25	6.0002
24/03/90 02:00	0	-21.619	0	25	6.9999
24/03/90 03:00	0	-21.619	0	26	6.9999
24/03/90 04:00	0	-21.619	0	26	6.9999
24/03/90 05:00	0	-21.619	0	26	6.9999
24/03/90 06:00	334.26	297.04	19	26	6.9999
24/03/90 07:00	3316	3231.5	176	25	8.0001
24/03/90 08:00	8675.4	8438.5	415.01	25	6.9999
24/03/90 09:00	13730	13255	650.99	25	6.9999
24/03/90 10:00	16628	15970	796	25	6.9999
24/03/90 11:00	15200	14637	732	26	6.0002
24/03/90 12:00	14772	14237	715	26	6.0002
24/03/90 13:00	13701	13228	661.99	26	5
24/03/90 14:00	12551	12139	603.99	26	5
24/03/90 15:00	8514.5	8283.5	410.01	26	5
24/03/90 16:00	8751.3	8511.6	421.01	26	3.9998
24/03/90 17:00	3610.9	3521.1	191	26	3.9998
24/03/90 18:00	393.84	355.89	23	26	3.9998
24/03/90 19:00	0	-21.619	0	26	3.9998
24/03/90 20:00	0	-21.619	0	25	3.9998
24/03/90 21:00	0	-21.619	0	25	3.9998
24/03/90 22:00	0	-21.619	0	25	3.9998
24/03/90 23:00	0	-21.619	0	25	5
25/03/90 00:00	0	-21.619	0	25	6.0002
25/03/90 01:00	0	-21.619	0	25	6.0002
25/03/90 02:00	0	-21.619	0	25	6.0002
25/03/90 03:00	0	-21.619	0	25	6.0002
25/03/90 04:00	0	-21.619	0	25	6.0002
25/03/90 05:00	0	-21.619	0	25	6.0002
25/03/90 06:00	280.36	243.8	16	26	5
25/03/90 07:00	3607.8	3518.1	194	26	5
25/03/90 08:00	9210.4	8953.4	443.01	26	5
25/03/90 09:00	13951	13464	666.99	26	3.9998
25/03/90 10:00	17434	16720	846	26	3.9998
25/03/90 11:00	19351	18495	963	26	3.9998
25/03/90 12:00	19613	18734	1004	26	3.9998
25/03/90 13:00	19360	18503	967	26	3.0001
25/03/90 14:00	17563	16841	855	26	3.0001
25/03/90 15:00	14148	13651	678.99	26	3.0001
25/03/90 16:00	9455	9188.5	456.01	26	1.9999
25/03/90 17:00	3872.8	3777.9	208	26	1.9999
25/03/90 18:00	439.09	400.57	27	26	1.9999
25/03/90 19:00	0	-21.619	0	26	1.9999
25/03/90 20:00	0	-21.619	0	26	3.0001
25/03/90 21:00	0	-21.619	0	26	3.0001
25/03/90 22:00	0	-21.619	0	26	3.0001
25/03/90 23:00	0	-21.619	0	26	3.0001
26/03/90 00:00	0	-21.619	0	26	3.0001
26/03/90 01:00	0	-21.619	0	26	3.9998
26/03/90 02:00	0	-21.619	0	26	3.9998
26/03/90 03:00	0	-21.619	0	25	3.9998
26/03/90 04:00	0	-21.619	0	25	3.9998
26/03/90 05:00	0	-21.619	0	26	3.9998
26/03/90 06:00	409.47	371.32	24	26	3.9998

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
26/03/90 07:00	3723.3	3631.4	201	26	3.9998
26/03/90 08:00	9164.8	8909.5	441.01	26	3.9998
26/03/90 09:00	14096	13602	674.99	26	3.9998
26/03/90 10:00	17055	16369	825	26	3.9998
26/03/90 11:00	19365	18508	964	26	3.9998
26/03/90 12:00	19615	18736	1008	26	3.9998
26/03/90 13:00	19402	18542	971	26	3.0001
26/03/90 14:00	17446	16732	848	26	3.0001
26/03/90 15:00	12378	11975	591.99	26	3.9998
26/03/90 16:00	9564.1	9293.1	460.01	26	3.9998
26/03/90 17:00	3939.4	3843.1	213	26	3.9998
26/03/90 18:00	465.63	426.77	29	26	3.9998
26/03/90 19:00	0	-21.619	0	26	3.9998
26/03/90 20:00	0	-21.619	0	26	5
26/03/90 21:00	0	-21.619	0	26	5
26/03/90 22:00	0	-21.619	0	26	5
26/03/90 23:00	0	-21.619	0	26	6.0002
27/03/90 00:00	0	-21.619	0	26	6.9999
27/03/90 01:00	0	-21.619	0	26	6.9999
27/03/90 02:00	0	-21.619	0	26	6.9999
27/03/90 03:00	0	-21.619	0	26	6.9999
27/03/90 04:00	0	-21.619	0	26	6.9999
27/03/90 05:00	0	-21.619	0	25	6.0002
27/03/90 06:00	406.81	368.65	25	25	6.9999
27/03/90 07:00	3896.1	3800.8	206	25	6.9999
27/03/90 08:00	7772.8	7567.9	372.01	25	6.0002
27/03/90 09:00	9546.7	9276.6	452.01	25	6.0002
27/03/90 10:00	14424	13910	688.99	25	6.0002
27/03/90 11:00	19473	18607	967	25	6.0002
27/03/90 12:00	19618	18739	1005	25	6.0002
27/03/90 13:00	19251	18402	942	25	6.0002
27/03/90 14:00	17609	16882	848	25	6.0002
27/03/90 15:00	12133	11742	575.99	25	6.9999
27/03/90 16:00	8557.5	8324.9	409.01	25	6.9999
27/03/90 17:00	3793.3	3700.1	202	25	6.9999
27/03/90 18:00	467.01	428.13	29	26	6.9999
27/03/90 19:00	0	-21.619	0	26	6.9999
27/03/90 20:00	0	-21.619	0	26	8.0001
27/03/90 21:00	0	-21.619	0	26	8.0001
27/03/90 22:00	0	-21.619	0	26	8.0001
27/03/90 23:00	0	-21.619	0	26	8.9997
28/03/90 00:00	0	-21.619	0	26	8.9997
28/03/90 01:00	0	-21.619	0	26	10
28/03/90 02:00	0	-21.619	0	25	10
28/03/90 03:00	0	-21.619	0	25	11
28/03/90 04:00	0	-21.619	0	24	10
28/03/90 05:00	0	-21.619	0	24	8.9997
28/03/90 06:00	396.63	358.56	23	24	8.9997
28/03/90 07:00	3801.3	3707.9	200	24	8.0001
28/03/90 08:00	9524.4	9255.2	454.01	24	8.0001
28/03/90 09:00	14332	13823	679.99	24	6.9999
28/03/90 10:00	17873	17126	859	24	6.9999
28/03/90 11:00	19515	18646	972	25	6.0002
28/03/90 12:00	19621	18742	1011	25	6.0002
28/03/90 13:00	19514	18644	972	25	6.0002
28/03/90 14:00	17786	17046	859	25	6.0002
28/03/90 15:00	14307	13800	681.99	25	6.0002
28/03/90 16:00	9562.6	9291.7	458.01	25	6.0002
28/03/90 17:00	3860.8	3766.2	206	25	5
28/03/90 18:00	468.49	429.54	29	25	6.0002

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
28/03/90 19:00	0	-21.619	0	25	6.0002
28/03/90 20:00	0	-21.619	0	25	6.0002
28/03/90 21:00	0	-21.619	0	25	6.0002
28/03/90 22:00	0	-21.619	0	26	5
28/03/90 23:00	0	-21.619	0	26	5
29/03/90 00:00	0	-21.619	0	26	3.9998
29/03/90 01:00	0	-21.619	0	26	3.9998
29/03/90 02:00	0	-21.619	0	26	3.9998
29/03/90 03:00	0	-21.619	0	26	5
29/03/90 04:00	0	-21.619	0	25	6.9999
29/03/90 05:00	0	-21.619	0	25	6.9999
29/03/90 06:00	380.54	342.72	22	25	6.9999
29/03/90 07:00	3919.3	3823.6	208	25	6.9999
29/03/90 08:00	9437.2	9171.4	451.01	25	6.9999
29/03/90 09:00	14410	13897	684.99	25	6.9999
29/03/90 10:00	15264	14696	728	25	6.9999
29/03/90 11:00	19351	18494	952	25	6.9999
29/03/90 12:00	19609	18731	984	25	6.9999
29/03/90 13:00	15972	15358	767	25	6.9999
29/03/90 14:00	11737	11366	562.99	25	6.0002
29/03/90 15:00	13975	13486	664.99	25	6.0002
29/03/90 16:00	9609.3	9336.6	460.01	25	6.0002
29/03/90 17:00	3980.6	3883.5	213	25	6.0002
29/03/90 18:00	470.31	431.34	29	25	6.0002
29/03/90 19:00	0	-21.619	0	25	6.0002
29/03/90 20:00	0	-21.619	0	26	6.0002
29/03/90 21:00	0	-21.619	0	26	5
29/03/90 22:00	0	-21.619	0	26	5
29/03/90 23:00	0	-21.619	0	26	5
30/03/90 00:00	0	-21.619	0	26	5
30/03/90 01:00	0	-21.619	0	26	5
30/03/90 02:00	0	-21.619	0	26	6.0002
30/03/90 03:00	0	-21.619	0	26	6.0002
30/03/90 04:00	0	-21.619	0	26	6.0002
30/03/90 05:00	0	-21.619	0	26	5
30/03/90 06:00	475.59	436.6	30	26	5
30/03/90 07:00	4108.9	4008.9	218	26	5
30/03/90 08:00	8372.1	8146.3	402.01	26	6.0002
30/03/90 09:00	10788	10463	513.99	26	6.0002
30/03/90 10:00	13677	13206	655.99	26	6.0002
30/03/90 11:00	12867	12439	620.99	26	6.0002
30/03/90 12:00	13217	12770	641.99	26	6.0002
30/03/90 13:00	9372.8	9109.6	458.01	26	5
30/03/90 14:00	9676.4	9401	469.01	26	3.9998
30/03/90 15:00	9247.4	8989	446.01	26	3.9998
30/03/90 16:00	7947.5	7736.6	383.01	26	3.9998
30/03/90 17:00	2535.2	2463.9	129	26	3.9998
30/03/90 18:00	398.47	360.46	23	26	5
30/03/90 19:00	0	-21.619	0	26	5
30/03/90 20:00	0	-21.619	0	25	6.0002
30/03/90 21:00	0	-21.619	0	25	6.0002
30/03/90 22:00	0	-21.619	0	25	6.9999
30/03/90 23:00	0	-21.619	0	25	6.9999
31/03/90 00:00	0	-21.619	0	25	6.9999
31/03/90 01:00	0	-21.619	0	25	6.9999
31/03/90 02:00	0	-21.619	0	25	6.0002
31/03/90 03:00	0	-21.619	0	25	6.0002
31/03/90 04:00	0	-21.619	0	25	6.0002
31/03/90 05:00	0	-21.619	0	25	6.0002
31/03/90 06:00	285.05	248.37	16	24	6.9999

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
31/03/90 07:00	3484.5	3397	179	25	6.9999
31/03/90 08:00	8170.2	7951.6	391.01	25	6.9999
31/03/90 09:00	11332	10981	537.99	25	6.9999
31/03/90 10:00	14700	14169	702	25	6.9999
31/03/90 11:00	13403	12946	643.99	25	6.9999
31/03/90 12:00	9854.3	9571.4	475.01	25	6.0002
31/03/90 13:00	6221.3	6066.2	302	26	5
31/03/90 14:00	12664	12246	608.99	26	5
31/03/90 15:00	13245	12797	632.99	26	3.9998
31/03/90 16:00	9511.1	9242.4	457.01	26	3.9998
31/03/90 17:00	3965.7	3868.9	211	26	3.9998
31/03/90 18:00	472.1	433.16	29	26	3.9998
31/03/90 19:00	0	-21.619	0	26	5
31/03/90 20:00	0	-21.619	0	26	5
31/03/90 21:00	0	-21.619	0	26	5
31/03/90 22:00	0	-21.619	0	26	5
31/03/90 23:00	0	-21.619	0	26	3.9998
1/4/1990 0:00	0	-21.619	0	26	8.0001
1/4/1990 1:00	0	-21.619	0	26	8.0001
1/4/1990 2:00	0	-21.619	0	26	8.9997
1/4/1990 3:00	0	-21.619	0	25	8.9997
1/4/1990 4:00	0	-21.619	0	25	8.9997
1/4/1990 5:00	0	-21.619	0	25	8.9997
1/4/1990 6:00	319.54	282.46	18	25	10
1/4/1990 7:00	3753.6	3661.1	194	25	10
1/4/1990 8:00	7030.8	6850.6	340.01	25	10
1/4/1990 9:00	9267	9007.9	448.01	25	10
1/4/1990 10:00	14811	14273	714	25	10
1/4/1990 11:00	18653	17848	910	25	10
1/4/1990 12:00	19322	18467	953	25	8.9997
1/4/1990 13:00	18360	17578	898	26	8.9997
1/4/1990 14:00	16930	16250	820	26	8.9997
1/4/1990 15:00	13494	13032	647.99	26	8.9997
1/4/1990 16:00	9286	9026.1	449.01	26	8.9997
1/4/1990 17:00	3784.6	3691.6	201	26	8.9997
1/4/1990 18:00	394.82	356.85	23	26	8.9997
1/4/1990 19:00	0	-21.619	0	26	8.0001
1/4/1990 20:00	0	-21.619	0	26	8.0001
1/4/1990 21:00	0	-21.619	0	26	8.0001
1/4/1990 22:00	0	-21.619	0	26	8.0001
1/4/1990 23:00	0	-21.619	0	26	6.9999
2/4/1990 0:00	0	-21.619	0	26	6.9999
2/4/1990 1:00	0	-21.619	0	26	6.0002
2/4/1990 2:00	0	-21.619	0	26	6.0002
2/4/1990 3:00	0	-21.619	0	26	6.9999
2/4/1990 4:00	0	-21.619	0	26	6.9999
2/4/1990 5:00	0	-21.619	0	26	6.9999
2/4/1990 6:00	341.78	304.47	20	26	6.9999
2/4/1990 7:00	4070.5	3971.3	213	25	8.0001
2/4/1990 8:00	8685.8	8448.6	419.01	25	8.0001
2/4/1990 9:00	11217	10871	536.99	25	8.9997
2/4/1990 10:00	16600	15942	802	25	8.9997
2/4/1990 11:00	18239	17465	889	25	8.9997
2/4/1990 12:00	18678	17873	917	26	8.0001
2/4/1990 13:00	19245	18397	949	26	8.0001
2/4/1990 14:00	14912	14368	722	26	8.0001
2/4/1990 15:00	13372	12917	642.99	26	8.0001
2/4/1990 16:00	9459.6	9193	458.01	26	8.0001
2/4/1990 17:00	3976.2	3879.2	214	26	8.0001
2/4/1990 18:00	427.2	388.83	25	26	8.0001

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
2/4/1990 19:00	0	-21.619	0	26	8.0001
2/4/1990 20:00	0	-21.619	0	26	6.9999
2/4/1990 21:00	0	-21.619	0	26	6.9999
2/4/1990 22:00	0	-21.619	0	26	6.9999
2/4/1990 23:00	0	-21.619	0	26	6.0002
3/4/1990 0:00	0	-21.619	0	26	6.0002
3/4/1990 1:00	0	-21.619	0	26	6.0002
3/4/1990 2:00	0	-21.619	0	26	6.0002
3/4/1990 3:00	0	-21.619	0	26	6.0002
3/4/1990 4:00	0	-21.619	0	26	6.9999
3/4/1990 5:00	0	-21.619	0	26	6.0002
3/4/1990 6:00	519.58	480.01	34.001	26	6.0002
3/4/1990 7:00	4039.7	3941.2	214	26	6.0002
3/4/1990 8:00	9377.9	9114.5	454.01	26	6.0002
3/4/1990 9:00	13369	12914	644.99	26	6.0002
3/4/1990 10:00	17604	16878	860	26	6.0002
3/4/1990 11:00	19462	18597	977	26	6.0002
3/4/1990 12:00	19615	18736	1010	26	6.0002
3/4/1990 13:00	19302	18449	960	26	6.0002
3/4/1990 14:00	16484	15836	802	26	6.0002
3/4/1990 15:00	13540	13075	652.99	26	6.0002
3/4/1990 16:00	8615.4	8380.8	418.01	26	6.0002
3/4/1990 17:00	3521.1	3433	187	26	6.0002
3/4/1990 18:00	374.99	337.27	22	26	6.0002
3/4/1990 19:00	0	-21.619	0	26	5
3/4/1990 20:00	0	-21.619	0	26	5
3/4/1990 21:00	0	-21.619	0	26	5
3/4/1990 22:00	0	-21.619	0	26	5
3/4/1990 23:00	0	-21.619	0	26	5
4/4/1990 0:00	0	-21.619	0	26	3.9998
4/4/1990 1:00	0	-21.619	0	26	3.0001
4/4/1990 2:00	0	-21.619	0	26	3.0001
4/4/1990 3:00	0	-21.619	0	26	3.9998
4/4/1990 4:00	0	-21.619	0	26	5
4/4/1990 5:00	0	-21.619	0	26	5
4/4/1990 6:00	380.07	342.3	22	26	5
4/4/1990 7:00	4169.3	4067.8	218	26	5
4/4/1990 8:00	9342.2	9080.1	453.01	26	3.9998
4/4/1990 9:00	14384	13873	695.99	26	5
4/4/1990 10:00	17468	16752	856	26	5
4/4/1990 11:00	19368	18510	967	26	5
4/4/1990 12:00	17759	17022	875	26	5
4/4/1990 13:00	12766	12343	626.99	26	5
4/4/1990 14:00	13739	13265	668.99	26	3.9998
4/4/1990 15:00	13308	12856	643.99	26	3.9998
4/4/1990 16:00	8680.8	8443.7	422.01	26	3.9998
4/4/1990 17:00	3708.6	3617	198	26	3.0001
4/4/1990 18:00	357.45	319.95	21	26	3.0001
4/4/1990 19:00	0	-21.619	0	26	3.9998
4/4/1990 20:00	0	-21.619	0	26	3.9998
4/4/1990 21:00	0	-21.619	0	26	3.9998
4/4/1990 22:00	0	-21.619	0	26	3.9998
4/4/1990 23:00	0	-21.619	0	26	3.9998
5/4/1990 0:00	0	-21.619	0	26	3.0001
5/4/1990 1:00	0	-21.619	0	26	3.0001
5/4/1990 2:00	0	-21.619	0	26	3.0001
5/4/1990 3:00	0	-21.619	0	26	1.9999
5/4/1990 4:00	0	-21.619	0	25	1.9999
5/4/1990 5:00	0	-21.619	0	25	1.0002
5/4/1990 6:00	457.56	418.76	26	25	0

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
5/4/1990 7:00	2713.2	2638.9	139	25	1.0002
5/4/1990 8:00	5458.5	5325	268	25	1.9999
5/4/1990 9:00	8490.5	8260.4	416.01	25	3.0001
5/4/1990 10:00	10991	10656	537.99	25	3.0001
5/4/1990 11:00	12383	11980	607.99	25	3.0001
5/4/1990 12:00	15658	15067	768	26	3.0001
5/4/1990 13:00	17353	16646	859	26	1.9999
5/4/1990 14:00	13650	13180	665.99	26	1.9999
5/4/1990 15:00	11189	10845	544.99	26	1.9999
5/4/1990 16:00	8872.8	8628.6	433.01	26	1.0002
5/4/1990 17:00	3338.4	3253.6	174	26	1.0002
5/4/1990 18:00	316.73	279.73	18	26	1.9999
5/4/1990 19:00	0	-21.619	0	26	1.9999
5/4/1990 20:00	0	-21.619	0	26	1.0002
5/4/1990 21:00	0	-21.619	0	26	1.0002
5/4/1990 22:00	0	-21.619	0	25	1.0002
5/4/1990 23:00	0	-21.619	0	25	1.0002
6/4/1990 0:00	0	-21.619	0	25	1.0002
6/4/1990 1:00	0	-21.619	0	24	1.0002
6/4/1990 2:00	0	-21.619	0	24	1.0002
6/4/1990 3:00	0	-21.619	0	24	1.0002
6/4/1990 4:00	0	-21.619	0	25	1.9999
6/4/1990 5:00	0	-21.619	0	25	1.9999
6/4/1990 6:00	597.21	556.54	38.001	25	1.9999
6/4/1990 7:00	4459.2	4351	231	25	3.0001
6/4/1990 8:00	4171.2	4069.7	205	25	3.0001
6/4/1990 9:00	6950.7	6773	339.01	25	1.9999
6/4/1990 10:00	16621	15965	814	25	1.9999
6/4/1990 11:00	17205	16508	846	25	3.0001
6/4/1990 12:00	11613	11249	571.99	26	3.0001
6/4/1990 13:00	8916.2	8670.4	441.01	26	3.9998
6/4/1990 14:00	11059	10721	537.99	26	3.9998
6/4/1990 15:00	5506.1	5371.3	272	26	5
6/4/1990 16:00	6029.2	5879.7	294	26	5
6/4/1990 17:00	3684.9	3593.7	196	26	5
6/4/1990 18:00	492.34	453.13	29	26	5
6/4/1990 19:00	0	-21.619	0	26	5
6/4/1990 20:00	0	-21.619	0	26	3.9998
6/4/1990 21:00	0	-21.619	0	26	3.9998
6/4/1990 22:00	0	-21.619	0	26	3.9998
6/4/1990 23:00	0	-21.619	0	26	3.0001
7/4/1990 0:00	0	-21.619	0	26	3.0001
7/4/1990 1:00	0	-21.619	0	25	3.0001
7/4/1990 2:00	0	-21.619	0	25	3.0001
7/4/1990 3:00	0	-21.619	0	25	3.9998
7/4/1990 4:00	0	-21.619	0	25	3.9998
7/4/1990 5:00	0	-21.619	0	25	3.9998
7/4/1990 6:00	359.53	321.97	20	25	3.9998
7/4/1990 7:00	3128.1	3046.8	159	25	5
7/4/1990 8:00	9059.3	8808.1	437.01	25	6.0002
7/4/1990 9:00	13366	12911	639.99	24	6.9999
7/4/1990 10:00	17243	16541	834	24	6.9999
7/4/1990 11:00	13642	13173	657.99	25	6.9999
7/4/1990 12:00	17604	16877	860	25	6.9999
7/4/1990 13:00	19047	18214	935	25	6.9999
7/4/1990 14:00	17538	16815	852	25	6.9999
7/4/1990 15:00	14008	13517	671.99	25	8.0001
7/4/1990 16:00	9505.2	9236.8	459.01	25	6.9999
7/4/1990 17:00	3975.3	3878.3	210	25	6.9999
7/4/1990 18:00	426.46	388.05	26	25	6.9999

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
7/4/1990 19:00	0	-21.619	0	25	6.0002
7/4/1990 20:00	0	-21.619	0	25	5
7/4/1990 21:00	0	-21.619	0	25	5
7/4/1990 22:00	0	-21.619	0	25	3.9998
7/4/1990 23:00	0	-21.619	0	25	3.9998
8/4/1990 0:00	0	-21.619	0	25	3.9998
8/4/1990 1:00	0	-21.619	0	25	3.9998
8/4/1990 2:00	0	-21.619	0	25	5
8/4/1990 3:00	0	-21.619	0	25	5
8/4/1990 4:00	0	-21.619	0	25	5
8/4/1990 5:00	0	-21.619	0	25	6.0002
8/4/1990 6:00	461.4	422.54	26	25	6.0002
8/4/1990 7:00	4173.5	4072	214	25	6.9999
8/4/1990 8:00	6464.1	6301.7	314	25	8.0001
8/4/1990 9:00	12108	11719	583.99	25	8.0001
8/4/1990 10:00	15972	15358	773	25	8.0001
8/4/1990 11:00	18168	17400	887	25	8.0001
8/4/1990 12:00	16198	15569	790	26	8.0001
8/4/1990 13:00	13934	13448	674.99	26	8.0001
8/4/1990 14:00	14873	14332	721	26	8.0001
8/4/1990 15:00	12608	12193	607.99	26	6.9999
8/4/1990 16:00	8956.2	8708.9	434.01	26	6.9999
8/4/1990 17:00	3844.7	3750.5	202	26	6.0002
8/4/1990 18:00	378.18	340.42	22	26	6.0002
8/4/1990 19:00	0	-21.619	0	26	5
8/4/1990 20:00	0	-21.619	0	26	5
8/4/1990 21:00	0	-21.619	0	26	6.0002
8/4/1990 22:00	0	-21.619	0	26	6.0002
8/4/1990 23:00	0	-21.619	0	26	6.0002
9/4/1990 0:00	0	-21.619	0	26	6.0002
9/4/1990 1:00	0	-21.619	0	26	6.0002
9/4/1990 2:00	0	-21.619	0	26	6.0002
9/4/1990 3:00	0	-21.619	0	26	6.0002
9/4/1990 4:00	0	-21.619	0	26	6.9999
9/4/1990 5:00	0	-21.619	0	26	6.0002
9/4/1990 6:00	538.22	498.41	32	26	6.0002
9/4/1990 7:00	3726.6	3634.6	193	26	5
9/4/1990 8:00	9755.3	9476.7	471.01	26	6.0002
9/4/1990 9:00	14342	13834	694.99	27	6.0002
9/4/1990 10:00	17340	16634	848	27	6.0002
9/4/1990 11:00	17943	17193	885	27	6.0002
9/4/1990 12:00	12687	12268	615.99	27	6.0002
9/4/1990 13:00	15270	14704	747	27	6.0002
9/4/1990 14:00	11245	10898	551.99	27	5
9/4/1990 15:00	7719.1	7516.1	380.01	27	5
9/4/1990 16:00	5128	5003.1	253	27	5
9/4/1990 17:00	3572.8	3483.8	186	27	3.9998
9/4/1990 18:00	359.46	321.98	21	27	3.9998
9/4/1990 19:00	0	-21.619	0	26	3.9998
9/4/1990 20:00	0	-21.619	0	26	3.9998
9/4/1990 21:00	0	-21.619	0	26	3.9998
9/4/1990 22:00	0	-21.619	0	26	3.9998
9/4/1990 23:00	0	-21.619	0	27	3.9998
10/4/1990 0:00	0	-21.619	0	27	3.9998
10/4/1990 1:00	0	-21.619	0	26	3.9998
10/4/1990 2:00	0	-21.619	0	27	3.9998
10/4/1990 3:00	0	-21.619	0	27	5
10/4/1990 4:00	0	-21.619	0	27	5
10/4/1990 5:00	0	-21.619	0	27	5
10/4/1990 6:00	606	565.27	36.001	26	5

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
10/4/1990 7:00	4110	4009.9	213	26	5
10/4/1990 8:00	9578	9306.8	464.01	27	5
10/4/1990 9:00	13681	13209	661.99	27	6.0002
10/4/1990 10:00	16747	16082	818	27	6.0002
10/4/1990 11:00	17721	16987	872	27	6.0002
10/4/1990 12:00	17164	16469	844	27	6.0002
10/4/1990 13:00	18443	17657	911	27	6.0002
10/4/1990 14:00	15621	15031	759	27	6.9999
10/4/1990 15:00	13226	12779	638.99	27	6.9999
10/4/1990 16:00	7820.5	7614	380.01	27	6.9999
10/4/1990 17:00	3662.9	3572.1	193	27	6.9999
10/4/1990 18:00	423.09	384.82	26	27	6.9999
10/4/1990 19:00	0	-21.619	0	27	6.9999
10/4/1990 20:00	0	-21.619	0	27	8.0001
10/4/1990 21:00	0	-21.619	0	27	8.0001
10/4/1990 22:00	0	-21.619	0	27	8.0001
10/4/1990 23:00	0	-21.619	0	27	8.0001
11/4/1990 0:00	0	-21.619	0	27	8.0001
11/4/1990 1:00	0	-21.619	0	27	8.0001
11/4/1990 2:00	0	-21.619	0	27	8.0001
11/4/1990 3:00	0	-21.619	0	27	8.9997
11/4/1990 4:00	0	-21.619	0	27	8.9997
11/4/1990 5:00	0	-21.619	0	27	8.0001
11/4/1990 6:00	593.46	552.97	35.001	27	8.0001
11/4/1990 7:00	4522.7	4412.9	233	27	8.0001
11/4/1990 8:00	9594.1	9322.3	464.01	27	8.0001
11/4/1990 9:00	12710	12290	613.99	27	8.9997
11/4/1990 10:00	17213	16514	836	27	10
11/4/1990 11:00	19602	18726	981	27	10
11/4/1990 12:00	19619	18740	1006	27	10
11/4/1990 13:00	19117	18279	939	27	10
11/4/1990 14:00	14872	14331	721	27	8.9997
11/4/1990 15:00	13795	13317	664.99	27	8.9997
11/4/1990 16:00	8570.4	8337.4	416.01	27	8.0001
11/4/1990 17:00	3543.5	3455	184	27	6.9999
11/4/1990 18:00	335.42	298.24	19	27	6.0002
11/4/1990 19:00	0	-21.619	0	27	6.9999
11/4/1990 20:00	0	-21.619	0	27	6.9999
11/4/1990 21:00	0	-21.619	0	27	6.9999
11/4/1990 22:00	0	-21.619	0	27	8.0001
11/4/1990 23:00	0	-21.619	0	27	8.0001
12/4/1990 0:00	0	-21.619	0	27	8.9997
12/4/1990 1:00	0	-21.619	0	27	8.9997
12/4/1990 2:00	0	-21.619	0	27	8.0001
12/4/1990 3:00	0	-21.619	0	27	8.0001
12/4/1990 4:00	0	-21.619	0	27	8.0001
12/4/1990 5:00	0	-21.619	0	27	6.9999
12/4/1990 6:00	578.22	537.93	34.001	27	6.9999
12/4/1990 7:00	4020.3	3922.3	206	27	8.0001
12/4/1990 8:00	9391.1	9127.2	454.01	27	8.0001
12/4/1990 9:00	14123	13627	681.99	27	8.0001
12/4/1990 10:00	17696	16963	864	27	8.0001
12/4/1990 11:00	19419	18557	965	27	8.0001
12/4/1990 12:00	19151	18311	947	27	8.0001
12/4/1990 13:00	18751	17942	925	27	6.9999
12/4/1990 14:00	17070	16382	832	27	6.9999
12/4/1990 15:00	13522	13059	652.99	27	6.9999
12/4/1990 16:00	8554.4	8322	416.01	27	6.0002
12/4/1990 17:00	3335.8	3251.2	172	27	6.9999
12/4/1990 18:00	259.88	223.59	15	27	6.0002

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
12/4/1990 19:00	0	-21.619	0	27	5
12/4/1990 20:00	0	-21.619	0	27	5
12/4/1990 21:00	0	-21.619	0	27	5
12/4/1990 22:00	0	-21.619	0	27	5
12/4/1990 23:00	0	-21.619	0	27	5
13/04/90 00:00	0	-21.619	0	27	5
13/04/90 01:00	0	-21.619	0	27	5
13/04/90 02:00	0	-21.619	0	27	5
13/04/90 03:00	0	-21.619	0	27	3.9998
13/04/90 04:00	0	-21.619	0	27	3.9998
13/04/90 05:00	0	-21.619	0	26	3.9998
13/04/90 06:00	648.22	606.92	38.001	26	5
13/04/90 07:00	4404.4	4297.5	226	26	5
13/04/90 08:00	9708.2	9431.7	470.01	27	5
13/04/90 09:00	13690	13218	663.99	27	5
13/04/90 10:00	16503	15855	806	27	6.0002
13/04/90 11:00	19354	18499	959	27	6.9999
13/04/90 12:00	15717	15122	771	28	6.9999
13/04/90 13:00	12433	12028	608.99	28	6.9999
13/04/90 14:00	12954	12522	632.99	28	8.0001
13/04/90 15:00	10462	10152	507.01	27	6.9999
13/04/90 16:00	8769.4	8529.1	426.01	27	6.9999
13/04/90 17:00	3942.9	3846.6	208	27	6.0002
13/04/90 18:00	458.76	420.03	27	27	5
13/04/90 19:00	0	-21.619	0	27	3.9998
13/04/90 20:00	0	-21.619	0	27	3.9998
13/04/90 21:00	0	-21.619	0	27	5
13/04/90 22:00	0	-21.619	0	27	5
13/04/90 23:00	0	-21.619	0	27	5
14/04/90 00:00	0	-21.619	0	27	5
14/04/90 01:00	0	-21.619	0	27	5
14/04/90 02:00	0	-21.619	0	27	5
14/04/90 03:00	0	-21.619	0	27	5
14/04/90 04:00	0	-21.619	0	27	5
14/04/90 05:00	0	-21.619	0	27	3.9998
14/04/90 06:00	724.35	682.06	45.001	27	3.9998
14/04/90 07:00	4714.4	4600	243	27	5
14/04/90 08:00	10094	9800.6	488.01	27	6.0002
14/04/90 09:00	13636	13167	658.99	27	6.9999
14/04/90 10:00	16844	16172	822	27	6.9999
14/04/90 11:00	15119	14563	742	27	6.9999
14/04/90 12:00	10262	9961.3	505.01	28	6.9999
14/04/90 13:00	17160	16466	844	28	6.9999
14/04/90 14:00	16503	15855	808	28	6.0002
14/04/90 15:00	12847	12420	620.99	27	6.0002
14/04/90 16:00	9330.8	9069.2	453.01	27	6.0002
14/04/90 17:00	4078.1	3978.7	217	27	6.0002
14/04/90 18:00	506.92	467.57	33.001	27	5
14/04/90 19:00	0	-21.619	0	27	5
14/04/90 20:00	0	-21.619	0	27	5
14/04/90 21:00	0	-21.619	0	27	5
14/04/90 22:00	0	-21.619	0	27	6.0002
14/04/90 23:00	0	-21.619	0	27	6.0002
15/04/90 00:00	0	-21.619	0	27	6.9999
15/04/90 01:00	0	-21.619	0	27	6.9999
15/04/90 02:00	0	-21.619	0	27	6.9999
15/04/90 03:00	0	-21.619	0	27	6.9999
15/04/90 04:00	0	-21.619	0	27	6.9999
15/04/90 05:00	0	-21.619	0	27	6.0002
15/04/90 06:00	713.64	671.49	42.001	27	6.0002

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
15/04/90 07:00	4480.8	4372.1	230	27	6.0002
15/04/90 08:00	10232	9931.8	494.01	27	6.9999
15/04/90 09:00	14729	14197	712	27	8.0001
15/04/90 10:00	17461	16745	851	27	8.0001
15/04/90 11:00	18022	17266	883	27	8.9997
15/04/90 12:00	19605	18729	982	27	8.9997
15/04/90 13:00	15578	14991	758	27	8.9997
15/04/90 14:00	16633	15975	809	27	8.0001
15/04/90 15:00	13005	12570	626.99	27	8.0001
15/04/90 16:00	9113.2	8860	442.01	27	6.9999
15/04/90 17:00	3804.7	3711.3	201	27	6.0002
15/04/90 18:00	525.88	486.28	32	27	6.0002
15/04/90 19:00	0	-21.619	0	27	5
15/04/90 20:00	0	-21.619	0	27	5
15/04/90 21:00	0	-21.619	0	27	3.9998
15/04/90 22:00	0	-21.619	0	27	3.9998
15/04/90 23:00	0	-21.619	0	27	3.9998
16/04/90 00:00	0	-21.619	0	27	3.9998
16/04/90 01:00	0	-21.619	0	27	5
16/04/90 02:00	0	-21.619	0	27	5
16/04/90 03:00	0	-21.619	0	27	3.9998
16/04/90 04:00	0	-21.619	0	27	3.9998
16/04/90 05:00	0	-21.619	0	26	3.9998
16/04/90 06:00	703.57	661.49	41.001	26	3.9998
16/04/90 07:00	4318.7	4213.8	219	26	3.9998
16/04/90 08:00	2240.5	2174	114	27	3.9998
16/04/90 09:00	2817.8	2741.9	144	26	3.0001
16/04/90 10:00	3777.9	3685	192	26	5
16/04/90 11:00	3885.3	3790.3	197	25	8.0001
16/04/90 12:00	5809.2	5666.1	291	25	8.9997
16/04/90 13:00	6431.1	6269.6	321	25	8.9997
16/04/90 14:00	4353	4247.3	219	25	8.9997
16/04/90 15:00	3619.8	3529.8	182	25	8.9997
16/04/90 16:00	3144.6	3062.9	157	25	8.9997
16/04/90 17:00	1845.7	1784.9	93.001	25	8.0001
16/04/90 18:00	282.06	245.42	16	24	8.0001
16/04/90 19:00	0	-21.619	0	25	8.0001
16/04/90 20:00	0	-21.619	0	25	8.0001
16/04/90 21:00	0	-21.619	0	25	6.9999
16/04/90 22:00	0	-21.619	0	26	6.9999
16/04/90 23:00	0	-21.619	0	26	6.9999
17/04/90 00:00	0	-21.619	0	26	6.9999
17/04/90 01:00	0	-21.619	0	26	6.9999
17/04/90 02:00	0	-21.619	0	25	6.9999
17/04/90 03:00	0	-21.619	0	25	8.0001
17/04/90 04:00	0	-21.619	0	25	8.0001
17/04/90 05:00	0	-21.619	0	24	6.9999
17/04/90 06:00	525.03	485.28	29	24	6.9999
17/04/90 07:00	4167.7	4066.3	210	24	6.9999
17/04/90 08:00	10019	9728.9	479.01	23	6.9999
17/04/90 09:00	14596	14072	698.99	23	6.9999
17/04/90 10:00	15045	14493	724	23	6.9999
17/04/90 11:00	17616	16888	860	24	6.0002
17/04/90 12:00	19626	18747	1023	24	5
17/04/90 13:00	19527	18657	973	24	5
17/04/90 14:00	17489	16770	852	24	5
17/04/90 15:00	14203	13702	684.99	24	3.9998
17/04/90 16:00	9610.6	9338.1	464.01	24	3.9998
17/04/90 17:00	4144.3	4043.4	219	24	3.9998
17/04/90 18:00	550.8	510.71	34.001	24	3.0001

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
17/04/90 19:00	0	-21.619	0	24	3.0001
17/04/90 20:00	0	-21.619	0	23	1.9999
17/04/90 21:00	0	-21.619	0	23	1.0002
17/04/90 22:00	0	-21.619	0	23	1.0002
17/04/90 23:00	0	-21.619	0	23	1.0002
18/04/90 00:00	0	-21.619	0	23	1.0002
18/04/90 01:00	0	-21.619	0	23	1.0002
18/04/90 02:00	0	-21.619	0	23	1.0002
18/04/90 03:00	0	-21.619	0	23	1.0002
18/04/90 04:00	0	-21.619	0	23	1.0002
18/04/90 05:00	0	-21.619	0	23	1.9999
18/04/90 06:00	621.25	580.12	36.001	23	1.0002
18/04/90 07:00	4603.3	4491.6	233	23	1.0002
18/04/90 08:00	10452	10143	503.01	23	1.0002
18/04/90 09:00	14855	14316	723	24	1.0002
18/04/90 10:00	18037	17281	888	24	1.9999
18/04/90 11:00	19606	18730	993	24	1.9999
18/04/90 12:00	19623	18743	1024	25	3.0001
18/04/90 13:00	19463	18599	974	25	3.0001
18/04/90 14:00	17420	16708	855	25	3.0001
18/04/90 15:00	13672	13201	662.99	26	3.0001
18/04/90 16:00	9119.6	8866.2	443.01	26	3.0001
18/04/90 17:00	3922.4	3826.5	204	25	3.0001
18/04/90 18:00	380.04	342.22	22	25	3.0001
18/04/90 19:00	0	-21.619	0	25	3.0001
18/04/90 20:00	0	-21.619	0	25	3.0001
18/04/90 21:00	0	-21.619	0	25	3.0001
18/04/90 22:00	0	-21.619	0	25	3.0001
18/04/90 23:00	0	-21.619	0	25	3.0001
19/04/90 00:00	0	-21.619	0	26	1.9999
19/04/90 01:00	0	-21.619	0	25	1.9999
19/04/90 02:00	0	-21.619	0	25	1.9999
19/04/90 03:00	0	-21.619	0	25	1.9999
19/04/90 04:00	0	-21.619	0	25	1.9999
19/04/90 05:00	0	-21.619	0	26	3.0001
19/04/90 06:00	730.04	687.59	43.001	26	3.0001
19/04/90 07:00	4748	4632.7	242	26	3.0001
19/04/90 08:00	10217	9917.7	494.01	26	3.0001
19/04/90 09:00	13171	12727	638.99	26	3.9998
19/04/90 10:00	14899	14357	727	26	3.9998
19/04/90 11:00	16102	15481	793	27	3.9998
19/04/90 12:00	14777	14243	728	27	3.9998
19/04/90 13:00	18863	18047	938	27	3.9998
19/04/90 14:00	17092	16404	840	27	3.9998
19/04/90 15:00	13821	13342	670.99	27	3.9998
19/04/90 16:00	9208.8	8951.9	448.01	27	3.9998
19/04/90 17:00	3982.3	3885.1	208	27	3.9998
19/04/90 18:00	478.23	439.26	28	27	3.9998
19/04/90 19:00	0	-21.619	0	26	3.0001
19/04/90 20:00	0	-21.619	0	26	3.0001
19/04/90 21:00	0	-21.619	0	26	1.9999
19/04/90 22:00	0	-21.619	0	26	1.9999
19/04/90 23:00	0	-21.619	0	26	1.9999
20/04/90 00:00	0	-21.619	0	26	1.9999
20/04/90 01:00	0	-21.619	0	26	1.9999
20/04/90 02:00	0	-21.619	0	26	1.9999
20/04/90 03:00	0	-21.619	0	26	3.0001
20/04/90 04:00	0	-21.619	0	26	3.0001
20/04/90 05:00	0	-21.619	0	26	3.0001
20/04/90 06:00	821.74	777.98	49.001	26	3.0001

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
20/04/90 07:00	5035.2	4912.8	257	26	3.0001
20/04/90 08:00	10076	9783.7	487.01	26	3.0001
20/04/90 09:00	14204	13704	689.99	26	3.0001
20/04/90 10:00	17493	16776	861	26	3.0001
20/04/90 11:00	19572	18700	989	26	3.0001
20/04/90 12:00	19620	18741	1022	26	3.0001
20/04/90 13:00	19440	18580	977	26	1.9999
20/04/90 14:00	17406	16696	859	26	1.9999
20/04/90 15:00	13780	13304	669.99	26	1.9999
20/04/90 16:00	8938.5	8691.9	434.01	26	3.0001
20/04/90 17:00	2643.4	2570.4	140	26	3.0001
20/04/90 18:00	462.64	423.82	27	26	3.0001
20/04/90 19:00	0	-21.619	0	26	3.0001
20/04/90 20:00	0	-21.619	0	26	3.9998
20/04/90 21:00	0	-21.619	0	25	5
20/04/90 22:00	0	-21.619	0	25	3.9998
20/04/90 23:00	0	-21.619	0	26	3.9998
21/04/90 00:00	0	-21.619	0	26	3.0001
21/04/90 01:00	0	-21.619	0	26	3.0001
21/04/90 02:00	0	-21.619	0	26	1.9999
21/04/90 03:00	0	-21.619	0	26	1.9999
21/04/90 04:00	0	-21.619	0	26	3.0001
21/04/90 05:00	0	-21.619	0	26	1.9999
21/04/90 06:00	944	898.43	59.001	26	1.9999
21/04/90 07:00	5283.1	5154.2	271	26	3.0001
21/04/90 08:00	10545	10231	509.01	26	3.9998
21/04/90 09:00	14413	13901	698.99	26	3.9998
21/04/90 10:00	17932	17183	883	26	3.9998
21/04/90 11:00	19543	18672	979	25	3.9998
21/04/90 12:00	19612	18734	993	25	5
21/04/90 13:00	19475	18609	968	25	5
21/04/90 14:00	17546	16823	855	25	6.0002
21/04/90 15:00	13923	13438	669.99	25	6.0002
21/04/90 16:00	8219.9	7999.5	398.01	26	6.9999
21/04/90 17:00	3850	3755.5	201	26	6.0002
21/04/90 18:00	463.56	424.73	27	26	6.0002
21/04/90 19:00	0	-21.619	0	26	6.0002
21/04/90 20:00	0	-21.619	0	26	6.0002
21/04/90 21:00	0	-21.619	0	26	5
21/04/90 22:00	0	-21.619	0	27	5
21/04/90 23:00	0	-21.619	0	27	3.9998
22/04/90 00:00	0	-21.619	0	27	5
22/04/90 01:00	0	-21.619	0	27	6.9999
22/04/90 02:00	0	-21.619	0	26	8.9997
22/04/90 03:00	0	-21.619	0	26	8.9997
22/04/90 04:00	0	-21.619	0	26	8.9997
22/04/90 05:00	0	-21.619	0	26	8.0001
22/04/90 06:00	862.76	818.28	53.001	25	8.0001
22/04/90 07:00	5301.6	5172.3	270	26	8.9997
22/04/90 08:00	10525	10212	505.01	26	8.9997
22/04/90 09:00	14542	14022	698.99	26	10
22/04/90 10:00	18102	17338	880	26	10
22/04/90 11:00	19393	18533	951	26	11
22/04/90 12:00	19631	18751	1022	26	11
22/04/90 13:00	19608	18730	977	26	10
22/04/90 14:00	17694	16960	859	26	10
22/04/90 15:00	14125	13629	677.99	26	10
22/04/90 16:00	9478.6	9211.3	457.01	26	10
22/04/90 17:00	4077.4	3978.1	213	26	8.9997
22/04/90 18:00	476.45	437.5	29	27	8.9997

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
22/04/90 19:00	0	-21.619	0	27	8.9997
22/04/90 20:00	0	-21.619	0	27	8.0001
22/04/90 21:00	0	-21.619	0	27	8.0001
22/04/90 22:00	0	-21.619	0	27	8.0001
22/04/90 23:00	0	-21.619	0	27	8.9997
23/04/90 00:00	0	-21.619	0	27	10
23/04/90 01:00	0	-21.619	0	27	11
23/04/90 02:00	0	-21.619	0	26	11
23/04/90 03:00	0	-21.619	0	26	11
23/04/90 04:00	0	-21.619	0	26	11
23/04/90 05:00	0	-21.619	0	25	10
23/04/90 06:00	855.14	810.77	52.001	25	10
23/04/90 07:00	4999.9	4878.4	253	25	10
23/04/90 08:00	10395	10088	497.01	25	10
23/04/90 09:00	13625	13156	652.99	25	10
23/04/90 10:00	17876	17128	866	25	10
23/04/90 11:00	19614	18735	988	26	10
23/04/90 12:00	19623	18744	1008	26	10
23/04/90 13:00	19609	18731	979	26	8.9997
23/04/90 14:00	17742	17005	863	26	8.9997
23/04/90 15:00	14253	13749	685.99	26	8.9997
23/04/90 16:00	9695.2	9419.2	468.01	26	8.9997
23/04/90 17:00	4351.3	4245.6	231	26	8.0001
23/04/90 18:00	569.96	529.72	35.001	26	8.0001
23/04/90 19:00	0	-21.619	0	26	8.0001
23/04/90 20:00	0	-21.619	0	26	8.9997
23/04/90 21:00	0	-21.619	0	26	8.9997
23/04/90 22:00	0	-21.619	0	26	10
23/04/90 23:00	0	-21.619	0	26	10
24/04/90 00:00	0	-21.619	0	26	10
24/04/90 01:00	0	-21.619	0	26	10
24/04/90 02:00	0	-21.619	0	25	10
24/04/90 03:00	0	-21.619	0	25	10
24/04/90 04:00	0	-21.619	0	25	10
24/04/90 05:00	0	-21.619	0	25	8.9997
24/04/90 06:00	828.26	784.29	50.001	25	8.9997
24/04/90 07:00	4822.8	4705.7	243	25	8.9997
24/04/90 08:00	10262	9960.8	491.01	25	8.9997
24/04/90 09:00	14819	14281	714	26	8.9997
24/04/90 10:00	18085	17323	879	26	10
24/04/90 11:00	19574	18700	969	26	10
24/04/90 12:00	18430	17643	901	26	10
24/04/90 13:00	19251	18403	947	26	8.9997
24/04/90 14:00	17623	16895	857	26	8.9997
24/04/90 15:00	14190	13690	682.99	26	8.9997
24/04/90 16:00	9615.5	9342.7	464.01	26	8.9997
24/04/90 17:00	4278.9	4175	226	26	8.9997
24/04/90 18:00	553.92	513.89	34.001	26	8.9997
24/04/90 19:00	0	-21.619	0	27	8.9997
24/04/90 20:00	0	-21.619	0	27	8.0001
24/04/90 21:00	0	-21.619	0	27	8.0001
24/04/90 22:00	0	-21.619	0	27	6.9999
24/04/90 23:00	0	-21.619	0	27	6.9999
25/04/90 00:00	0	-21.619	0	27	6.9999
25/04/90 01:00	0	-21.619	0	26	6.9999
25/04/90 02:00	0	-21.619	0	26	8.0001
25/04/90 03:00	0	-21.619	0	26	8.0001
25/04/90 04:00	0	-21.619	0	26	8.9997
25/04/90 05:00	0	-21.619	0	26	8.0001
25/04/90 06:00	854.95	810.68	50.001	26	8.0001

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
25/04/90 07:00	4877.2	4758.8	246	26	8.0001
25/04/90 08:00	9880.3	9596.3	475.01	26	8.0001
25/04/90 09:00	12651	12234	608.99	26	8.0001
25/04/90 10:00	17589	16863	854	26	8.9997
25/04/90 11:00	7848.4	7640.9	380.01	26	8.9997
25/04/90 12:00	15515	14931	752	26	8.9997
25/04/90 13:00	15631	15040	758	26	8.9997
25/04/90 14:00	14681	14152	710	26	8.9997
25/04/90 15:00	12579	12165	604.99	26	8.9997
25/04/90 16:00	8877	8632.7	430.01	27	8.9997
25/04/90 17:00	4191	4089	221	27	8.9997
25/04/90 18:00	540.54	500.75	35.001	27	8.9997
25/04/90 19:00	0	-21.619	0	27	8.9997
25/04/90 20:00	0	-21.619	0	27	8.9997
25/04/90 21:00	0	-21.619	0	27	8.0001
25/04/90 22:00	0	-21.619	0	27	8.0001
25/04/90 23:00	0	-21.619	0	27	8.0001
26/04/90 00:00	0	-21.619	0	27	6.9999
26/04/90 01:00	0	-21.619	0	26	6.9999
26/04/90 02:00	0	-21.619	0	26	6.9999
26/04/90 03:00	0	-21.619	0	26	6.0002
26/04/90 04:00	0	-21.619	0	26	6.0002
26/04/90 05:00	0	-21.619	1	26	5
26/04/90 06:00	1067.5	1020.1	65.001	26	6.0002
26/04/90 07:00	5268	5139.5	267	26	6.9999
26/04/90 08:00	8976.1	8728.1	432.01	26	6.9999
26/04/90 09:00	7092.2	6910	346.01	26	6.9999
26/04/90 10:00	11400	11046	557.99	27	6.9999
26/04/90 11:00	19010	18181	940	27	6.9999
26/04/90 12:00	15438	14860	753	27	6.9999
26/04/90 13:00	13982	13494	683.99	27	6.9999
26/04/90 14:00	10872	10543	531.99	27	6.9999
26/04/90 15:00	13119	12677	634.99	27	6.9999
26/04/90 16:00	7975.2	7763.4	388.01	27	6.9999
26/04/90 17:00	2888.2	2811.3	151	27	6.9999
26/04/90 18:00	482.22	443.19	28	27	6.9999
26/04/90 19:00	0	-21.619	0	27	6.9999
26/04/90 20:00	0	-21.619	0	27	6.9999
26/04/90 21:00	0	-21.619	0	27	6.0002
26/04/90 22:00	0	-21.619	0	27	6.0002
26/04/90 23:00	0	-21.619	0	27	5
27/04/90 00:00	0	-21.619	0	27	5
27/04/90 01:00	0	-21.619	0	27	5
27/04/90 02:00	0	-21.619	0	27	5
27/04/90 03:00	0	-21.619	0	27	6.0002
27/04/90 04:00	0	-21.619	0	27	6.0002
27/04/90 05:00	0	-21.619	1	27	6.0002
27/04/90 06:00	1011.3	964.81	59.001	27	6.0002
27/04/90 07:00	5530.8	5395.3	281	27	6.0002
27/04/90 08:00	10720	10398	516.99	27	6.0002
27/04/90 09:00	14838	14299	720	27	6.0002
27/04/90 10:00	15065	14512	735	27	6.0002
27/04/90 11:00	17696	16964	871	27	6.0002
27/04/90 12:00	19617	18738	1004	27	6.0002
27/04/90 13:00	19352	18498	962	27	6.0002
27/04/90 14:00	17415	16703	853	27	6.0002
27/04/90 15:00	13644	13174	659.99	27	6.0002
27/04/90 16:00	9517.4	9248.6	462.01	27	5
27/04/90 17:00	4212.4	4109.9	221	27	5
27/04/90 18:00	551.78	511.84	34.001	27	5

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
27/04/90 19:00	0	-21.619	0	27	5
27/04/90 20:00	0	-21.619	0	27	5
27/04/90 21:00	0	-21.619	0	27	5
27/04/90 22:00	0	-21.619	0	27	3.9998
27/04/90 23:00	0	-21.619	0	27	3.0001
28/04/90 00:00	0	-21.619	0	27	3.0001
28/04/90 01:00	0	-21.619	0	26	3.0001
28/04/90 02:00	0	-21.619	0	26	3.9998
28/04/90 03:00	0	-21.619	0	26	5
28/04/90 04:00	0	-21.619	0	26	6.0002
28/04/90 05:00	0	-21.619	1	27	6.0002
28/04/90 06:00	1039.6	992.71	64.001	27	6.9999
28/04/90 07:00	5688.9	5549.1	290	27	6.9999
28/04/90 08:00	10919	10587	525.99	27	6.9999
28/04/90 09:00	15089	14534	732	27	6.9999
28/04/90 10:00	18011	17256	884	27	6.9999
28/04/90 11:00	19611	18733	992	27	6.0002
28/04/90 12:00	19620	18741	1011	27	6.0002
28/04/90 13:00	19463	18600	968	27	6.0002
28/04/90 14:00	17517	16798	860	27	5
28/04/90 15:00	14133	13637	685.99	27	5
28/04/90 16:00	9456.8	9190.4	459.01	27	5
28/04/90 17:00	4094.6	3994.9	214	27	5
28/04/90 18:00	535.33	495.61	33.001	27	5
28/04/90 19:00	0	-21.619	0	27	5
28/04/90 20:00	0	-21.619	0	27	5
28/04/90 21:00	0	-21.619	0	27	5
28/04/90 22:00	0	-21.619	0	27	3.9998
28/04/90 23:00	0	-21.619	0	27	3.9998
29/04/90 00:00	0	-21.619	0	26	5
29/04/90 01:00	0	-21.619	0	26	5
29/04/90 02:00	0	-21.619	0	26	6.0002
29/04/90 03:00	0	-21.619	0	26	6.0002
29/04/90 04:00	0	-21.619	0	26	6.0002
29/04/90 05:00	0	-21.619	0	26	6.0002
29/04/90 06:00	1049	1001.9	67.001	27	6.0002
29/04/90 07:00	5684.5	5544.8	290	27	5
29/04/90 08:00	10908	10577	525.99	27	6.0002
29/04/90 09:00	15122	14566	735	27	6.0002
29/04/90 10:00	18188	17421	895	27	6.0002
29/04/90 11:00	19528	18659	975	27	6.0002
29/04/90 12:00	19558	18686	978	27	6.0002
29/04/90 13:00	19309	18458	960	27	6.0002
29/04/90 14:00	17555	16833	860	27	6.0002
29/04/90 15:00	14160	13662	685.99	27	6.0002
29/04/90 16:00	9673.1	9397.9	469.01	27	6.0002
29/04/90 17:00	4251.8	4148.5	224	27	6.0002
29/04/90 18:00	547.38	507.5	35.001	27	5
29/04/90 19:00	0	-21.619	0	27	5
29/04/90 20:00	0	-21.619	0	27	3.9998
29/04/90 21:00	0	-21.619	0	27	3.9998
29/04/90 22:00	0	-21.619	0	27	5
29/04/90 23:00	0	-21.619	0	27	5
30/04/90 00:00	0	-21.619	0	26	5
30/04/90 01:00	0	-21.619	0	26	6.0002
30/04/90 02:00	0	-21.619	0	26	6.0002
30/04/90 03:00	0	-21.619	0	26	6.0002
30/04/90 04:00	0	-21.619	0	26	6.0002
30/04/90 05:00	0	-21.619	1	26	6.0002
30/04/90 06:00	1089	1041.2	66.001	26	6.0002

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
30/04/90 07:00	5677.5	5538	287	26	6.9999
30/04/90 08:00	10955	10622	525.99	26	6.9999
30/04/90 09:00	15196	14633	735	26	6.9999
30/04/90 10:00	18320	17542	897	26	6.9999
30/04/90 11:00	19616	18737	994	26	6.9999
30/04/90 12:00	19627	18748	1018	26	6.9999
30/04/90 13:00	19503	18636	965	26	6.9999
30/04/90 14:00	17491	16773	854	26	6.0002
30/04/90 15:00	14035	13544	676.99	26	6.0002
30/04/90 16:00	9521.5	9252.6	462.01	27	5
30/04/90 17:00	4214.4	4111.9	220	27	5
30/04/90 18:00	564.53	524.42	34.001	27	5
30/04/90 19:00	0	-21.619	0	27	5
30/04/90 20:00	0	-21.619	0	27	5
30/04/90 21:00	0	-21.619	0	27	5
30/04/90 22:00	0	-21.619	0	27	3.9998
30/04/90 23:00	0	-21.619	0	27	3.9998
1/5/1990 0:00	0	-21.619	0	27	8.0001
1/5/1990 1:00	0	-21.619	0	27	8.0001
1/5/1990 2:00	0	-21.619	0	27	8.0001
1/5/1990 3:00	0	-21.619	0	27	6.9999
1/5/1990 4:00	0	-21.619	0	27	6.9999
1/5/1990 5:00	0	-21.619	1	27	6.9999
1/5/1990 6:00	868.76	824.39	47.001	27	6.9999
1/5/1990 7:00	5188.9	5062.5	256	27	8.0001
1/5/1990 8:00	9603	9330.9	456.01	27	8.9997
1/5/1990 9:00	14526	14007	690.99	27	8.9997
1/5/1990 10:00	17126	16434	820	27	8.9997
1/5/1990 11:00	16710	16047	805	28	8.9997
1/5/1990 12:00	18325	17547	888	28	8.9997
1/5/1990 13:00	18581	17784	902	28	8.0001
1/5/1990 14:00	16372	15732	786	28	8.0001
1/5/1990 15:00	12129	11739	577.99	28	8.0001
1/5/1990 16:00	8082	7866.5	387.01	28	8.0001
1/5/1990 17:00	3434.1	3347.8	173	28	6.9999
1/5/1990 18:00	444.99	406.49	25	28	6.0002
1/5/1990 19:00	0	-21.619	0	28	6.0002
1/5/1990 20:00	0	-21.619	0	28	6.0002
1/5/1990 21:00	0	-21.619	0	28	6.9999
1/5/1990 22:00	0	-21.619	0	28	6.9999
1/5/1990 23:00	0	-21.619	0	27	6.0002
2/5/1990 0:00	0	-21.619	0	25	5
2/5/1990 1:00	0	-21.619	0	24	5
2/5/1990 2:00	0	-21.619	0	25	6.0002
2/5/1990 3:00	0	-21.619	0	26	6.9999
2/5/1990 4:00	0	-21.619	0	26	8.0001
2/5/1990 5:00	0	-21.619	1	27	8.9997
2/5/1990 6:00	1055.3	1008.1	60.001	27	8.9997
2/5/1990 7:00	4842.5	4724.9	239	27	8.9997
2/5/1990 8:00	8411.1	8183.8	400.01	27	8.9997
2/5/1990 9:00	13032	12595	617.99	26	8.0001
2/5/1990 10:00	15390	14816	735	27	8.9997
2/5/1990 11:00	18608	17810	902	28	8.9997
2/5/1990 12:00	19612	18734	973	28	8.0001
2/5/1990 13:00	17752	17016	859	28	8.0001
2/5/1990 14:00	15317	14748	735	28	6.9999
2/5/1990 15:00	12604	12190	600.99	28	6.9999
2/5/1990 16:00	7696	7493.7	369.01	28	6.9999
2/5/1990 17:00	2317.8	2250.2	116	28	8.0001
2/5/1990 18:00	382.81	345.08	21	28	6.9999

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
2/5/1990 19:00	0	-21.619	0	28	6.0002
2/5/1990 20:00	0	-21.619	0	28	6.0002
2/5/1990 21:00	0	-21.619	0	28	6.9999
2/5/1990 22:00	0	-21.619	0	28	6.9999
2/5/1990 23:00	0	-21.619	0	27	8.0001
3/5/1990 0:00	0	-21.619	0	27	6.9999
3/5/1990 1:00	0	-21.619	0	27	6.9999
3/5/1990 2:00	0	-21.619	0	27	6.9999
3/5/1990 3:00	0	-21.619	0	27	6.0002
3/5/1990 4:00	0	-21.619	0	26	5
3/5/1990 5:00	0	-21.619	1	27	3.9998
3/5/1990 6:00	932.28	886.97	52.001	27	5
3/5/1990 7:00	5596.8	5459.6	277	27	6.0002
3/5/1990 8:00	10370	10064	493.01	27	3.9998
3/5/1990 9:00	14160	13662	676.99	27	5
3/5/1990 10:00	14688	14160	709	28	6.0002
3/5/1990 11:00	12030	11645	582.99	28	6.0002
3/5/1990 12:00	12054	11668	579.99	28	6.0002
3/5/1990 13:00	17548	16827	851	28	6.0002
3/5/1990 14:00	4571.1	4460.2	223	28	6.0002
3/5/1990 15:00	5091.5	4967.6	249	28	6.0002
3/5/1990 16:00	8257.2	8035.5	396.01	28	6.0002
3/5/1990 17:00	3759	3666.7	190	28	6.0002
3/5/1990 18:00	521.16	481.68	29	28	6.0002
3/5/1990 19:00	0	-21.619	0	28	6.0002
3/5/1990 20:00	0	-21.619	0	28	6.9999
3/5/1990 21:00	0	-21.619	0	27	6.9999
3/5/1990 22:00	0	-21.619	0	27	6.9999
3/5/1990 23:00	0	-21.619	0	27	6.9999
4/5/1990 0:00	0	-21.619	0	27	6.0002
4/5/1990 1:00	0	-21.619	0	27	6.0002
4/5/1990 2:00	0	-21.619	0	27	6.0002
4/5/1990 3:00	0	-21.619	0	26	6.0002
4/5/1990 4:00	0	-21.619	0	27	6.9999
4/5/1990 5:00	0	-21.619	0	27	6.0002
4/5/1990 6:00	700.13	658.18	38.001	27	5
4/5/1990 7:00	5583.7	5446.9	276	27	6.0002
4/5/1990 8:00	10894	10564	514.99	27	8.0001
4/5/1990 9:00	13277	12827	630.99	27	8.0001
4/5/1990 10:00	16203	15575	778	28	8.0001
4/5/1990 11:00	19611	18732	971	28	6.9999
4/5/1990 12:00	19626	18746	1001	28	6.9999
4/5/1990 13:00	18654	17853	907	28	6.9999
4/5/1990 14:00	16420	15778	788	28	6.9999
4/5/1990 15:00	13085	12645	623.99	28	6.9999
4/5/1990 16:00	8301.6	8078.3	397.01	28	6.0002
4/5/1990 17:00	4200.6	4098.6	215	28	6.0002
4/5/1990 18:00	527.91	488.34	31	28	6.0002
4/5/1990 19:00	0	-21.619	0	28	6.0002
4/5/1990 20:00	0	-21.619	0	28	6.9999
4/5/1990 21:00	0	-21.619	0	28	6.9999
4/5/1990 22:00	0	-21.619	0	28	6.9999
4/5/1990 23:00	0	-21.619	0	27	6.9999
5/5/1990 0:00	0	-21.619	0	27	6.9999
5/5/1990 1:00	0	-21.619	0	27	6.9999
5/5/1990 2:00	0	-21.619	0	27	6.9999
5/5/1990 3:00	0	-21.619	0	27	6.9999
5/5/1990 4:00	0	-21.619	0	27	6.9999
5/5/1990 5:00	0	-21.619	1	27	6.0002
5/5/1990 6:00	1175.6	1126.6	69.001	27	6.9999

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
5/5/1990 7:00	5089.1	4965.3	251	27	6.9999
5/5/1990 8:00	10546	10232	500.01	27	6.9999
5/5/1990 9:00	11468	11110	547.99	27	6.9999
5/5/1990 10:00	14287	13782	682.99	27	6.9999
5/5/1990 11:00	13502	13041	650.99	28	6.0002
5/5/1990 12:00	16275	15643	785	28	6.9999
5/5/1990 13:00	15102	14547	726	28	6.9999
5/5/1990 14:00	15404	14829	739	28	6.9999
5/5/1990 15:00	12798	12374	609.99	28	6.9999
5/5/1990 16:00	8785.8	8544.9	420.01	28	6.0002
5/5/1990 17:00	4040.4	3942	207	28	6.0002
5/5/1990 18:00	576.17	535.97	34.001	28	6.0002
5/5/1990 19:00	0	-21.619	0	27	6.0002
5/5/1990 20:00	0	-21.619	0	27	6.0002
5/5/1990 21:00	0	-21.619	0	28	6.9999
5/5/1990 22:00	0	-21.619	0	28	6.9999
5/5/1990 23:00	0	-21.619	0	28	6.9999
6/5/1990 0:00	0	-21.619	0	27	6.9999
6/5/1990 1:00	0	-21.619	0	27	6.9999
6/5/1990 2:00	0	-21.619	0	27	6.9999
6/5/1990 3:00	0	-21.619	0	27	6.0002
6/5/1990 4:00	0	-21.619	0	27	6.0002
6/5/1990 5:00	0	-21.619	1	27	6.0002
6/5/1990 6:00	1250	1199.8	74.001	27	6.0002
6/5/1990 7:00	5878.6	5733.4	291	27	6.9999
6/5/1990 8:00	11092	10753	523.99	27	8.0001
6/5/1990 9:00	14810	14274	706	28	8.0001
6/5/1990 10:00	17433	16720	838	28	8.0001
6/5/1990 11:00	15789	15189	761	28	6.9999
6/5/1990 12:00	15669	15077	758	28	6.9999
6/5/1990 13:00	15741	15144	758	28	6.9999
6/5/1990 14:00	17045	16359	819	28	6.9999
6/5/1990 15:00	11848	11472	563.99	28	6.9999
6/5/1990 16:00	8539.6	8307.7	409.01	28	6.9999
6/5/1990 17:00	2971.1	2893	149	28	6.9999
6/5/1990 18:00	485.39	446.33	27	27	6.9999
6/5/1990 19:00	0	-21.619	0	28	6.9999
6/5/1990 20:00	0	-21.619	0	27	6.9999
6/5/1990 21:00	0	-21.619	0	28	6.9999
6/5/1990 22:00	0	-21.619	0	28	6.9999
6/5/1990 23:00	0	-21.619	0	27	6.9999
7/5/1990 0:00	0	-21.619	0	27	6.9999
7/5/1990 1:00	0	-21.619	0	27	6.9999
7/5/1990 2:00	0	-21.619	0	27	6.9999
7/5/1990 3:00	0	-21.619	0	27	6.9999
7/5/1990 4:00	0	-21.619	0	27	6.9999
7/5/1990 5:00	0	-21.619	0	27	6.0002
7/5/1990 6:00	748.73	706.09	40.001	27	6.9999
7/5/1990 7:00	5200.8	5074.1	256	27	6.9999
7/5/1990 8:00	10180	9882.8	482.01	27	8.0001
7/5/1990 9:00	14314	13808	681.99	28	8.0001
7/5/1990 10:00	15715	15120	754	28	8.0001
7/5/1990 11:00	15107	14551	729	28	8.0001
7/5/1990 12:00	11112	10772	536.99	28	8.0001
7/5/1990 13:00	14527	14008	699.99	28	8.0001
7/5/1990 14:00	12906	12477	618.99	28	8.0001
7/5/1990 15:00	12650	12234	601.99	28	8.0001
7/5/1990 16:00	8902.5	8657.3	425.01	28	6.9999
7/5/1990 17:00	4323.1	4218.2	222	28	6.9999
7/5/1990 18:00	612.83	572.14	37.001	28	6.9999

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
7/5/1990 19:00	0	-21.619	0	28	6.9999
7/5/1990 20:00	0	-21.619	0	28	6.9999
7/5/1990 21:00	0	-21.619	0	28	6.9999
7/5/1990 22:00	0	-21.619	0	28	6.0002
7/5/1990 23:00	0	-21.619	0	27	6.0002
8/5/1990 0:00	0	-21.619	0	27	6.0002
8/5/1990 1:00	0	-21.619	0	27	6.0002
8/5/1990 2:00	0	-21.619	0	27	6.0002
8/5/1990 3:00	0	-21.619	0	27	6.0002
8/5/1990 4:00	0	-21.619	0	26	6.0002
8/5/1990 5:00	0	-21.619	2	26	5
8/5/1990 6:00	1305.1	1253.9	79.001	26	3.9998
8/5/1990 7:00	5995.1	5846.6	296	26	3.9998
8/5/1990 8:00	8639.3	8403.8	410.01	27	5
8/5/1990 9:00	8545.7	8313.6	411.01	27	6.0002
8/5/1990 10:00	12309	11909	589.99	27	6.0002
8/5/1990 11:00	16729	16065	806	27	6.0002
8/5/1990 12:00	19629	18750	1007	28	6.9999
8/5/1990 13:00	15528	14945	747	28	6.9999
8/5/1990 14:00	14026	13536	670.99	28	6.9999
8/5/1990 15:00	14071	13578	669.99	28	6.9999
8/5/1990 16:00	9794.3	9513.9	467.01	28	6.9999
8/5/1990 17:00	4605.1	4493.3	237	28	6.0002
8/5/1990 18:00	604.27	563.69	36.001	28	6.0002
8/5/1990 19:00	0	-21.619	0	28	6.0002
8/5/1990 20:00	0	-21.619	0	28	6.9999
8/5/1990 21:00	0	-21.619	0	28	6.9999
8/5/1990 22:00	0	-21.619	0	28	6.0002
8/5/1990 23:00	0	-21.619	0	27	6.0002
9/5/1990 0:00	0	-21.619	0	27	6.0002
9/5/1990 1:00	0	-21.619	0	27	6.0002
9/5/1990 2:00	0	-21.619	0	27	5
9/5/1990 3:00	0	-21.619	0	27	5
9/5/1990 4:00	0	-21.619	0	27	6.0002
9/5/1990 5:00	0	-21.619	2	27	5
9/5/1990 6:00	1329.6	1277.9	78.001	26	5
9/5/1990 7:00	5675.3	5535.8	280	27	5
9/5/1990 8:00	9754.2	9475.6	463.01	27	5
9/5/1990 9:00	14602	14078	696.99	27	5
9/5/1990 10:00	18042	17285	870	27	6.0002
9/5/1990 11:00	15073	14520	726	28	6.0002
9/5/1990 12:00	17941	17192	872	28	6.0002
9/5/1990 13:00	12928	12497	621.99	28	6.9999
9/5/1990 14:00	11414	11059	550.99	28	6.0002
9/5/1990 15:00	12535	12124	597.99	28	6.0002
9/5/1990 16:00	8351.9	8126.8	399.01	28	6.0002
9/5/1990 17:00	4498.3	4389.1	231	28	6.0002
9/5/1990 18:00	656.41	615.13	41.001	28	6.0002
9/5/1990 19:00	0	-21.619	0	28	6.0002
9/5/1990 20:00	0	-21.619	0	28	6.0002
9/5/1990 21:00	0	-21.619	0	28	6.0002
9/5/1990 22:00	0	-21.619	0	28	5
9/5/1990 23:00	0	-21.619	0	28	5
10/5/1990 0:00	0	-21.619	0	27	5
10/5/1990 1:00	0	-21.619	0	27	5
10/5/1990 2:00	0	-21.619	0	27	5
10/5/1990 3:00	0	-21.619	0	27	6.0002
10/5/1990 4:00	0	-21.619	0	27	6.0002
10/5/1990 5:00	0	-21.619	2	27	5
10/5/1990 6:00	1406.7	1353.9	82.001	27	6.0002

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
10/5/1990 7:00	4473.3	4364.7	220	27	6.0002
10/5/1990 8:00	7595.6	7396.8	362.01	27	6.0002
10/5/1990 9:00	9511.3	9242.7	457.01	27	6.0002
10/5/1990 10:00	10439	10130	503.01	27	6.0002
10/5/1990 11:00	12570	12157	598.99	27	6.0002
10/5/1990 12:00	18128	17365	879	27	6.0002
10/5/1990 13:00	15844	15240	763	27	6.0002
10/5/1990 14:00	11269	10921	538.99	27	6.0002
10/5/1990 15:00	12633	12217	602.99	28	6.0002
10/5/1990 16:00	7120.6	6937.5	343.01	28	5
10/5/1990 17:00	3685.8	3594.9	187	28	5
10/5/1990 18:00	617.16	576.42	37.001	28	5
10/5/1990 19:00	0	-21.619	0	27	6.0002
10/5/1990 20:00	0	-21.619	0	27	6.0002
10/5/1990 21:00	0	-21.619	0	27	5
10/5/1990 22:00	0	-21.619	0	27	5
10/5/1990 23:00	0	-21.619	0	27	5
11/5/1990 0:00	0	-21.619	0	27	5
11/5/1990 1:00	0	-21.619	0	27	5
11/5/1990 2:00	0	-21.619	0	27	3.9998
11/5/1990 3:00	0	-21.619	0	27	3.9998
11/5/1990 4:00	0	-21.619	0	27	5
11/5/1990 5:00	0	-21.619	1	27	3.9998
11/5/1990 6:00	1302.8	1251.7	75.001	27	5
11/5/1990 7:00	5580.1	5443.3	275	27	6.0002
11/5/1990 8:00	9423.6	9158.5	447.01	27	6.0002
11/5/1990 9:00	14100	13605	671.99	27	6.0002
11/5/1990 10:00	10654	10335	512.99	27	6.0002
11/5/1990 11:00	13683	13211	657.99	27	6.0002
11/5/1990 12:00	16501	15854	798	28	6.0002
11/5/1990 13:00	18632	17832	907	28	6.0002
11/5/1990 14:00	17421	16709	840	28	6.0002
11/5/1990 15:00	14102	13608	672.99	28	6.0002
11/5/1990 16:00	9577.3	9305.9	457.01	28	6.0002
11/5/1990 17:00	4400.5	4293.8	225	28	5
11/5/1990 18:00	616.3	575.57	36.001	28	6.0002
11/5/1990 19:00	0	-21.619	0	28	6.0002
11/5/1990 20:00	0	-21.619	0	28	6.0002
11/5/1990 21:00	0	-21.619	0	28	6.0002
11/5/1990 22:00	0	-21.619	0	28	6.0002
11/5/1990 23:00	0	-21.619	0	28	5
12/5/1990 0:00	0	-21.619	0	27	5
12/5/1990 1:00	0	-21.619	0	27	5
12/5/1990 2:00	0	-21.619	0	27	3.9998
12/5/1990 3:00	0	-21.619	0	27	5
12/5/1990 4:00	0	-21.619	0	27	5
12/5/1990 5:00	0	-21.619	1	27	6.0002
12/5/1990 6:00	1162.6	1113.8	65.001	27	6.0002
12/5/1990 7:00	5999.1	5850.4	296	27	6.0002
12/5/1990 8:00	11071	10733	523.99	27	6.0002
12/5/1990 9:00	15146	14588	725	28	6.0002
12/5/1990 10:00	18203	17435	882	28	6.0002
12/5/1990 11:00	19614	18736	979	28	6.0002
12/5/1990 12:00	19627	18747	1005	28	6.0002
12/5/1990 13:00	19541	18673	959	28	6.0002
12/5/1990 14:00	17470	16755	844	28	5
12/5/1990 15:00	14038	13547	670.99	28	5
12/5/1990 16:00	9505.3	9236.9	454.01	28	5
12/5/1990 17:00	4300.9	4196.5	219	28	5
12/5/1990 18:00	604.1	563.53	35.001	28	5

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
12/5/1990 19:00	0	-21.619	0	28	5
12/5/1990 20:00	0	-21.619	0	28	5
12/5/1990 21:00	0	-21.619	0	28	3.9998
12/5/1990 22:00	0	-21.619	0	28	3.9998
12/5/1990 23:00	0	-21.619	0	28	3.0001
13/05/90 00:00	0	-21.619	0	27	3.0001
13/05/90 01:00	0	-21.619	0	27	3.0001
13/05/90 02:00	0	-21.619	0	27	3.0001
13/05/90 03:00	0	-21.619	0	27	3.9998
13/05/90 04:00	0	-21.619	0	27	3.9998
13/05/90 05:00	0	-21.619	1	27	3.9998
13/05/90 06:00	1194.3	1145	66.001	27	3.9998
13/05/90 07:00	5737.4	0	283	27	5
13/05/90 08:00	11013	0	521.99	27	5
13/05/90 09:00	15268	0	730	27	5
13/05/90 10:00	18193	0	885	28	5
13/05/90 11:00	19614	0	980	28	5
13/05/90 12:00	19628	0	1009	28	5
13/05/90 13:00	19561	0	962	28	5
13/05/90 14:00	17483	0	848	28	3.9998
13/05/90 15:00	14144	0	677.99	28	3.9998
13/05/90 16:00	9765.7	0	467.01	28	3.9998
13/05/90 17:00	4466	0	228	28	3.9998
13/05/90 18:00	615.01	0	36.001	28	3.9998
13/05/90 19:00	0	-21.619	0	28	3.9998
13/05/90 20:00	0	-21.619	0	28	3.9998
13/05/90 21:00	0	-21.619	0	28	3.9998
13/05/90 22:00	0	-21.619	0	28	3.9998
13/05/90 23:00	0	-21.619	0	28	3.0001
14/05/90 00:00	0	-21.619	0	28	3.0001
14/05/90 01:00	0	-21.619	0	27	3.0001
14/05/90 02:00	0	-21.619	0	27	1.9999
14/05/90 03:00	0	-21.619	0	27	1.0002
14/05/90 04:00	0	-21.619	0	27	1.9999
14/05/90 05:00	0	-21.619	1	27	1.9999
14/05/90 06:00	948.33	0	50.001	27	3.0001
14/05/90 07:00	4968.6	0	244	27	3.9998
14/05/90 08:00	11056	0	524.99	27	3.9998
14/05/90 09:00	15331	0	734	27	5
14/05/90 10:00	18327	0	889	27	5
14/05/90 11:00	19616	0	983	28	5
14/05/90 12:00	19627	0	1005	28	5
14/05/90 13:00	16832	0	816	28	5
14/05/90 14:00	17053	0	823	28	5
14/05/90 15:00	10907	0	523.99	28	3.9998
14/05/90 16:00	7582	0	364.01	28	3.9998
14/05/90 17:00	4330.1	0	221	28	3.9998
14/05/90 18:00	655.72	0	39.001	28	5
14/05/90 19:00	0	-21.619	0	28	5
14/05/90 20:00	0	-21.619	0	28	5
14/05/90 21:00	0	-21.619	0	28	3.9998
14/05/90 22:00	0	-21.619	0	28	3.9998
14/05/90 23:00	0	-21.619	0	28	3.9998
15/05/90 00:00	0	-21.619	0	28	3.0001
15/05/90 01:00	0	-21.619	0	27	3.0001
15/05/90 02:00	0	-21.619	0	27	1.9999
15/05/90 03:00	0	-21.619	0	27	1.9999
15/05/90 04:00	0	-21.619	0	27	3.0001
15/05/90 05:00	0	-21.619	1	27	3.0001
15/05/90 06:00	1431.2	0	82.001	27	3.9998

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
15/05/90 07:00	6021.5	0	297	27	5
15/05/90 08:00	9953.4	0	472.01	27	6.0002
15/05/90 09:00	14820	0	707	27	6.0002
15/05/90 10:00	15640	0	753	28	6.0002
15/05/90 11:00	18079	0	879	28	6.0002
15/05/90 12:00	19218	0	939	28	6.0002
15/05/90 13:00	18586	0	904	28	6.0002
15/05/90 14:00	17374	0	839	28	6.0002
15/05/90 15:00	14146	0	675.99	28	5
15/05/90 16:00	9758.1	0	466.01	28	5
15/05/90 17:00	4515.9	0	232	28	3.9998
15/05/90 18:00	719.53	0	45.001	28	3.9998
15/05/90 19:00	0	-21.619	0	28	5
15/05/90 20:00	0	-21.619	0	28	5
15/05/90 21:00	0	-21.619	0	28	5
15/05/90 22:00	0	-21.619	0	28	5
15/05/90 23:00	0	-21.619	0	28	5
16/05/90 00:00	0	-21.619	0	28	5
16/05/90 01:00	0	-21.619	0	28	3.9998
16/05/90 02:00	0	-21.619	0	28	3.9998
16/05/90 03:00	0	-21.619	0	27	3.9998
16/05/90 04:00	0	-21.619	0	27	5
16/05/90 05:00	0	-21.619	2	27	5
16/05/90 06:00	944.98	0	52.001	27	6.0002
16/05/90 07:00	6005.5	0	296	27	6.0002
16/05/90 08:00	10617	0	504.01	28	6.0002
16/05/90 09:00	14869	0	711	28	6.0002
16/05/90 10:00	17953	0	869	28	6.0002
16/05/90 11:00	19617	0	982	28	6.0002
16/05/90 12:00	19631	0	1010	28	6.0002
16/05/90 13:00	19606	0	965	28	6.0002
16/05/90 14:00	17643	0	852	28	6.0002
16/05/90 15:00	14277	0	681.99	28	6.0002
16/05/90 16:00	9894.9	0	472.01	28	6.0002
16/05/90 17:00	4698.6	0	242	28	5
16/05/90 18:00	721.58	0	45.001	28	5
16/05/90 19:00	0	-21.619	0	28	5
16/05/90 20:00	0	-21.619	0	28	5
16/05/90 21:00	0	-21.619	0	28	5
16/05/90 22:00	0	-21.619	0	28	6.0002
16/05/90 23:00	0	-21.619	0	28	6.0002
17/05/90 00:00	0	-21.619	0	28	5
17/05/90 01:00	0	-21.619	0	28	5
17/05/90 02:00	0	-21.619	0	28	5
17/05/90 03:00	0	-21.619	0	28	5
17/05/90 04:00	0	-21.619	0	28	5
17/05/90 05:00	0	-21.619	2	28	5
17/05/90 06:00	1500.3	1446.1	87.001	28	3.9998
17/05/90 07:00	5430.3	5297.6	268	28	5
17/05/90 08:00	11022	10686	523.99	28	5
17/05/90 09:00	15221	14659	731	28	5
17/05/90 10:00	18293	17519	888	28	6.0002
17/05/90 11:00	19616	18737	982	28	5
17/05/90 12:00	19628	18748	1007	28	5
17/05/90 13:00	19547	18680	961	28	5
17/05/90 14:00	17525	16807	848	28	5
17/05/90 15:00	14170	13672	677.99	28	5
17/05/90 16:00	9791.2	9511	468.01	28	3.9998
17/05/90 17:00	4602.8	4491.2	236	28	3.9998
17/05/90 18:00	697.34	655.49	43.001	28	3.9998

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
17/05/90 19:00	0	-21.619	0	28	3.9998
17/05/90 20:00	0	-21.619	0	28	3.9998
17/05/90 21:00	0	-21.619	0	28	3.9998
17/05/90 22:00	0	-21.619	0	28	5
17/05/90 23:00	0	-21.619	0	28	3.9998
18/05/90 00:00	0	-21.619	0	28	3.9998
18/05/90 01:00	0	-21.619	0	28	3.9998
18/05/90 02:00	0	-21.619	0	28	3.9998
18/05/90 03:00	0	-21.619	0	27	3.9998
18/05/90 04:00	0	-21.619	0	27	5
18/05/90 05:00	0	-21.619	2	27	3.9998
18/05/90 06:00	1221.2	1171.4	67.001	27	3.9998
18/05/90 07:00	4844.1	4726.4	238	27	5
18/05/90 08:00	11095	10755	525.99	27	5
18/05/90 09:00	15163	14605	727	28	5
18/05/90 10:00	18179	17413	883	28	5
18/05/90 11:00	16195	15569	785	28	3.9998
18/05/90 12:00	16171	15546	784	28	3.9998
18/05/90 13:00	14618	14095	703	28	3.9998
18/05/90 14:00	16512	15864	797	28	3.9998
18/05/90 15:00	13027	12592	622.99	28	3.9998
18/05/90 16:00	8947.7	8700.9	429.01	28	3.0001
18/05/90 17:00	2758.8	2684.4	138	28	3.0001
18/05/90 18:00	266.3	229.97	15	28	3.0001
18/05/90 19:00	0	-21.619	0	28	3.9998
18/05/90 20:00	0	-21.619	0	28	3.9998
18/05/90 21:00	0	-21.619	0	28	3.9998
18/05/90 22:00	0	-21.619	0	28	3.9998
18/05/90 23:00	0	-21.619	0	28	3.9998
19/05/90 00:00	0	-21.619	0	28	3.9998
19/05/90 01:00	0	-21.619	0	28	3.0001
19/05/90 02:00	0	-21.619	0	28	3.0001
19/05/90 03:00	0	-21.619	0	28	3.9998
19/05/90 04:00	0	-21.619	0	27	5
19/05/90 05:00	0	-21.619	0	27	3.9998
19/05/90 06:00	1125.9	1077.6	62.001	27	5
19/05/90 07:00	4184.7	4082.9	205	27	5
19/05/90 08:00	7851.1	7643.6	376.01	27	5
19/05/90 09:00	9577.9	9306.7	462.01	28	5
19/05/90 10:00	8914.6	8669	432.01	28	3.9998
19/05/90 11:00	14602	14079	709	28	3.9998
19/05/90 12:00	12268	11871	594.99	28	5
19/05/90 13:00	13492	13032	647.99	28	3.9998
19/05/90 14:00	16809	16141	812	28	3.9998
19/05/90 15:00	14006	13518	671.99	28	3.0001
19/05/90 16:00	9408.8	9144.5	450.01	28	3.0001
19/05/90 17:00	4551.1	4440.8	233	28	3.0001
19/05/90 18:00	759.31	716.6	47.001	28	1.9999
19/05/90 19:00	0	-21.619	0	28	1.9999
19/05/90 20:00	0	-21.619	0	28	1.9999
19/05/90 21:00	0	-21.619	0	28	1.9999
19/05/90 22:00	0	-21.619	0	28	3.0001
19/05/90 23:00	0	-21.619	0	28	3.0001
20/05/90 00:00	0	-21.619	0	28	3.0001
20/05/90 01:00	0	-21.619	0	28	3.0001
20/05/90 02:00	0	-21.619	0	28	3.0001
20/05/90 03:00	0	-21.619	0	28	3.0001
20/05/90 04:00	0	-21.619	0	27	3.9998
20/05/90 05:00	0	-21.619	0	28	3.9998
20/05/90 06:00	575.37	535.12	31	27	5

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
20/05/90 07:00	3308	3223.9	163	27	3.9998
20/05/90 08:00	7440.7	7247	357.01	27	3.9998
20/05/90 09:00	7940.2	7729.6	385.01	27	3.9998
20/05/90 10:00	8288.8	8066	405.01	28	3.9998
20/05/90 11:00	6717.4	6547.1	330.01	28	3.9998
20/05/90 12:00	12864	12437	620.99	28	3.9998
20/05/90 13:00	12487	12080	597.99	28	3.9998
20/05/90 14:00	6474.1	6311.3	317	28	3.9998
20/05/90 15:00	9569.2	9298.4	461.01	28	5
20/05/90 16:00	3920.3	3824.9	193	28	3.9998
20/05/90 17:00	1882.1	1821.3	94.001	28	3.9998
20/05/90 18:00	226.89	191	13	28	3.0001
20/05/90 19:00	0	-21.619	0	28	3.9998
20/05/90 20:00	0	-21.619	0	28	3.9998
20/05/90 21:00	0	-21.619	0	28	3.9998
20/05/90 22:00	0	-21.619	0	28	3.9998
20/05/90 23:00	0	-21.619	0	28	3.9998
21/05/90 00:00	0	-21.619	0	28	5
21/05/90 01:00	0	-21.619	0	26	6.9999
21/05/90 02:00	0	-21.619	0	27	8.0001
21/05/90 03:00	0	-21.619	0	26	8.0001
21/05/90 04:00	0	-21.619	0	26	8.0001
21/05/90 05:00	0	-21.619	1	27	6.9999
21/05/90 06:00	1361.5	1309.5	79.001	27	6.9999
21/05/90 07:00	5535.1	5399.6	272	27	6.9999
21/05/90 08:00	11158	10815	528.99	28	6.9999
21/05/90 09:00	15256	14691	730	28	6.9999
21/05/90 10:00	18215	17446	881	27	6.0002
21/05/90 11:00	19610	18732	962	26	5
21/05/90 12:00	19631	18751	1002	26	6.0002
21/05/90 13:00	19558	18688	956	27	6.0002
21/05/90 14:00	17535	16815	844	27	6.0002
21/05/90 15:00	14147	13651	675.99	28	5
21/05/90 16:00	9828	9546.1	469.01	28	5
21/05/90 17:00	4766.6	4650.9	244	28	5
21/05/90 18:00	714.75	672.66	44.001	28	5
21/05/90 19:00	0	-21.619	0	28	5
21/05/90 20:00	0	-21.619	0	28	5
21/05/90 21:00	0	-21.619	0	28	5
21/05/90 22:00	0	-21.619	0	28	5
21/05/90 23:00	0	-21.619	0	28	5
22/05/90 00:00	0	-21.619	0	28	6.0002
22/05/90 01:00	0	-21.619	0	28	6.9999
22/05/90 02:00	0	-21.619	0	27	8.0001
22/05/90 03:00	0	-21.619	0	27	8.0001
22/05/90 04:00	0	-21.619	0	27	6.9999
22/05/90 05:00	0	-21.619	2	27	6.9999
22/05/90 06:00	1481.8	1427.7	85.001	27	6.9999
22/05/90 07:00	6105.4	5953.7	300	27	6.9999
22/05/90 08:00	10834	10507	512.01	27	6.9999
22/05/90 09:00	15149	14591	725	28	6.0002
22/05/90 10:00	18249	17477	881	27	6.9999
22/05/90 11:00	19603	18729	963	28	6.0002
22/05/90 12:00	14213	13712	685.99	28	6.0002
22/05/90 13:00	15226	14664	735	28	5
22/05/90 14:00	14705	14176	707	28	5
22/05/90 15:00	8262.4	8040.5	394.01	27	5
22/05/90 16:00	9356.1	9093.7	448.01	28	3.9998
22/05/90 17:00	2746.3	2672	138	28	3.9998
22/05/90 18:00	744.05	701.56	44.001	28	3.0001

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
22/05/90 19:00	0	-21.619	0	27	3.9998
22/05/90 20:00	0	-21.619	0	27	3.9998
22/05/90 21:00	0	-21.619	0	27	3.9998
22/05/90 22:00	0	-21.619	0	27	5
22/05/90 23:00	0	-21.619	0	27	5
23/05/90 00:00	0	-21.619	0	26	5
23/05/90 01:00	0	-21.619	0	26	5
23/05/90 02:00	0	-21.619	0	26	3.9998
23/05/90 03:00	0	-21.619	0	26	3.9998
23/05/90 04:00	0	-21.619	0	26	6.0002
23/05/90 05:00	0	-21.619	2	26	5
23/05/90 06:00	1608.1	1551.7	97.001	26	5
23/05/90 07:00	6274.6	6117.9	309	27	5
23/05/90 08:00	9549.3	9279.1	453.01	27	5
23/05/90 09:00	12109	11720	578.99	27	6.0002
23/05/90 10:00	17586	16863	851	28	5
23/05/90 11:00	15939	15329	771	28	5
23/05/90 12:00	17305	16602	840	28	5
23/05/90 13:00	18464	17677	899	27	3.9998
23/05/90 14:00	15380	14807	739	27	3.0001
23/05/90 15:00	14279	13775	682.99	27	3.0001
23/05/90 16:00	9987.6	9699.1	477.01	27	1.9999
23/05/90 17:00	4756.4	4640.9	243	27	3.0001
23/05/90 18:00	731.92	689.43	46.001	26	3.9998
23/05/90 19:00	0	-21.619	0	26	3.0001
23/05/90 20:00	0	-21.619	0	26	1.9999
23/05/90 21:00	0	-21.619	0	27	1.9999
23/05/90 22:00	0	-21.619	0	27	1.9999
23/05/90 23:00	0	-21.619	0	27	3.0001
24/05/90 00:00	0	-21.619	0	27	1.9999
24/05/90 01:00	0	-21.619	0	27	1.9999
24/05/90 02:00	0	-21.619	0	26	1.9999
24/05/90 03:00	0	-21.619	0	26	3.0001
24/05/90 04:00	0	-21.619	0	26	5
24/05/90 05:00	0	-21.619	3	25	3.0001
24/05/90 06:00	1615.5	1559	101	26	3.0001
24/05/90 07:00	6360.3	6200.9	314	26	3.0001
24/05/90 08:00	11422	11067	537.99	25	5
24/05/90 09:00	11031	10695	524.99	26	1.9999
24/05/90 10:00	6215.3	6060.3	304	26	1.9999
24/05/90 11:00	7112.2	6929.3	348.01	27	1.9999
24/05/90 12:00	10607	10290	512.99	27	3.0001
24/05/90 13:00	8520.4	8289.2	415.01	27	5
24/05/90 14:00	5463.5	5329.9	269	26	6.0002
24/05/90 15:00	4243.3	4140.2	209	26	6.9999
24/05/90 16:00	3999.1	3901.5	196	27	6.0002
24/05/90 17:00	3056.2	2976.2	152	26	6.9999
24/05/90 18:00	741.71	699.08	43.001	26	6.0002
24/05/90 19:00	0	-21.619	0	27	5
24/05/90 20:00	0	-21.619	0	27	5
24/05/90 21:00	0	-21.619	0	27	5
24/05/90 22:00	0	-21.619	0	27	5
24/05/90 23:00	0	-21.619	0	27	5
25/05/90 00:00	0	-21.619	0	26	6.0002
25/05/90 01:00	0	-21.619	0	25	6.0002
25/05/90 02:00	0	-21.619	0	25	5
25/05/90 03:00	0	-21.619	0	25	6.0002
25/05/90 04:00	0	-21.619	0	25	6.9999
25/05/90 05:00	0	-21.619	2	26	6.9999
25/05/90 06:00	1548.5	1493.1	89.001	26	6.9999

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
25/05/90 07:00	5595.2	5458	273	25	6.0002
25/05/90 08:00	11050	10713	520.99	26	6.9999
25/05/90 09:00	12153	11761	575.99	26	6.9999
25/05/90 10:00	16273	15640	782	27	6.0002
25/05/90 11:00	18779	17968	916	28	6.0002
25/05/90 12:00	19095	18261	930	28	6.9999
25/05/90 13:00	18848	18032	913	27	6.9999
25/05/90 14:00	17007	16323	813	26	6.0002
25/05/90 15:00	12939	12507	611.99	26	6.9999
25/05/90 16:00	9531	9261.4	451.01	26	6.9999
25/05/90 17:00	4551.3	4440.8	228	26	6.0002
25/05/90 18:00	702.74	660.67	40.001	26	6.0002
25/05/90 19:00	0	-21.619	0	26	6.0002
25/05/90 20:00	0	-21.619	0	26	6.0002
25/05/90 21:00	0	-21.619	0	27	6.0002
25/05/90 22:00	0	-21.619	0	27	5
25/05/90 23:00	0	-21.619	0	27	6.0002
26/05/90 00:00	0	-21.619	0	26	6.9999
26/05/90 01:00	0	-21.619	0	26	6.9999
26/05/90 02:00	0	-21.619	0	26	6.9999
26/05/90 03:00	0	-21.619	0	26	6.9999
26/05/90 04:00	0	-21.619	0	27	6.9999
26/05/90 05:00	0	-21.619	0	26	6.0002
26/05/90 06:00	881.43	836.69	46.001	25	5
26/05/90 07:00	1930.5	1868.2	96.001	25	5
26/05/90 08:00	1798.2	1738.3	91.001	25	6.0002
26/05/90 09:00	2454.7	2384.6	124	26	6.9999
26/05/90 10:00	2927.9	2850.3	148	27	8.9997
26/05/90 11:00	3251.5	3168.3	164	27	8.9997
26/05/90 12:00	3291	3207.1	166	27	8.0001
26/05/90 13:00	3209.5	3127.1	162	27	8.0001
26/05/90 14:00	2796.9	2721.8	142	28	6.9999
26/05/90 15:00	2321.3	2253.8	118	28	8.0001
26/05/90 16:00	2600.6	2528.7	130	28	6.9999
26/05/90 17:00	2004.3	1941.4	100	28	8.0001
26/05/90 18:00	207.21	171.53	12	28	8.0001
26/05/90 19:00	0	-21.619	0	28	8.9997
26/05/90 20:00	0	-21.619	0	28	8.9997
26/05/90 21:00	0	-21.619	0	28	8.9997
26/05/90 22:00	0	-21.619	0	28	8.9997
26/05/90 23:00	0	-21.619	0	28	8.9997
27/05/90 00:00	0	-21.619	0	28	8.9997
27/05/90 01:00	0	-21.619	0	28	8.9997
27/05/90 02:00	0	-21.619	0	28	8.9997
27/05/90 03:00	0	-21.619	0	28	8.0001
27/05/90 04:00	0	-21.619	0	28	8.0001
27/05/90 05:00	0	-21.619	0	28	6.9999
27/05/90 06:00	287.73	251.11	16	27	8.9997
27/05/90 07:00	2332.8	2265	116	28	8.9997
27/05/90 08:00	8108.9	7892.4	388.01	28	10
27/05/90 09:00	7602.3	7403.2	369.01	28	8.9997
27/05/90 10:00	7564.5	7366.8	369.01	28	8.9997
27/05/90 11:00	9462.1	9195.5	461.01	28	8.9997
27/05/90 12:00	11353	11001	551.99	28	8.9997
27/05/90 13:00	8824.5	8582.2	430.01	28	8.9997
27/05/90 14:00	10356	10050	499.01	28	8.0001
27/05/90 15:00	8012.8	7799.7	386.01	28	6.9999
27/05/90 16:00	3396.7	3311.2	168	28	6.0002
27/05/90 17:00	2208.6	2142.8	110	28	5
27/05/90 18:00	246.83	210.72	14	28	5

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
27/05/90 19:00	0	-21.619	0	28	5
27/05/90 20:00	0	-21.619	0	28	5
27/05/90 21:00	0	-21.619	0	28	5
27/05/90 22:00	0	-21.619	0	28	5
27/05/90 23:00	0	-21.619	0	28	5
28/05/90 00:00	0	-21.619	0	28	5
28/05/90 01:00	0	-21.619	0	28	5
28/05/90 02:00	0	-21.619	0	28	3.9998
28/05/90 03:00	0	-21.619	0	28	3.9998
28/05/90 04:00	0	-21.619	0	28	3.9998
28/05/90 05:00	0	-21.619	2	28	3.9998
28/05/90 06:00	1474.5	1420.7	84.001	28	5
28/05/90 07:00	6299.9	6142.4	311	28	5
28/05/90 08:00	11054	10717	525.99	28	3.9998
28/05/90 09:00	14636	14111	702	28	3.9998
28/05/90 10:00	17231	16533	833	28	5
28/05/90 11:00	16446	15803	798	28	3.9998
28/05/90 12:00	18549	17756	908	28	3.9998
28/05/90 13:00	17695	16964	859	28	5
28/05/90 14:00	12738	12318	612.99	28	5
28/05/90 15:00	11405	11051	546.99	28	5
28/05/90 16:00	8999.2	8750.3	430.01	28	5
28/05/90 17:00	4229.7	4127	212	28	5
28/05/90 18:00	616.01	575.28	34.001	28	5
28/05/90 19:00	0	-21.619	0	28	5
28/05/90 20:00	0	-21.619	0	28	5
28/05/90 21:00	0	-21.619	0	28	5
28/05/90 22:00	0	-21.619	0	28	5
28/05/90 23:00	0	-21.619	0	28	5
29/05/90 00:00	0	-21.619	0	28	5
29/05/90 01:00	0	-21.619	0	28	5
29/05/90 02:00	0	-21.619	0	27	5
29/05/90 03:00	0	-21.619	0	27	5
29/05/90 04:00	0	-21.619	0	27	5
29/05/90 05:00	0	-21.619	1	27	5
29/05/90 06:00	1420.6	1367.6	81.001	27	5
29/05/90 07:00	5749.2	5607.6	282	27	6.0002
29/05/90 08:00	10606	10290	502.01	27	6.0002
29/05/90 09:00	14852	14313	710	28	6.0002
29/05/90 10:00	17908	17162	866	28	6.0002
29/05/90 11:00	19609	18733	968	28	6.0002
29/05/90 12:00	18758	17950	916	28	5
29/05/90 13:00	19077	18245	934	28	5
29/05/90 14:00	17251	16552	835	28	3.9998
29/05/90 15:00	13725	13252	657.99	28	3.0001
29/05/90 16:00	8578.2	8345.1	412.01	28	3.0001
29/05/90 17:00	3639.3	3549.3	183	28	3.9998
29/05/90 18:00	817.7	774.16	48.001	28	3.9998
29/05/90 19:00	0	-21.619	0	28	3.9998
29/05/90 20:00	0	-21.619	0	28	3.9998
29/05/90 21:00	0	-21.619	0	28	3.9998
29/05/90 22:00	0	-21.619	0	28	3.9998
29/05/90 23:00	0	-21.619	0	28	3.9998
30/05/90 00:00	0	-21.619	0	27	5
30/05/90 01:00	0	-21.619	0	27	5
30/05/90 02:00	0	-21.619	0	27	3.9998
30/05/90 03:00	0	-21.619	0	27	5
30/05/90 04:00	0	-21.619	0	27	5
30/05/90 05:00	0	-21.619	2	27	3.9998
30/05/90 06:00	1413.2	1360.3	78.001	27	3.9998

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
30/05/90 07:00	6057.4	5907	298	27	3.9998
30/05/90 08:00	11086	10747	525.99	27	3.9998
30/05/90 09:00	13729	13256	655.99	27	3.9998
30/05/90 10:00	15774	15176	761	28	3.9998
30/05/90 11:00	19454	18594	958	28	3.9998
30/05/90 12:00	18164	17400	885	28	5
30/05/90 13:00	18245	17474	888	28	5
30/05/90 14:00	16230	15602	783	28	3.9998
30/05/90 15:00	11988	11605	574.99	28	3.0001
30/05/90 16:00	7871.5	7663.3	378.01	28	3.0001
30/05/90 17:00	3559.5	3470.8	177	27	3.0001
30/05/90 18:00	778.67	735.69	43.001	28	3.0001
30/05/90 19:00	0	-21.619	0	28	3.9998
30/05/90 20:00	0	-21.619	0	28	3.9998
30/05/90 21:00	0	-21.619	0	28	5
30/05/90 22:00	0	-21.619	0	28	5
30/05/90 23:00	0	-21.619	0	28	5
31/05/90 00:00	0	-21.619	0	28	6.0002
31/05/90 01:00	0	-21.619	0	28	6.0002
31/05/90 02:00	0	-21.619	0	28	6.0002
31/05/90 03:00	0	-21.619	0	27	6.0002
31/05/90 04:00	0	-21.619	0	27	6.0002
31/05/90 05:00	0	-21.619	1	28	5
31/05/90 06:00	1159.8	1111.1	62.001	28	6.0002
31/05/90 07:00	5190.6	5064.1	255	28	5
31/05/90 08:00	10083	9790.5	480.01	28	5
31/05/90 09:00	14447	13934	691.99	28	5
31/05/90 10:00	16968	16288	819	28	5
31/05/90 11:00	18880	18063	923	28	5
31/05/90 12:00	19346	18493	946	28	6.0002
31/05/90 13:00	19113	18278	934	28	6.0002
31/05/90 14:00	15784	15185	757	28	6.9999
31/05/90 15:00	11580	11217	552.99	27	6.0002
31/05/90 16:00	8756.8	8516.9	417.01	27	5
31/05/90 17:00	4663.6	4550.5	235	28	5
31/05/90 18:00	888.54	843.97	52.001	28	5
31/05/90 19:00	0	-21.619	0	28	6.0002
31/05/90 20:00	0	-21.619	0	28	5
31/05/90 21:00	0	-21.619	0	28	5
31/05/90 22:00	0	-21.619	0	27	6.0002
31/05/90 23:00	0	-21.619	0	26	6.0002
1/6/1990 0:00	0	-21.619	0	27	6.0002
1/6/1990 1:00	0	-21.619	0	26	6.0002
1/6/1990 2:00	0	-21.619	0	27	6.9999
1/6/1990 3:00	0	-21.619	0	27	6.9999
1/6/1990 4:00	0	-21.619	0	27	6.9999
1/6/1990 5:00	0	-21.619	2	27	6.9999
1/6/1990 6:00	1490.9	1436.7	82.001	27	6.9999
1/6/1990 7:00	5702.4	5562.2	272	27	6.9999
1/6/1990 8:00	11330	10979	520.99	27	6.9999
1/6/1990 9:00	15338	14767	711	27	6.9999
1/6/1990 10:00	17427	16714	814	28	8.0001
1/6/1990 11:00	19445	18584	922	28	8.0001
1/6/1990 12:00	19232	18387	910	28	8.0001
1/6/1990 13:00	19348	18495	917	28	6.9999
1/6/1990 14:00	17082	16394	798	28	6.9999
1/6/1990 15:00	14555	14034	674.99	28	6.9999
1/6/1990 16:00	10382	10076	481.01	28	6.0002
1/6/1990 17:00	5225.1	5097.7	258	28	5
1/6/1990 18:00	937.16	891.86	55.001	28	6.0002

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
1/6/1990 19:00	0	-21.619	1	28	5
1/6/1990 20:00	0	-21.619	0	28	6.0002
1/6/1990 21:00	0	-21.619	0	28	6.0002
1/6/1990 22:00	0	-21.619	0	28	6.0002
1/6/1990 23:00	0	-21.619	0	28	6.9999
2/6/1990 0:00	0	-21.619	0	27	6.9999
2/6/1990 1:00	0	-21.619	0	27	6.0002
2/6/1990 2:00	0	-21.619	0	27	6.9999
2/6/1990 3:00	0	-21.619	0	27	6.9999
2/6/1990 4:00	0	-21.619	0	27	6.9999
2/6/1990 5:00	0	-21.619	2	28	3.9998
2/6/1990 6:00	1402.9	1350.3	75.001	28	5
2/6/1990 7:00	4314.1	4209.4	206	28	5
2/6/1990 8:00	9647.6	9373.3	447.01	27	5
2/6/1990 9:00	14026	13536	650.99	27	5
2/6/1990 10:00	16138	15514	754	27	5
2/6/1990 11:00	18757	17948	889	28	6.0002
2/6/1990 12:00	18847	18031	892	28	6.9999
2/6/1990 13:00	14917	14374	702	28	6.0002
2/6/1990 14:00	12836	12410	601.99	28	5
2/6/1990 15:00	10067	9775.1	472.01	28	5
2/6/1990 16:00	6416.8	6255.8	301	28	5
2/6/1990 17:00	3894.3	3799.1	189	28	5
2/6/1990 18:00	905.62	860.79	54.001	28	5
2/6/1990 19:00	0	-21.619	1	28	5
2/6/1990 20:00	0	-21.619	0	28	5
2/6/1990 21:00	0	-21.619	0	28	6.0002
2/6/1990 22:00	0	-21.619	0	28	6.0002
2/6/1990 23:00	0	-21.619	0	28	6.9999
3/6/1990 0:00	0	-21.619	0	28	6.9999
3/6/1990 1:00	0	-21.619	0	28	6.0002
3/6/1990 2:00	0	-21.619	0	27	6.0002
3/6/1990 3:00	0	-21.619	0	27	6.0002
3/6/1990 4:00	0	-21.619	0	27	6.0002
3/6/1990 5:00	0	-21.619	2	27	3.9998
3/6/1990 6:00	1506.5	1452	81.001	27	3.9998
3/6/1990 7:00	5492.5	5358	263	28	3.9998
3/6/1990 8:00	6827.1	6653.3	320	28	3.9998
3/6/1990 9:00	12240	11845	572.99	28	3.9998
3/6/1990 10:00	13673	13202	641.99	28	5
3/6/1990 11:00	16746	16082	790	28	5
3/6/1990 12:00	18515	17724	877	28	6.0002
3/6/1990 13:00	18162	17397	858	28	6.0002
3/6/1990 14:00	17000	16318	798	28	5
3/6/1990 15:00	13571	13106	631.99	28	5
3/6/1990 16:00	7177.7	6992.7	336.01	28	5
3/6/1990 17:00	4740.2	4625.2	231	28	5
3/6/1990 18:00	868.67	824.39	48.001	28	5
3/6/1990 19:00	0	-21.619	1	28	5
3/6/1990 20:00	0	-21.619	0	28	6.0002
3/6/1990 21:00	0	-21.619	0	28	6.0002
3/6/1990 22:00	0	-21.619	0	28	6.0002
3/6/1990 23:00	0	-21.619	0	28	6.0002
4/6/1990 0:00	0	-21.619	0	28	6.0002
4/6/1990 1:00	0	-21.619	0	28	6.0002
4/6/1990 2:00	0	-21.619	0	28	6.0002
4/6/1990 3:00	0	-21.619	0	28	6.0002
4/6/1990 4:00	0	-21.619	0	27	6.0002
4/6/1990 5:00	0	-21.619	2	28	6.0002
4/6/1990 6:00	1610.4	1554.3	90.001	28	6.0002

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
4/6/1990 7:00	6007.4	5858.5	287	27	6.0002
4/6/1990 8:00	9366.5	9103.6	435.01	28	6.0002
4/6/1990 9:00	9400.3	9136.1	441.01	28	5
4/6/1990 10:00	11306	10956	531.99	28	5
4/6/1990 11:00	15414	14840	724	28	5
4/6/1990 12:00	19628	18748	969	28	6.0002
4/6/1990 13:00	19577	18704	936	28	6.0002
4/6/1990 14:00	17653	16925	830	28	5
4/6/1990 15:00	12408	12004	576.99	28	5
4/6/1990 16:00	9409.8	9145.1	437.01	28	5
4/6/1990 17:00	4887.1	4768.4	239	28	3.9998
4/6/1990 18:00	870.2	825.9	48.001	28	5
4/6/1990 19:00	0	-21.619	1	28	5
4/6/1990 20:00	0	-21.619	0	28	5
4/6/1990 21:00	0	-21.619	0	27	5
4/6/1990 22:00	0	-21.619	0	27	5
4/6/1990 23:00	0	-21.619	0	27	5
5/6/1990 0:00	0	-21.619	0	27	5
5/6/1990 1:00	0	-21.619	0	27	5
5/6/1990 2:00	0	-21.619	0	27	3.9998
5/6/1990 3:00	0	-21.619	0	27	3.9998
5/6/1990 4:00	0	-21.619	0	27	3.9998
5/6/1990 5:00	0	-21.619	2	26	3.9998
5/6/1990 6:00	1526.4	1471.4	81.001	26	3.9998
5/6/1990 7:00	5698.8	5558.7	272	27	3.9998
5/6/1990 8:00	9022.6	8772.8	417.01	27	3.9998
5/6/1990 9:00	13897	13414	646.99	27	3.9998
5/6/1990 10:00	16338	15701	764	27	5
5/6/1990 11:00	18831	18016	893	28	6.0002
5/6/1990 12:00	19629	18749	971	28	6.0002
5/6/1990 13:00	18905	18086	897	28	6.0002
5/6/1990 14:00	16869	16196	790	28	6.0002
5/6/1990 15:00	13528	13065	627.99	28	6.0002
5/6/1990 16:00	9861	9577.6	457.01	28	6.9999
5/6/1990 17:00	4766.4	4650.7	232	28	6.9999
5/6/1990 18:00	825.47	781.82	44.001	28	6.0002
5/6/1990 19:00	0	-21.619	1	28	6.0002
5/6/1990 20:00	0	-21.619	0	28	6.9999
5/6/1990 21:00	0	-21.619	0	28	8.0001
5/6/1990 22:00	0	-21.619	0	28	8.0001
5/6/1990 23:00	0	-21.619	0	28	8.0001
6/6/1990 0:00	0	-21.619	0	28	6.9999
6/6/1990 1:00	0	-21.619	0	28	6.9999
6/6/1990 2:00	0	-21.619	0	27	6.9999
6/6/1990 3:00	0	-21.619	0	27	6.9999
6/6/1990 4:00	0	-21.619	0	27	6.9999
6/6/1990 5:00	0	-21.619	2	27	6.9999
6/6/1990 6:00	1557.8	1502.6	85.001	28	6.9999
6/6/1990 7:00	6074.7	5923.8	291	28	6.9999
6/6/1990 8:00	10798	10472	498.01	28	6.9999
6/6/1990 9:00	15160	14601	705	28	6.9999
6/6/1990 10:00	18035	17279	846	28	8.0001
6/6/1990 11:00	19500	18635	924	28	8.0001
6/6/1990 12:00	17215	16517	808	28	8.0001
6/6/1990 13:00	18351	17571	866	28	8.0001
6/6/1990 14:00	15690	15097	734	29	8.0001
6/6/1990 15:00	13144	12702	610.99	29	8.0001
6/6/1990 16:00	8436.8	8208.7	392.01	28	8.0001
6/6/1990 17:00	2725.3	2651.5	133	29	6.9999
6/6/1990 18:00	816.02	772.57	48.001	29	6.9999

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
6/6/1990 19:00	0	-21.619	1	28	6.9999
6/6/1990 20:00	0	-21.619	0	28	8.0001
6/6/1990 21:00	0	-21.619	0	27	8.9997
6/6/1990 22:00	0	-21.619	0	27	8.9997
6/6/1990 23:00	0	-21.619	0	27	8.0001
7/6/1990 0:00	0	-21.619	0	28	8.0001
7/6/1990 1:00	0	-21.619	0	28	8.0001
7/6/1990 2:00	0	-21.619	0	28	8.0001
7/6/1990 3:00	0	-21.619	0	28	6.9999
7/6/1990 4:00	0	-21.619	0	28	6.9999
7/6/1990 5:00	0	-21.619	1	28	6.0002
7/6/1990 6:00	1185.5	1136.4	61.001	28	6.9999
7/6/1990 7:00	5221.5	5094.2	249	28	6.9999
7/6/1990 8:00	10319	10015	477.01	28	6.9999
7/6/1990 9:00	14743	14211	683.99	28	8.0001
7/6/1990 10:00	16457	15811	769	28	8.0001
7/6/1990 11:00	17904	17157	843	28	8.0001
7/6/1990 12:00	19615	18737	941	28	8.0001
7/6/1990 13:00	17854	17111	841	29	8.0001
7/6/1990 14:00	17941	17192	844	29	8.0001
7/6/1990 15:00	14660	14133	682.99	29	6.9999
7/6/1990 16:00	10367	10061	481.01	29	6.9999
7/6/1990 17:00	5248.9	5121	259	29	6.0002
7/6/1990 18:00	1054.2	1007.1	63.001	28	6.0002
7/6/1990 19:00	0	-21.619	1	28	6.0002
7/6/1990 20:00	0	-21.619	0	28	6.9999
7/6/1990 21:00	0	-21.619	0	28	6.9999
7/6/1990 22:00	0	-21.619	0	28	6.9999
7/6/1990 23:00	0	-21.619	0	28	6.0002
8/6/1990 0:00	0	-21.619	0	28	6.0002
8/6/1990 1:00	0	-21.619	0	28	5
8/6/1990 2:00	0	-21.619	0	28	5
8/6/1990 3:00	0	-21.619	0	28	3.9998
8/6/1990 4:00	0	-21.619	0	28	3.9998
8/6/1990 5:00	0	-21.619	2	28	3.0001
8/6/1990 6:00	1628.7	1572.3	91.001	28	3.0001
8/6/1990 7:00	6030.8	5881.1	290	28	3.0001
8/6/1990 8:00	10242	9942.2	475.01	28	3.9998
8/6/1990 9:00	14922	14379	696.99	28	3.9998
8/6/1990 10:00	17934	17186	845	28	5
8/6/1990 11:00	19615	18737	949	28	5
8/6/1990 12:00	19632	18752	984	28	5
8/6/1990 13:00	19527	18660	936	28	5
8/6/1990 14:00	17842	17101	842	29	6.0002
8/6/1990 15:00	14658	14131	683.99	29	6.0002
8/6/1990 16:00	10440	10131	484.01	28	5
8/6/1990 17:00	5302.3	5172.9	261	28	5
8/6/1990 18:00	1056.2	1009.1	63.001	28	5
8/6/1990 19:00	0	-21.619	1	28	5
8/6/1990 20:00	0	-21.619	0	28	5
8/6/1990 21:00	0	-21.619	0	28	5
8/6/1990 22:00	0	-21.619	0	28	6.0002
8/6/1990 23:00	0	-21.619	0	28	6.0002
9/6/1990 0:00	0	-21.619	0	27	6.0002
9/6/1990 1:00	0	-21.619	0	27	6.0002
9/6/1990 2:00	0	-21.619	0	28	6.0002
9/6/1990 3:00	0	-21.619	0	28	6.0002
9/6/1990 4:00	0	-21.619	0	27	6.0002
9/6/1990 5:00	0	-21.619	3	27	5
9/6/1990 6:00	1593.7	1537.8	89.001	28	5

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
9/6/1990 7:00	5962.7	5815.1	286	28	6.0002
9/6/1990 8:00	10913	10582	504.01	28	6.0002
9/6/1990 9:00	14337	13829	665.99	28	6.9999
9/6/1990 10:00	12596	12182	587.99	28	8.0001
9/6/1990 11:00	19002	18174	899	28	8.0001
9/6/1990 12:00	19265	18417	912	28	8.0001
9/6/1990 13:00	19579	18706	933	28	8.0001
9/6/1990 14:00	17792	17052	831	28	8.9997
9/6/1990 15:00	14504	13986	670.99	28	8.9997
9/6/1990 16:00	10261	9959.6	474.01	28	8.0001
9/6/1990 17:00	5226.3	5098.9	256	28	8.0001
9/6/1990 18:00	1061.9	1014.7	62.001	28	6.9999
9/6/1990 19:00	0	-21.619	1	28	6.9999
9/6/1990 20:00	0	-21.619	0	28	6.9999
9/6/1990 21:00	0	-21.619	0	28	6.9999
9/6/1990 22:00	0	-21.619	0	28	6.0002
9/6/1990 23:00	0	-21.619	0	28	6.0002
10/6/1990 0:00	0	-21.619	0	28	6.0002
10/6/1990 1:00	0	-21.619	0	28	6.0002
10/6/1990 2:00	0	-21.619	0	28	5
10/6/1990 3:00	0	-21.619	0	28	5
10/6/1990 4:00	0	-21.619	0	28	5
10/6/1990 5:00	0	-21.619	2	28	3.9998
10/6/1990 6:00	1668.7	1611.6	93.001	28	5
10/6/1990 7:00	5046.1	4923.4	242	28	5
10/6/1990 8:00	11065	10727	511.01	28	6.0002
10/6/1990 9:00	15293	14726	712	28	6.0002
10/6/1990 10:00	18366	17586	867	28	6.0002
10/6/1990 11:00	19624	18745	962	28	6.0002
10/6/1990 12:00	19638	18758	991	28	6.0002
10/6/1990 13:00	19619	18740	952	28	6.0002
10/6/1990 14:00	17944	17196	847	29	6.0002
10/6/1990 15:00	14721	14191	686.99	29	6.0002
10/6/1990 16:00	10486	10175	487.01	29	6.0002
10/6/1990 17:00	5432.4	5299.4	268	28	6.0002
10/6/1990 18:00	1052.8	1005.7	67.001	28	6.0002
10/6/1990 19:00	0	-21.619	1	28	5
10/6/1990 20:00	0	-21.619	0	28	5
10/6/1990 21:00	0	-21.619	0	28	5
10/6/1990 22:00	0	-21.619	0	28	5
10/6/1990 23:00	0	-21.619	0	28	5
11/6/1990 0:00	0	-21.619	0	28	5
11/6/1990 1:00	0	-21.619	0	28	5
11/6/1990 2:00	0	-21.619	0	28	5
11/6/1990 3:00	0	-21.619	0	28	6.9999
11/6/1990 4:00	0	-21.619	0	28	8.0001
11/6/1990 5:00	0	-21.619	2	28	6.9999
11/6/1990 6:00	1559.5	1504.1	86.001	27	8.0001
11/6/1990 7:00	5026.6	4904.3	240	28	8.0001
11/6/1990 8:00	11037	10700	509.01	28	8.0001
11/6/1990 9:00	14823	14286	687.99	28	6.9999
11/6/1990 10:00	18216	17447	858	28	6.9999
11/6/1990 11:00	19624	18745	958	28	8.0001
11/6/1990 12:00	19638	18758	988	28	6.9999
11/6/1990 13:00	19619	18740	949	28	6.9999
11/6/1990 14:00	17973	17221	844	28	6.9999
11/6/1990 15:00	14727	14196	683.99	28	6.9999
11/6/1990 16:00	10456	10146	484.01	28	6.0002
11/6/1990 17:00	5365.6	5234.5	264	28	6.0002
11/6/1990 18:00	1097.6	1049.9	67.001	28	5

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
11/6/1990 19:00	0	-21.619	1	28	5
11/6/1990 20:00	0	-21.619	0	28	6.0002
11/6/1990 21:00	0	-21.619	0	28	6.0002
11/6/1990 22:00	0	-21.619	0	28	6.9999
11/6/1990 23:00	0	-21.619	0	28	6.9999
12/6/1990 0:00	0	-21.619	0	28	6.9999
12/6/1990 1:00	0	-21.619	0	28	6.9999
12/6/1990 2:00	0	-21.619	0	27	8.0001
12/6/1990 3:00	0	-21.619	0	27	8.9997
12/6/1990 4:00	0	-21.619	0	27	8.9997
12/6/1990 5:00	0	-21.619	3	27	8.0001
12/6/1990 6:00	1591.3	1535.3	92.001	27	8.0001
12/6/1990 7:00	6323.4	6165.1	302	26	6.9999
12/6/1990 8:00	11344	10992	519.99	26	6.9999
12/6/1990 9:00	15482	14901	716	26	6.9999
12/6/1990 10:00	18504	17713	868	26	6.0002
12/6/1990 11:00	19628	18748	962	26	6.0002
12/6/1990 12:00	19641	18760	990	27	6.9999
12/6/1990 13:00	19620	18741	950	27	6.0002
12/6/1990 14:00	17975	17223	843	27	6.0002
12/6/1990 15:00	14789	14254	685.99	27	6.0002
12/6/1990 16:00	10119	9824.3	467.01	27	6.0002
12/6/1990 17:00	4460.4	4352.2	218	28	5
12/6/1990 18:00	1128.2	1080	67.001	28	5
12/6/1990 19:00	0	-21.619	1	28	5
12/6/1990 20:00	0	-21.619	0	28	5
12/6/1990 21:00	0	-21.619	0	28	5
12/6/1990 22:00	0	-21.619	0	28	5
12/6/1990 23:00	0	-21.619	0	28	5
13/06/90 00:00	0	-21.619	0	27	5
13/06/90 01:00	0	-21.619	0	27	5
13/06/90 02:00	0	-21.619	0	27	5
13/06/90 03:00	0	-21.619	0	27	5
13/06/90 04:00	0	-21.619	0	27	5
13/06/90 05:00	0	-21.619	2	27	3.9998
13/06/90 06:00	1557.8	1502.5	88.001	27	3.9998
13/06/90 07:00	6231.9	6076.4	299	27	3.9998
13/06/90 08:00	11272	10925	521.99	28	3.9998
13/06/90 09:00	15340	14770	718	28	3.9998
13/06/90 10:00	17245	16546	807	27	5
13/06/90 11:00	13864	13383	645.99	27	3.9998
13/06/90 12:00	12890	12462	603.99	27	3.9998
13/06/90 13:00	12598	12184	593.99	27	3.9998
13/06/90 14:00	14201	13702	663.99	27	3.0001
13/06/90 15:00	12869	12441	598.99	27	3.0001
13/06/90 16:00	8430.8	8202.9	392.01	27	3.9998
13/06/90 17:00	3341.9	3257.2	163	27	3.0001
13/06/90 18:00	1207.4	1157.8	70.001	27	3.0001
13/06/90 19:00	0	-21.619	1	27	3.0001
13/06/90 20:00	0	-21.619	0	27	3.0001
13/06/90 21:00	0	-21.619	0	27	3.0001
13/06/90 22:00	0	-21.619	0	27	3.9998
13/06/90 23:00	0	-21.619	0	27	3.9998
14/06/90 00:00	0	-21.619	0	27	3.9998
14/06/90 01:00	0	-21.619	0	27	3.9998
14/06/90 02:00	0	-21.619	0	27	3.9998
14/06/90 03:00	0	-21.619	0	27	3.9998
14/06/90 04:00	0	-21.619	0	27	3.9998
14/06/90 05:00	0	-21.619	1	28	3.0001
14/06/90 06:00	1332.1	1280.6	72.001	27	3.0001

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
14/06/90 07:00	3472.5	3385.4	166	27	3.0001
14/06/90 08:00	8096.1	7880.1	376.01	27	3.9998
14/06/90 09:00	11204	10860	521.99	27	5
14/06/90 10:00	12056	11670	562.99	27	5
14/06/90 11:00	12716	12297	595.99	28	5
14/06/90 12:00	15897	15291	749	28	3.9998
14/06/90 13:00	17677	16947	837	28	3.9998
14/06/90 14:00	17648	16921	833	28	3.9998
14/06/90 15:00	13084	12646	609.99	28	3.9998
14/06/90 16:00	8754.5	8514.8	408.01	28	3.9998
14/06/90 17:00	5020.5	4898.5	244	28	3.9998
14/06/90 18:00	886.38	841.85	49.001	28	3.9998
14/06/90 19:00	0	-21.619	1	28	3.9998
14/06/90 20:00	0	-21.619	0	27	5
14/06/90 21:00	0	-21.619	0	27	6.0002
14/06/90 22:00	0	-21.619	0	27	6.9999
14/06/90 23:00	0	-21.619	0	27	6.0002
15/06/90 00:00	0	-21.619	0	27	6.0002
15/06/90 01:00	0	-21.619	0	27	6.0002
15/06/90 02:00	0	-21.619	0	27	6.0002
15/06/90 03:00	0	-21.619	0	27	6.0002
15/06/90 04:00	0	-21.619	0	27	5
15/06/90 05:00	0	-21.619	0	27	5
15/06/90 06:00	1320.6	1269	74.001	26	3.9998
15/06/90 07:00	6147.5	5994.5	294	26	3.9998
15/06/90 08:00	9729.1	9451.3	448.01	26	3.9998
15/06/90 09:00	15113	14557	704	27	3.9998
15/06/90 10:00	16692	16031	781	27	5
15/06/90 11:00	16024	15408	751	27	5
15/06/90 12:00	6179.3	6025.4	294	27	5
15/06/90 13:00	4428.3	4320.8	213	27	5
15/06/90 14:00	10150	9853.7	476.01	27	5
15/06/90 15:00	8978.2	8730.1	421.01	27	3.0001
15/06/90 16:00	4991	4869.7	236	27	3.0001
15/06/90 17:00	2977.8	2899.5	143	27	3.0001
15/06/90 18:00	622.98	582.16	32	28	1.9999
15/06/90 19:00	0	-21.619	1	28	1.9999
15/06/90 20:00	0	-21.619	0	28	3.0001
15/06/90 21:00	0	-21.619	0	28	3.9998
15/06/90 22:00	0	-21.619	0	28	3.9998
15/06/90 23:00	0	-21.619	0	28	3.9998
16/06/90 00:00	0	-21.619	0	28	5
16/06/90 01:00	0	-21.619	0	28	5
16/06/90 02:00	0	-21.619	0	28	5
16/06/90 03:00	0	-21.619	0	28	3.9998
16/06/90 04:00	0	-21.619	0	28	5
16/06/90 05:00	0	-21.619	2	28	5
16/06/90 06:00	1075.5	1028.1	54.001	28	5
16/06/90 07:00	3637.5	3547.5	174	28	6.0002
16/06/90 08:00	8236.1	8015.1	383.01	28	6.0002
16/06/90 09:00	8178.8	7959.9	384.01	28	6.0002
16/06/90 10:00	8869.4	8625.4	421.01	28	5
16/06/90 11:00	4898.6	4779.6	238	28	5
16/06/90 12:00	3582.6	3493.7	176	28	5
16/06/90 13:00	3756.1	3663.9	184	28	6.0002
16/06/90 14:00	4022.3	3924.5	196	28	6.0002
16/06/90 15:00	3856.5	3762.4	187	28	6.0002
16/06/90 16:00	3038.1	2958.9	147	28	6.0002
16/06/90 17:00	2235	2168.7	108	28	3.9998
16/06/90 18:00	743.6	701.12	38.001	28	3.9998

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
16/06/90 19:00	0	-21.619	1	28	5
16/06/90 20:00	0	-21.619	0	28	6.0002
16/06/90 21:00	0	-21.619	0	28	6.9999
16/06/90 22:00	0	-21.619	0	28	6.9999
16/06/90 23:00	0	-21.619	0	28	6.0002
17/06/90 00:00	0	-21.619	0	28	6.0002
17/06/90 01:00	0	-21.619	0	28	6.0002
17/06/90 02:00	0	-21.619	0	28	6.0002
17/06/90 03:00	0	-21.619	0	28	6.0002
17/06/90 04:00	0	-21.619	0	28	6.0002
17/06/90 05:00	0	-21.619	1	27	5
17/06/90 06:00	1153	1104.3	61.001	27	5
17/06/90 07:00	3605	3515.4	172	27	6.0002
17/06/90 08:00	6800.7	6627.8	317	27	6.9999
17/06/90 09:00	12973	12539	600.99	27	6.9999
17/06/90 10:00	15403	14828	717	27	6.9999
17/06/90 11:00	16984	16302	796	27	6.9999
17/06/90 12:00	16963	16282	793	27	8.0001
17/06/90 13:00	19302	18451	909	27	8.9997
17/06/90 14:00	13935	13449	645.99	27	8.0001
17/06/90 15:00	4837.3	4719.9	230	27	6.9999
17/06/90 16:00	5322.7	5192.8	250	28	6.9999
17/06/90 17:00	2200.1	2134.1	106	27	5
17/06/90 18:00	706.66	664.62	36.001	27	5
17/06/90 19:00	0	-21.619	1	27	6.0002
17/06/90 20:00	0	-21.619	0	26	6.9999
17/06/90 21:00	0	-21.619	0	26	8.0001
17/06/90 22:00	0	-21.619	0	27	8.0001
17/06/90 23:00	0	-21.619	0	27	6.9999
18/06/90 00:00	0	-21.619	0	26	6.9999
18/06/90 01:00	0	-21.619	0	26	6.9999
18/06/90 02:00	0	-21.619	0	26	6.9999
18/06/90 03:00	0	-21.619	0	26	6.9999
18/06/90 04:00	0	-21.619	0	26	6.9999
18/06/90 05:00	0	-21.619	1	26	6.9999
18/06/90 06:00	839.37	795.25	43.001	25	6.9999
18/06/90 07:00	5079.5	4955.9	241	25	6.9999
18/06/90 08:00	7352.4	7161.7	341.01	26	6.9999
18/06/90 09:00	9237.4	8979.4	429.01	25	6.9999
18/06/90 10:00	14480	13963	668.99	25	6.9999
18/06/90 11:00	9247.8	8989.5	427.01	25	6.9999
18/06/90 12:00	3773.8	3681	183	25	6.9999
18/06/90 13:00	7146.9	6962.9	338.01	26	6.0002
18/06/90 14:00	10084	9790.9	470.01	26	6.0002
18/06/90 15:00	3239	3155.9	157	26	6.9999
18/06/90 16:00	2000.5	1937.3	98.001	26	6.0002
18/06/90 17:00	1175.9	1126.6	58.001	25	3.9998
18/06/90 18:00	553.98	513.95	29	26	5
18/06/90 19:00	0	-21.619	1	26	6.0002
18/06/90 20:00	0	-21.619	0	26	6.9999
18/06/90 21:00	0	-21.619	0	26	8.0001
18/06/90 22:00	0	-21.619	0	26	8.9997
18/06/90 23:00	0	-21.619	0	25	8.0001
19/06/90 00:00	0	-21.619	0	25	8.0001
19/06/90 01:00	0	-21.619	0	25	8.0001
19/06/90 02:00	0	-21.619	0	25	8.0001
19/06/90 03:00	0	-21.619	0	26	8.0001
19/06/90 04:00	0	-21.619	0	26	8.0001
19/06/90 05:00	0	-21.619	1	25	6.9999
19/06/90 06:00	1042.8	995.63	53.001	25	8.0001

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
19/06/90 07:00	3420.1	3333.7	163	26	8.0001
19/06/90 08:00	3879.6	3784.7	185	26	8.0001
19/06/90 09:00	4031.2	3932.9	194	26	8.0001
19/06/90 10:00	4777.9	4662	230	26	8.0001
19/06/90 11:00	7293	7104.3	345.01	26	8.0001
19/06/90 12:00	9439.4	9173.6	441.01	26	6.9999
19/06/90 13:00	14332	13824	666.99	26	8.0001
19/06/90 14:00	8247.9	8026.5	388.01	26	8.0001
19/06/90 15:00	4660.3	4547.2	223	26	6.9999
19/06/90 16:00	3079.8	2999.4	148	26	6.0002
19/06/90 17:00	1452.2	1398.5	71.001	26	6.9999
19/06/90 18:00	726.99	684.58	38.001	26	6.0002
19/06/90 19:00	0	-21.619	1	26	6.0002
19/06/90 20:00	0	-21.619	0	27	5
19/06/90 21:00	0	-21.619	0	26	5
19/06/90 22:00	0	-21.619	0	26	5
19/06/90 23:00	0	-21.619	0	27	6.9999
20/06/90 00:00	0	-21.619	0	26	6.9999
20/06/90 01:00	0	-21.619	0	27	8.0001
20/06/90 02:00	0	-21.619	0	26	8.0001
20/06/90 03:00	0	-21.619	0	26	8.9997
20/06/90 04:00	0	-21.619	0	27	8.9997
20/06/90 05:00	0	-21.619	0	27	8.9997
20/06/90 06:00	441.89	403.42	23	28	10
20/06/90 07:00	1717.6	1659.6	84.001	28	8.9997
20/06/90 08:00	2865.1	2788.8	139	28	10
20/06/90 09:00	2556.1	2484.8	126	28	10
20/06/90 10:00	2814.3	2738.9	139	28	8.9997
20/06/90 11:00	3144.9	3063.8	155	28	8.9997
20/06/90 12:00	3589.4	3500.3	176	28	8.9997
20/06/90 13:00	4460.9	4352.6	217	28	8.9997
20/06/90 14:00	4580.7	4469.5	222	28	8.9997
20/06/90 15:00	4010	3912.4	194	28	8.0001
20/06/90 16:00	3817.8	3724.3	183	28	8.0001
20/06/90 17:00	2493.1	2422.8	120	28	6.0002
20/06/90 18:00	725.48	683.25	37.001	28	6.0002
20/06/90 19:00	0	-21.619	1	28	6.0002
20/06/90 20:00	0	-21.619	0	28	6.9999
20/06/90 21:00	0	-21.619	0	28	8.9997
20/06/90 22:00	0	-21.619	0	28	8.9997
20/06/90 23:00	0	-21.619	0	28	8.0001
21/06/90 00:00	0	-21.619	0	28	8.0001
21/06/90 01:00	0	-21.619	0	28	8.0001
21/06/90 02:00	0	-21.619	0	28	8.0001
21/06/90 03:00	0	-21.619	0	28	8.0001
21/06/90 04:00	0	-21.619	0	28	6.9999
21/06/90 05:00	0	-21.619	0	28	8.0001
21/06/90 06:00	358.53	321.1	19	28	8.0001
21/06/90 07:00	2212.2	2146.2	107	28	8.0001
21/06/90 08:00	4157.1	4056.1	199	28	6.9999
21/06/90 09:00	5913.6	5767.6	281	28	6.9999
21/06/90 10:00	8032	7818.2	381.01	28	6.9999
21/06/90 11:00	9070	8818.4	425.01	27	6.9999
21/06/90 12:00	13493	13032	629.99	27	6.9999
21/06/90 13:00	6258.2	6102	298	27	6.0002
21/06/90 14:00	9126.4	8872.7	420.01	27	6.0002
21/06/90 15:00	5853.8	5709.5	278	28	5
21/06/90 16:00	5613.4	5475.7	264	27	5
21/06/90 17:00	3464.8	3377.8	166	27	5
21/06/90 18:00	935.57	890.21	51.001	27	5

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
21/06/90 19:00	0	-21.619	1	27	6.0002
21/06/90 20:00	0	-21.619	0	28	6.0002
21/06/90 21:00	0	-21.619	0	28	6.0002
21/06/90 22:00	0	-21.619	0	28	6.0002
21/06/90 23:00	0	-21.619	0	28	6.9999
22/06/90 00:00	0	-21.619	0	28	8.0001
22/06/90 01:00	0	-21.619	0	28	8.0001
22/06/90 02:00	0	-21.619	0	28	8.0001
22/06/90 03:00	0	-21.619	0	27	8.9997
22/06/90 04:00	0	-21.619	0	27	8.9997
22/06/90 05:00	0	-21.619	2	28	8.9997
22/06/90 06:00	1561.5	1506.2	94.001	28	8.9997
22/06/90 07:00	6175.6	6021.7	298	28	8.9997
22/06/90 08:00	10614	10297	489.01	28	8.0001
22/06/90 09:00	12792	12368	591.99	28	8.0001
22/06/90 10:00	16541	15890	771	28	8.0001
22/06/90 11:00	17966	17214	844	28	8.0001
22/06/90 12:00	18766	17956	884	28	8.9997
22/06/90 13:00	17771	17033	830	27	8.9997
22/06/90 14:00	16781	16113	781	27	8.0001
22/06/90 15:00	9264.2	9005.2	433.01	28	8.0001
22/06/90 16:00	7018.9	6839	327	27	6.9999
22/06/90 17:00	3172.1	3090.3	152	27	6.9999
22/06/90 18:00	965.46	919.65	51.001	27	6.9999
22/06/90 19:00	0	-21.619	1	27	8.0001
22/06/90 20:00	0	-21.619	0	27	8.9997
22/06/90 21:00	0	-21.619	0	27	8.9997
22/06/90 22:00	0	-21.619	0	27	8.9997
22/06/90 23:00	0	-21.619	0	27	8.9997
23/06/90 00:00	0	-21.619	0	27	8.9997
23/06/90 01:00	0	-21.619	0	28	8.9997
23/06/90 02:00	0	-21.619	0	28	10
23/06/90 03:00	0	-21.619	0	28	10
23/06/90 04:00	0	-21.619	0	28	10
23/06/90 05:00	0	-21.619	1	27	8.9997
23/06/90 06:00	1153.4	1104.8	62.001	28	10
23/06/90 07:00	5977.9	5829.7	287	28	10
23/06/90 08:00	9701.9	9425.3	447.01	28	11
23/06/90 09:00	13465	13005	622.99	28	10
23/06/90 10:00	17739	17003	828	28	8.9997
23/06/90 11:00	19616	18738	942	28	8.9997
23/06/90 12:00	19633	18753	975	28	8.9997
23/06/90 13:00	19558	18685	929	28	8.9997
23/06/90 14:00	17515	16796	819	28	8.0001
23/06/90 15:00	14574	14052	674.99	28	8.0001
23/06/90 16:00	9989.7	9700.8	462.01	28	8.0001
23/06/90 17:00	4704.4	4590.2	227	28	6.9999
23/06/90 18:00	979	933.08	54.001	28	8.0001
23/06/90 19:00	0	-21.619	1	28	8.0001
23/06/90 20:00	0	-21.619	0	28	8.0001
23/06/90 21:00	0	-21.619	0	28	8.0001
23/06/90 22:00	0	-21.619	0	28	8.0001
23/06/90 23:00	0	-21.619	0	28	8.0001
24/06/90 00:00	0	-21.619	0	28	8.0001
24/06/90 01:00	0	-21.619	0	28	8.0001
24/06/90 02:00	0	-21.619	0	28	8.0001
24/06/90 03:00	0	-21.619	0	28	8.0001
24/06/90 04:00	0	-21.619	0	28	8.0001
24/06/90 05:00	0	-21.619	1	28	8.9997
24/06/90 06:00	872.64	828.2	44.001	27	8.9997

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
24/06/90 07:00	4371.6	4265.5	209	28	8.9997
24/06/90 08:00	8798.6	8557.2	408.01	28	8.9997
24/06/90 09:00	13938	13453	644.99	28	8.9997
24/06/90 10:00	17916	17168	838	28	8.9997
24/06/90 11:00	19613	18736	938	28	8.0001
24/06/90 12:00	19634	18753	978	28	8.0001
24/06/90 13:00	19517	18649	929	28	6.9999
24/06/90 14:00	17692	16960	829	28	6.9999
24/06/90 15:00	14591	14068	676.99	28	6.9999
24/06/90 16:00	9777.6	9497.7	453.01	28	6.0002
24/06/90 17:00	5087.3	4963.5	247	28	5
24/06/90 18:00	1177.3	1128.3	66.001	28	5
24/06/90 19:00	0	-21.619	1	28	5
24/06/90 20:00	0	-21.619	0	28	6.0002
24/06/90 21:00	0	-21.619	0	28	6.0002
24/06/90 22:00	0	-21.619	0	28	6.9999
24/06/90 23:00	0	-21.619	0	28	6.9999
25/06/90 00:00	0	-21.619	0	28	6.9999
25/06/90 01:00	0	-21.619	0	28	6.9999
25/06/90 02:00	0	-21.619	0	28	6.9999
25/06/90 03:00	0	-21.619	0	28	8.0001
25/06/90 04:00	0	-21.619	0	27	8.0001
25/06/90 05:00	0	-21.619	2	27	6.9999
25/06/90 06:00	1437.2	1383.9	78.001	27	6.9999
25/06/90 07:00	5182.8	5056.5	248	27	6.9999
25/06/90 08:00	10601	10285	488.01	27	6.9999
25/06/90 09:00	14354	13845	664.99	27	6.0002
25/06/90 10:00	17995	17241	844	27	6.0002
25/06/90 11:00	19617	18739	947	27	6.0002
25/06/90 12:00	19624	18745	959	27	6.0002
25/06/90 13:00	19505	18639	930	28	6.0002
25/06/90 14:00	17194	16498	806	28	6.0002
25/06/90 15:00	12872	12444	597.99	28	6.0002
25/06/90 16:00	9562.1	9291.2	443.01	28	6.0002
25/06/90 17:00	5081.3	4957.7	247	28	5
25/06/90 18:00	1131.4	1083.2	65.001	28	5
25/06/90 19:00	0	-21.619	1	28	5
25/06/90 20:00	0	-21.619	0	28	6.0002
25/06/90 21:00	0	-21.619	0	27	6.0002
25/06/90 22:00	0	-21.619	0	27	6.0002
25/06/90 23:00	0	-21.619	0	28	6.0002
26/06/90 00:00	0	-21.619	0	27	6.9999
26/06/90 01:00	0	-21.619	0	27	8.0001
26/06/90 02:00	0	-21.619	0	27	8.9997
26/06/90 03:00	0	-21.619	0	27	8.9997
26/06/90 04:00	0	-21.619	0	27	8.9997
26/06/90 05:00	0	-21.619	2	27	8.0001
26/06/90 06:00	626.59	585.65	33.001	27	8.0001
26/06/90 07:00	5341.8	5211.4	255	27	8.0001
26/06/90 08:00	10426	10117	480.01	27	8.0001
26/06/90 09:00	14865	14325	688.99	28	8.0001
26/06/90 10:00	17952	17202	841	28	8.0001
26/06/90 11:00	19511	18644	925	28	8.0001
26/06/90 12:00	19632	18752	971	27	6.9999
26/06/90 13:00	17905	17157	840	27	6.9999
26/06/90 14:00	16577	15924	772	27	6.9999
26/06/90 15:00	10769	10445	496.01	27	6.9999
26/06/90 16:00	9769.7	9490.2	451.01	27	6.9999
26/06/90 17:00	4517	4407.4	217	27	6.0002
26/06/90 18:00	1139.4	1090.9	62.001	27	6.0002

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
26/06/90 19:00	0	-21.619	1	27	6.9999
26/06/90 20:00	0	-21.619	0	27	6.9999
26/06/90 21:00	0	-21.619	0	27	6.9999
26/06/90 22:00	0	-21.619	0	27	6.9999
26/06/90 23:00	0	-21.619	0	27	8.0001
27/06/90 00:00	0	-21.619	0	27	8.0001
27/06/90 01:00	0	-21.619	0	27	8.0001
27/06/90 02:00	0	-21.619	0	27	8.0001
27/06/90 03:00	0	-21.619	0	27	8.0001
27/06/90 04:00	0	-21.619	0	27	8.0001
27/06/90 05:00	0	-21.619	1	28	6.9999
27/06/90 06:00	1069	1021.7	56.001	28	8.0001
27/06/90 07:00	5838.3	5694.2	281	28	8.0001
27/06/90 08:00	10201	9903	471.01	28	8.0001
27/06/90 09:00	14843	14304	686.99	28	8.9997
27/06/90 10:00	18233	17462	855	28	8.9997
27/06/90 11:00	19623	18744	953	28	8.9997
27/06/90 12:00	19638	18757	985	28	8.0001
27/06/90 13:00	19619	18740	948	28	8.0001
27/06/90 14:00	16449	15805	768	28	6.9999
27/06/90 15:00	14491	13974	671.99	28	6.9999
27/06/90 16:00	10598	10282	488.01	27	6.9999
27/06/90 17:00	5669.7	5530.3	277	29	6.9999
27/06/90 18:00	1223.6	1173.9	72.001	28	6.0002
27/06/90 19:00	0	-21.619	2	28	6.0002
27/06/90 20:00	0	-21.619	0	28	6.0002
27/06/90 21:00	0	-21.619	0	28	5
27/06/90 22:00	0	-21.619	0	28	5
27/06/90 23:00	0	-21.619	0	28	6.0002
28/06/90 00:00	0	-21.619	0	28	6.9999
28/06/90 01:00	0	-21.619	0	28	6.9999
28/06/90 02:00	0	-21.619	0	28	6.9999
28/06/90 03:00	0	-21.619	0	28	6.9999
28/06/90 04:00	0	-21.619	0	27	6.0002
28/06/90 05:00	0	-21.619	2	28	6.0002
28/06/90 06:00	1427.1	1374.1	84.001	28	6.0002
28/06/90 07:00	5655.3	5516.3	273	28	6.0002
28/06/90 08:00	10534	10221	487.01	28	5
28/06/90 09:00	14451	13937	672.99	28	5
28/06/90 10:00	14600	14078	682.99	28	5
28/06/90 11:00	17243	16544	814	28	5
28/06/90 12:00	19133	18298	914	29	5
28/06/90 13:00	19512	18646	936	29	5
28/06/90 14:00	16904	16229	794	29	6.0002
28/06/90 15:00	13174	12731	613.99	29	6.0002
28/06/90 16:00	9831.4	9549.6	457.01	29	6.0002
28/06/90 17:00	4724.4	4610	229	29	5
28/06/90 18:00	1188.8	1139.8	69.001	29	5
28/06/90 19:00	0	-21.619	2	29	5
28/06/90 20:00	0	-21.619	0	29	6.0002
28/06/90 21:00	0	-21.619	0	28	6.0002
28/06/90 22:00	0	-21.619	0	28	6.0002
28/06/90 23:00	0	-21.619	0	28	6.0002
29/06/90 00:00	0	-21.619	0	28	6.0002
29/06/90 01:00	0	-21.619	0	28	6.0002
29/06/90 02:00	0	-21.619	0	28	6.0002
29/06/90 03:00	0	-21.619	0	28	6.0002
29/06/90 04:00	0	-21.619	0	28	6.0002
29/06/90 05:00	0	-21.619	1	28	5
29/06/90 06:00	860.73	816.57	45.001	28	6.0002

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
29/06/90 07:00	5664.9	5525.6	273	28	6.0002
29/06/90 08:00	10846	10518	501.01	28	6.0002
29/06/90 09:00	14964	14418	695.99	28	6.0002
29/06/90 10:00	18036	17281	850	28	6.0002
29/06/90 11:00	19613	18736	948	28	5
29/06/90 12:00	19631	18751	978	28	5
29/06/90 13:00	19548	18679	939	28	3.9998
29/06/90 14:00	17775	17039	839	28	3.9998
29/06/90 15:00	14500	13983	675.99	28	3.9998
29/06/90 16:00	10441	10132	484.01	28	3.9998
29/06/90 17:00	5335.8	5205.5	259	28	3.9998
29/06/90 18:00	1201.4	1152.1	68.001	28	5
29/06/90 19:00	0	-21.619	1	28	5
29/06/90 20:00	0	-21.619	0	28	5
29/06/90 21:00	0	-21.619	0	28	6.0002
29/06/90 22:00	0	-21.619	0	28	6.0002
29/06/90 23:00	0	-21.619	0	28	6.0002
30/06/90 00:00	0	-21.619	0	28	6.9999
30/06/90 01:00	0	-21.619	0	28	6.9999
30/06/90 02:00	0	-21.619	0	28	6.9999
30/06/90 03:00	0	-21.619	0	28	6.0002
30/06/90 04:00	0	-21.619	0	28	6.0002
30/06/90 05:00	0	-21.619	1	28	5
30/06/90 06:00	1331.6	1280.1	73.001	28	5
30/06/90 07:00	5674.6	5535.1	274	28	5
30/06/90 08:00	10541	10227	487.01	28	6.0002
30/06/90 09:00	14609	14086	678.99	28	6.0002
30/06/90 10:00	17802	17063	837	28	6.0002
30/06/90 11:00	18902	18082	897	28	6.0002
30/06/90 12:00	13384	12929	627.99	28	6.0002
30/06/90 13:00	13726	13253	643.99	28	6.0002
30/06/90 14:00	17167	16473	805	28	6.0002
30/06/90 15:00	13973	13486	649.99	28	5
30/06/90 16:00	10322	10019	478.01	28	5
30/06/90 17:00	5415.8	5283.4	263	28	5
30/06/90 18:00	1174.6	1125.7	68.001	28	5
30/06/90 19:00	0	-21.619	1	28	5
30/06/90 20:00	0	-21.619	0	28	5
30/06/90 21:00	0	-21.619	0	28	5
30/06/90 22:00	0	-21.619	0	28	5
30/06/90 23:00	0	-21.619	0	28	5
1/7/1990 0:00	0	-21.619	0	29	5
1/7/1990 1:00	0	-21.619	0	29	5
1/7/1990 2:00	0	-21.619	0	29	6.0002
1/7/1990 3:00	0	-21.619	0	28	6.0002
1/7/1990 4:00	0	-21.619	0	28	6.0002
1/7/1990 5:00	0	-21.619	2	29	6.0002
1/7/1990 6:00	1290	1239.3	73.001	29	6.0002
1/7/1990 7:00	5339	5208.8	261	29	6.0002
1/7/1990 8:00	10220	9921.5	479.01	29	6.0002
1/7/1990 9:00	14323	13817	674.99	29	6.0002
1/7/1990 10:00	17625	16899	840	29	6.0002
1/7/1990 11:00	19411	18555	940	29	5
1/7/1990 12:00	19622	18743	975	29	5
1/7/1990 13:00	19346	18495	939	29	3.9998
1/7/1990 14:00	17476	16762	836	29	3.9998
1/7/1990 15:00	14337	13831	677.99	29	3.9998
1/7/1990 16:00	10163	9866.7	478.01	29	3.9998
1/7/1990 17:00	5100	4976.1	250	29	5
1/7/1990 18:00	1070.9	1023.7	59.001	29	3.9998

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
1/7/1990 19:00	0	-21.619	1	29	3.9998
1/7/1990 20:00	0	-21.619	0	29	3.9998
1/7/1990 21:00	0	-21.619	0	29	3.9998
1/7/1990 22:00	0	-21.619	0	29	3.0001
1/7/1990 23:00	0	-21.619	0	29	3.0001
2/7/1990 0:00	0	-21.619	0	29	3.0001
2/7/1990 1:00	0	-21.619	0	29	3.0001
2/7/1990 2:00	0	-21.619	0	29	3.0001
2/7/1990 3:00	0	-21.619	0	28	3.0001
2/7/1990 4:00	0	-21.619	0	28	3.0001
2/7/1990 5:00	0	-21.619	2	28	1.9999
2/7/1990 6:00	1339.8	1288.2	80.001	28	3.0001
2/7/1990 7:00	5881.1	5735.8	289	28	3.0001
2/7/1990 8:00	10360	10055	485.01	28	3.9998
2/7/1990 9:00	14047	13557	663.99	29	3.9998
2/7/1990 10:00	14572	14052	687.99	29	5
2/7/1990 11:00	19600	18726	957	29	5
2/7/1990 12:00	19629	18750	991	29	5
2/7/1990 13:00	19596	18723	956	29	5
2/7/1990 14:00	17876	17132	855	29	5
2/7/1990 15:00	14592	14070	688.99	29	5
2/7/1990 16:00	10670	10351	501.01	29	5
2/7/1990 17:00	5666.5	5527.3	281	29	5
2/7/1990 18:00	1239.2	1189.4	79.001	29	3.9998
2/7/1990 19:00	0	-21.619	2	29	3.9998
2/7/1990 20:00	0	-21.619	0	29	3.9998
2/7/1990 21:00	0	-21.619	0	29	3.9998
2/7/1990 22:00	0	-21.619	0	28	3.9998
2/7/1990 23:00	0	-21.619	0	28	3.0001
3/7/1990 0:00	0	-21.619	0	28	3.0001
3/7/1990 1:00	0	-21.619	0	28	3.0001
3/7/1990 2:00	0	-21.619	0	28	3.9998
3/7/1990 3:00	0	-21.619	0	28	3.9998
3/7/1990 4:00	0	-21.619	0	28	3.9998
3/7/1990 5:00	0	-21.619	2	28	3.0001
3/7/1990 6:00	1331.1	1279.7	77.001	28	3.0001
3/7/1990 7:00	5692.3	5552.3	279	28	3.9998
3/7/1990 8:00	10590	10275	496.01	28	3.9998
3/7/1990 9:00	14661	14136	693.99	29	3.9998
3/7/1990 10:00	17720	16989	850	29	3.9998
3/7/1990 11:00	19360	18508	943	29	3.0001
3/7/1990 12:00	11334	10984	534.99	29	3.0001
3/7/1990 13:00	12725	12306	602.99	29	3.0001
3/7/1990 14:00	16564	15914	792	29	3.0001
3/7/1990 15:00	8463.8	8235.4	401.01	29	1.9999
3/7/1990 16:00	10286	9985.4	486.01	29	1.9999
3/7/1990 17:00	5613	5475.2	277	28	1.9999
3/7/1990 18:00	1264	1213.7	77.001	28	1.9999
3/7/1990 19:00	0	-21.619	2	28	1.9999
3/7/1990 20:00	0	-21.619	0	28	1.9999
3/7/1990 21:00	0	-21.619	0	28	1.9999
3/7/1990 22:00	0	-21.619	0	28	1.9999
3/7/1990 23:00	0	-21.619	0	28	1.9999
4/7/1990 0:00	0	-21.619	0	28	1.9999
4/7/1990 1:00	0	-21.619	0	28	3.0001
4/7/1990 2:00	0	-21.619	0	28	1.9999
4/7/1990 3:00	0	-21.619	0	28	3.0001
4/7/1990 4:00	0	-21.619	0	28	3.0001
4/7/1990 5:00	0	-21.619	2	27	1.0002
4/7/1990 6:00	1153.8	1105.1	66.001	27	1.9999

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
4/7/1990 7:00	4717.7	4603.2	229	27	3.9998
4/7/1990 8:00	10797	10472	506.01	28	3.9998
4/7/1990 9:00	14309	13804	672.99	28	5
4/7/1990 10:00	14324	13817	675.99	28	5
4/7/1990 11:00	9241.4	8983.3	440.01	28	5
4/7/1990 12:00	6257.8	6101.6	303	28	3.0001
4/7/1990 13:00	5878.6	5733.7	288	28	3.0001
4/7/1990 14:00	6605.5	6438.7	317	27	3.0001
4/7/1990 15:00	12951	12520	612.99	28	1.9999
4/7/1990 16:00	8262	8040.4	390.01	28	1.9999
4/7/1990 17:00	4577	4466	223	27	1.0002
4/7/1990 18:00	931.38	886.11	51.001	27	1.0002
4/7/1990 19:00	0	-21.619	0	26	1.9999
4/7/1990 20:00	0	-21.619	0	26	1.0002
4/7/1990 21:00	0	-21.619	0	27	1.0002
4/7/1990 22:00	0	-21.619	0	27	1.9999
4/7/1990 23:00	0	-21.619	0	27	1.9999
5/7/1990 0:00	0	-21.619	0	27	1.9999
5/7/1990 1:00	0	-21.619	0	27	1.9999
5/7/1990 2:00	0	-21.619	0	27	1.9999
5/7/1990 3:00	0	-21.619	0	27	1.9999
5/7/1990 4:00	0	-21.619	0	27	1.9999
5/7/1990 5:00	0	-21.619	2	28	1.9999
5/7/1990 6:00	1358.3	1306.4	83.001	28	3.0001
5/7/1990 7:00	5725.6	5584.7	280	28	3.9998
5/7/1990 8:00	7131.4	6948	335.01	27	3.9998
5/7/1990 9:00	14390	13880	677.99	27	3.0001
5/7/1990 10:00	17769	17033	849	27	3.0001
5/7/1990 11:00	19531	18664	949	28	3.9998
5/7/1990 12:00	19303	18454	932	28	5
5/7/1990 13:00	17678	16949	843	28	5
5/7/1990 14:00	17814	17075	852	28	3.9998
5/7/1990 15:00	14417	13905	679.99	28	3.9998
5/7/1990 16:00	10647	10329	499.01	28	3.9998
5/7/1990 17:00	5612.3	5474.8	278	29	3.0001
5/7/1990 18:00	1258.5	1208.4	78.001	29	3.9998
5/7/1990 19:00	0	-21.619	2	29	3.9998
5/7/1990 20:00	0	-21.619	0	29	3.9998
5/7/1990 21:00	0	-21.619	0	29	3.9998
5/7/1990 22:00	0	-21.619	0	29	5
5/7/1990 23:00	0	-21.619	0	29	5
6/7/1990 0:00	0	-21.619	0	29	5
6/7/1990 1:00	0	-21.619	0	29	6.0002
6/7/1990 2:00	0	-21.619	0	29	6.0002
6/7/1990 3:00	0	-21.619	0	29	6.9999
6/7/1990 4:00	0	-21.619	0	29	6.9999
6/7/1990 5:00	0	-21.619	2	29	6.9999
6/7/1990 6:00	1284.3	1233.8	79.001	29	6.9999
6/7/1990 7:00	5727.5	5586.5	282	29	6.9999
6/7/1990 8:00	10742	10419	503.01	29	6.9999
6/7/1990 9:00	14846	14308	699.99	29	6.9999
6/7/1990 10:00	17939	17190	855	29	6.9999
6/7/1990 11:00	19612	18735	955	29	6.9999
6/7/1990 12:00	19626	18746	983	29	6.0002
6/7/1990 13:00	18747	17940	902	29	6.0002
6/7/1990 14:00	17843	17101	852	29	6.0002
6/7/1990 15:00	14741	14209	695.99	29	6.0002
6/7/1990 16:00	10683	10363	501.01	29	6.0002
6/7/1990 17:00	5561.3	5425	274	29	6.0002
6/7/1990 18:00	1147.9	1099.5	66.001	29	5

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
6/7/1990 19:00	0	-21.619	1	29	5
6/7/1990 20:00	0	-21.619	0	29	5
6/7/1990 21:00	0	-21.619	0	29	5
6/7/1990 22:00	0	-21.619	0	29	5
6/7/1990 23:00	0	-21.619	0	29	5
7/7/1990 0:00	0	-21.619	0	28	5
7/7/1990 1:00	0	-21.619	0	27	5
7/7/1990 2:00	0	-21.619	0	27	5
7/7/1990 3:00	0	-21.619	0	27	5
7/7/1990 4:00	0	-21.619	0	26	6.0002
7/7/1990 5:00	0	-21.619	1	28	6.0002
7/7/1990 6:00	354.18	316.8	19	28	6.0002
7/7/1990 7:00	939.07	893.76	48.001	28	6.9999
7/7/1990 8:00	1836.4	1776.3	92.001	28	6.9999
7/7/1990 9:00	3232.2	3149.4	159	27	8.0001
7/7/1990 10:00	6000.3	5851.7	292	28	6.9999
7/7/1990 11:00	8458.5	8229.5	407.01	28	5
7/7/1990 12:00	12256	11860	586.99	29	5
7/7/1990 13:00	14523	14006	693.99	29	5
7/7/1990 14:00	12564	12153	596.99	29	5
7/7/1990 15:00	13823	13345	651.99	29	5
7/7/1990 16:00	10046	9755.2	473.01	29	3.9998
7/7/1990 17:00	4772.6	4657.1	234	29	3.0001
7/7/1990 18:00	977	931.23	54.001	29	3.0001
7/7/1990 19:00	0	-21.619	1	28	3.9998
7/7/1990 20:00	0	-21.619	0	28	3.9998
7/7/1990 21:00	0	-21.619	0	28	3.0001
7/7/1990 22:00	0	-21.619	0	28	3.0001
7/7/1990 23:00	0	-21.619	0	28	3.0001
8/7/1990 0:00	0	-21.619	0	28	3.0001
8/7/1990 1:00	0	-21.619	0	28	1.9999
8/7/1990 2:00	0	-21.619	0	28	1.9999
8/7/1990 3:00	0	-21.619	0	27	3.0001
8/7/1990 4:00	0	-21.619	0	27	3.0001
8/7/1990 5:00	0	-21.619	2	28	3.0001
8/7/1990 6:00	1247.9	1197.8	78.001	28	3.0001
8/7/1990 7:00	5719.4	5578.6	282	28	3.0001
8/7/1990 8:00	10778	10454	505.01	28	3.9998
8/7/1990 9:00	14807	14272	701	28	3.0001
8/7/1990 10:00	16894	16220	806	28	3.0001
8/7/1990 11:00	14961	14417	713	28	3.0001
8/7/1990 12:00	16088	15470	767	28	3.0001
8/7/1990 13:00	17514	16797	842	28	1.9999
8/7/1990 14:00	17463	16750	840	29	1.9999
8/7/1990 15:00	13843	13365	654.99	28	1.9999
8/7/1990 16:00	9419.1	9155	445.01	29	1.9999
8/7/1990 17:00	4662.6	4550	229	29	1.9999
8/7/1990 18:00	1223.1	1173.6	73.001	29	1.0002
8/7/1990 19:00	0	-21.619	2	29	1.0002
8/7/1990 20:00	0	-21.619	0	29	1.9999
8/7/1990 21:00	0	-21.619	0	29	3.9998
8/7/1990 22:00	0	-21.619	0	29	3.9998
8/7/1990 23:00	0	-21.619	0	29	3.9998
9/7/1990 0:00	0	-21.619	0	29	3.0001
9/7/1990 1:00	0	-21.619	0	29	3.0001
9/7/1990 2:00	0	-21.619	0	28	3.0001
9/7/1990 3:00	0	-21.619	0	28	3.0001
9/7/1990 4:00	0	-21.619	0	28	3.0001
9/7/1990 5:00	0	-21.619	1	28	1.9999
9/7/1990 6:00	631.66	590.73	33.001	28	3.0001

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
9/7/1990 7:00	4506.9	4397.7	219	28	3.9998
9/7/1990 8:00	5467.5	5334.1	259	29	3.9998
9/7/1990 9:00	3312	3228.4	164	29	3.9998
9/7/1990 10:00	8377.4	8151.9	404.01	29	3.0001
9/7/1990 11:00	11648	11283	558.99	29	3.0001
9/7/1990 12:00	7995.2	7783.3	387.01	29	1.9999
9/7/1990 13:00	9550.9	9281.8	462.01	29	1.9999
9/7/1990 14:00	5466.9	5333.3	265	28	3.0001
9/7/1990 15:00	5941.6	5794.8	286	28	3.0001
9/7/1990 16:00	3010.1	2931.2	147	27	3.9998
9/7/1990 17:00	942.33	896.89	48.001	27	3.9998
9/7/1990 18:00	293.71	257.03	16	27	3.9998
9/7/1990 19:00	0	-21.619	1	27	3.0001
9/7/1990 20:00	0	-21.619	0	28	3.9998
9/7/1990 21:00	0	-21.619	0	28	5
9/7/1990 22:00	0	-21.619	0	28	5
9/7/1990 23:00	0	-21.619	0	28	5
10/7/1990 0:00	0	-21.619	0	28	5
10/7/1990 1:00	0	-21.619	0	28	6.0002
10/7/1990 2:00	0	-21.619	0	28	6.9999
10/7/1990 3:00	0	-21.619	0	28	6.0002
10/7/1990 4:00	0	-21.619	0	28	6.0002
10/7/1990 5:00	0	-21.619	2	27	6.0002
10/7/1990 6:00	1226.4	1176.7	75.001	28	5
10/7/1990 7:00	3689.4	3598.5	180	28	5
10/7/1990 8:00	4881.7	4763.2	234	28	5
10/7/1990 9:00	11445	11088	538.99	27	3.9998
10/7/1990 10:00	16126	15505	767	28	3.9998
10/7/1990 11:00	10658	10339	507.01	27	3.9998
10/7/1990 12:00	15648	15058	743	27	3.9998
10/7/1990 13:00	17307	16604	829	28	3.9998
10/7/1990 14:00	15570	14985	739	28	3.9998
10/7/1990 15:00	14141	13645	662.99	27	5
10/7/1990 16:00	9536.9	9267.1	446.01	27	5
10/7/1990 17:00	3637.8	3547.9	177	28	3.0001
10/7/1990 18:00	776.74	733.79	41.001	28	3.9998
10/7/1990 19:00	0	-21.619	0	28	6.0002
10/7/1990 20:00	0	-21.619	0	29	6.0002
10/7/1990 21:00	0	-21.619	0	29	5
10/7/1990 22:00	0	-21.619	0	29	5
10/7/1990 23:00	0	-21.619	0	28	5
11/7/1990 0:00	0	-21.619	0	28	6.0002
11/7/1990 1:00	0	-21.619	0	27	5
11/7/1990 2:00	0	-21.619	0	27	5
11/7/1990 3:00	0	-21.619	0	28	5
11/7/1990 4:00	0	-21.619	0	28	5
11/7/1990 5:00	0	-21.619	1	28	5
11/7/1990 6:00	380.57	342.83	22	27	5
11/7/1990 7:00	3812.2	3718.5	186	27	6.0002
11/7/1990 8:00	9262.6	9003.7	434.01	27	6.0002
11/7/1990 9:00	12761	12338	595.99	26	6.0002
11/7/1990 10:00	14458	13943	680.99	27	6.0002
11/7/1990 11:00	17793	17054	846	27	6.0002
11/7/1990 12:00	19616	18737	955	28	6.9999
11/7/1990 13:00	18935	18113	906	28	6.9999
11/7/1990 14:00	17379	16671	827	29	6.0002
11/7/1990 15:00	12631	12216	595.99	29	6.0002
11/7/1990 16:00	6301.8	6144.4	301	29	5
11/7/1990 17:00	3369.4	3284.6	164	29	5
11/7/1990 18:00	888.03	843.57	46.001	29	5

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
11/7/1990 19:00	0	-21.619	1	29	5
11/7/1990 20:00	0	-21.619	0	29	5
11/7/1990 21:00	0	-21.619	0	29	5
11/7/1990 22:00	0	-21.619	0	29	5
11/7/1990 23:00	0	-21.619	0	29	3.9998
12/7/1990 0:00	0	-21.619	0	29	3.9998
12/7/1990 1:00	0	-21.619	0	29	3.0001
12/7/1990 2:00	0	-21.619	0	28	3.9998
12/7/1990 3:00	0	-21.619	0	28	3.9998
12/7/1990 4:00	0	-21.619	0	28	5
12/7/1990 5:00	0	-21.619	1	28	5
12/7/1990 6:00	1181.7	1132.7	68.001	28	5
12/7/1990 7:00	5139.5	5014.4	251	28	6.0002
12/7/1990 8:00	6584.7	6418.5	310	28	6.9999
12/7/1990 9:00	8877.6	8633.3	420.01	28	6.9999
12/7/1990 10:00	15883	15277	752	28	6.0002
12/7/1990 11:00	14365	13856	682.99	28	6.0002
12/7/1990 12:00	19614	18736	955	28	6.0002
12/7/1990 13:00	19576	18704	948	28	5
12/7/1990 14:00	17771	17035	846	28	5
12/7/1990 15:00	14605	14082	689.99	29	5
12/7/1990 16:00	10437	10129	490.01	29	5
12/7/1990 17:00	5402.7	5271	266	29	3.9998
12/7/1990 18:00	1186.8	1137.8	67.001	29	3.9998
12/7/1990 19:00	0	-21.619	1	29	3.9998
12/7/1990 20:00	0	-21.619	0	29	5
12/7/1990 21:00	0	-21.619	0	29	6.0002
12/7/1990 22:00	0	-21.619	0	29	5
12/7/1990 23:00	0	-21.619	0	29	6.0002
13/07/90 00:00	0	-21.619	0	29	6.0002
13/07/90 01:00	0	-21.619	0	29	6.0002
13/07/90 02:00	0	-21.619	0	28	6.0002
13/07/90 03:00	0	-21.619	0	28	6.0002
13/07/90 04:00	0	-21.619	0	28	6.0002
13/07/90 05:00	0	-21.619	1	28	6.0002
13/07/90 06:00	1140.7	1092.3	66.001	28	6.0002
13/07/90 07:00	5438.1	5305	267	28	5
13/07/90 08:00	10493	10182	491.01	28	5
13/07/90 09:00	14597	14074	685.99	28	6.0002
13/07/90 10:00	17605	16881	840	29	6.0002
13/07/90 11:00	19600	18726	953	29	6.0002
13/07/90 12:00	19623	18744	979	29	6.0002
13/07/90 13:00	19308	18458	932	29	6.0002
13/07/90 14:00	17457	16744	831	29	6.0002
13/07/90 15:00	14526	14008	684.99	29	6.0002
13/07/90 16:00	10537	10224	494.01	29	6.0002
13/07/90 17:00	5691.2	5551.3	281	29	6.0002
13/07/90 18:00	1234.9	1185.1	75.001	29	5
13/07/90 19:00	0	-21.619	2	29	6.0002
13/07/90 20:00	0	-21.619	0	29	6.0002
13/07/90 21:00	0	-21.619	0	29	6.0002
13/07/90 22:00	0	-21.619	0	28	6.0002
13/07/90 23:00	0	-21.619	0	28	6.0002
14/07/90 00:00	0	-21.619	0	29	6.0002
14/07/90 01:00	0	-21.619	0	28	5
14/07/90 02:00	0	-21.619	0	27	6.0002
14/07/90 03:00	0	-21.619	0	27	6.0002
14/07/90 04:00	0	-21.619	0	28	6.0002
14/07/90 05:00	0	-21.619	1	28	5
14/07/90 06:00	710.63	668.6	37.001	28	5

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
14/07/90 07:00	4696.7	4582.7	229	28	6.9999
14/07/90 08:00	10620	10303	496.01	28	6.9999
14/07/90 09:00	14580	14058	682.99	28	8.0001
14/07/90 10:00	17597	16873	832	28	8.0001
14/07/90 11:00	17687	16956	842	29	8.0001
14/07/90 12:00	17719	16986	845	29	8.0001
14/07/90 13:00	18507	17717	885	29	8.0001
14/07/90 14:00	17832	17091	850	29	6.9999
14/07/90 15:00	14909	14367	703	29	6.9999
14/07/90 16:00	10761	10437	504.01	29	6.9999
14/07/90 17:00	5723.8	5583	283	29	6.0002
14/07/90 18:00	1265.1	1214.8	78.001	29	5
14/07/90 19:00	0	-21.619	2	29	6.0002
14/07/90 20:00	0	-21.619	0	29	6.0002
14/07/90 21:00	0	-21.619	0	29	5
14/07/90 22:00	0	-21.619	0	29	5
14/07/90 23:00	0	-21.619	0	29	5
15/07/90 00:00	0	-21.619	0	29	6.0002
15/07/90 01:00	0	-21.619	0	29	6.0002
15/07/90 02:00	0	-21.619	0	29	6.0002
15/07/90 03:00	0	-21.619	0	29	6.9999
15/07/90 04:00	0	-21.619	0	29	6.9999
15/07/90 05:00	0	-21.619	1	29	6.9999
15/07/90 06:00	673.49	632.05	36.001	29	6.9999
15/07/90 07:00	2029.3	1966.3	100	29	8.0001
15/07/90 08:00	7524.5	7328.1	356.01	29	8.0001
15/07/90 09:00	14651	14125	688.99	29	8.0001
15/07/90 10:00	18011	17256	857	29	8.0001
15/07/90 11:00	19485	18621	939	29	8.0001
15/07/90 12:00	17031	16347	810	29	8.0001
15/07/90 13:00	15637	15047	742	29	8.0001
15/07/90 14:00	14870	14331	703	29	6.9999
15/07/90 15:00	9201.1	8944.7	431.01	29	6.9999
15/07/90 16:00	2634.7	2562.5	130	29	6.0002
15/07/90 17:00	4735.5	4620.9	232	29	5
15/07/90 18:00	1183.6	1134.7	70.001	29	5
15/07/90 19:00	0	-21.619	2	29	5
15/07/90 20:00	0	-21.619	0	29	3.9998
15/07/90 21:00	0	-21.619	0	29	3.9998
15/07/90 22:00	0	-21.619	0	29	3.9998
15/07/90 23:00	0	-21.619	0	28	3.9998
16/07/90 00:00	0	-21.619	0	28	3.9998
16/07/90 01:00	0	-21.619	0	28	3.0001
16/07/90 02:00	0	-21.619	0	28	3.9998
16/07/90 03:00	0	-21.619	0	28	3.0001
16/07/90 04:00	0	-21.619	0	28	3.0001
16/07/90 05:00	0	-21.619	0	27	3.9998
16/07/90 06:00	892.11	847.4	50.001	27	5
16/07/90 07:00	2211	2144.9	108	27	5
16/07/90 08:00	2733.5	2659.3	134	27	5
16/07/90 09:00	5097	4973	248	28	3.9998
16/07/90 10:00	7268.2	7080.3	353.01	28	3.9998
16/07/90 11:00	9132.5	8878.6	439.01	28	6.0002
16/07/90 12:00	11870	11494	566.99	29	6.0002
16/07/90 13:00	18235	17465	875	29	6.0002
16/07/90 14:00	16437	15794	780	29	6.0002
16/07/90 15:00	12688	12270	597.99	29	6.0002
16/07/90 16:00	9882.3	9598.4	464.01	29	6.0002
16/07/90 17:00	5354.7	5224.1	264	29	6.0002
16/07/90 18:00	1189.5	1140.4	74.001	29	6.0002

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
16/07/90 19:00	0	-21.619	2	29	6.0002
16/07/90 20:00	0	-21.619	0	29	6.0002
16/07/90 21:00	0	-21.619	0	29	6.0002
16/07/90 22:00	0	-21.619	0	29	6.0002
16/07/90 23:00	0	-21.619	0	29	6.0002
17/07/90 00:00	0	-21.619	0	29	6.0002
17/07/90 01:00	0	-21.619	0	29	6.0002
17/07/90 02:00	0	-21.619	0	28	6.0002
17/07/90 03:00	0	-21.619	0	27	6.0002
17/07/90 04:00	0	-21.619	0	27	6.0002
17/07/90 05:00	0	-21.619	1	28	5
17/07/90 06:00	1080.6	1033.2	63.001	28	5
17/07/90 07:00	5320.4	5190.5	262	28	5
17/07/90 08:00	10372	10067	487.01	29	5
17/07/90 09:00	14613	14090	688.99	29	6.0002
17/07/90 10:00	17761	17025	848	29	6.0002
17/07/90 11:00	19594	18721	952	29	6.0002
17/07/90 12:00	19617	18739	967	29	6.0002
17/07/90 13:00	18449	17663	886	29	6.0002
17/07/90 14:00	17844	17103	851	29	6.0002
17/07/90 15:00	14794	14259	697.99	29	6.0002
17/07/90 16:00	10357	10052	486.01	29	6.0002
17/07/90 17:00	4172.3	4071.2	204	29	6.0002
17/07/90 18:00	923.55	878.56	51.001	29	6.0002
17/07/90 19:00	0	-21.619	2	29	6.0002
17/07/90 20:00	0	-21.619	0	29	6.0002
17/07/90 21:00	0	-21.619	0	29	6.0002
17/07/90 22:00	0	-21.619	0	29	6.0002
17/07/90 23:00	0	-21.619	0	29	5
18/07/90 00:00	0	-21.619	0	29	5
18/07/90 01:00	0	-21.619	0	29	6.0002
18/07/90 02:00	0	-21.619	0	29	6.9999
18/07/90 03:00	0	-21.619	0	29	8.0001
18/07/90 04:00	0	-21.619	0	29	8.0001
18/07/90 05:00	0	-21.619	1	29	6.9999
18/07/90 06:00	1071.5	1024.3	61.001	29	6.0002
18/07/90 07:00	5204.2	5077.6	256	29	6.0002
18/07/90 08:00	8211.3	7991.3	387.01	29	6.9999
18/07/90 09:00	9520.6	9252	450.01	29	6.0002
18/07/90 10:00	17193	16498	818	29	6.0002
18/07/90 11:00	19436	18577	939	29	6.0002
18/07/90 12:00	19213	18371	926	29	6.0002
18/07/90 13:00	15889	15283	757	29	6.0002
18/07/90 14:00	15596	15009	740	29	6.0002
18/07/90 15:00	14629	14105	690.99	29	5
18/07/90 16:00	10608	10292	498.01	29	5
18/07/90 17:00	5539.5	5403.9	273	29	5
18/07/90 18:00	1175.3	1126.5	68.001	29	5
18/07/90 19:00	0	-21.619	1	29	6.0002
18/07/90 20:00	0	-21.619	0	29	6.0002
18/07/90 21:00	0	-21.619	0	29	6.9999
18/07/90 22:00	0	-21.619	0	28	6.9999
18/07/90 23:00	0	-21.619	0	28	6.9999
19/07/90 00:00	0	-21.619	0	27	6.9999
19/07/90 01:00	0	-21.619	0	27	6.9999
19/07/90 02:00	0	-21.619	0	28	6.9999
19/07/90 03:00	0	-21.619	0	28	6.0002
19/07/90 04:00	0	-21.619	0	28	6.0002
19/07/90 05:00	0	-21.619	1	28	5
19/07/90 06:00	870.2	825.9	47.001	28	5

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
19/07/90 07:00	4568.6	4457.8	224	28	5
19/07/90 08:00	9185.1	8929.5	432.01	29	5
19/07/90 09:00	12705	12287	598.99	29	6.0002
19/07/90 10:00	13187	12743	624.99	29	6.9999
19/07/90 11:00	17312	16608	826	29	6.9999
19/07/90 12:00	17078	16391	813	29	6.9999
19/07/90 13:00	17956	17207	858	29	6.9999
19/07/90 14:00	17173	16479	815	29	6.9999
19/07/90 15:00	14779	14245	695.99	29	6.9999
19/07/90 16:00	10739	10416	503.01	29	6.9999
19/07/90 17:00	5666.4	5527.2	280	29	6.0002
19/07/90 18:00	1214.1	1164.7	75.001	29	6.0002
19/07/90 19:00	0	-21.619	2	29	6.0002
19/07/90 20:00	0	-21.619	0	29	6.0002
19/07/90 21:00	0	-21.619	0	28	6.9999
19/07/90 22:00	0	-21.619	0	28	6.0002
19/07/90 23:00	0	-21.619	0	28	6.0002
20/07/90 00:00	0	-21.619	0	28	5
20/07/90 01:00	0	-21.619	0	28	5
20/07/90 02:00	0	-21.619	0	28	5
20/07/90 03:00	0	-21.619	0	28	6.9999
20/07/90 04:00	0	-21.619	0	28	6.9999
20/07/90 05:00	0	-21.619	1	27	6.0002
20/07/90 06:00	711.51	669.4	37.001	27	6.9999
20/07/90 07:00	3104.4	3024.1	151	28	6.9999
20/07/90 08:00	5452.3	5319.1	261	29	6.9999
20/07/90 09:00	9103.8	8851.1	432.01	29	6.9999
20/07/90 10:00	14043	13552	663.99	29	6.9999
20/07/90 11:00	14491	13975	689.99	29	6.9999
20/07/90 12:00	19335	18484	938	30	6.0002
20/07/90 13:00	19612	18735	963	30	6.0002
20/07/90 14:00	17206	16510	818	29	6.0002
20/07/90 15:00	13481	13021	633.99	29	6.9999
20/07/90 16:00	9597.9	9325.9	451.01	29	6.0002
20/07/90 17:00	5305.5	5176.2	261	29	5
20/07/90 18:00	1113.7	1065.9	69.001	29	6.0002
20/07/90 19:00	0	-21.619	2	29	6.0002
20/07/90 20:00	0	-21.619	0	29	6.0002
20/07/90 21:00	0	-21.619	0	29	6.0002
20/07/90 22:00	0	-21.619	0	29	6.0002
20/07/90 23:00	0	-21.619	0	29	6.0002
21/07/90 00:00	0	-21.619	0	29	6.0002
21/07/90 01:00	0	-21.619	0	29	6.9999
21/07/90 02:00	0	-21.619	0	28	6.9999
21/07/90 03:00	0	-21.619	0	28	6.9999
21/07/90 04:00	0	-21.619	0	28	6.9999
21/07/90 05:00	0	-21.619	1	28	6.9999
21/07/90 06:00	996.34	950.16	58.001	28	6.9999
21/07/90 07:00	5417.6	5285.1	267	28	6.9999
21/07/90 08:00	8766.6	8526.4	410.01	28	6.9999
21/07/90 09:00	14096	13602	661.99	28	6.0002
21/07/90 10:00	14980	14433	710	29	6.0002
21/07/90 11:00	15002	14454	713	29	6.0002
21/07/90 12:00	19048	18218	915	28	6.0002
21/07/90 13:00	19038	18209	917	29	6.0002
21/07/90 14:00	13658	13188	646.99	28	6.0002
21/07/90 15:00	10999	10664	518.99	28	5
21/07/90 16:00	9233.3	8975.5	433.01	28	5
21/07/90 17:00	4360.2	4254.4	213	28	6.0002
21/07/90 18:00	1112.2	1064.2	64.001	28	6.0002

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
21/07/90 19:00	0	-21.619	1	28	6.0002
21/07/90 20:00	0	-21.619	0	29	6.0002
21/07/90 21:00	0	-21.619	0	29	6.0002
21/07/90 22:00	0	-21.619	0	29	5
21/07/90 23:00	0	-21.619	0	29	5
22/07/90 00:00	0	-21.619	0	29	3.9998
22/07/90 01:00	0	-21.619	0	29	3.9998
22/07/90 02:00	0	-21.619	0	29	5
22/07/90 03:00	0	-21.619	0	29	5
22/07/90 04:00	0	-21.619	0	29	5
22/07/90 05:00	0	-21.619	1	29	5
22/07/90 06:00	1069.1	1021.9	67.001	29	5
22/07/90 07:00	5329.2	5199.3	265	29	5
22/07/90 08:00	10453	10144	491.01	29	5
22/07/90 09:00	14676	14149	693.99	29	5
22/07/90 10:00	17809	17071	854	29	3.9998
22/07/90 11:00	19554	18687	952	29	3.9998
22/07/90 12:00	19551	18684	951	29	3.9998
22/07/90 13:00	19607	18733	964	29	3.0001
22/07/90 14:00	17953	17205	864	29	3.0001
22/07/90 15:00	14913	14372	707	29	3.9998
22/07/90 16:00	10776	10452	507.01	29	3.9998
22/07/90 17:00	5740.7	5599.5	285	29	3.9998
22/07/90 18:00	1176.1	1127.2	73.001	29	3.9998
22/07/90 19:00	0	-21.619	1	29	3.9998
22/07/90 20:00	0	-21.619	0	29	3.9998
22/07/90 21:00	0	-21.619	0	29	3.9998
22/07/90 22:00	0	-21.619	0	29	5
22/07/90 23:00	0	-21.619	0	28	5
23/07/90 00:00	0	-21.619	0	28	5
23/07/90 01:00	0	-21.619	0	28	3.9998
23/07/90 02:00	0	-21.619	0	27	3.9998
23/07/90 03:00	0	-21.619	0	27	3.0001
23/07/90 04:00	0	-21.619	0	27	3.0001
23/07/90 05:00	0	-21.619	1	27	3.0001
23/07/90 06:00	1073	1025.5	69.001	27	3.9998
23/07/90 07:00	5446.8	5313.6	269	27	3.9998
23/07/90 08:00	9440.3	9174.7	443.01	28	3.9998
23/07/90 09:00	13415	12959	633.99	28	3.0001
23/07/90 10:00	13587	13122	641.99	28	3.0001
23/07/90 11:00	15118	14563	721	28	3.0001
23/07/90 12:00	19607	18732	958	28	3.0001
23/07/90 13:00	19086	18254	925	28	3.0001
23/07/90 14:00	15254	14692	727	29	1.9999
23/07/90 15:00	14711	14183	697.99	29	3.0001
23/07/90 16:00	10668	10349	503.01	29	1.9999
23/07/90 17:00	5673.4	5534.2	282	29	3.0001
23/07/90 18:00	1215.5	1166.1	77.001	29	1.9999
23/07/90 19:00	0	-21.619	1	29	1.9999
23/07/90 20:00	0	-21.619	0	28	3.0001
23/07/90 21:00	0	-21.619	0	29	3.0001
23/07/90 22:00	0	-21.619	0	29	3.9998
23/07/90 23:00	0	-21.619	0	29	3.9998
24/07/90 00:00	0	-21.619	0	28	3.9998
24/07/90 01:00	0	-21.619	0	28	3.9998
24/07/90 02:00	0	-21.619	0	28	3.9998
24/07/90 03:00	0	-21.619	0	28	3.9998
24/07/90 04:00	0	-21.619	0	28	3.9998
24/07/90 05:00	0	-21.619	1	28	3.0001
24/07/90 06:00	1046.3	999.22	67.001	27	3.9998

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
24/07/90 07:00	5441.3	5308.1	270	27	5
24/07/90 08:00	10255	9954.4	479.01	27	5
24/07/90 09:00	8091.3	7875.5	384.01	28	5
24/07/90 10:00	8712.6	8474.4	418.01	28	5
24/07/90 11:00	10894	10565	519.99	28	5
24/07/90 12:00	16626	15970	793	28	5
24/07/90 13:00	16837	16167	808	29	3.9998
24/07/90 14:00	16486	15840	786	29	3.9998
24/07/90 15:00	6356.1	6197.3	306	29	3.0001
24/07/90 16:00	5323.4	5193.9	254	29	3.0001
24/07/90 17:00	5529	5393.8	272	29	3.9998
24/07/90 18:00	1160.2	1111.6	72.001	29	3.9998
24/07/90 19:00	0	-21.619	1	29	3.9998
24/07/90 20:00	0	-21.619	0	28	3.9998
24/07/90 21:00	0	-21.619	0	27	3.9998
24/07/90 22:00	0	-21.619	0	27	3.9998
24/07/90 23:00	0	-21.619	0	27	3.9998
25/07/90 00:00	0	-21.619	0	27	5
25/07/90 01:00	0	-21.619	0	27	5
25/07/90 02:00	0	-21.619	0	27	3.9998
25/07/90 03:00	0	-21.619	0	27	3.9998
25/07/90 04:00	0	-21.619	0	27	3.9998
25/07/90 05:00	0	-21.619	1	28	3.9998
25/07/90 06:00	1001.3	954.91	57.001	27	3.9998
25/07/90 07:00	5069.4	4946	249	27	6.9999
25/07/90 08:00	10153	9856.7	473.01	27	6.9999
25/07/90 09:00	13209	12763	619.99	28	6.9999
25/07/90 10:00	16484	15837	779	28	6.9999
25/07/90 11:00	13064	12626	618.99	28	6.9999
25/07/90 12:00	17216	16519	821	29	6.9999
25/07/90 13:00	17798	17060	850	29	6.9999
25/07/90 14:00	13869	13388	658.99	29	6.0002
25/07/90 15:00	12112	11723	570.99	29	6.0002
25/07/90 16:00	9588.7	9317.3	451.01	29	5
25/07/90 17:00	5294.2	5165.2	261	29	5
25/07/90 18:00	1095	1047.4	64.001	29	3.9998
25/07/90 19:00	0	-21.619	1	29	3.9998
25/07/90 20:00	0	-21.619	0	29	3.9998
25/07/90 21:00	0	-21.619	0	29	3.9998
25/07/90 22:00	0	-21.619	0	29	5
25/07/90 23:00	0	-21.619	0	29	5
26/07/90 00:00	0	-21.619	0	29	5
26/07/90 01:00	0	-21.619	0	28	5
26/07/90 02:00	0	-21.619	0	28	6.0002
26/07/90 03:00	0	-21.619	0	28	6.0002
26/07/90 04:00	0	-21.619	0	27	6.0002
26/07/90 05:00	0	-21.619	1	27	5
26/07/90 06:00	948.83	903.27	54.001	27	6.0002
26/07/90 07:00	4757	4641.5	234	28	6.0002
26/07/90 08:00	9454.3	9188	443.01	28	6.0002
26/07/90 09:00	12644	12228	593.99	28	6.0002
26/07/90 10:00	17767	17031	847	29	6.0002
26/07/90 11:00	19607	18732	954	29	6.0002
26/07/90 12:00	19628	18749	992	29	6.0002
26/07/90 13:00	19611	18734	959	29	6.0002
26/07/90 14:00	17956	17207	858	29	6.0002
26/07/90 15:00	14822	14285	699.99	29	6.0002
26/07/90 16:00	10578	10263	496.01	29	6.0002
26/07/90 17:00	5337.9	5207.8	264	29	5
26/07/90 18:00	1098.4	1050.8	65.001	29	5

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
26/07/90 19:00	0	-21.619	1	29	5
26/07/90 20:00	0	-21.619	0	29	5
26/07/90 21:00	0	-21.619	0	29	5
26/07/90 22:00	0	-21.619	0	29	6.0002
26/07/90 23:00	0	-21.619	0	29	6.0002
27/07/90 00:00	0	-21.619	0	29	6.0002
27/07/90 01:00	0	-21.619	0	28	6.0002
27/07/90 02:00	0	-21.619	0	28	6.9999
27/07/90 03:00	0	-21.619	0	28	6.0002
27/07/90 04:00	0	-21.619	0	28	6.9999
27/07/90 05:00	0	-21.619	1	29	6.0002
27/07/90 06:00	746.06	703.54	39.001	28	6.0002
27/07/90 07:00	4102.5	4003	201	29	6.9999
27/07/90 08:00	8335.8	8111.3	393.01	29	6.9999
27/07/90 09:00	10244	9944.4	484.01	29	6.9999
27/07/90 10:00	12645	12230	599.99	29	6.0002
27/07/90 11:00	18714	17909	900	29	6.0002
27/07/90 12:00	16694	16034	798	29	5
27/07/90 13:00	18458	17673	888	29	5
27/07/90 14:00	17657	16930	846	30	5
27/07/90 15:00	14644	14119	691.99	29	5
27/07/90 16:00	10306	10003	484.01	29	5
27/07/90 17:00	4953.9	4833.7	243	29	5
27/07/90 18:00	808.35	765.04	43.001	29	5
27/07/90 19:00	0	-21.619	1	29	6.0002
27/07/90 20:00	0	-21.619	0	28	6.0002
27/07/90 21:00	0	-21.619	0	29	5
27/07/90 22:00	0	-21.619	0	29	5
27/07/90 23:00	0	-21.619	0	29	5
28/07/90 00:00	0	-21.619	0	28	3.0001
28/07/90 01:00	0	-21.619	0	28	3.0001
28/07/90 02:00	0	-21.619	0	28	3.9998
28/07/90 03:00	0	-21.619	0	28	5
28/07/90 04:00	0	-21.619	0	28	5
28/07/90 05:00	0	-21.619	0	28	5
28/07/90 06:00	845.29	801.44	46.001	29	5
28/07/90 07:00	4472.2	4363.9	220	29	6.0002
28/07/90 08:00	9986.3	9698.1	470.01	29	5
28/07/90 09:00	13910	13428	655.99	29	5
28/07/90 10:00	17633	16908	842	29	5
28/07/90 11:00	19496	18633	947	29	3.9998
28/07/90 12:00	19623	18743	985	29	3.9998
28/07/90 13:00	19513	18649	951	29	3.0001
28/07/90 14:00	17710	16979	848	29	3.9998
28/07/90 15:00	14524	14007	686.99	29	3.9998
28/07/90 16:00	9976.1	9688.5	469.01	29	3.9998
28/07/90 17:00	5061.4	4938.8	250	30	5
28/07/90 18:00	1029.9	983.36	58.001	29	6.0002
28/07/90 19:00	0	-21.619	1	29	6.0002
28/07/90 20:00	0	-21.619	0	29	6.0002
28/07/90 21:00	0	-21.619	0	29	3.9998
28/07/90 22:00	0	-21.619	0	29	3.9998
28/07/90 23:00	0	-21.619	0	29	5
29/07/90 00:00	0	-21.619	0	29	5
29/07/90 01:00	0	-21.619	0	29	5
29/07/90 02:00	0	-21.619	0	29	6.0002
29/07/90 03:00	0	-21.619	0	28	6.0002
29/07/90 04:00	0	-21.619	0	28	6.9999
29/07/90 05:00	0	-21.619	0	28	3.9998
29/07/90 06:00	434.31	395.94	23	28	3.9998

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
29/07/90 07:00	2523.1	2452.5	123	28	3.9998
29/07/90 08:00	6454	6292	307	29	5
29/07/90 09:00	11886	11509	562.99	29	5
29/07/90 10:00	14955	14410	709	29	6.0002
29/07/90 11:00	18601	17804	894	29	6.0002
29/07/90 12:00	19623	18743	983	29	5
29/07/90 13:00	19586	18716	952	29	5
29/07/90 14:00	17749	17015	850	29	3.9998
29/07/90 15:00	14542	14024	686.99	29	5
29/07/90 16:00	10352	10047	486.01	29	5
29/07/90 17:00	5199	5072.5	257	29	5
29/07/90 18:00	1042.9	996.09	61.001	29	5
29/07/90 19:00	0	-21.619	1	29	5
29/07/90 20:00	0	-21.619	0	29	5
29/07/90 21:00	0	-21.619	0	29	5
29/07/90 22:00	0	-21.619	0	29	5
29/07/90 23:00	0	-21.619	0	29	5
30/07/90 00:00	0	-21.619	0	29	5
30/07/90 01:00	0	-21.619	0	29	5
30/07/90 02:00	0	-21.619	0	28	6.0002
30/07/90 03:00	0	-21.619	0	28	6.0002
30/07/90 04:00	0	-21.619	0	28	6.0002
30/07/90 05:00	0	-21.619	0	28	5
30/07/90 06:00	707.86	665.88	38.001	28	5
30/07/90 07:00	4851.2	4733.4	238	27	5
30/07/90 08:00	8840.1	8597.2	414.01	27	3.9998
30/07/90 09:00	11724	11354	553.99	28	3.9998
30/07/90 10:00	11836	11461	563.99	28	3.9998
30/07/90 11:00	16377	15738	782	28	3.9998
30/07/90 12:00	19541	18674	946	28	3.9998
30/07/90 13:00	16541	15893	795	29	3.0001
30/07/90 14:00	6488.8	6325.7	310	28	3.0001
30/07/90 15:00	5128.3	5003.5	247	28	3.9998
30/07/90 16:00	10010	9720.8	470.01	28	3.9998
30/07/90 17:00	5165.8	5040	254	28	3.9998
30/07/90 18:00	861.7	817.61	51.001	29	3.9998
30/07/90 19:00	0	-21.619	0	29	5
30/07/90 20:00	0	-21.619	0	29	5
30/07/90 21:00	0	-21.619	0	29	3.9998
30/07/90 22:00	0	-21.619	0	29	5
30/07/90 23:00	0	-21.619	0	29	5
31/07/90 00:00	0	-21.619	0	29	5
31/07/90 01:00	0	-21.619	0	29	5
31/07/90 02:00	0	-21.619	0	29	5
31/07/90 03:00	0	-21.619	0	29	6.0002
31/07/90 04:00	0	-21.619	0	28	6.0002
31/07/90 05:00	0	-21.619	1	29	5
31/07/90 06:00	982.36	936.5	59.001	29	5
31/07/90 07:00	5170.1	5044.4	258	29	5
31/07/90 08:00	10308	10006	485.01	29	3.9998
31/07/90 09:00	14568	14048	689.99	29	3.9998
31/07/90 10:00	17789	17052	853	29	3.9998
31/07/90 11:00	19603	18730	958	29	3.9998
31/07/90 12:00	19627	18747	996	29	3.9998
31/07/90 13:00	19609	18733	963	29	3.9998
31/07/90 14:00	17894	17150	861	29	3.0001
31/07/90 15:00	14761	14229	701	29	3.0001
31/07/90 16:00	10555	10241	497.01	29	3.0001
31/07/90 17:00	5405.5	5273.6	269	29	3.9998
31/07/90 18:00	1102.1	1054.3	66.001	28	3.9998

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
31/07/90 19:00	0	-21.619	1	28	3.9998
31/07/90 20:00	0	-21.619	0	29	3.9998
31/07/90 21:00	0	-21.619	0	29	3.9998
31/07/90 22:00	0	-21.619	0	29	3.9998
31/07/90 23:00	0	-21.619	0	29	3.9998
1/8/1990 0:00	0	-21.619	0	28	6.0002
1/8/1990 1:00	0	-21.619	0	28	6.0002
1/8/1990 2:00	0	-21.619	0	28	6.0002
1/8/1990 3:00	0	-21.619	0	28	6.0002
1/8/1990 4:00	0	-21.619	0	28	6.0002
1/8/1990 5:00	0	-21.619	0	28	6.0002
1/8/1990 6:00	873.09	828.84	51.001	29	5
1/8/1990 7:00	5018.1	4896.3	247	29	5
1/8/1990 8:00	10169	9872.8	473.01	29	5
1/8/1990 9:00	14260	13757	665.99	29	5
1/8/1990 10:00	17758	17023	840	29	5
1/8/1990 11:00	19326	18476	925	29	5
1/8/1990 12:00	19618	18739	966	29	5
1/8/1990 13:00	19612	18735	956	29	5
1/8/1990 14:00	18002	17250	854	29	5
1/8/1990 15:00	14816	14281	692.99	29	5
1/8/1990 16:00	10515	10203	489.01	29	5
1/8/1990 17:00	4543.6	4433.7	222	29	5
1/8/1990 18:00	935.75	890.58	53.001	29	5
1/8/1990 19:00	0	-21.619	1	29	5
1/8/1990 20:00	0	-21.619	0	29	5
1/8/1990 21:00	0	-21.619	0	28	5
1/8/1990 22:00	0	-21.619	0	28	5
1/8/1990 23:00	0	-21.619	0	28	5
2/8/1990 0:00	0	-21.619	0	28	3.9998
2/8/1990 1:00	0	-21.619	0	28	3.9998
2/8/1990 2:00	0	-21.619	0	28	3.9998
2/8/1990 3:00	0	-21.619	0	27	3.9998
2/8/1990 4:00	0	-21.619	0	27	5
2/8/1990 5:00	0	-21.619	0	28	3.9998
2/8/1990 6:00	910.02	865.14	54.001	28	3.9998
2/8/1990 7:00	5262.7	5134.3	260	28	3.9998
2/8/1990 8:00	10126	9831.1	470.01	28	3.9998
2/8/1990 9:00	14503	13986	676.99	28	3.9998
2/8/1990 10:00	16798	16131	792	28	3.0001
2/8/1990 11:00	14922	14380	703	28	3.0001
2/8/1990 12:00	18930	18110	907	28	3.0001
2/8/1990 13:00	15663	15073	740	28	3.0001
2/8/1990 14:00	12475	12068	586.99	28	3.0001
2/8/1990 15:00	12219	11826	570.99	28	3.0001
2/8/1990 16:00	10011	9721.3	466.01	28	3.0001
2/8/1990 17:00	4226.5	4124.4	206	29	1.0002
2/8/1990 18:00	969.9	924.24	58.001	29	1.9999
2/8/1990 19:00	0	-21.619	1	28	1.0002
2/8/1990 20:00	0	-21.619	0	28	1.9999
2/8/1990 21:00	0	-21.619	0	26	1.9999
2/8/1990 22:00	0	-21.619	0	26	3.0001
2/8/1990 23:00	0	-21.619	0	26	5
3/8/1990 0:00	0	-21.619	0	26	6.0002
3/8/1990 1:00	0	-21.619	0	27	5
3/8/1990 2:00	0	-21.619	0	27	5
3/8/1990 3:00	0	-21.619	0	28	5
3/8/1990 4:00	0	-21.619	0	28	5
3/8/1990 5:00	0	-21.619	0	28	3.9998
3/8/1990 6:00	773.06	730.16	43.001	28	3.9998

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
3/8/1990 7:00	4312.5	4207.9	210	28	3.9998
3/8/1990 8:00	10033	9742.3	464.01	27	5
3/8/1990 9:00	14359	13851	669.99	28	3.9998
3/8/1990 10:00	17866	17124	846	28	3.9998
3/8/1990 11:00	18772	17963	896	28	3.9998
3/8/1990 12:00	19124	18289	914	28	3.9998
3/8/1990 13:00	19607	18731	949	28	3.9998
3/8/1990 14:00	17233	16536	811	27	3.0001
3/8/1990 15:00	14351	13844	669.99	27	1.9999
3/8/1990 16:00	10678	10358	494.01	26	1.9999
3/8/1990 17:00	5189.4	5063	252	26	1.9999
3/8/1990 18:00	944.19	898.71	53.001	27	1.9999
3/8/1990 19:00	0	-21.619	1	27	1.9999
3/8/1990 20:00	0	-21.619	0	27	3.0001
3/8/1990 21:00	0	-21.619	0	28	3.9998
3/8/1990 22:00	0	-21.619	0	28	3.9998
3/8/1990 23:00	0	-21.619	0	28	5
4/8/1990 0:00	0	-21.619	0	28	5
4/8/1990 1:00	0	-21.619	0	28	5
4/8/1990 2:00	0	-21.619	0	28	5
4/8/1990 3:00	0	-21.619	0	28	5
4/8/1990 4:00	0	-21.619	0	28	5
4/8/1990 5:00	0	-21.619	0	28	5
4/8/1990 6:00	890.6	845.99	54.001	28	5
4/8/1990 7:00	5255.2	5127	259	28	5
4/8/1990 8:00	9710.7	9433.9	451.01	28	5
4/8/1990 9:00	13914	13431	649.99	29	5
4/8/1990 10:00	15717	15123	740	29	5
4/8/1990 11:00	19609	18732	950	29	5
4/8/1990 12:00	19629	18749	990	29	5
4/8/1990 13:00	19610	18733	954	29	5
4/8/1990 14:00	17939	17191	851	29	5
4/8/1990 15:00	14683	14156	687.99	29	3.9998
4/8/1990 16:00	10331	10027	481.01	29	3.9998
4/8/1990 17:00	5113.2	4989	251	29	5
4/8/1990 18:00	966.55	920.93	55.001	29	5
4/8/1990 19:00	0	-21.619	1	29	6.0002
4/8/1990 20:00	0	-21.619	0	29	6.9999
4/8/1990 21:00	0	-21.619	0	29	6.9999
4/8/1990 22:00	0	-21.619	0	29	6.9999
4/8/1990 23:00	0	-21.619	0	29	6.9999
5/8/1990 0:00	0	-21.619	0	29	6.9999
5/8/1990 1:00	0	-21.619	0	29	6.9999
5/8/1990 2:00	0	-21.619	0	29	8.9997
5/8/1990 3:00	0	-21.619	0	29	8.9997
5/8/1990 4:00	0	-21.619	0	29	8.9997
5/8/1990 5:00	0	-21.619	0	29	8.0001
5/8/1990 6:00	797.05	753.88	47.001	29	8.0001
5/8/1990 7:00	5056.2	4933.3	249	29	8.0001
5/8/1990 8:00	10372	10066	481.01	29	8.0001
5/8/1990 9:00	14745	14213	686.99	29	8.0001
5/8/1990 10:00	18067	17309	850	29	8.9997
5/8/1990 11:00	19607	18731	940	29	8.0001
5/8/1990 12:00	19598	18723	938	29	8.0001
5/8/1990 13:00	19441	18580	926	29	8.0001
5/8/1990 14:00	11115	10774	513.99	29	8.9997
5/8/1990 15:00	11765	11393	545.99	29	8.9997
5/8/1990 16:00	10312	10009	478.01	29	8.0001
5/8/1990 17:00	5183	5056.7	254	28	6.9999
5/8/1990 18:00	963.97	918.17	57.001	27	8.0001

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
5/8/1990 19:00	0	-21.619	1	28	8.0001
5/8/1990 20:00	0	-21.619	0	28	8.9997
5/8/1990 21:00	0	-21.619	0	27	10
5/8/1990 22:00	0	-21.619	0	27	11
5/8/1990 23:00	0	-21.619	0	27	11
6/8/1990 0:00	0	-21.619	0	27	10
6/8/1990 1:00	0	-21.619	0	27	10
6/8/1990 2:00	0	-21.619	0	27	10
6/8/1990 3:00	0	-21.619	0	27	10
6/8/1990 4:00	0	-21.619	0	26	10
6/8/1990 5:00	0	-21.619	0	26	8.9997
6/8/1990 6:00	236.1	200.06	13	26	8.9997
6/8/1990 7:00	3378.9	3293.2	162	26	8.9997
6/8/1990 8:00	7301.6	7112.5	339.01	26	8.9997
6/8/1990 9:00	9417.6	9152.6	437.01	26	10
6/8/1990 10:00	3917.4	3821.7	190	27	11
6/8/1990 11:00	5527.3	5392	267	28	11
6/8/1990 12:00	5162	5036.2	250	28	10
6/8/1990 13:00	3099.2	3018.9	153	28	8.9997
6/8/1990 14:00	2770.4	2695.6	137	28	10
6/8/1990 15:00	2230.5	2164.5	111	29	11
6/8/1990 16:00	1561.7	1506.4	78.001	28	12
6/8/1990 17:00	828.01	784.23	42.001	27	10
6/8/1990 18:00	316.58	279.65	17	28	11
6/8/1990 19:00	0	-21.619	0	28	12
6/8/1990 20:00	0	-21.619	0	28	13
6/8/1990 21:00	0	-21.619	0	28	14
6/8/1990 22:00	0	-21.619	0	28	13
6/8/1990 23:00	0	-21.619	0	27	13
7/8/1990 0:00	0	-21.619	0	27	14
7/8/1990 1:00	0	-21.619	0	27	13
7/8/1990 2:00	0	-21.619	0	26	13
7/8/1990 3:00	0	-21.619	0	26	13
7/8/1990 4:00	0	-21.619	0	26	12
7/8/1990 5:00	0	-21.619	0	26	12
7/8/1990 6:00	236.09	200.04	13	26	13
7/8/1990 7:00	1638.4	1581.4	80.001	26	13
7/8/1990 8:00	2822.6	2746.5	136	26	12
7/8/1990 9:00	4607.7	4495.9	221	27	13
7/8/1990 10:00	4616.7	4504.7	223	27	12
7/8/1990 11:00	6421.2	6260	309	28	12
7/8/1990 12:00	8803.3	8561.7	417.01	28	12
7/8/1990 13:00	11584	11221	542.99	28	11
7/8/1990 14:00	9968.6	9680.7	470.01	28	11
7/8/1990 15:00	9618.5	9345.7	451.01	29	10
7/8/1990 16:00	6584.1	6417.9	310	29	10
7/8/1990 17:00	2692.3	2619.1	130	29	8.0001
7/8/1990 18:00	618.99	578.28	32	29	8.0001
7/8/1990 19:00	0	-21.619	0	29	8.0001
7/8/1990 20:00	0	-21.619	0	29	6.9999
7/8/1990 21:00	0	-21.619	0	28	6.9999
7/8/1990 22:00	0	-21.619	0	28	6.9999
7/8/1990 23:00	0	-21.619	0	28	6.9999
8/8/1990 0:00	0	-21.619	0	28	6.9999
8/8/1990 1:00	0	-21.619	0	28	6.0002
8/8/1990 2:00	0	-21.619	0	28	6.0002
8/8/1990 3:00	0	-21.619	0	28	6.0002
8/8/1990 4:00	0	-21.619	0	28	6.9999
8/8/1990 5:00	0	-21.619	0	27	6.0002
8/8/1990 6:00	426.46	388.19	23	28	6.0002

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
8/8/1990 7:00	3635.1	3545.2	176	28	5
8/8/1990 8:00	7466.8	7272.3	350.01	28	3.9998
8/8/1990 9:00	13515	13054	629.99	28	5
8/8/1990 10:00	17654	16926	831	28	5
8/8/1990 11:00	19606	18730	944	28	5
8/8/1990 12:00	19630	18750	987	28	6.0002
8/8/1990 13:00	19612	18734	951	28	6.0002
8/8/1990 14:00	17920	17173	848	29	6.0002
8/8/1990 15:00	14655	14130	683.99	29	6.0002
8/8/1990 16:00	10267	9965.7	475.01	28	6.9999
8/8/1990 17:00	4948.6	4828.3	243	28	6.0002
8/8/1990 18:00	871.53	827.21	51.001	28	5
8/8/1990 19:00	0	-21.619	0	28	6.0002
8/8/1990 20:00	0	-21.619	0	28	6.0002
8/8/1990 21:00	0	-21.619	0	28	6.0002
8/8/1990 22:00	0	-21.619	0	28	6.0002
8/8/1990 23:00	0	-21.619	0	28	6.9999
9/8/1990 0:00	0	-21.619	0	28	6.0002
9/8/1990 1:00	0	-21.619	0	28	6.9999
9/8/1990 2:00	0	-21.619	0	28	8.0001
9/8/1990 3:00	0	-21.619	0	27	6.9999
9/8/1990 4:00	0	-21.619	0	27	6.9999
9/8/1990 5:00	0	-21.619	0	28	6.0002
9/8/1990 6:00	882.95	838.36	54.001	27	8.0001
9/8/1990 7:00	5283.3	5154.4	260	26	6.0002
9/8/1990 8:00	9746.2	9467.9	451.01	27	3.9998
9/8/1990 9:00	14782	14247	688.99	27	3.9998
9/8/1990 10:00	18030	17275	850	28	6.0002
9/8/1990 11:00	19540	18671	928	27	6.9999
9/8/1990 12:00	12649	12233	590.99	27	6.0002
9/8/1990 13:00	14826	14288	689.99	27	8.0001
9/8/1990 14:00	17627	16898	820	26	8.0001
9/8/1990 15:00	11738	11368	543.99	27	5
9/8/1990 16:00	6428.7	6267.4	300	27	6.9999
9/8/1990 17:00	4936.1	4816.2	240	26	8.0001
9/8/1990 18:00	948.49	902.93	57.001	27	6.0002
9/8/1990 19:00	0	-21.619	0	28	6.0002
9/8/1990 20:00	0	-21.619	0	28	6.9999
9/8/1990 21:00	0	-21.619	0	27	8.0001
9/8/1990 22:00	0	-21.619	0	28	6.9999
9/8/1990 23:00	0	-21.619	0	26	6.9999
10/8/1990 0:00	0	-21.619	0	27	6.9999
10/8/1990 1:00	0	-21.619	0	27	6.9999
10/8/1990 2:00	0	-21.619	0	28	6.9999
10/8/1990 3:00	0	-21.619	0	27	8.0001
10/8/1990 4:00	0	-21.619	0	26	8.9997
10/8/1990 5:00	0	-21.619	0	26	6.9999
10/8/1990 6:00	845.55	801.42	50.001	26	6.9999
10/8/1990 7:00	4932.1	4812.3	242	27	6.0002
10/8/1990 8:00	8451.1	8222.5	392.01	27	6.9999
10/8/1990 9:00	10666	10347	494.01	26	6.9999
10/8/1990 10:00	12819	12394	598.99	27	6.0002
10/8/1990 11:00	16224	15594	761	27	6.0002
10/8/1990 12:00	17725	16992	837	27	5
10/8/1990 13:00	19255	18408	910	26	6.0002
10/8/1990 14:00	12597	12183	584.99	26	6.0002
10/8/1990 15:00	14242	13739	657.99	26	6.0002
10/8/1990 16:00	10391	10084	478.01	26	6.9999
10/8/1990 17:00	4683.7	4570	228	27	6.0002
10/8/1990 18:00	728.32	685.98	39.001	27	5

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
10/8/1990 19:00	0	-21.619	0	27	5
10/8/1990 20:00	0	-21.619	0	27	6.0002
10/8/1990 21:00	0	-21.619	0	26	8.0001
10/8/1990 22:00	0	-21.619	0	27	6.9999
10/8/1990 23:00	0	-21.619	0	26	6.9999
11/8/1990 0:00	0	-21.619	0	26	8.0001
11/8/1990 1:00	0	-21.619	0	27	6.9999
11/8/1990 2:00	0	-21.619	0	26	6.9999
11/8/1990 3:00	0	-21.619	0	26	6.9999
11/8/1990 4:00	0	-21.619	0	27	6.9999
11/8/1990 5:00	0	-21.619	0	27	6.0002
11/8/1990 6:00	346.31	309	19	27	5
11/8/1990 7:00	4467.5	4359.1	217	26	5
11/8/1990 8:00	10438	10129	481.01	26	6.0002
11/8/1990 9:00	13391	12935	618.99	26	6.0002
11/8/1990 10:00	13565	13100	628.99	27	6.0002
11/8/1990 11:00	15366	14794	720	27	5
11/8/1990 12:00	10273	9971.6	483.01	27	5
11/8/1990 13:00	6523.1	6358.8	314	27	5
11/8/1990 14:00	8095	7879	385.01	28	5
11/8/1990 15:00	7433.3	7239.9	351.01	27	5
11/8/1990 16:00	3908.6	3813.1	187	27	3.9998
11/8/1990 17:00	1789.7	1730.4	87.001	27	1.9999
11/8/1990 18:00	439.94	401.46	23	27	1.9999
11/8/1990 19:00	0	-21.619	0	28	3.9998
11/8/1990 20:00	0	-21.619	0	28	5
11/8/1990 21:00	0	-21.619	0	28	6.0002
11/8/1990 22:00	0	-21.619	0	28	6.9999
11/8/1990 23:00	0	-21.619	0	29	6.9999
12/8/1990 0:00	0	-21.619	0	28	6.9999
12/8/1990 1:00	0	-21.619	0	28	6.9999
12/8/1990 2:00	0	-21.619	0	28	6.9999
12/8/1990 3:00	0	-21.619	0	28	6.9999
12/8/1990 4:00	0	-21.619	0	28	8.0001
12/8/1990 5:00	0	-21.619	0	28	6.9999
12/8/1990 6:00	831.69	787.95	49.001	28	6.9999
12/8/1990 7:00	4878.3	4759.8	241	28	6.9999
12/8/1990 8:00	9830.1	9548.3	455.01	28	6.9999
12/8/1990 9:00	12248	11853	570.99	29	6.0002
12/8/1990 10:00	11625	11261	540.99	29	6.0002
12/8/1990 11:00	18434	17650	879	29	5
12/8/1990 12:00	18299	17525	873	29	5
12/8/1990 13:00	16579	15927	785	29	5
12/8/1990 14:00	17186	16492	811	29	5
12/8/1990 15:00	13697	13226	639.99	29	5
12/8/1990 16:00	8853.7	8610.6	414.01	29	5
12/8/1990 17:00	4538	4428.3	223	29	3.9998
12/8/1990 18:00	787.52	744.5	45.001	29	5
12/8/1990 19:00	0	-21.619	0	29	5
12/8/1990 20:00	0	-21.619	0	29	6.0002
12/8/1990 21:00	0	-21.619	0	29	6.0002
12/8/1990 22:00	0	-21.619	0	29	6.0002
12/8/1990 23:00	0	-21.619	0	29	5
13/08/90 00:00	0	-21.619	0	29	6.0002
13/08/90 01:00	0	-21.619	0	29	6.0002
13/08/90 02:00	0	-21.619	0	29	6.9999
13/08/90 03:00	0	-21.619	0	29	6.9999
13/08/90 04:00	0	-21.619	0	29	6.9999
13/08/90 05:00	0	-21.619	0	29	6.9999
13/08/90 06:00	702.48	660.64	38.001	29	6.9999

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
13/08/90 07:00	4431.3	4323.8	216	28	6.9999
13/08/90 08:00	9616.2	9343.4	446.01	28	6.9999
13/08/90 09:00	14299	13793	663.99	28	6.9999
13/08/90 10:00	17754	17018	831	28	8.0001
13/08/90 11:00	19564	18692	938	29	6.9999
13/08/90 12:00	19622	18743	973	29	6.9999
13/08/90 13:00	18888	18070	898	29	6.9999
13/08/90 14:00	16755	16090	785	29	8.0001
13/08/90 15:00	14210	13710	660.99	29	8.0001
13/08/90 16:00	9638.5	9364.9	448.01	29	8.0001
13/08/90 17:00	3972.6	3876.1	194	29	6.9999
13/08/90 18:00	632.68	591.79	34.001	29	6.9999
13/08/90 19:00	0	-21.619	0	29	6.9999
13/08/90 20:00	0	-21.619	0	29	8.0001
13/08/90 21:00	0	-21.619	0	29	8.0001
13/08/90 22:00	0	-21.619	0	29	8.0001
13/08/90 23:00	0	-21.619	0	29	8.0001
14/08/90 00:00	0	-21.619	0	29	8.9997
14/08/90 01:00	0	-21.619	0	28	8.9997
14/08/90 02:00	0	-21.619	0	27	8.9997
14/08/90 03:00	0	-21.619	0	27	8.0001
14/08/90 04:00	0	-21.619	0	27	8.0001
14/08/90 05:00	0	-21.619	0	27	6.9999
14/08/90 06:00	326.2	289.12	18	27	6.9999
14/08/90 07:00	4602.8	4491.2	225	28	6.0002
14/08/90 08:00	10094	9800.9	466.01	27	6.9999
14/08/90 09:00	13156	12712	608.99	27	6.9999
14/08/90 10:00	16313	15676	757	26	6.9999
14/08/90 11:00	18546	17752	874	27	6.9999
14/08/90 12:00	19348	18493	916	27	6.9999
14/08/90 13:00	17486	16768	821	27	6.9999
14/08/90 14:00	11778	11405	547.99	27	6.9999
14/08/90 15:00	12283	11885	568.99	27	6.0002
14/08/90 16:00	8608.2	8373.8	400.01	28	5
14/08/90 17:00	4736.7	4621.8	234	28	5
14/08/90 18:00	806.45	763.07	48.001	28	5
14/08/90 19:00	0	-21.619	0	27	6.9999
14/08/90 20:00	0	-21.619	0	27	6.9999
14/08/90 21:00	0	-21.619	0	26	6.9999
14/08/90 22:00	0	-21.619	0	27	6.0002
14/08/90 23:00	0	-21.619	0	27	6.0002
15/08/90 00:00	0	-21.619	0	27	6.0002
15/08/90 01:00	0	-21.619	0	27	6.9999
15/08/90 02:00	0	-21.619	0	27	6.9999
15/08/90 03:00	0	-21.619	0	27	6.0002
15/08/90 04:00	0	-21.619	0	27	6.0002
15/08/90 05:00	0	-21.619	0	28	6.9999
15/08/90 06:00	788.29	745.17	47.001	28	6.9999
15/08/90 07:00	4724	4609.3	233	28	6.9999
15/08/90 08:00	8909.7	8664.2	413.01	28	8.0001
15/08/90 09:00	13940	13455	645.99	28	8.0001
15/08/90 10:00	16916	16240	794	29	6.9999
15/08/90 11:00	19313	18463	920	29	6.9999
15/08/90 12:00	19619	18740	968	29	6.9999
15/08/90 13:00	19588	18714	941	29	6.9999
15/08/90 14:00	17187	16492	807	29	6.9999
15/08/90 15:00	13861	13381	644.99	29	6.9999
15/08/90 16:00	9846.1	9563.9	458.01	29	6.0002
15/08/90 17:00	4632.2	4520.2	229	29	5
15/08/90 18:00	685.2	643.6	39.001	29	5

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
15/08/90 19:00	0	-21.619	0	29	5
15/08/90 20:00	0	-21.619	0	29	5
15/08/90 21:00	0	-21.619	0	29	5
15/08/90 22:00	0	-21.619	0	29	6.0002
15/08/90 23:00	0	-21.619	0	29	5
16/08/90 00:00	0	-21.619	0	29	5
16/08/90 01:00	0	-21.619	0	28	3.9998
16/08/90 02:00	0	-21.619	0	28	5
16/08/90 03:00	0	-21.619	0	28	6.0002
16/08/90 04:00	0	-21.619	0	28	6.0002
16/08/90 05:00	0	-21.619	0	28	3.9998
16/08/90 06:00	803.98	760.65	45.001	28	3.9998
16/08/90 07:00	3173.8	3092.3	155	28	3.9998
16/08/90 08:00	3377.9	3292.8	162	28	3.9998
16/08/90 09:00	13248	12800	618.99	28	3.9998
16/08/90 10:00	17921	17175	852	29	3.9998
16/08/90 11:00	19607	18731	957	29	3.9998
16/08/90 12:00	19626	18747	992	29	3.9998
16/08/90 13:00	19605	18730	954	29	3.9998
16/08/90 14:00	17856	17115	848	29	3.9998
16/08/90 15:00	14550	14031	681.99	29	3.9998
16/08/90 16:00	10156	9860	473.01	29	5
16/08/90 17:00	4780.8	4665.1	239	29	3.9998
16/08/90 18:00	725.08	682.93	44.001	29	5
16/08/90 19:00	0	-21.619	0	29	6.0002
16/08/90 20:00	0	-21.619	0	29	6.0002
16/08/90 21:00	0	-21.619	0	29	6.0002
16/08/90 22:00	0	-21.619	0	29	6.0002
16/08/90 23:00	0	-21.619	0	29	5
17/08/90 00:00	0	-21.619	0	29	5
17/08/90 01:00	0	-21.619	0	29	5
17/08/90 02:00	0	-21.619	0	28	5
17/08/90 03:00	0	-21.619	0	28	5
17/08/90 04:00	0	-21.619	0	28	5
17/08/90 05:00	0	-21.619	0	28	3.9998
17/08/90 06:00	765.77	722.97	46.001	28	3.9998
17/08/90 07:00	4969.3	4848.6	247	28	3.0001
17/08/90 08:00	10272	9971.4	478.01	28	3.0001
17/08/90 09:00	14647	14122	685.99	28	3.0001
17/08/90 10:00	17904	17159	850	28	3.0001
17/08/90 11:00	19606	18731	956	28	3.0001
17/08/90 12:00	19624	18745	988	29	3.9998
17/08/90 13:00	19540	18672	946	29	3.9998
17/08/90 14:00	17795	17057	843	29	5
17/08/90 15:00	14094	13601	658.99	29	3.9998
17/08/90 16:00	9905.1	9620.6	462.01	29	3.9998
17/08/90 17:00	4271.2	4167.9	212	29	3.9998
17/08/90 18:00	710.68	668.73	43.001	29	3.9998
17/08/90 19:00	0	-21.619	0	28	3.0001
17/08/90 20:00	0	-21.619	0	28	3.0001
17/08/90 21:00	0	-21.619	0	28	3.9998
17/08/90 22:00	0	-21.619	0	28	3.9998
17/08/90 23:00	0	-21.619	0	28	3.9998
18/08/90 00:00	0	-21.619	0	27	5
18/08/90 01:00	0	-21.619	0	27	5
18/08/90 02:00	0	-21.619	0	27	5
18/08/90 03:00	0	-21.619	0	27	5
18/08/90 04:00	0	-21.619	0	27	5
18/08/90 05:00	0	-21.619	0	27	3.9998
18/08/90 06:00	703.46	0	42.001	28	3.0001

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
18/08/90 07:00	3693.6	0	180	28	1.9999
18/08/90 08:00	9937.9	0	464.01	28	1.9999
18/08/90 09:00	11458	0	534.99	28	1.9999
18/08/90 10:00	14572	0	684.99	28	3.0001
18/08/90 11:00	13858	0	651.99	28	1.9999
18/08/90 12:00	18935	0	914	29	1.9999
18/08/90 13:00	19366	0	939	29	1.9999
18/08/90 14:00	17761	0	845	29	3.0001
18/08/90 15:00	14607	0	685.99	29	3.0001
18/08/90 16:00	10181	0	476.01	29	3.0001
18/08/90 17:00	4830.3	0	244	29	1.9999
18/08/90 18:00	700.75	0	44.001	29	1.9999
18/08/90 19:00	0	-21.619	0	29	1.9999
18/08/90 20:00	0	-21.619	0	29	1.9999
18/08/90 21:00	0	-21.619	0	28	1.9999
18/08/90 22:00	0	-21.619	0	28	3.0001
18/08/90 23:00	0	-21.619	0	28	3.0001
19/08/90 00:00	0	-21.619	0	28	3.9998
19/08/90 01:00	0	-21.619	0	28	3.9998
19/08/90 02:00	0	-21.619	0	28	3.9998
19/08/90 03:00	0	-21.619	0	28	3.9998
19/08/90 04:00	0	-21.619	0	28	3.0001
19/08/90 05:00	0	-21.619	0	29	3.0001
19/08/90 06:00	711.07	0	41.001	29	3.0001
19/08/90 07:00	4997.7	0	249	29	3.0001
19/08/90 08:00	10365	0	484.01	29	3.0001
19/08/90 09:00	14757	0	691.99	29	3.9998
19/08/90 10:00	17495	0	828	29	3.9998
19/08/90 11:00	19332	0	932	29	3.0001
19/08/90 12:00	18193	0	869	29	3.9998
19/08/90 13:00	13310	0	624.99	29	3.9998
19/08/90 14:00	13092	0	612.99	29	3.9998
19/08/90 15:00	13080	0	610.99	29	5
19/08/90 16:00	9171	0	428.01	29	5
19/08/90 17:00	4504.2	0	226	29	3.9998
19/08/90 18:00	672.76	0	42.001	29	3.9998
19/08/90 19:00	0	-21.619	0	29	3.0001
19/08/90 20:00	0	-21.619	0	29	3.0001
19/08/90 21:00	0	-21.619	0	29	3.9998
19/08/90 22:00	0	-21.619	0	29	3.9998
19/08/90 23:00	0	-21.619	0	29	5
20/08/90 00:00	0	-21.619	0	29	5
20/08/90 01:00	0	-21.619	0	29	3.9998
20/08/90 02:00	0	-21.619	0	28	3.9998
20/08/90 03:00	0	-21.619	0	28	3.9998
20/08/90 04:00	0	-21.619	0	27	5
20/08/90 05:00	0	-21.619	0	26	3.9998
20/08/90 06:00	635.2	0	34.001	27	5
20/08/90 07:00	3436.4	0	167	27	5
20/08/90 08:00	6412.5	0	300	27	5
20/08/90 09:00	2931.5	0	143	27	6.0002
20/08/90 10:00	2789.3	0	138	28	6.0002
20/08/90 11:00	3497.8	0	172	28	6.0002
20/08/90 12:00	6082.3	0	292	29	6.9999
20/08/90 13:00	9466.7	0	451.01	29	6.9999
20/08/90 14:00	11537	0	539.99	29	8.0001
20/08/90 15:00	13723	0	637.99	29	8.0001
20/08/90 16:00	9747.9	0	453.01	29	8.0001
20/08/90 17:00	4092.5	0	202	29	6.0002
20/08/90 18:00	529.25	0	29	29	6.9999

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
20/08/90 19:00	0	-21.619	0	29	6.9999
20/08/90 20:00	0	-21.619	0	29	6.0002
20/08/90 21:00	0	-21.619	0	29	5
20/08/90 22:00	0	-21.619	0	29	3.9998
20/08/90 23:00	0	-21.619	0	29	3.9998
21/08/90 00:00	0	-21.619	0	28	3.9998
21/08/90 01:00	0	-21.619	0	27	3.9998
21/08/90 02:00	0	-21.619	0	27	3.9998
21/08/90 03:00	0	-21.619	0	27	3.9998
21/08/90 04:00	0	-21.619	0	27	3.9998
21/08/90 05:00	0	-21.619	0	27	3.0001
21/08/90 06:00	682.02	0	37.001	28	3.0001
21/08/90 07:00	4674.5	0	230	28	5
21/08/90 08:00	10017	0	465.01	28	5
21/08/90 09:00	14264	0	662.99	28	6.0002
21/08/90 10:00	16455	0	771	28	6.0002
21/08/90 11:00	19490	0	934	29	6.9999
21/08/90 12:00	19614	0	962	29	6.9999
21/08/90 13:00	18340	0	869	29	6.9999
21/08/90 14:00	16390	0	768	29	6.9999
21/08/90 15:00	14329	0	666.99	29	6.9999
21/08/90 16:00	9565.6	0	445.01	29	6.9999
21/08/90 17:00	4062.6	0	202	29	6.0002
21/08/90 18:00	582.08	0	34.001	29	6.0002
21/08/90 19:00	0	-21.619	0	29	5
21/08/90 20:00	0	-21.619	0	29	5
21/08/90 21:00	0	-21.619	0	29	5
21/08/90 22:00	0	-21.619	0	29	5
21/08/90 23:00	0	-21.619	0	29	3.9998
22/08/90 00:00	0	-21.619	0	29	3.9998
22/08/90 01:00	0	-21.619	0	29	3.0001
22/08/90 02:00	0	-21.619	0	28	3.0001
22/08/90 03:00	0	-21.619	0	28	3.9998
22/08/90 04:00	0	-21.619	0	28	3.9998
22/08/90 05:00	0	-21.619	0	28	5
22/08/90 06:00	658.11	616.81	37.001	28	5
22/08/90 07:00	4628.9	4516.6	228	28	3.9998
22/08/90 08:00	9983.1	9694.8	464.01	28	3.9998
22/08/90 09:00	14410	13899	673.99	28	3.0001
22/08/90 10:00	17676	16948	840	29	3.0001
22/08/90 11:00	19523	18656	947	29	3.9998
22/08/90 12:00	19621	18742	982	29	5
22/08/90 13:00	19515	18648	943	29	5
22/08/90 14:00	17630	16904	833	29	5
22/08/90 15:00	14137	13642	659.99	29	5
22/08/90 16:00	8904.2	8659.2	416.01	29	5
22/08/90 17:00	2059.9	1996.5	101	29	3.9998
22/08/90 18:00	547.4	507.64	30	29	5
22/08/90 19:00	0	-21.619	0	29	5
22/08/90 20:00	0	-21.619	0	29	5
22/08/90 21:00	0	-21.619	0	29	5
22/08/90 22:00	0	-21.619	0	29	6.0002
22/08/90 23:00	0	-21.619	0	29	6.0002
23/08/90 00:00	0	-21.619	0	29	6.0002
23/08/90 01:00	0	-21.619	0	28	6.0002
23/08/90 02:00	0	-21.619	0	28	6.0002
23/08/90 03:00	0	-21.619	0	28	6.0002
23/08/90 04:00	0	-21.619	0	28	6.9999
23/08/90 05:00	0	-21.619	0	29	6.0002
23/08/90 06:00	521.2	481.78	28	29	6.0002

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
23/08/90 07:00	4512.5	4403.3	222	29	6.9999
23/08/90 08:00	10071	9778.9	468.01	29	6.9999
23/08/90 09:00	14553	14033	677.99	29	6.9999
23/08/90 10:00	17628	16902	830	29	6.9999
23/08/90 11:00	16878	16204	793	28	6.9999
23/08/90 12:00	16288	15654	759	27	8.0001
23/08/90 13:00	19611	18733	950	27	6.9999
23/08/90 14:00	17853	17110	839	28	6.9999
23/08/90 15:00	14447	13933	670.99	28	6.9999
23/08/90 16:00	9848.2	9565.6	457.01	28	6.9999
23/08/90 17:00	4475.1	4366.8	226	29	6.0002
23/08/90 18:00	628.22	587.39	37.001	29	6.9999
23/08/90 19:00	0	-21.619	0	29	8.0001
23/08/90 20:00	0	-21.619	0	29	8.0001
23/08/90 21:00	0	-21.619	0	29	8.0001
23/08/90 22:00	0	-21.619	0	28	8.0001
23/08/90 23:00	0	-21.619	0	28	8.0001
24/08/90 00:00	0	-21.619	0	28	8.0001
24/08/90 01:00	0	-21.619	0	28	8.0001
24/08/90 02:00	0	-21.619	0	29	8.0001
24/08/90 03:00	0	-21.619	0	28	8.0001
24/08/90 04:00	0	-21.619	0	27	8.0001
24/08/90 05:00	0	-21.619	0	29	6.9999
24/08/90 06:00	727.3	685.03	42.001	28	6.9999
24/08/90 07:00	4790.6	4674.5	238	29	6.9999
24/08/90 08:00	10232	9932.7	475.01	29	8.0001
24/08/90 09:00	14819	14282	687.99	28	8.0001
24/08/90 10:00	18195	17427	855	28	8.0001
24/08/90 11:00	19614	18735	959	29	8.0001
24/08/90 12:00	19632	18752	993	29	8.9997
24/08/90 13:00	18580	17783	876	28	8.9997
24/08/90 14:00	17747	17011	831	28	8.9997
24/08/90 15:00	14469	13954	670.99	28	8.0001
24/08/90 16:00	9853.1	9570.3	458.01	29	8.9997
24/08/90 17:00	4434.1	4326.8	225	29	8.0001
24/08/90 18:00	603.58	563.08	37.001	29	8.0001
24/08/90 19:00	0	-21.619	0	28	8.9997
24/08/90 20:00	0	-21.619	0	28	8.9997
24/08/90 21:00	0	-21.619	0	28	8.9997
24/08/90 22:00	0	-21.619	0	27	10
24/08/90 23:00	0	-21.619	0	27	11
25/08/90 00:00	0	-21.619	0	28	8.9997
25/08/90 01:00	0	-21.619	0	28	6.9999
25/08/90 02:00	0	-21.619	0	27	6.9999
25/08/90 03:00	0	-21.619	0	27	8.0001
25/08/90 04:00	0	-21.619	0	28	6.9999
25/08/90 05:00	0	-21.619	0	27	5
25/08/90 06:00	57.04	-21.619	7.0001	27	6.0002
25/08/90 07:00	1373.8	1321.5	68.001	27	5
25/08/90 08:00	7394.3	7202.2	345.01	27	6.0002
25/08/90 09:00	12082	11694	561.99	27	6.0002
25/08/90 10:00	15345	14774	716	27	6.0002
25/08/90 11:00	15049	14497	703	27	6.0002
25/08/90 12:00	15331	14761	722	27	5
25/08/90 13:00	13413	12957	630.99	28	5
25/08/90 14:00	16097	15476	752	27	6.0002
25/08/90 15:00	11185	10841	517.99	27	5
25/08/90 16:00	5432.8	5299.9	256	27	5
25/08/90 17:00	3272.9	3189.2	161	26	5
25/08/90 18:00	442.59	404.02	24	26	6.0002

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
25/08/90 19:00	0	-21.619	0	26	5
25/08/90 20:00	0	-21.619	0	26	6.0002
25/08/90 21:00	0	-21.619	0	27	6.0002
25/08/90 22:00	0	-21.619	0	28	3.9998
25/08/90 23:00	0	-21.619	0	28	3.9998
26/08/90 00:00	0	-21.619	0	28	3.9998
26/08/90 01:00	0	-21.619	0	27	3.0001
26/08/90 02:00	0	-21.619	0	27	1.9999
26/08/90 03:00	0	-21.619	0	26	1.9999
26/08/90 04:00	0	-21.619	0	26	1.0002
26/08/90 05:00	0	-21.619	0	27	1.9999
26/08/90 06:00	656.68	615.33	37.001	27	3.0001
26/08/90 07:00	4745.2	4630	234	27	5
26/08/90 08:00	9220.5	8963.2	426.01	26	5
26/08/90 09:00	14061	13568	649.99	26	6.0002
26/08/90 10:00	13842	13362	642.99	27	6.0002
26/08/90 11:00	12356	11954	576.99	27	6.0002
26/08/90 12:00	18336	17557	864	27	6.9999
26/08/90 13:00	15093	14538	699.99	27	8.0001
26/08/90 14:00	17341	16634	809	27	8.0001
26/08/90 15:00	7526.1	7329.6	351.01	27	8.0001
26/08/90 16:00	3937.6	3841.4	187	27	6.9999
26/08/90 17:00	3747.2	3654.9	186	27	6.9999
26/08/90 18:00	530.35	490.7	31	27	6.9999
26/08/90 19:00	0	-21.619	0	26	6.9999
26/08/90 20:00	0	-21.619	0	26	6.9999
26/08/90 21:00	0	-21.619	0	27	8.0001
26/08/90 22:00	0	-21.619	0	27	8.0001
26/08/90 23:00	0	-21.619	0	27	8.9997
27/08/90 00:00	0	-21.619	0	27	10
27/08/90 01:00	0	-21.619	0	27	10
27/08/90 02:00	0	-21.619	0	27	10
27/08/90 03:00	0	-21.619	0	27	10
27/08/90 04:00	0	-21.619	0	27	10
27/08/90 05:00	0	-21.619	0	27	8.9997
27/08/90 06:00	714.54	672.45	43.001	28	8.0001
27/08/90 07:00	4605.1	4493.4	228	27	8.9997
27/08/90 08:00	10110	9815.8	466.01	27	8.9997
27/08/90 09:00	14734	14202	679.99	27	8.9997
27/08/90 10:00	18242	17469	853	27	8.9997
27/08/90 11:00	19613	18734	955	28	8.0001
27/08/90 12:00	19620	18741	969	27	8.0001
27/08/90 13:00	19099	18263	901	27	8.0001
27/08/90 14:00	17820	17079	835	27	6.9999
27/08/90 15:00	13475	13014	622.99	27	6.0002
27/08/90 16:00	9618.5	9345.7	446.01	27	6.0002
27/08/90 17:00	4292.5	4188.2	218	27	6.9999
27/08/90 18:00	560.24	520.19	33.001	27	6.0002
27/08/90 19:00	0	-21.619	0	27	6.0002
27/08/90 20:00	0	-21.619	0	27	6.0002
27/08/90 21:00	0	-21.619	0	27	5
27/08/90 22:00	0	-21.619	0	28	6.0002
27/08/90 23:00	0	-21.619	0	27	6.9999
28/08/90 00:00	0	-21.619	0	27	6.9999
28/08/90 01:00	0	-21.619	0	27	6.9999
28/08/90 02:00	0	-21.619	0	27	8.0001
28/08/90 03:00	0	-21.619	0	27	6.9999
28/08/90 04:00	0	-21.619	0	27	8.0001
28/08/90 05:00	0	-21.619	0	27	8.0001
28/08/90 06:00	133.13	98.227	8.0001	27	6.0002

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
28/08/90 07:00	1626.9	1570.1	79.001	26	6.0002
28/08/90 08:00	4513.9	4404.4	214	26	6.0002
28/08/90 09:00	6463.1	6300.7	308	27	5
28/08/90 10:00	6173.4	6019.7	294	28	5
28/08/90 11:00	18455	17669	874	28	6.0002
28/08/90 12:00	19611	18732	955	28	6.9999
28/08/90 13:00	18540	17747	876	28	6.9999
28/08/90 14:00	16303	15668	762	28	6.9999
28/08/90 15:00	10028	9737.7	467.01	28	6.9999
28/08/90 16:00	4358.6	4252.8	207	28	6.9999
28/08/90 17:00	3708.2	3617.2	187	29	6.0002
28/08/90 18:00	543.97	504.2	32	28	5
28/08/90 19:00	0	-21.619	0	28	5
28/08/90 20:00	0	-21.619	0	27	6.0002
28/08/90 21:00	0	-21.619	0	27	6.9999
28/08/90 22:00	0	-21.619	0	27	6.9999
28/08/90 23:00	0	-21.619	0	27	6.0002
29/08/90 00:00	0	-21.619	0	27	6.0002
29/08/90 01:00	0	-21.619	0	27	5
29/08/90 02:00	0	-21.619	0	26	5
29/08/90 03:00	0	-21.619	0	26	5
29/08/90 04:00	0	-21.619	0	27	5
29/08/90 05:00	0	-21.619	0	27	5
29/08/90 06:00	133.06	98.154	8.0001	27	3.9998
29/08/90 07:00	1018.4	971.88	51.001	28	5
29/08/90 08:00	2116.1	2051.7	104	28	6.0002
29/08/90 09:00	3195.9	3114	156	28	6.9999
29/08/90 10:00	8004.2	7791.4	380.01	28	6.0002
29/08/90 11:00	13501	13040	634.99	28	5
29/08/90 12:00	14446	13932	679.99	28	6.0002
29/08/90 13:00	9697	9420.9	460.01	28	6.9999
29/08/90 14:00	10895	10565	512.01	28	6.0002
29/08/90 15:00	12744	12324	593.99	29	6.0002
29/08/90 16:00	8014.2	7801.1	375.01	29	8.0001
29/08/90 17:00	2928.9	2851.4	144	27	3.9998
29/08/90 18:00	466.89	428.06	26	27	5
29/08/90 19:00	0	-21.619	0	28	6.9999
29/08/90 20:00	0	-21.619	0	28	6.0002
29/08/90 21:00	0	-21.619	0	28	6.0002
29/08/90 22:00	0	-21.619	0	28	5
29/08/90 23:00	0	-21.619	0	28	6.0002
30/08/90 00:00	0	-21.619	0	28	6.9999
30/08/90 01:00	0	-21.619	0	28	6.9999
30/08/90 02:00	0	-21.619	0	28	6.9999
30/08/90 03:00	0	-21.619	0	28	6.9999
30/08/90 04:00	0	-21.619	0	28	6.9999
30/08/90 05:00	0	-21.619	0	29	6.0002
30/08/90 06:00	172.56	137.28	10	29	6.0002
30/08/90 07:00	2356.7	2288.8	115	29	6.9999
30/08/90 08:00	7508.2	7312.4	352.01	29	8.0001
30/08/90 09:00	10256	9955.4	478.01	29	8.9997
30/08/90 10:00	15468	14889	723	29	8.9997
30/08/90 11:00	19360	18505	920	29	8.9997
30/08/90 12:00	19307	18457	917	29	8.9997
30/08/90 13:00	14587	14065	685.99	29	8.9997
30/08/90 14:00	13268	12820	621.99	29	8.0001
30/08/90 15:00	12973	12540	602.99	29	6.9999
30/08/90 16:00	8881.8	8637.4	415.01	29	6.9999
30/08/90 17:00	3904.3	3809.3	200	29	6.9999
30/08/90 18:00	498.29	459.16	28	29	6.9999

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
30/08/90 19:00	0	-21.619	0	29	8.0001
30/08/90 20:00	0	-21.619	0	29	8.0001
30/08/90 21:00	0	-21.619	0	29	8.0001
30/08/90 22:00	0	-21.619	0	29	6.9999
30/08/90 23:00	0	-21.619	0	29	6.9999
31/08/90 00:00	0	-21.619	0	29	6.0002
31/08/90 01:00	0	-21.619	0	29	5
31/08/90 02:00	0	-21.619	0	29	5
31/08/90 03:00	0	-21.619	0	29	5
31/08/90 04:00	0	-21.619	0	29	5
31/08/90 05:00	0	-21.619	0	29	5
31/08/90 06:00	738.04	695.71	42.001	29	5
31/08/90 07:00	3180.5	3099.1	156	29	5
31/08/90 08:00	2904.3	2827.4	140	28	5
31/08/90 09:00	12118	11729	563.99	28	5
31/08/90 10:00	17695	16965	837	29	5
31/08/90 11:00	19553	18682	951	29	5
31/08/90 12:00	19619	18740	980	29	6.0002
31/08/90 13:00	19366	18510	924	28	6.0002
31/08/90 14:00	17424	16712	818	28	6.0002
31/08/90 15:00	12947	12516	599.99	28	6.0002
31/08/90 16:00	9084.9	8832.8	424.01	29	6.9999
31/08/90 17:00	3550	3461.9	180	29	6.0002
31/08/90 18:00	405.81	367.85	24	29	6.9999
31/08/90 19:00	0	-21.619	0	29	6.9999
31/08/90 20:00	0	-21.619	0	29	6.9999
31/08/90 21:00	0	-21.619	0	29	6.9999
31/08/90 22:00	0	-21.619	0	29	6.9999
31/08/90 23:00	0	-21.619	0	29	6.9999
1/9/1990 0:00	0	-21.619	0	29	6.9999
1/9/1990 1:00	0	-21.619	0	28	8.0001
1/9/1990 2:00	0	-21.619	0	28	8.0001
1/9/1990 3:00	0	-21.619	0	28	6.9999
1/9/1990 4:00	0	-21.619	0	28	6.0002
1/9/1990 5:00	0	-21.619	0	27	6.0002
1/9/1990 6:00	686.95	645.18	41.001	27	6.9999
1/9/1990 7:00	4754.6	4639.2	233	27	6.9999
1/9/1990 8:00	9602	9329.8	440.01	27	6.9999
1/9/1990 9:00	14632	14107	673.99	28	6.9999
1/9/1990 10:00	18172	17406	849	28	6.9999
1/9/1990 11:00	19615	18737	957	28	6.9999
1/9/1990 12:00	19627	18748	987	29	6.0002
1/9/1990 13:00	19587	18713	944	29	6.0002
1/9/1990 14:00	17701	16970	829	29	6.0002
1/9/1990 15:00	14208	13708	656.99	29	6.0002
1/9/1990 16:00	9517.7	9249	441.01	29	6.9999
1/9/1990 17:00	3780.8	3688.4	193	29	6.0002
1/9/1990 18:00	428.72	390.47	25	29	6.0002
1/9/1990 19:00	0	-21.619	0	29	6.0002
1/9/1990 20:00	0	-21.619	0	29	6.0002
1/9/1990 21:00	0	-21.619	0	29	6.9999
1/9/1990 22:00	0	-21.619	0	29	6.9999
1/9/1990 23:00	0	-21.619	0	29	6.9999
2/9/1990 0:00	0	-21.619	0	29	6.9999
2/9/1990 1:00	0	-21.619	0	28	6.0002
2/9/1990 2:00	0	-21.619	0	27	6.9999
2/9/1990 3:00	0	-21.619	0	27	8.0001
2/9/1990 4:00	0	-21.619	0	27	6.9999
2/9/1990 5:00	0	-21.619	0	27	6.0002
2/9/1990 6:00	620.22	579.44	35.001	28	5

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
2/9/1990 7:00	4702.8	4588.7	231	28	5
2/9/1990 8:00	10242	9942.3	472.01	28	5
2/9/1990 9:00	14715	14186	680.99	28	5
2/9/1990 10:00	17978	17227	844	29	6.0002
2/9/1990 11:00	19532	18662	936	29	6.9999
2/9/1990 12:00	19209	18367	911	29	6.0002
2/9/1990 13:00	19445	18582	930	29	6.0002
2/9/1990 14:00	17585	16862	825	29	5
2/9/1990 15:00	13955	13469	643.99	28	5
2/9/1990 16:00	9385.3	9121.7	435.01	28	3.9998
2/9/1990 17:00	3732.6	3641.2	191	29	3.0001
2/9/1990 18:00	352.23	314.92	19	29	3.0001
2/9/1990 19:00	0	-21.619	0	29	3.0001
2/9/1990 20:00	0	-21.619	0	29	3.0001
2/9/1990 21:00	0	-21.619	0	29	3.0001
2/9/1990 22:00	0	-21.619	0	29	1.9999
2/9/1990 23:00	0	-21.619	0	29	1.9999
3/9/1990 0:00	0	-21.619	0	28	1.0002
3/9/1990 1:00	0	-21.619	0	28	1.0002
3/9/1990 2:00	0	-21.619	0	28	1.0002
3/9/1990 3:00	0	-21.619	0	28	1.9999
3/9/1990 4:00	0	-21.619	0	27	1.9999
3/9/1990 5:00	0	-21.619	0	27	1.0002
3/9/1990 6:00	635	593.95	38.001	27	1.9999
3/9/1990 7:00	4798.1	4681.6	237	27	1.9999
3/9/1990 8:00	10307	10004	477.01	28	1.9999
3/9/1990 9:00	14756	14224	686.99	28	1.9999
3/9/1990 10:00	17964	17215	849	28	1.9999
3/9/1990 11:00	19148	18312	914	28	1.9999
3/9/1990 12:00	17610	16886	834	28	1.9999
3/9/1990 13:00	14367	13859	671.99	28	1.9999
3/9/1990 14:00	4863	4745.4	232	29	1.9999
3/9/1990 15:00	7790.3	7585.4	362.01	29	1.9999
3/9/1990 16:00	7060	6879.3	330.01	29	1.9999
3/9/1990 17:00	3682.8	3592.4	188	29	1.9999
3/9/1990 18:00	394.82	356.99	22	29	1.9999
3/9/1990 19:00	0	-21.619	0	29	1.9999
3/9/1990 20:00	0	-21.619	0	29	1.9999
3/9/1990 21:00	0	-21.619	0	29	1.9999
3/9/1990 22:00	0	-21.619	0	29	3.0001
3/9/1990 23:00	0	-21.619	0	29	3.0001
4/9/1990 0:00	0	-21.619	0	29	3.0001
4/9/1990 1:00	0	-21.619	0	28	3.0001
4/9/1990 2:00	0	-21.619	0	28	3.0001
4/9/1990 3:00	0	-21.619	0	28	3.0001
4/9/1990 4:00	0	-21.619	0	28	3.0001
4/9/1990 5:00	0	-21.619	0	28	3.9998
4/9/1990 6:00	672.28	630.79	41.001	28	3.9998
4/9/1990 7:00	4793.5	4677.3	239	28	3.0001
4/9/1990 8:00	10304	10002	477.01	28	1.9999
4/9/1990 9:00	14713	14184	684.99	28	1.9999
4/9/1990 10:00	17746	17012	838	28	1.9999
4/9/1990 11:00	19274	18428	921	28	1.9999
4/9/1990 12:00	19607	18731	957	28	3.0001
4/9/1990 13:00	19232	18389	917	28	3.0001
4/9/1990 14:00	17258	16559	810	28	3.0001
4/9/1990 15:00	13483	13023	622.99	28	3.0001
4/9/1990 16:00	8919.8	8674	414.01	28	3.0001
4/9/1990 17:00	3136.7	3056.1	157	29	3.0001
4/9/1990 18:00	311.88	275.05	17	29	1.9999

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
4/9/1990 19:00	0	-21.619	0	29	1.9999
4/9/1990 20:00	0	-21.619	0	29	1.9999
4/9/1990 21:00	0	-21.619	0	29	1.9999
4/9/1990 22:00	0	-21.619	0	29	1.9999
4/9/1990 23:00	0	-21.619	0	28	3.0001
5/9/1990 0:00	0	-21.619	0	28	3.0001
5/9/1990 1:00	0	-21.619	0	28	3.0001
5/9/1990 2:00	0	-21.619	0	28	3.0001
5/9/1990 3:00	0	-21.619	0	28	3.0001
5/9/1990 4:00	0	-21.619	0	28	3.9998
5/9/1990 5:00	0	-21.619	0	28	3.9998
5/9/1990 6:00	456.05	417.42	25	28	3.9998
5/9/1990 7:00	4629.8	4517.6	229	28	3.9998
5/9/1990 8:00	9030	8780	417.01	28	3.9998
5/9/1990 9:00	14269	13766	659.99	28	3.9998
5/9/1990 10:00	17952	17203	844	28	3.9998
5/9/1990 11:00	19146	18309	911	28	3.0001
5/9/1990 12:00	19368	18513	928	28	3.0001
5/9/1990 13:00	14448	13935	677.99	28	3.0001
5/9/1990 14:00	15981	15370	748	29	3.0001
5/9/1990 15:00	13875	13395	643.99	29	3.0001
5/9/1990 16:00	9075.7	8824.5	423.01	29	3.0001
5/9/1990 17:00	3517.6	3430.1	182	29	3.9998
5/9/1990 18:00	352.18	314.87	20	29	3.9998
5/9/1990 19:00	0	-21.619	0	29	3.0001
5/9/1990 20:00	0	-21.619	0	29	1.9999
5/9/1990 21:00	0	-21.619	0	28	1.9999
5/9/1990 22:00	0	-21.619	0	28	1.9999
5/9/1990 23:00	0	-21.619	0	28	1.9999
6/9/1990 0:00	0	-21.619	0	28	3.0001
6/9/1990 1:00	0	-21.619	0	28	3.9998
6/9/1990 2:00	0	-21.619	0	28	3.9998
6/9/1990 3:00	0	-21.619	0	28	5
6/9/1990 4:00	0	-21.619	0	28	5
6/9/1990 5:00	0	-21.619	0	28	3.9998
6/9/1990 6:00	675.75	634.21	41.001	28	3.9998
6/9/1990 7:00	4939.1	4819.1	246	28	5
6/9/1990 8:00	9799.2	9518.7	451.01	28	6.0002
6/9/1990 9:00	14358	13849	663.99	28	5
6/9/1990 10:00	9812.6	9531.7	454.01	28	5
6/9/1990 11:00	18951	18129	896	28	5
6/9/1990 12:00	19620	18741	976	28	5
6/9/1990 13:00	19218	18374	904	27	6.0002
6/9/1990 14:00	16067	15448	744	27	5
6/9/1990 15:00	13261	12812	608.99	27	5
6/9/1990 16:00	7142.6	6958.8	330.01	27	6.0002
6/9/1990 17:00	2817.8	2742.1	141	27	5
6/9/1990 18:00	371.18	333.55	20	27	5
6/9/1990 19:00	0	-21.619	0	28	6.0002
6/9/1990 20:00	0	-21.619	0	27	6.0002
6/9/1990 21:00	0	-21.619	0	27	6.0002
6/9/1990 22:00	0	-21.619	0	27	6.0002
6/9/1990 23:00	0	-21.619	0	27	6.0002
7/9/1990 0:00	0	-21.619	0	27	6.9999
7/9/1990 1:00	0	-21.619	0	27	6.9999
7/9/1990 2:00	0	-21.619	0	26	6.9999
7/9/1990 3:00	0	-21.619	0	26	8.0001
7/9/1990 4:00	0	-21.619	0	27	8.0001
7/9/1990 5:00	0	-21.619	0	27	6.9999
7/9/1990 6:00	298.01	261.3	16	28	8.0001

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
7/9/1990 7:00	3270.8	3187.5	158	28	6.9999
7/9/1990 8:00	7655.3	7454.4	353.01	27	6.9999
7/9/1990 9:00	4785.2	4669	225	26	6.9999
7/9/1990 10:00	9579.6	9308.3	444.01	26	6.9999
7/9/1990 11:00	10932	10600	506.01	27	5
7/9/1990 12:00	12210	11815	560.99	27	6.0002
7/9/1990 13:00	11071	10733	510.01	26	6.0002
7/9/1990 14:00	5653.1	5514.4	264	27	6.0002
7/9/1990 15:00	11506	11146	527.99	27	6.0002
7/9/1990 16:00	7941.8	7731.1	367.01	27	6.0002
7/9/1990 17:00	3235.6	3152.5	164	26	5
7/9/1990 18:00	291.96	255.29	16	27	5
7/9/1990 19:00	0	-21.619	0	27	3.9998
7/9/1990 20:00	0	-21.619	0	26	3.9998
7/9/1990 21:00	0	-21.619	0	26	3.9998
7/9/1990 22:00	0	-21.619	0	26	3.9998
7/9/1990 23:00	0	-21.619	0	27	5
8/9/1990 0:00	0	-21.619	0	27	3.9998
8/9/1990 1:00	0	-21.619	0	27	5
8/9/1990 2:00	0	-21.619	0	28	5
8/9/1990 3:00	0	-21.619	0	28	5
8/9/1990 4:00	0	-21.619	0	28	3.9998
8/9/1990 5:00	0	-21.619	0	28	3.9998
8/9/1990 6:00	496.63	457.47	27	28	5
8/9/1990 7:00	3921.7	3826.1	192	28	5
8/9/1990 8:00	9704.1	9427.6	448.01	28	5
8/9/1990 9:00	14712	14182	679.99	28	5
8/9/1990 10:00	17735	17001	831	28	5
8/9/1990 11:00	19153	18315	909	28	3.9998
8/9/1990 12:00	19616	18738	972	28	3.9998
8/9/1990 13:00	19402	18543	930	28	3.9998
8/9/1990 14:00	17272	16572	813	29	3.0001
8/9/1990 15:00	13723	13250	636.99	29	3.0001
8/9/1990 16:00	8994	8745.9	420.01	29	3.0001
8/9/1990 17:00	3496.1	3409	185	29	5
8/9/1990 18:00	309.49	272.69	17	29	6.0002
8/9/1990 19:00	0	-21.619	0	29	6.0002
8/9/1990 20:00	0	-21.619	0	29	6.0002
8/9/1990 21:00	0	-21.619	0	28	6.0002
8/9/1990 22:00	0	-21.619	0	28	6.0002
8/9/1990 23:00	0	-21.619	0	28	6.0002
9/9/1990 0:00	0	-21.619	0	28	6.0002
9/9/1990 1:00	0	-21.619	0	27	6.0002
9/9/1990 2:00	0	-21.619	0	27	6.0002
9/9/1990 3:00	0	-21.619	0	27	5
9/9/1990 4:00	0	-21.619	0	27	6.0002
9/9/1990 5:00	0	-21.619	0	28	6.0002
9/9/1990 6:00	426.56	388.29	23	28	5
9/9/1990 7:00	2752.9	2678.2	133	27	5
9/9/1990 8:00	9318.6	9057.5	429.01	27	5
9/9/1990 9:00	14292	13787	658.99	27	3.9998
9/9/1990 10:00	16600	15946	774	27	3.0001
9/9/1990 11:00	18484	17696	872	27	3.0001
9/9/1990 12:00	18512	17722	875	28	3.9998
9/9/1990 13:00	18865	18049	893	28	3.9998
9/9/1990 14:00	16884	16211	788	28	3.9998
9/9/1990 15:00	13599	13133	628.99	28	3.0001
9/9/1990 16:00	8961.3	8713.8	416.01	27	3.0001
9/9/1990 17:00	3369.4	3284.2	177	27	3.0001
9/9/1990 18:00	271.04	234.62	15	27	1.0002

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
9/9/1990 19:00	0	-21.619	0	27	1.9999
9/9/1990 20:00	0	-21.619	0	28	3.0001
9/9/1990 21:00	0	-21.619	0	27	6.0002
9/9/1990 22:00	0	-21.619	0	27	6.9999
9/9/1990 23:00	0	-21.619	0	28	6.0002
10/9/1990 0:00	0	-21.619	0	28	6.0002
10/9/1990 1:00	0	-21.619	0	28	5
10/9/1990 2:00	0	-21.619	0	28	5
10/9/1990 3:00	0	-21.619	0	28	5
10/9/1990 4:00	0	-21.619	0	28	6.0002
10/9/1990 5:00	0	-21.619	0	28	6.0002
10/9/1990 6:00	658.53	617.22	38.001	28	6.0002
10/9/1990 7:00	4270.2	4166.5	210	28	6.0002
10/9/1990 8:00	7940.9	7730.3	366.01	28	6.0002
10/9/1990 9:00	14439	13925	665.99	28	6.0002
10/9/1990 10:00	17407	16695	809	28	6.9999
10/9/1990 11:00	17601	16876	823	28	6.9999
10/9/1990 12:00	19610	18732	959	29	6.0002
10/9/1990 13:00	19224	18380	910	29	6.0002
10/9/1990 14:00	16296	15663	759	29	6.0002
10/9/1990 15:00	11040	10703	511.01	29	6.9999
10/9/1990 16:00	6028.6	5879.2	282	29	8.0001
10/9/1990 17:00	1941.4	1879.6	95.001	29	6.9999
10/9/1990 18:00	0	-21.619	6.0001	29	8.9997
10/9/1990 19:00	0	-21.619	0	28	8.9997
10/9/1990 20:00	0	-21.619	0	27	10
10/9/1990 21:00	0	-21.619	0	28	8.0001
10/9/1990 22:00	0	-21.619	0	28	6.9999
10/9/1990 23:00	0	-21.619	0	29	8.0001
11/9/1990 0:00	0	-21.619	0	29	8.0001
11/9/1990 1:00	0	-21.619	0	28	8.9997
11/9/1990 2:00	0	-21.619	0	29	8.9997
11/9/1990 3:00	0	-21.619	0	29	10
11/9/1990 4:00	0	-21.619	0	29	10
11/9/1990 5:00	0	-21.619	0	29	8.9997
11/9/1990 6:00	406.19	368.18	22	28	10
11/9/1990 7:00	1678	1620.5	81.001	27	12
11/9/1990 8:00	3975.2	3878.2	187	27	12
11/9/1990 9:00	2764.9	2690	134	27	11
11/9/1990 10:00	6993.1	6814.1	328	27	12
11/9/1990 11:00	10112	9818.1	472.01	27	13
11/9/1990 12:00	12900	12470	597.99	27	13
11/9/1990 13:00	10803	10477	500.01	27	14
11/9/1990 14:00	4656.3	4543.3	222	27	15
11/9/1990 15:00	2404.3	2335.1	117	27	14
11/9/1990 16:00	2228.4	2161.7	107	26	14
11/9/1990 17:00	932.51	887.18	46.001	27	14
11/9/1990 18:00	132.84	97.942	8.0001	27	16
11/9/1990 19:00	0	-21.619	0	27	18
11/9/1990 20:00	0	-21.619	0	27	18
11/9/1990 21:00	0	-21.619	0	28	19
11/9/1990 22:00	0	-21.619	0	27	20
11/9/1990 23:00	0	-21.619	0	27	21
12/9/1990 0:00	0	-21.619	0	27	22
12/9/1990 1:00	0	-21.619	0	27	24
12/9/1990 2:00	0	-21.619	0	27	27
12/9/1990 3:00	0	-21.619	0	27	28
12/9/1990 4:00	0	-21.619	0	28	30
12/9/1990 5:00	0	-21.619	0	27	34
12/9/1990 6:00	0	-21.619	2	28	38

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
12/9/1990 7:00	371.87	334.27	20	28	35
12/9/1990 8:00	920.56	875.48	47.001	28	32
12/9/1990 9:00	1412	1359.2	71.001	28	31
12/9/1990 10:00	1760.7	1701.8	88.001	28	32
12/9/1990 11:00	1881.6	1820.6	94.001	28	31
12/9/1990 12:00	1901.3	1840	95.001	28	30
12/9/1990 13:00	1740.1	1681.4	87.001	27	27
12/9/1990 14:00	1678.3	1620.9	84.001	28	29
12/9/1990 15:00	1442.2	1388.7	72.001	27	29
12/9/1990 16:00	992.79	946.52	50.001	27	29
12/9/1990 17:00	503.45	464.19	26	28	28
12/9/1990 18:00	0	-21.619	4.0001	28	24
12/9/1990 19:00	0	-21.619	0	27	22
12/9/1990 20:00	0	-21.619	0	27	22
12/9/1990 21:00	0	-21.619	0	28	20
12/9/1990 22:00	0	-21.619	0	28	20
12/9/1990 23:00	0	-21.619	0	28	20
13/09/90 00:00	0	-21.619	0	27	19
13/09/90 01:00	0	-21.619	0	27	18
13/09/90 02:00	0	-21.619	0	28	18
13/09/90 03:00	0	-21.619	0	28	18
13/09/90 04:00	0	-21.619	0	27	17
13/09/90 05:00	0	-21.619	0	26	18
13/09/90 06:00	0	-21.619	6.0001	26	17
13/09/90 07:00	754.03	711.3	38.001	27	16
13/09/90 08:00	1627.6	1571	80.001	27	15
13/09/90 09:00	2355	2286.6	115	27	15
13/09/90 10:00	2949.2	2871.4	144	28	14
13/09/90 11:00	4798.4	4681.9	230	27	14
13/09/90 12:00	6673.9	6505	318	28	14
13/09/90 13:00	7088.8	6906.7	333.01	27	13
13/09/90 14:00	3847.4	3753.2	185	27	13
13/09/90 15:00	3183.6	3101.6	153	27	13
13/09/90 16:00	2462.1	2392.1	118	27	13
13/09/90 17:00	1255.3	1205	61.001	27	14
13/09/90 18:00	0	-21.619	4.0001	27	13
13/09/90 19:00	0	-21.619	0	27	13
13/09/90 20:00	0	-21.619	0	27	12
13/09/90 21:00	0	-21.619	0	27	12
13/09/90 22:00	0	-21.619	0	27	13
13/09/90 23:00	0	-21.619	0	27	13
14/09/90 00:00	0	-21.619	0	27	13
14/09/90 01:00	0	-21.619	0	27	12
14/09/90 02:00	0	-21.619	0	27	11
14/09/90 03:00	0	-21.619	0	27	11
14/09/90 04:00	0	-21.619	0	27	10
14/09/90 05:00	0	-21.619	0	27	8.9997
14/09/90 06:00	591.48	551.08	32	28	10
14/09/90 07:00	3494.3	3406.8	169	28	10
14/09/90 08:00	7140.3	6956.5	331.01	28	10
14/09/90 09:00	12391	11988	568.99	28	10
14/09/90 10:00	15525	14941	715	28	11
14/09/90 11:00	19217	18371	900	28	11
14/09/90 12:00	19335	18479	912	28	11
14/09/90 13:00	16733	16068	774	28	11
14/09/90 14:00	13564	13098	626.99	28	10
14/09/90 15:00	10852	10523	497.01	27	10
14/09/90 16:00	6583.4	6417.2	306	28	10
14/09/90 17:00	2529.2	2458.4	127	28	8.9997
14/09/90 18:00	150.47	115.41	9.0001	28	8.9997

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
14/09/90 19:00	0	-21.619	0	28	8.9997
14/09/90 20:00	0	-21.619	0	28	8.0001
14/09/90 21:00	0	-21.619	0	28	8.9997
14/09/90 22:00	0	-21.619	0	28	8.9997
14/09/90 23:00	0	-21.619	0	28	8.9997
15/09/90 00:00	0	-21.619	0	28	8.9997
15/09/90 01:00	0	-21.619	0	28	8.9997
15/09/90 02:00	0	-21.619	0	28	8.0001
15/09/90 03:00	0	-21.619	0	28	8.9997
15/09/90 04:00	0	-21.619	0	27	8.0001
15/09/90 05:00	0	-21.619	0	28	6.9999
15/09/90 06:00	419.13	380.95	22	28	6.9999
15/09/90 07:00	3688.6	3597.6	179	28	6.9999
15/09/90 08:00	9262.8	9003.8	427.01	28	6.9999
15/09/90 09:00	13122	12680	603.99	28	6.9999
15/09/90 10:00	15174	14614	703	28	6.9999
15/09/90 11:00	16324	15688	760	28	6.9999
15/09/90 12:00	18678	17874	877	28	6.9999
15/09/90 13:00	18001	17247	841	28	6.9999
15/09/90 14:00	16243	15612	753	28	6.0002
15/09/90 15:00	12644	12228	579.99	28	6.0002
15/09/90 16:00	7898.6	7689.4	368.01	28	5
15/09/90 17:00	2116.6	2052.2	107	28	5
15/09/90 18:00	0	-21.619	5.0001	28	5
15/09/90 19:00	0	-21.619	0	28	5
15/09/90 20:00	0	-21.619	0	28	5
15/09/90 21:00	0	-21.619	0	28	6.0002
15/09/90 22:00	0	-21.619	0	28	6.0002
15/09/90 23:00	0	-21.619	0	28	6.0002
16/09/90 00:00	0	-21.619	0	28	6.0002
16/09/90 01:00	0	-21.619	0	28	6.0002
16/09/90 02:00	0	-21.619	0	28	6.0002
16/09/90 03:00	0	-21.619	0	28	5
16/09/90 04:00	0	-21.619	0	27	5
16/09/90 05:00	0	-21.619	0	27	3.9998
16/09/90 06:00	636.14	595.07	37.001	27	3.9998
16/09/90 07:00	4630.2	4517.8	230	27	3.0001
16/09/90 08:00	10020	9729.5	462.01	27	3.0001
16/09/90 09:00	14498	13981	672.99	28	3.0001
16/09/90 10:00	17801	17062	836	28	3.9998
16/09/90 11:00	19392	18533	934	28	3.9998
16/09/90 12:00	19604	18729	958	28	3.9998
16/09/90 13:00	19140	18304	908	28	3.9998
16/09/90 14:00	16802	16134	785	28	3.9998
16/09/90 15:00	13115	12675	603.99	28	3.9998
16/09/90 16:00	8188.7	7969.4	382.01	28	3.9998
16/09/90 17:00	2665.1	2592.1	139	28	3.9998
16/09/90 18:00	130.21	95.351	8.0001	28	3.9998
16/09/90 19:00	0	-21.619	0	28	3.9998
16/09/90 20:00	0	-21.619	0	28	5
16/09/90 21:00	0	-21.619	0	28	5
16/09/90 22:00	0	-21.619	0	28	5
16/09/90 23:00	0	-21.619	0	28	5
17/09/90 00:00	0	-21.619	0	28	5
17/09/90 01:00	0	-21.619	0	28	5
17/09/90 02:00	0	-21.619	0	27	5
17/09/90 03:00	0	-21.619	0	27	5
17/09/90 04:00	0	-21.619	0	27	3.9998
17/09/90 05:00	0	-21.619	0	27	3.9998
17/09/90 06:00	407.47	369.39	22	27	3.9998

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
17/09/90 07:00	4564.8	4454	225	27	5
17/09/90 08:00	10001	9711.8	460.01	27	5
17/09/90 09:00	14405	13893	662.99	27	5
17/09/90 10:00	17895	17149	836	27	5
17/09/90 11:00	19433	18571	933	27	5
17/09/90 12:00	19595	18721	951	27	5
17/09/90 13:00	19204	18359	906	27	6.0002
17/09/90 14:00	16876	16202	785	28	6.0002
17/09/90 15:00	13116	12676	602.99	28	5
17/09/90 16:00	7993.1	7780.6	373.01	28	5
17/09/90 17:00	2848.6	2772.6	154	28	5
17/09/90 18:00	149.49	114.44	9.0001	28	6.0002
17/09/90 19:00	0	-21.619	0	28	6.0002
17/09/90 20:00	0	-21.619	0	28	6.0002
17/09/90 21:00	0	-21.619	0	28	6.0002
17/09/90 22:00	0	-21.619	0	28	5
17/09/90 23:00	0	-21.619	0	28	5
18/09/90 00:00	0	-21.619	0	28	6.0002
18/09/90 01:00	0	-21.619	0	28	6.9999
18/09/90 02:00	0	-21.619	0	28	6.9999
18/09/90 03:00	0	-21.619	0	28	6.9999
18/09/90 04:00	0	-21.619	0	27	6.9999
18/09/90 05:00	0	-21.619	0	28	6.0002
18/09/90 06:00	570.06	529.88	32	27	6.0002
18/09/90 07:00	4276.2	4172.3	210	27	5
18/09/90 08:00	9847.5	9564.7	453.01	27	5
18/09/90 09:00	14448	13933	663.99	27	6.0002
18/09/90 10:00	16060	15442	745	28	6.0002
18/09/90 11:00	19227	18381	912	28	6.0002
18/09/90 12:00	19324	18470	922	28	6.0002
18/09/90 13:00	17632	16905	826	28	6.0002
18/09/90 14:00	8553	8320.6	399.01	28	6.0002
18/09/90 15:00	6076.9	5926.1	282	27	5
18/09/90 16:00	6735	6564.2	314	27	3.9998
18/09/90 17:00	2182.1	2116.3	110	26	3.9998
18/09/90 18:00	0	-21.619	5.0001	27	3.9998
18/09/90 19:00	0	-21.619	0	27	3.9998
18/09/90 20:00	0	-21.619	0	27	3.0001
18/09/90 21:00	0	-21.619	0	27	3.9998
18/09/90 22:00	0	-21.619	0	27	3.9998
18/09/90 23:00	0	-21.619	0	27	3.9998
19/09/90 00:00	0	-21.619	0	27	3.0001
19/09/90 01:00	0	-21.619	0	26	3.9998
19/09/90 02:00	0	-21.619	0	26	5
19/09/90 03:00	0	-21.619	0	26	5
19/09/90 04:00	0	-21.619	0	26	3.9998
19/09/90 05:00	0	-21.619	0	26	3.0001
19/09/90 06:00	0	-21.619	6.0001	26	3.0001
19/09/90 07:00	734.86	692.35	37.001	26	3.0001
19/09/90 08:00	1587.2	1531.3	78.001	26	3.0001
19/09/90 09:00	2714.3	2640.3	132	27	3.9998
19/09/90 10:00	6612.5	6445.5	312	27	3.9998
19/09/90 11:00	11743	11372	548.99	27	3.9998
19/09/90 12:00	16951	16272	793	27	3.9998
19/09/90 13:00	16976	16295	792	27	3.9998
19/09/90 14:00	12407	12003	574.99	27	5
19/09/90 15:00	11388	11034	521.99	26	3.9998
19/09/90 16:00	6541.1	6376.3	304	26	5
19/09/90 17:00	2050.1	1986.3	103	26	3.0001
19/09/90 18:00	0	-21.619	5.0001	26	3.0001

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
19/09/90 19:00	0	-21.619	0	27	3.0001
19/09/90 20:00	0	-21.619	0	27	3.9998
19/09/90 21:00	0	-21.619	0	27	3.0001
19/09/90 22:00	0	-21.619	0	27	3.0001
19/09/90 23:00	0	-21.619	0	26	3.0001
20/09/90 00:00	0	-21.619	0	26	3.9998
20/09/90 01:00	0	-21.619	0	26	3.9998
20/09/90 02:00	0	-21.619	0	26	3.9998
20/09/90 03:00	0	-21.619	0	26	3.0001
20/09/90 04:00	0	-21.619	0	26	1.9999
20/09/90 05:00	0	-21.619	0	26	1.0002
20/09/90 06:00	531.65	491.93	30	26	1.9999
20/09/90 07:00	4395.3	4288.5	219	27	1.9999
20/09/90 08:00	10142	9846.1	468.01	27	3.0001
20/09/90 09:00	11295	10946	519.99	27	3.0001
20/09/90 10:00	7910.9	7701.3	369.01	27	3.0001
20/09/90 11:00	18724	17919	887	27	1.9999
20/09/90 12:00	11669	11302	536.99	26	1.9999
20/09/90 13:00	16582	15929	773	26	1.9999
20/09/90 14:00	15833	15230	736	26	1.9999
20/09/90 15:00	3859.2	3764.7	181	26	1.9999
20/09/90 16:00	5636.1	5497.8	263	26	3.0001
20/09/90 17:00	2056.4	1992.5	107	26	3.0001
20/09/90 18:00	109.66	-21.619	7.0001	26	1.9999
20/09/90 19:00	0	-21.619	0	27	1.0002
20/09/90 20:00	0	-21.619	0	27	1.9999
20/09/90 21:00	0	-21.619	0	27	1.9999
20/09/90 22:00	0	-21.619	0	27	1.9999
20/09/90 23:00	0	-21.619	0	27	1.9999
21/09/90 00:00	0	-21.619	0	27	1.9999
21/09/90 01:00	0	-21.619	0	27	3.0001
21/09/90 02:00	0	-21.619	0	27	3.0001
21/09/90 03:00	0	-21.619	0	27	1.9999
21/09/90 04:00	0	-21.619	0	27	1.9999
21/09/90 05:00	0	-21.619	0	27	3.0001
21/09/90 06:00	285.59	249	16	27	3.0001
21/09/90 07:00	4610.7	4498.8	228	27	3.9998
21/09/90 08:00	5712.5	5572.1	266	27	3.0001
21/09/90 09:00	3690.6	3599.5	176	27	3.0001
21/09/90 10:00	9795.1	9515.1	458.01	28	3.0001
21/09/90 11:00	15823	15222	740	28	3.9998
21/09/90 12:00	12886	12458	601.99	28	3.9998
21/09/90 13:00	11487	11129	531.99	27	3.9998
21/09/90 14:00	10550	10235	485.01	27	3.0001
21/09/90 15:00	8493.1	8262.9	389.01	27	3.0001
21/09/90 16:00	7686.7	7484.8	358.01	26	3.0001
21/09/90 17:00	1895.3	1833.9	96.001	26	3.0001
21/09/90 18:00	0	-21.619	4.0001	26	3.9998
21/09/90 19:00	0	-21.619	0	26	1.9999
21/09/90 20:00	0	-21.619	0	27	1.9999
21/09/90 21:00	0	-21.619	0	27	1.9999
21/09/90 22:00	0	-21.619	0	27	1.9999
21/09/90 23:00	0	-21.619	0	27	3.0001
22/09/90 00:00	0	-21.619	0	27	3.9998
22/09/90 01:00	0	-21.619	0	27	3.9998
22/09/90 02:00	0	-21.619	0	27	3.9998
22/09/90 03:00	0	-21.619	0	28	3.9998
22/09/90 04:00	0	-21.619	0	28	3.9998
22/09/90 05:00	0	-21.619	0	28	3.9998
22/09/90 06:00	625.57	584.72	38.001	28	3.9998

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
22/09/90 07:00	4695.3	4581.4	236	28	3.9998
22/09/90 08:00	9617.4	9344.4	445.01	28	3.0001
22/09/90 09:00	14114	13619	653.99	28	3.0001
22/09/90 10:00	17442	16730	820	28	3.0001
22/09/90 11:00	18615	17818	882	28	3.0001
22/09/90 12:00	18950	18128	900	28	3.0001
22/09/90 13:00	9564	9293.7	445.01	28	1.9999
22/09/90 14:00	14125	13630	658.99	28	1.9999
22/09/90 15:00	10138	9842.6	470.01	28	1.9999
22/09/90 16:00	6341.7	6183.1	298	28	1.0002
22/09/90 17:00	2584.8	2513.2	143	28	1.9999
22/09/90 18:00	0	-21.619	6.0001	28	1.9999
22/09/90 19:00	0	-21.619	0	28	3.0001
22/09/90 20:00	0	-21.619	0	28	3.0001
22/09/90 21:00	0	-21.619	0	28	1.9999
22/09/90 22:00	0	-21.619	0	28	1.9999
22/09/90 23:00	0	-21.619	0	28	1.9999
23/09/90 00:00	0	-21.619	0	28	1.0002
23/09/90 01:00	0	-21.619	0	28	1.0002
23/09/90 02:00	0	-21.619	0	27	1.0002
23/09/90 03:00	0	-21.619	0	27	1.0002
23/09/90 04:00	0	-21.619	0	27	1.9999
23/09/90 05:00	0	-21.619	0	26	3.0001
23/09/90 06:00	662.65	621.22	38.001	27	3.0001
23/09/90 07:00	3029.2	2950	150	27	3.0001
23/09/90 08:00	8162.9	7944.5	378.01	27	3.0001
23/09/90 09:00	14249	13746	657.99	27	3.0001
23/09/90 10:00	17642	16916	830	28	3.0001
23/09/90 11:00	19244	18397	925	28	3.0001
23/09/90 12:00	19385	18527	941	28	3.0001
23/09/90 13:00	16710	16049	785	28	3.0001
23/09/90 14:00	10204	9906.3	474.01	28	3.0001
23/09/90 15:00	9486.5	9219.1	439.01	28	3.0001
23/09/90 16:00	5594.2	5457.1	263	28	3.0001
23/09/90 17:00	2133.1	2068.4	112	28	5
23/09/90 18:00	0	-21.619	3	27	5
23/09/90 19:00	0	-21.619	0	27	3.9998
23/09/90 20:00	0	-21.619	0	27	3.9998
23/09/90 21:00	0	-21.619	0	28	3.9998
23/09/90 22:00	0	-21.619	0	28	5
23/09/90 23:00	0	-21.619	0	28	6.0002
24/09/90 00:00	0	-21.619	0	28	5
24/09/90 01:00	0	-21.619	0	28	5
24/09/90 02:00	0	-21.619	0	27	5
24/09/90 03:00	0	-21.619	0	27	5
24/09/90 04:00	0	-21.619	0	27	5
24/09/90 05:00	0	-21.619	0	27	3.0001
24/09/90 06:00	556.62	516.62	32	27	3.0001
24/09/90 07:00	4248.8	4145.5	211	27	3.0001
24/09/90 08:00	9742.6	9464.4	451.01	28	3.0001
24/09/90 09:00	14017	13528	648.99	28	3.0001
24/09/90 10:00	16420	15778	767	28	3.0001
24/09/90 11:00	18276	17504	864	28	3.0001
24/09/90 12:00	19104	18270	914	29	3.0001
24/09/90 13:00	18545	17754	882	29	3.0001
24/09/90 14:00	16123	15502	755	29	3.0001
24/09/90 15:00	11836	11462	544.99	28	3.0001
24/09/90 16:00	7160.4	6976.3	338.01	29	3.0001
24/09/90 17:00	1864.1	1803.7	99.002	28	3.0001
24/09/90 18:00	0	-21.619	4.0001	28	3.0001

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
24/09/90 19:00	0	-21.619	0	28	3.0001
24/09/90 20:00	0	-21.619	0	28	1.9999
24/09/90 21:00	0	-21.619	0	28	1.9999
24/09/90 22:00	0	-21.619	0	28	1.9999
24/09/90 23:00	0	-21.619	0	28	1.9999
25/09/90 00:00	0	-21.619	0	28	1.9999
25/09/90 01:00	0	-21.619	0	28	3.0001
25/09/90 02:00	0	-21.619	0	28	3.0001
25/09/90 03:00	0	-21.619	0	28	3.9998
25/09/90 04:00	0	-21.619	0	28	3.9998
25/09/90 05:00	0	-21.619	0	28	3.0001
25/09/90 06:00	403.15	365.17	22	28	3.0001
25/09/90 07:00	2488	2417.9	122	28	3.0001
25/09/90 08:00	4040.4	3942.2	192	28	3.0001
25/09/90 09:00	8360.8	8135.5	390.01	28	3.0001
25/09/90 10:00	10518	10206	493.01	28	3.0001
25/09/90 11:00	13330	12879	623.99	28	3.0001
25/09/90 12:00	16725	16063	787	28	3.0001
25/09/90 13:00	17264	16565	811	28	3.0001
25/09/90 14:00	15101	14547	703	28	3.0001
25/09/90 15:00	11653	11287	536.99	28	3.0001
25/09/90 16:00	6065.5	5915	285	28	3.9998
25/09/90 17:00	2034.1	1970.7	112	27	3.9998
25/09/90 18:00	0	-21.619	3	27	3.0001
25/09/90 19:00	0	-21.619	0	27	3.0001
25/09/90 20:00	0	-21.619	0	27	1.9999
25/09/90 21:00	0	-21.619	0	27	1.0002
25/09/90 22:00	0	-21.619	0	27	1.9999
25/09/90 23:00	0	-21.619	0	27	3.0001
26/09/90 00:00	0	-21.619	0	27	3.9998
26/09/90 01:00	0	-21.619	0	27	3.9998
26/09/90 02:00	0	-21.619	0	28	3.9998
26/09/90 03:00	0	-21.619	0	28	5
26/09/90 04:00	0	-21.619	0	28	5
26/09/90 05:00	0	-21.619	0	28	5
26/09/90 06:00	637.72	596.7	37.001	28	5
26/09/90 07:00	3122	3041.3	154	28	5
26/09/90 08:00	7305.1	7115.9	339.01	28	5
26/09/90 09:00	10732	10409	497.01	28	5
26/09/90 10:00	14639	14113	680.99	28	3.9998
26/09/90 11:00	16018	15403	749	28	3.9998
26/09/90 12:00	17477	16762	823	28	3.0001
26/09/90 13:00	14063	13571	654.99	27	3.9998
26/09/90 14:00	12199	11805	563.99	26	3.9998
26/09/90 15:00	4882.9	4764.3	229	26	5
26/09/90 16:00	3193.6	3111.3	151	26	5
26/09/90 17:00	1018.6	972.03	50.001	27	3.9998
26/09/90 18:00	0	-21.619	1	27	5
26/09/90 19:00	0	-21.619	0	26	5
26/09/90 20:00	0	-21.619	0	26	3.9998
26/09/90 21:00	0	-21.619	0	27	3.9998
26/09/90 22:00	0	-21.619	0	27	3.9998
26/09/90 23:00	0	-21.619	0	27	5
27/09/90 00:00	0	-21.619	0	28	5
27/09/90 01:00	0	-21.619	0	28	5
27/09/90 02:00	0	-21.619	0	28	5
27/09/90 03:00	0	-21.619	0	28	5
27/09/90 04:00	0	-21.619	0	28	5
27/09/90 05:00	0	-21.619	0	28	5
27/09/90 06:00	552.5	512.61	34.001	28	5

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
27/09/90 07:00	4471.6	4363.1	226	28	5
27/09/90 08:00	10034	9743.4	464.01	28	5
27/09/90 09:00	14285	13780	659.99	28	5
27/09/90 10:00	17471	16757	820	29	5
27/09/90 11:00	18621	17823	881	29	5
27/09/90 12:00	19237	18390	925	29	5
27/09/90 13:00	18707	17902	882	28	5
27/09/90 14:00	15704	15110	729	28	5
27/09/90 15:00	12425	12020	572.99	29	5
27/09/90 16:00	7332.6	7142.6	347.01	29	5
27/09/90 17:00	2042.6	1979.5	117	29	3.9998
27/09/90 18:00	0	-21.619	4.0001	29	3.9998
27/09/90 19:00	0	-21.619	0	29	3.9998
27/09/90 20:00	0	-21.619	0	29	5
27/09/90 21:00	0	-21.619	0	29	5
27/09/90 22:00	0	-21.619	0	29	6.0002
27/09/90 23:00	0	-21.619	0	29	6.9999
28/09/90 00:00	0	-21.619	0	28	5
28/09/90 01:00	0	-21.619	0	28	5
28/09/90 02:00	0	-21.619	0	28	5
28/09/90 03:00	0	-21.619	0	28	5
28/09/90 04:00	0	-21.619	0	28	5
28/09/90 05:00	0	-21.619	0	28	3.9998
28/09/90 06:00	344.7	307.44	19	28	5
28/09/90 07:00	4096.5	3996.9	203	28	5
28/09/90 08:00	9633.5	9359.4	445.01	28	5
28/09/90 09:00	14217	13716	655.99	28	5
28/09/90 10:00	15138	14581	702	28	6.0002
28/09/90 11:00	11884	11507	557.99	29	5
28/09/90 12:00	15277	14711	711	28	5
28/09/90 13:00	18395	17613	865	28	5
28/09/90 14:00	15860	15255	736	28	5
28/09/90 15:00	12324	11925	565.99	28	5
28/09/90 16:00	7332.1	7142	346.01	28	6.0002
28/09/90 17:00	2036.8	1973.7	116	29	6.0002
28/09/90 18:00	0	-21.619	3	29	6.0002
28/09/90 19:00	0	-21.619	0	29	6.0002
28/09/90 20:00	0	-21.619	0	29	6.0002
28/09/90 21:00	0	-21.619	0	29	6.0002
28/09/90 22:00	0	-21.619	0	29	6.0002
28/09/90 23:00	0	-21.619	0	28	5
29/09/90 00:00	0	-21.619	0	28	5
29/09/90 01:00	0	-21.619	0	28	5
29/09/90 02:00	0	-21.619	0	28	6.0002
29/09/90 03:00	0	-21.619	0	28	6.0002
29/09/90 04:00	0	-21.619	0	28	6.0002
29/09/90 05:00	0	-21.619	0	28	3.9998
29/09/90 06:00	482.52	443.54	26	28	3.9998
29/09/90 07:00	4225.1	4122.6	211	28	3.0001
29/09/90 08:00	9428.5	9162.9	436.01	28	3.9998
29/09/90 09:00	13435	12977	619.99	28	3.9998
29/09/90 10:00	16939	16261	789	28	5
29/09/90 11:00	17652	16924	827	28	5
29/09/90 12:00	19230	18384	921	28	5
29/09/90 13:00	18489	17700	869	28	6.0002
29/09/90 14:00	15992	15379	742	28	6.0002
29/09/90 15:00	12150	11759	557.99	28	5
29/09/90 16:00	7123	6939.8	336.01	28	5
29/09/90 17:00	1969.6	1907.4	110	28	5
29/09/90 18:00	0	-21.619	3	28	5

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
29/09/90 19:00	0	-21.619	0	28	5
29/09/90 20:00	0	-21.619	0	28	5
29/09/90 21:00	0	-21.619	0	28	6.0002
29/09/90 22:00	0	-21.619	0	28	6.0002
29/09/90 23:00	0	-21.619	0	28	6.0002
30/09/90 00:00	0	-21.619	0	28	6.9999
30/09/90 01:00	0	-21.619	0	27	8.0001
30/09/90 02:00	0	-21.619	0	27	8.0001
30/09/90 03:00	0	-21.619	0	27	8.0001
30/09/90 04:00	0	-21.619	0	27	6.9999
30/09/90 05:00	0	-21.619	0	28	6.0002
30/09/90 06:00	549.58	509.73	30	28	6.0002
30/09/90 07:00	4407.8	4300.9	220	28	6.0002
30/09/90 08:00	9704.2	9427	448.01	28	6.0002
30/09/90 09:00	14306	13799	657.99	28	6.9999
30/09/90 10:00	17514	16794	816	28	6.9999
30/09/90 11:00	19137	18297	908	28	6.9999
30/09/90 12:00	19159	18318	911	28	6.9999
30/09/90 13:00	18407	17623	861	28	8.0001
30/09/90 14:00	16199	15571	749	28	8.0001
30/09/90 15:00	12126	11736	552.99	27	8.0001
30/09/90 16:00	5258	5129.8	248	27	8.0001
30/09/90 17:00	1977.7	1915.3	110	28	6.9999
30/09/90 18:00	0	-21.619	3	28	6.9999
30/09/90 19:00	0	-21.619	0	28	6.9999
30/09/90 20:00	0	-21.619	0	28	6.9999
30/09/90 21:00	0	-21.619	0	28	6.9999
30/09/90 22:00	0	-21.619	0	28	6.9999
30/09/90 23:00	0	-21.619	0	28	6.9999
1/10/1990 0:00	0	-21.619	0	29	3.9998
1/10/1990 1:00	0	-21.619	0	28	3.9998
1/10/1990 2:00	0	-21.619	0	28	3.0001
1/10/1990 3:00	0	-21.619	0	29	3.0001
1/10/1990 4:00	0	-21.619	0	28	3.0001
1/10/1990 5:00	0	-21.619	0	29	3.9998
1/10/1990 6:00	382.97	345.29	21	29	5
1/10/1990 7:00	3084.9	3005.1	151	29	5
1/10/1990 8:00	6302.2	6144.8	294	29	6.0002
1/10/1990 9:00	11604	11241	536.99	29	6.0002
1/10/1990 10:00	9404.1	9140	439.01	29	6.0002
1/10/1990 11:00	10736	10413	494.01	29	6.0002
1/10/1990 12:00	16467	15821	765	28	6.0002
1/10/1990 13:00	17989	17236	842	28	5
1/10/1990 14:00	8531.8	8300.1	393.01	27	3.0001
1/10/1990 15:00	2110.9	2046.4	103	27	1.9999
1/10/1990 16:00	1146	1097.6	57.001	28	1.0002
1/10/1990 17:00	426.29	387.98	22	27	1.9999
1/10/1990 18:00	0	-21.619	1	27	3.9998
1/10/1990 19:00	0	-21.619	0	28	5
1/10/1990 20:00	0	-21.619	0	28	5
1/10/1990 21:00	0	-21.619	0	28	5
1/10/1990 22:00	0	-21.619	0	28	5
1/10/1990 23:00	0	-21.619	0	28	5
2/10/1990 0:00	0	-21.619	0	28	5
2/10/1990 1:00	0	-21.619	0	27	6.0002
2/10/1990 2:00	0	-21.619	0	26	6.9999
2/10/1990 3:00	0	-21.619	0	27	6.9999
2/10/1990 4:00	0	-21.619	0	27	6.0002
2/10/1990 5:00	0	-21.619	0	27	5
2/10/1990 6:00	542.96	503.2	31	28	3.9998

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
2/10/1990 7:00	4485.4	4376.6	226	28	5
2/10/1990 8:00	9940.8	9653.6	459.01	28	5
2/10/1990 9:00	14405	13893	662.99	28	6.0002
2/10/1990 10:00	17555	16834	818	28	6.0002
2/10/1990 11:00	18622	17823	876	28	5
2/10/1990 12:00	14452	13937	671.99	28	3.9998
2/10/1990 13:00	18225	17456	857	28	3.9998
2/10/1990 14:00	15694	15101	728	28	3.9998
2/10/1990 15:00	7748.3	7544.2	358.01	27	5
2/10/1990 16:00	4064.4	3965.6	192	28	5
2/10/1990 17:00	1806.7	1747.2	100	28	3.9998
2/10/1990 18:00	0	-21.619	3	28	3.9998
2/10/1990 19:00	0	-21.619	0	28	3.9998
2/10/1990 20:00	0	-21.619	0	28	3.9998
2/10/1990 21:00	0	-21.619	0	28	3.9998
2/10/1990 22:00	0	-21.619	0	28	3.9998
2/10/1990 23:00	0	-21.619	0	28	3.9998
3/10/1990 0:00	0	-21.619	0	28	3.9998
3/10/1990 1:00	0	-21.619	0	27	3.9998
3/10/1990 2:00	0	-21.619	0	26	3.9998
3/10/1990 3:00	0	-21.619	0	26	3.0001
3/10/1990 4:00	0	-21.619	0	26	3.0001
3/10/1990 5:00	0	-21.619	0	28	3.0001
3/10/1990 6:00	551.63	511.76	34.001	28	3.0001
3/10/1990 7:00	4436.5	4328.9	226	28	3.0001
3/10/1990 8:00	9949.8	9662.5	461.01	28	3.0001
3/10/1990 9:00	14201	13701	656.99	28	3.0001
3/10/1990 10:00	16746	16082	780	28	3.9998
3/10/1990 11:00	10110	9815.9	467.01	27	3.9998
3/10/1990 12:00	14398	13886	663.99	27	5
3/10/1990 13:00	17450	16735	811	27	5
3/10/1990 14:00	10584	10268	482.01	27	5
3/10/1990 15:00	12037	11652	551.99	28	5
3/10/1990 16:00	6926.9	6749.9	329	28	5
3/10/1990 17:00	1761.8	1703.3	103	29	5
3/10/1990 18:00	0	-21.619	3	29	6.0002
3/10/1990 19:00	0	-21.619	0	28	6.9999
3/10/1990 20:00	0	-21.619	0	28	6.9999
3/10/1990 21:00	0	-21.619	0	28	6.9999
3/10/1990 22:00	0	-21.619	0	27	8.0001
3/10/1990 23:00	0	-21.619	0	28	6.0002
4/10/1990 0:00	0	-21.619	0	28	6.0002
4/10/1990 1:00	0	-21.619	0	28	6.9999
4/10/1990 2:00	0	-21.619	0	28	6.9999
4/10/1990 3:00	0	-21.619	0	28	5
4/10/1990 4:00	0	-21.619	0	28	6.0002
4/10/1990 5:00	0	-21.619	0	28	5
4/10/1990 6:00	357.64	320.22	19	28	6.0002
4/10/1990 7:00	1934.8	1873	93.001	28	6.0002
4/10/1990 8:00	1740.5	1682	85.001	27	6.9999
4/10/1990 9:00	7940.1	7729.5	362.01	27	6.0002
4/10/1990 10:00	15118	14561	695.99	27	5
4/10/1990 11:00	19103	18266	904	27	6.0002
4/10/1990 12:00	19264	18415	922	28	6.9999
4/10/1990 13:00	16287	15653	753	28	6.9999
4/10/1990 14:00	13641	13172	629.99	29	6.9999
4/10/1990 15:00	10225	9925.7	470.01	29	6.9999
4/10/1990 16:00	6718.7	6548.3	319	29	6.9999
4/10/1990 17:00	1655	1598.1	94.001	28	6.0002
4/10/1990 18:00	0	-21.619	2	28	6.0002

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
4/10/1990 19:00	0	-21.619	0	28	6.0002
4/10/1990 20:00	0	-21.619	0	29	6.0002
4/10/1990 21:00	0	-21.619	0	29	6.0002
4/10/1990 22:00	0	-21.619	0	29	6.9999
4/10/1990 23:00	0	-21.619	0	29	6.9999
5/10/1990 0:00	0	-21.619	0	29	8.0001
5/10/1990 1:00	0	-21.619	0	29	8.0001
5/10/1990 2:00	0	-21.619	0	29	8.0001
5/10/1990 3:00	0	-21.619	0	28	6.9999
5/10/1990 4:00	0	-21.619	0	28	6.9999
5/10/1990 5:00	0	-21.619	0	29	6.9999
5/10/1990 6:00	452.93	414.38	26	29	6.9999
5/10/1990 7:00	4210.7	4108.6	212	29	6.9999
5/10/1990 8:00	9620.1	9346.6	445.01	29	6.0002
5/10/1990 9:00	11919	11540	548.99	29	6.0002
5/10/1990 10:00	8853.4	8610.1	410.01	29	6.0002
5/10/1990 11:00	12138	11748	558.99	29	6.0002
5/10/1990 12:00	17354	16647	812	29	6.0002
5/10/1990 13:00	13949	13463	646.99	29	6.0002
5/10/1990 14:00	9709.7	9432.6	444.01	29	6.0002
5/10/1990 15:00	11837	11463	544.99	29	5
5/10/1990 16:00	6105.9	5954.3	291	29	5
5/10/1990 17:00	1638.2	1581.8	96.001	29	6.0002
5/10/1990 18:00	0	-21.619	2	29	6.0002
5/10/1990 19:00	0	-21.619	0	29	6.0002
5/10/1990 20:00	0	-21.619	0	29	6.0002
5/10/1990 21:00	0	-21.619	0	29	6.0002
5/10/1990 22:00	0	-21.619	0	29	6.0002
5/10/1990 23:00	0	-21.619	0	29	6.0002
6/10/1990 0:00	0	-21.619	0	29	6.0002
6/10/1990 1:00	0	-21.619	0	29	6.0002
6/10/1990 2:00	0	-21.619	0	29	6.0002
6/10/1990 3:00	0	-21.619	0	29	6.0002
6/10/1990 4:00	0	-21.619	0	29	6.0002
6/10/1990 5:00	0	-21.619	0	29	5
6/10/1990 6:00	545.33	505.6	32	29	5
6/10/1990 7:00	4320.5	4215.9	219	29	5
6/10/1990 8:00	8694.9	8457.4	403.01	29	5
6/10/1990 9:00	14055	13564	648.99	29	5
6/10/1990 10:00	17309	16606	810	29	5
6/10/1990 11:00	18950	18126	899	30	6.0002
6/10/1990 12:00	19106	18269	915	30	6.0002
6/10/1990 13:00	18187	17421	854	29	6.0002
6/10/1990 14:00	15425	14849	713	29	6.9999
6/10/1990 15:00	9858.7	9575.7	454.01	30	6.9999
6/10/1990 16:00	6440	6278.2	307	29	6.0002
6/10/1990 17:00	1581.6	1526.3	94.001	30	6.0002
6/10/1990 18:00	0	-21.619	2	29	5
6/10/1990 19:00	0	-21.619	0	29	6.0002
6/10/1990 20:00	0	-21.619	0	29	6.0002
6/10/1990 21:00	0	-21.619	0	29	6.0002
6/10/1990 22:00	0	-21.619	0	29	6.0002
6/10/1990 23:00	0	-21.619	0	29	6.0002
7/10/1990 0:00	0	-21.619	0	29	6.0002
7/10/1990 1:00	0	-21.619	0	29	6.0002
7/10/1990 2:00	0	-21.619	0	29	6.0002
7/10/1990 3:00	0	-21.619	0	29	5
7/10/1990 4:00	0	-21.619	0	29	6.0002
7/10/1990 5:00	0	-21.619	0	29	5
7/10/1990 6:00	549.85	510.06	32	29	6.0002

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
7/10/1990 7:00	4273.2	4169.7	216	29	6.0002
7/10/1990 8:00	9252.2	8993.7	428.01	29	6.0002
7/10/1990 9:00	14125	13629	650.99	29	6.0002
7/10/1990 10:00	17246	16546	805	29	6.0002
7/10/1990 11:00	18936	18113	895	29	6.0002
7/10/1990 12:00	15883	15277	737	29	6.0002
7/10/1990 13:00	17722	16989	829	29	6.0002
7/10/1990 14:00	15655	15064	726	29	6.0002
7/10/1990 15:00	11727	11357	539.99	29	5
7/10/1990 16:00	6546.7	6381.7	314	29	5
7/10/1990 17:00	1542.8	1488.2	91.001	30	5
7/10/1990 18:00	0	-21.619	2	29	5
7/10/1990 19:00	0	-21.619	0	29	5
7/10/1990 20:00	0	-21.619	0	29	5
7/10/1990 21:00	0	-21.619	0	29	5
7/10/1990 22:00	0	-21.619	0	29	5
7/10/1990 23:00	0	-21.619	0	29	5
8/10/1990 0:00	0	-21.619	0	29	5
8/10/1990 1:00	0	-21.619	0	29	5
8/10/1990 2:00	0	-21.619	0	29	6.0002
8/10/1990 3:00	0	-21.619	0	29	6.9999
8/10/1990 4:00	0	-21.619	0	29	6.9999
8/10/1990 5:00	0	-21.619	0	29	6.0002
8/10/1990 6:00	488.22	449.22	27	29	6.0002
8/10/1990 7:00	3927.7	3831.9	196	29	6.0002
8/10/1990 8:00	9151.1	8896.4	424.01	29	6.0002
8/10/1990 9:00	11765	11393	541.99	29	6.0002
8/10/1990 10:00	14201	13701	657.99	29	6.0002
8/10/1990 11:00	18174	17408	851	29	6.9999
8/10/1990 12:00	18681	17877	878	29	6.9999
8/10/1990 13:00	14716	14184	678.99	29	8.0001
8/10/1990 14:00	12591	12178	578.99	29	8.0001
8/10/1990 15:00	11424	11069	523.99	29	8.0001
8/10/1990 16:00	6186.6	6032.7	296	30	8.9997
8/10/1990 17:00	1396.8	1344.6	79.001	30	8.0001
8/10/1990 18:00	0	-21.619	2	30	8.0001
8/10/1990 19:00	0	-21.619	0	29	8.0001
8/10/1990 20:00	0	-21.619	0	29	8.0001
8/10/1990 21:00	0	-21.619	0	29	8.0001
8/10/1990 22:00	0	-21.619	0	29	6.9999
8/10/1990 23:00	0	-21.619	0	30	6.9999
9/10/1990 0:00	0	-21.619	0	30	6.9999
9/10/1990 1:00	0	-21.619	0	30	6.9999
9/10/1990 2:00	0	-21.619	0	30	6.9999
9/10/1990 3:00	0	-21.619	0	29	8.0001
9/10/1990 4:00	0	-21.619	0	29	8.0001
9/10/1990 5:00	0	-21.619	0	29	6.9999
9/10/1990 6:00	452.95	414.39	26	29	8.0001
9/10/1990 7:00	3987.1	3889.6	200	28	8.0001
9/10/1990 8:00	9422.7	9156.9	434.01	28	8.0001
9/10/1990 9:00	13553	13089	621.99	29	8.0001
9/10/1990 10:00	16145	15521	747	29	8.0001
9/10/1990 11:00	15760	15161	732	29	8.0001
9/10/1990 12:00	11182	10838	521.99	29	8.0001
9/10/1990 13:00	14715	14183	681.99	29	8.0001
9/10/1990 14:00	14985	14437	690.99	29	8.0001
9/10/1990 15:00	10405	10097	478.01	29	8.0001
9/10/1990 16:00	5119.9	4995.4	244	29	8.0001
9/10/1990 17:00	1413.8	1361.1	79.001	29	8.0001
9/10/1990 18:00	0	-21.619	1	29	8.0001

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
9/10/1990 19:00	0	-21.619	0	29	6.9999
9/10/1990 20:00	0	-21.619	0	29	6.9999
9/10/1990 21:00	0	-21.619	0	28	6.0002
9/10/1990 22:00	0	-21.619	0	28	6.9999
9/10/1990 23:00	0	-21.619	0	27	6.9999
10/10/1990 0:00	0	-21.619	0	28	6.0002
10/10/1990 1:00	0	-21.619	0	28	6.0002
10/10/1990 2:00	0	-21.619	0	28	5
10/10/1990 3:00	0	-21.619	0	28	5
10/10/1990 4:00	0	-21.619	0	28	6.0002
10/10/1990 5:00	0	-21.619	0	28	5
10/10/1990 6:00	487.89	448.84	27	28	5
10/10/1990 7:00	3545.9	3457.5	176	28	6.0002
10/10/1990 8:00	7904.3	7694.8	366.01	28	6.0002
10/10/1990 9:00	11646	11279	534.99	28	6.0002
10/10/1990 10:00	14231	13729	656.99	28	6.0002
10/10/1990 11:00	15847	15244	735	28	5
10/10/1990 12:00	16236	15607	755	28	3.9998
10/10/1990 13:00	15751	15154	731	28	3.9998
10/10/1990 14:00	13051	12614	600.99	28	3.9998
10/10/1990 15:00	10070	9777.7	462.01	28	3.9998
10/10/1990 16:00	5346.6	5216	256	28	3.9998
10/10/1990 17:00	1155.3	1106.7	67.001	28	3.9998
10/10/1990 18:00	0	-21.619	0	29	6.0002
10/10/1990 19:00	0	-21.619	0	29	6.0002
10/10/1990 20:00	0	-21.619	0	29	6.0002
10/10/1990 21:00	0	-21.619	0	29	6.0002
10/10/1990 22:00	0	-21.619	0	29	5
10/10/1990 23:00	0	-21.619	0	29	3.9998
11/10/1990 0:00	0	-21.619	0	29	3.9998
11/10/1990 1:00	0	-21.619	0	28	3.9998
11/10/1990 2:00	0	-21.619	0	28	3.9998
11/10/1990 3:00	0	-21.619	0	28	5
11/10/1990 4:00	0	-21.619	0	28	5
11/10/1990 5:00	0	-21.619	0	29	3.9998
11/10/1990 6:00	496.96	457.85	29	29	3.9998
11/10/1990 7:00	4019.9	3922.1	205	29	3.0001
11/10/1990 8:00	9082	8830.3	422.01	29	3.0001
11/10/1990 9:00	12440	12035	574.99	29	3.9998
11/10/1990 10:00	14755	14221	685.99	29	5
11/10/1990 11:00	17951	17201	841	29	6.0002
11/10/1990 12:00	17926	17178	840	29	6.0002
11/10/1990 13:00	17425	16713	814	29	6.0002
11/10/1990 14:00	14953	14408	692.99	29	5
11/10/1990 15:00	10794	10469	496.01	29	6.0002
11/10/1990 16:00	6187.2	6033	298	29	6.0002
11/10/1990 17:00	1306.3	1255.4	76.001	29	6.0002
11/10/1990 18:00	0	-21.619	1	29	6.0002
11/10/1990 19:00	0	-21.619	0	29	6.0002
11/10/1990 20:00	0	-21.619	0	29	6.0002
11/10/1990 21:00	0	-21.619	0	29	6.9999
11/10/1990 22:00	0	-21.619	0	29	6.9999
11/10/1990 23:00	0	-21.619	0	29	6.9999
12/10/1990 0:00	0	-21.619	0	29	6.9999
12/10/1990 1:00	0	-21.619	0	29	6.9999
12/10/1990 2:00	0	-21.619	0	29	8.0001
12/10/1990 3:00	0	-21.619	0	29	8.0001
12/10/1990 4:00	0	-21.619	0	29	8.0001
12/10/1990 5:00	0	-21.619	0	29	8.0001
12/10/1990 6:00	374.86	337.28	20	29	8.0001

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
12/10/1990 7:00	3330.9	3246.5	164	28	8.0001
12/10/1990 8:00	8412.9	8185.5	387.01	27	8.0001
12/10/1990 9:00	11151	10809	511.01	27	8.0001
12/10/1990 10:00	13152	12709	607.99	28	8.0001
12/10/1990 11:00	14849	14309	685.99	28	8.0001
12/10/1990 12:00	17639	16911	825	29	6.9999
12/10/1990 13:00	14133	13637	654.99	29	6.0002
12/10/1990 14:00	13709	13236	633.99	29	6.0002
12/10/1990 15:00	5717.1	5576.7	268	29	6.0002
12/10/1990 16:00	3860.8	3766.3	184	28	6.0002
12/10/1990 17:00	1344.1	1292.5	76.001	28	5
12/10/1990 18:00	0	-21.619	1	28	5
12/10/1990 19:00	0	-21.619	0	28	6.0002
12/10/1990 20:00	0	-21.619	0	28	6.9999
12/10/1990 21:00	0	-21.619	0	28	6.9999
12/10/1990 22:00	0	-21.619	0	28	6.9999
12/10/1990 23:00	0	-21.619	0	28	6.9999
13/10/90 00:00	0	-21.619	0	28	6.9999
13/10/90 01:00	0	-21.619	0	28	6.9999
13/10/90 02:00	0	-21.619	0	28	6.9999
13/10/90 03:00	0	-21.619	0	27	6.9999
13/10/90 04:00	0	-21.619	0	27	8.0001
13/10/90 05:00	0	-21.619	0	27	6.9999
13/10/90 06:00	192.71	157.2	12	28	6.0002
13/10/90 07:00	2682.5	2609.2	134	28	6.0002
13/10/90 08:00	9068.1	8816.3	418.01	27	6.0002
13/10/90 09:00	13855	13374	633.99	27	6.0002
13/10/90 10:00	17016	16331	788	27	6.0002
13/10/90 11:00	18828	18013	882	27	6.0002
13/10/90 12:00	18917	18094	896	28	5
13/10/90 13:00	17822	17080	831	27	5
13/10/90 14:00	14977	14429	689.99	27	5
13/10/90 15:00	11237	10891	515.99	28	5
13/10/90 16:00	6106.8	5954.8	295	28	3.9998
13/10/90 17:00	1223.4	1173.7	71.001	28	5
13/10/90 18:00	0	-21.619	1	28	5
13/10/90 19:00	0	-21.619	0	28	3.9998
13/10/90 20:00	0	-21.619	0	29	5
13/10/90 21:00	0	-21.619	0	29	5
13/10/90 22:00	0	-21.619	0	29	5
13/10/90 23:00	0	-21.619	0	29	5
14/10/90 00:00	0	-21.619	0	28	5
14/10/90 01:00	0	-21.619	0	28	5
14/10/90 02:00	0	-21.619	0	28	5
14/10/90 03:00	0	-21.619	0	28	5
14/10/90 04:00	0	-21.619	0	28	3.9998
14/10/90 05:00	0	-21.619	0	27	3.0001
14/10/90 06:00	192.92	157.39	12	27	1.9999
14/10/90 07:00	3712.1	3620.3	187	27	3.0001
14/10/90 08:00	8821.8	8579.3	408.01	27	1.9999
14/10/90 09:00	13171	12727	605.99	27	1.9999
14/10/90 10:00	15562	14977	723	27	1.9999
14/10/90 11:00	17609	16885	827	27	1.9999
14/10/90 12:00	7605.8	7406.8	356.01	28	1.9999
14/10/90 13:00	9318	9057.3	436.01	28	1.9999
14/10/90 14:00	11311	10962	524.99	28	1.9999
14/10/90 15:00	10012	9722.1	462.01	28	1.9999
14/10/90 16:00	6036.9	5887.1	292	28	1.9999
14/10/90 17:00	1239.7	1190	72.001	29	1.0002
14/10/90 18:00	0	-21.619	1	29	1.0002

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
14/10/90 19:00	0	-21.619	0	29	1.9999
14/10/90 20:00	0	-21.619	0	29	1.9999
14/10/90 21:00	0	-21.619	0	29	1.9999
14/10/90 22:00	0	-21.619	0	29	1.0002
14/10/90 23:00	0	-21.619	0	29	1.9999
15/10/90 00:00	0	-21.619	0	29	1.9999
15/10/90 01:00	0	-21.619	0	28	1.9999
15/10/90 02:00	0	-21.619	0	28	1.9999
15/10/90 03:00	0	-21.619	0	28	1.9999
15/10/90 04:00	0	-21.619	0	28	1.9999
15/10/90 05:00	0	-21.619	0	28	1.0002
15/10/90 06:00	479.2	440.27	28	28	1.0002
15/10/90 07:00	4052.6	3953.5	208	27	1.0002
15/10/90 08:00	9261.9	9002.9	431.01	28	1.0002
15/10/90 09:00	13671	13201	633.99	28	1.0002
15/10/90 10:00	16689	16030	782	28	1.9999
15/10/90 11:00	17756	17022	840	28	1.0002
15/10/90 12:00	18508	17720	885	29	1.0002
15/10/90 13:00	14382	13872	670.99	29	1.0002
15/10/90 14:00	14418	13906	672.99	29	1.0002
15/10/90 15:00	9270.7	9012.3	430.01	29	1.0002
15/10/90 16:00	4893	4774.6	236	29	1.0002
15/10/90 17:00	1192.8	1143.7	70.001	29	0
15/10/90 18:00	0	-21.619	1	29	1.0002
15/10/90 19:00	0	-21.619	0	29	1.0002
15/10/90 20:00	0	-21.619	0	29	1.0002
15/10/90 21:00	0	-21.619	0	29	1.0002
15/10/90 22:00	0	-21.619	0	29	1.0002
15/10/90 23:00	0	-21.619	0	28	1.0002
16/10/90 00:00	0	-21.619	0	28	1.0002
16/10/90 01:00	0	-21.619	0	28	1.9999
16/10/90 02:00	0	-21.619	0	28	1.9999
16/10/90 03:00	0	-21.619	0	28	1.9999
16/10/90 04:00	0	-21.619	0	28	1.9999
16/10/90 05:00	0	-21.619	0	28	1.0002
16/10/90 06:00	505.14	465.87	30	28	1.0002
16/10/90 07:00	4095.7	3995.7	210	27	1.9999
16/10/90 08:00	8007.7	7794.8	372.01	28	1.9999
16/10/90 09:00	12114	11725	559.99	28	1.9999
16/10/90 10:00	10863	10535	507.01	28	3.0001
16/10/90 11:00	8466.5	8237.5	399.01	28	3.0001
16/10/90 12:00	6454.1	6292.1	306	28	1.9999
16/10/90 13:00	3461.8	3375.3	168	28	1.9999
16/10/90 14:00	9344.6	9082.5	429.01	28	3.0001
16/10/90 15:00	11000	10666	507.01	28	3.0001
16/10/90 16:00	5843.9	5699.5	284	28	3.0001
16/10/90 17:00	1101.3	1053.5	64.001	28	3.9998
16/10/90 18:00	0	-21.619	1	28	3.9998
16/10/90 19:00	0	-21.619	0	28	3.0001
16/10/90 20:00	0	-21.619	0	28	3.9998
16/10/90 21:00	0	-21.619	0	28	3.9998
16/10/90 22:00	0	-21.619	0	28	3.9998
16/10/90 23:00	0	-21.619	0	28	3.9998
17/10/90 00:00	0	-21.619	0	28	3.9998
17/10/90 01:00	0	-21.619	0	28	3.9998
17/10/90 02:00	0	-21.619	0	28	3.9998
17/10/90 03:00	0	-21.619	0	28	3.9998
17/10/90 04:00	0	-21.619	0	28	3.9998
17/10/90 05:00	0	-21.619	0	28	3.0001
17/10/90 06:00	340.43	303.23	19	28	3.0001

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
17/10/90 07:00	3974.2	3877	203	28	3.0001
17/10/90 08:00	8624.8	8389.6	400.01	28	3.0001
17/10/90 09:00	11631	11266	536.99	28	1.9999
17/10/90 10:00	5161.4	5035.7	244	27	1.0002
17/10/90 11:00	10221	9921.9	471.01	26	1.9999
17/10/90 12:00	10160	9863.7	469.01	27	3.0001
17/10/90 13:00	3367.7	3282.5	163	27	3.0001
17/10/90 14:00	5443.8	5310.7	258	27	3.0001
17/10/90 15:00	4992.1	4870.8	234	27	3.0001
17/10/90 16:00	3556.6	3468	169	27	1.9999
17/10/90 17:00	816.91	773.4	45.001	28	1.9999
17/10/90 18:00	0	-21.619	1	28	1.9999
17/10/90 19:00	0	-21.619	0	28	3.0001
17/10/90 20:00	0	-21.619	0	28	3.0001
17/10/90 21:00	0	-21.619	0	28	3.0001
17/10/90 22:00	0	-21.619	0	28	3.0001
17/10/90 23:00	0	-21.619	0	28	3.9998
18/10/90 00:00	0	-21.619	0	28	3.9998
18/10/90 01:00	0	-21.619	0	28	3.9998
18/10/90 02:00	0	-21.619	0	28	3.0001
18/10/90 03:00	0	-21.619	0	28	3.9998
18/10/90 04:00	0	-21.619	0	28	3.9998
18/10/90 05:00	0	-21.619	0	28	3.9998
18/10/90 06:00	446.95	408.43	26	28	3.9998
18/10/90 07:00	3892.5	3797	201	28	3.9998
18/10/90 08:00	9126.4	8872.2	422.01	27	3.9998
18/10/90 09:00	13316	12864	609.99	26	3.0001
18/10/90 10:00	16496	15848	766	27	3.9998
18/10/90 11:00	17982	17230	842	27	3.9998
18/10/90 12:00	13282	12832	611.99	26	3.0001
18/10/90 13:00	8803	8561.4	408.01	26	3.0001
18/10/90 14:00	14045	13553	645.99	26	3.9998
18/10/90 15:00	7480.3	7285.3	344.01	25	3.9998
18/10/90 16:00	2339.8	2271.4	111	25	3.0001
18/10/90 17:00	365.02	327.43	19	26	5
18/10/90 18:00	0	-21.619	1	26	6.0002
18/10/90 19:00	0	-21.619	0	26	6.0002
18/10/90 20:00	0	-21.619	0	26	6.0002
18/10/90 21:00	0	-21.619	0	26	6.0002
18/10/90 22:00	0	-21.619	0	26	6.0002
18/10/90 23:00	0	-21.619	0	26	6.0002
19/10/90 00:00	0	-21.619	0	26	6.9999
19/10/90 01:00	0	-21.619	0	25	6.9999
19/10/90 02:00	0	-21.619	0	25	6.9999
19/10/90 03:00	0	-21.619	0	26	6.9999
19/10/90 04:00	0	-21.619	0	26	6.9999
19/10/90 05:00	0	-21.619	0	25	6.9999
19/10/90 06:00	0	-21.619	4.0001	25	6.9999
19/10/90 07:00	654.82	613.42	33.001	26	6.9999
19/10/90 08:00	1463.2	1409.5	72.001	27	6.9999
19/10/90 09:00	2148.8	2083.6	105	27	8.0001
19/10/90 10:00	2646.5	2573.6	129	27	8.0001
19/10/90 11:00	3776.9	3684	182	27	8.9997
19/10/90 12:00	5760.2	5618.5	274	27	8.9997
19/10/90 13:00	6598.9	6432.3	312	27	8.9997
19/10/90 14:00	4939.3	4819.3	234	27	8.9997
19/10/90 15:00	3661	3570.2	173	26	8.0001
19/10/90 16:00	2409.1	2339.5	114	25	8.0001
19/10/90 17:00	784.66	741.41	41.001	26	8.9997
19/10/90 18:00	0	-21.619	0	26	8.9997

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
19/10/90 19:00	0	-21.619	0	26	10
19/10/90 20:00	0	-21.619	0	26	10
19/10/90 21:00	0	-21.619	0	26	10
19/10/90 22:00	0	-21.619	0	26	10
19/10/90 23:00	0	-21.619	0	26	10
20/10/90 00:00	0	-21.619	0	26	8.9997
20/10/90 01:00	0	-21.619	0	26	8.0001
20/10/90 02:00	0	-21.619	0	26	6.9999
20/10/90 03:00	0	-21.619	0	26	6.9999
20/10/90 04:00	0	-21.619	0	25	6.9999
20/10/90 05:00	0	-21.619	0	25	6.0002
20/10/90 06:00	0	-21.619	4.0001	25	6.9999
20/10/90 07:00	655.19	613.78	33.001	26	6.9999
20/10/90 08:00	1517.1	1462.1	74.001	25	8.0001
20/10/90 09:00	2185.4	2119.3	106	25	8.0001
20/10/90 10:00	2634.6	2561.7	128	26	8.0001
20/10/90 11:00	2896.5	2819.4	141	27	8.9997
20/10/90 12:00	3023	2943.8	147	27	8.0001
20/10/90 13:00	5277.2	5148.5	251	27	8.0001
20/10/90 14:00	4910	4790.7	232	26	8.0001
20/10/90 15:00	3946.3	3850	186	26	6.9999
20/10/90 16:00	2402.3	2333.1	114	26	6.9999
20/10/90 17:00	904.26	859.27	49.001	26	6.0002
20/10/90 18:00	0	-21.619	0	26	6.0002
20/10/90 19:00	0	-21.619	0	26	6.0002
20/10/90 20:00	0	-21.619	0	27	6.0002
20/10/90 21:00	0	-21.619	0	27	6.9999
20/10/90 22:00	0	-21.619	0	26	6.9999
20/10/90 23:00	0	-21.619	0	26	8.0001
21/10/90 00:00	0	-21.619	0	26	8.0001
21/10/90 01:00	0	-21.619	0	26	6.9999
21/10/90 02:00	0	-21.619	0	26	6.9999
21/10/90 03:00	0	-21.619	0	26	8.0001
21/10/90 04:00	0	-21.619	0	26	6.9999
21/10/90 05:00	0	-21.619	0	26	5
21/10/90 06:00	318.03	280.98	17	25	5
21/10/90 07:00	2157.2	2091.9	106	27	6.0002
21/10/90 08:00	2526.4	2455.4	121	27	6.0002
21/10/90 09:00	2228.7	2161.9	108	25	6.9999
21/10/90 10:00	2642.8	2569.5	128	25	6.9999
21/10/90 11:00	2904.2	2826.8	141	26	6.9999
21/10/90 12:00	2880.3	2803.4	140	26	6.0002
21/10/90 13:00	2749.7	2675.1	134	27	6.0002
21/10/90 14:00	3045.6	2966.1	147	27	5
21/10/90 15:00	2849.4	2772.9	136	26	6.0002
21/10/90 16:00	1598.5	1542.3	77.001	26	6.0002
21/10/90 17:00	259.94	223.62	14	26	6.0002
21/10/90 18:00	0	-21.619	0	27	6.0002
21/10/90 19:00	0	-21.619	0	27	6.0002
21/10/90 20:00	0	-21.619	0	27	6.0002
21/10/90 21:00	0	-21.619	0	27	6.0002
21/10/90 22:00	0	-21.619	0	28	6.0002
21/10/90 23:00	0	-21.619	0	27	6.0002
22/10/90 00:00	0	-21.619	0	27	6.0002
22/10/90 01:00	0	-21.619	0	27	6.0002
22/10/90 02:00	0	-21.619	0	26	6.0002
22/10/90 03:00	0	-21.619	0	26	6.0002
22/10/90 04:00	0	-21.619	0	26	6.0002
22/10/90 05:00	0	-21.619	0	27	6.0002
22/10/90 06:00	397.39	359.44	22	27	6.0002

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
22/10/90 07:00	2787.1	2711.8	143	27	6.0002
22/10/90 08:00	8767.7	8527.1	405.01	27	6.0002
22/10/90 09:00	13108	12666	598.99	27	6.0002
22/10/90 10:00	16293	15658	752	27	6.0002
22/10/90 11:00	17171	16476	798	28	6.0002
22/10/90 12:00	18300	17524	855	27	6.0002
22/10/90 13:00	17419	16706	807	27	6.9999
22/10/90 14:00	14746	14210	675.99	27	6.9999
22/10/90 15:00	10690	10368	491.01	27	5
22/10/90 16:00	5466.1	5332	268	27	3.9998
22/10/90 17:00	968.03	922.28	57.001	28	5
22/10/90 18:00	0	-21.619	1	28	5
22/10/90 19:00	0	-21.619	0	28	5
22/10/90 20:00	0	-21.619	0	27	6.0002
22/10/90 21:00	0	-21.619	0	26	6.0002
22/10/90 22:00	0	-21.619	0	27	5
22/10/90 23:00	0	-21.619	0	27	5
23/10/90 00:00	0	-21.619	0	27	3.9998
23/10/90 01:00	0	-21.619	0	26	3.9998
23/10/90 02:00	0	-21.619	0	27	3.0001
23/10/90 03:00	0	-21.619	0	27	3.0001
23/10/90 04:00	0	-21.619	0	27	3.0001
23/10/90 05:00	0	-21.619	0	26	3.0001
23/10/90 06:00	275.93	239.42	15	26	3.0001
23/10/90 07:00	2834.3	2758.3	146	27	3.0001
23/10/90 08:00	9056.6	8805.1	420.01	27	3.0001
23/10/90 09:00	13393	12936	611.99	26	5
23/10/90 10:00	16330	15692	752	26	6.0002
23/10/90 11:00	17870	17125	834	26	3.9998
23/10/90 12:00	17398	16688	814	27	3.0001
23/10/90 13:00	16758	16092	778	27	3.9998
23/10/90 14:00	11577	11214	529.99	27	6.0002
23/10/90 15:00	6545.1	6380	300	26	3.9998
23/10/90 16:00	4787	4670.7	233	26	3.0001
23/10/90 17:00	937.62	892.24	56.001	27	1.9999
23/10/90 18:00	0	-21.619	0	27	1.9999
23/10/90 19:00	0	-21.619	0	27	3.0001
23/10/90 20:00	0	-21.619	0	27	3.9998
23/10/90 21:00	0	-21.619	0	27	3.0001
23/10/90 22:00	0	-21.619	0	27	3.0001
23/10/90 23:00	0	-21.619	0	27	3.0001
24/10/90 00:00	0	-21.619	0	27	3.0001
24/10/90 01:00	0	-21.619	0	27	1.9999
24/10/90 02:00	0	-21.619	0	27	3.0001
24/10/90 03:00	0	-21.619	0	27	3.9998
24/10/90 04:00	0	-21.619	0	26	5
24/10/90 05:00	0	-21.619	0	26	3.9998
24/10/90 06:00	444.11	405.53	26	26	3.0001
24/10/90 07:00	3679.1	3587.5	192	26	3.0001
24/10/90 08:00	8881.8	8636.9	411.01	26	3.0001
24/10/90 09:00	13434	12975	615.99	26	3.0001
24/10/90 10:00	16442	15798	764	26	1.9999
24/10/90 11:00	17822	17081	836	26	1.9999
24/10/90 12:00	17601	16877	827	27	1.9999
24/10/90 13:00	14931	14386	693.99	27	1.9999
24/10/90 14:00	14101	13606	650.99	27	1.9999
24/10/90 15:00	9858.6	9574.3	453.01	27	3.9998
24/10/90 16:00	4061.7	3962.5	198	27	5
24/10/90 17:00	1006.2	959.66	58.001	26	3.0001
24/10/90 18:00	0	-21.619	0	27	3.0001

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
24/10/90 19:00	0	-21.619	0	27	3.0001
24/10/90 20:00	0	-21.619	0	27	3.9998
24/10/90 21:00	0	-21.619	0	27	5
24/10/90 22:00	0	-21.619	0	27	5
24/10/90 23:00	0	-21.619	0	27	5
25/10/90 00:00	0	-21.619	0	27	5
25/10/90 01:00	0	-21.619	0	27	5
25/10/90 02:00	0	-21.619	0	27	5
25/10/90 03:00	0	-21.619	0	27	5
25/10/90 04:00	0	-21.619	0	27	5
25/10/90 05:00	0	-21.619	0	27	5
25/10/90 06:00	0	-21.619	5.0001	27	5
25/10/90 07:00	2775	2699.7	143	26	6.0002
25/10/90 08:00	8947.1	8699.7	413.01	26	5
25/10/90 09:00	13187	12742	604.99	27	3.9998
25/10/90 10:00	13108	12667	601.99	27	6.0002
25/10/90 11:00	9754.8	9475.7	450.01	26	6.9999
25/10/90 12:00	15095	14539	695.99	26	5
25/10/90 13:00	16347	15708	757	27	6.0002
25/10/90 14:00	6549.5	6384.4	302	26	8.0001
25/10/90 15:00	1699.8	1641.8	83.001	26	6.9999
25/10/90 16:00	1230.6	1180.5	60.001	26	6.0002
25/10/90 17:00	217.32	181.51	12	27	6.0002
25/10/90 18:00	0	-21.619	0	27	6.0002
25/10/90 19:00	0	-21.619	0	26	6.9999
25/10/90 20:00	0	-21.619	0	26	6.9999
25/10/90 21:00	0	-21.619	0	26	6.9999
25/10/90 22:00	0	-21.619	0	27	6.9999
25/10/90 23:00	0	-21.619	0	26	6.9999
26/10/90 00:00	0	-21.619	0	26	6.9999
26/10/90 01:00	0	-21.619	0	27	8.0001
26/10/90 02:00	0	-21.619	0	26	6.9999
26/10/90 03:00	0	-21.619	0	26	6.9999
26/10/90 04:00	0	-21.619	0	26	8.0001
26/10/90 05:00	0	-21.619	0	26	8.0001
26/10/90 06:00	215.56	179.75	12	26	8.0001
26/10/90 07:00	2899.4	2822	144	26	8.9997
26/10/90 08:00	6724.4	6553.8	310	26	10
26/10/90 09:00	9265.5	9006.3	426.01	27	10
26/10/90 10:00	9044.6	8793.9	418.01	27	10
26/10/90 11:00	4239.5	4136.5	203	27	8.9997
26/10/90 12:00	2802.8	2727.5	137	28	8.9997
26/10/90 13:00	2637.8	2565.2	129	28	8.0001
26/10/90 14:00	2317.4	2249.7	113	27	6.9999
26/10/90 15:00	2373.2	2304.4	114	26	6.0002
26/10/90 16:00	2983.4	2904.7	143	26	6.0002
26/10/90 17:00	807.23	763.92	45.001	29	6.0002
26/10/90 18:00	0	-21.619	0	29	6.9999
26/10/90 19:00	0	-21.619	0	29	6.9999
26/10/90 20:00	0	-21.619	0	29	6.9999
26/10/90 21:00	0	-21.619	0	29	6.9999
26/10/90 22:00	0	-21.619	0	29	8.0001
26/10/90 23:00	0	-21.619	0	28	8.0001
27/10/90 00:00	0	-21.619	0	28	6.9999
27/10/90 01:00	0	-21.619	0	28	6.9999
27/10/90 02:00	0	-21.619	0	28	6.9999
27/10/90 03:00	0	-21.619	0	28	6.9999
27/10/90 04:00	0	-21.619	0	28	6.0002
27/10/90 05:00	0	-21.619	0	28	5
27/10/90 06:00	153.67	118.57	9.0001	28	5

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
27/10/90 07:00	2957.5	2879.6	152	28	3.9998
27/10/90 08:00	5677.8	5538.1	265	28	5
27/10/90 09:00	11036	10700	509.01	29	5
27/10/90 10:00	13332	12880	617.99	29	5
27/10/90 11:00	15278	14711	710	29	6.0002
27/10/90 12:00	17521	16803	821	29	5
27/10/90 13:00	15244	14680	708	29	5
27/10/90 14:00	13700	13228	631.99	29	5
27/10/90 15:00	10206	9906.7	470.01	28	6.0002
27/10/90 16:00	4908	4788.6	242	28	6.0002
27/10/90 17:00	789.82	746.67	48.001	28	6.0002
27/10/90 18:00	0	-21.619	0	28	5
27/10/90 19:00	0	-21.619	0	28	6.0002
27/10/90 20:00	0	-21.619	0	28	6.0002
27/10/90 21:00	0	-21.619	0	28	6.0002
27/10/90 22:00	0	-21.619	0	28	6.0002
27/10/90 23:00	0	-21.619	0	28	6.0002
28/10/90 00:00	0	-21.619	0	28	6.0002
28/10/90 01:00	0	-21.619	0	28	6.9999
28/10/90 02:00	0	-21.619	0	28	6.9999
28/10/90 03:00	0	-21.619	0	28	6.9999
28/10/90 04:00	0	-21.619	0	28	6.9999
28/10/90 05:00	0	-21.619	0	28	6.0002
28/10/90 06:00	390.95	353.13	22	28	6.0002
28/10/90 07:00	3322.9	3238.5	172	28	6.0002
28/10/90 08:00	8761.4	8520.9	407.01	28	6.9999
28/10/90 09:00	12871	12443	590.99	29	6.9999
28/10/90 10:00	15099	14543	697.99	29	6.9999
28/10/90 11:00	17008	16325	791	29	6.9999
28/10/90 12:00	18057	17299	846	29	6.9999
28/10/90 13:00	16896	16221	786	29	6.9999
28/10/90 14:00	14236	13732	655.99	29	6.9999
28/10/90 15:00	10191	9892.4	471.01	29	6.0002
28/10/90 16:00	4889.8	4771.1	241	29	6.0002
28/10/90 17:00	762.79	720.11	43.001	29	6.0002
28/10/90 18:00	0	-21.619	0	29	6.0002
28/10/90 19:00	0	-21.619	0	29	6.0002
28/10/90 20:00	0	-21.619	0	29	6.0002
28/10/90 21:00	0	-21.619	0	29	6.9999
28/10/90 22:00	0	-21.619	0	29	6.9999
28/10/90 23:00	0	-21.619	0	28	6.9999
29/10/90 00:00	0	-21.619	0	28	6.0002
29/10/90 01:00	0	-21.619	0	28	6.0002
29/10/90 02:00	0	-21.619	0	27	6.0002
29/10/90 03:00	0	-21.619	0	27	6.0002
29/10/90 04:00	0	-21.619	0	27	6.0002
29/10/90 05:00	0	-21.619	0	28	6.0002
29/10/90 06:00	291.59	254.96	16	28	6.0002
29/10/90 07:00	3516.5	3428.4	184	28	6.0002
29/10/90 08:00	8492.7	8262.1	395.01	28	6.0002
29/10/90 09:00	13082	12643	601.99	29	6.0002
29/10/90 10:00	15644	15053	724	29	6.9999
29/10/90 11:00	17929	17180	839	29	6.9999
29/10/90 12:00	18123	17360	849	29	6.9999
29/10/90 13:00	16877	16203	785	29	6.9999
29/10/90 14:00	13864	13382	638.99	29	6.0002
29/10/90 15:00	9653.4	9377.7	446.01	29	6.0002
29/10/90 16:00	4955.4	4835	247	29	6.0002
29/10/90 17:00	797.11	753.94	49.001	29	6.0002
29/10/90 18:00	0	-21.619	0	29	6.9999

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
29/10/90 19:00	0	-21.619	0	28	6.9999
29/10/90 20:00	0	-21.619	0	28	6.9999
29/10/90 21:00	0	-21.619	0	28	6.9999
29/10/90 22:00	0	-21.619	0	28	6.9999
29/10/90 23:00	0	-21.619	0	28	6.9999
30/10/90 00:00	0	-21.619	0	28	6.0002
30/10/90 01:00	0	-21.619	0	28	6.0002
30/10/90 02:00	0	-21.619	0	28	6.0002
30/10/90 03:00	0	-21.619	0	28	6.0002
30/10/90 04:00	0	-21.619	0	28	6.0002
30/10/90 05:00	0	-21.619	0	28	5
30/10/90 06:00	212.45	176.73	12	28	5
30/10/90 07:00	3080.3	3000.3	157	28	5
30/10/90 08:00	8781.6	8540.4	407.01	27	6.0002
30/10/90 09:00	9252.7	8993.9	425.01	28	6.9999
30/10/90 10:00	9517.2	9247.7	438.01	28	6.9999
30/10/90 11:00	10186	9888.1	470.01	28	6.9999
30/10/90 12:00	13478	13017	624.99	28	6.0002
30/10/90 13:00	14063	13569	648.99	28	6.0002
30/10/90 14:00	12895	12465	592.99	28	6.0002
30/10/90 15:00	7937.7	7726.9	366.01	28	6.0002
30/10/90 16:00	4880.9	4762.2	241	28	6.0002
30/10/90 17:00	785.18	742.1	48.001	28	6.0002
30/10/90 18:00	0	-21.619	0	27	6.0002
30/10/90 19:00	0	-21.619	0	27	6.0002
30/10/90 20:00	0	-21.619	0	27	6.0002
30/10/90 21:00	0	-21.619	0	27	6.0002
30/10/90 22:00	0	-21.619	0	27	6.0002
30/10/90 23:00	0	-21.619	0	27	6.0002
31/10/90 00:00	0	-21.619	0	27	6.0002
31/10/90 01:00	0	-21.619	0	27	6.0002
31/10/90 02:00	0	-21.619	0	27	6.0002
31/10/90 03:00	0	-21.619	0	28	6.0002
31/10/90 04:00	0	-21.619	0	28	6.0002
31/10/90 05:00	0	-21.619	0	28	6.0002
31/10/90 06:00	252.3	216.13	14	28	5
31/10/90 07:00	3258.5	3175.4	171	28	5
31/10/90 08:00	8262.4	8040	385.01	28	5
31/10/90 09:00	13051	12614	601.99	29	5
31/10/90 10:00	16113	15492	750	29	5
31/10/90 11:00	17313	16609	810	29	5
31/10/90 12:00	17873	17129	840	29	5
31/10/90 13:00	16729	16065	780	28	3.9998
31/10/90 14:00	13383	12928	615.99	28	3.9998
31/10/90 15:00	9972.3	9682.9	461.01	28	3.9998
31/10/90 16:00	4784.6	4668.3	239	28	5
31/10/90 17:00	758.67	716.03	49.001	29	5
31/10/90 18:00	0	-21.619	0	28	5
31/10/90 19:00	0	-21.619	0	28	5
31/10/90 20:00	0	-21.619	0	28	6.0002
31/10/90 21:00	0	-21.619	0	28	6.0002
31/10/90 22:00	0	-21.619	0	28	5
31/10/90 23:00	0	-21.619	0	28	5
1/11/1990 0:00	0	-21.619	0	26	6.9999
1/11/1990 1:00	0	-21.619	0	26	6.9999
1/11/1990 2:00	0	-21.619	0	26	6.9999
1/11/1990 3:00	0	-21.619	0	26	6.9999
1/11/1990 4:00	0	-21.619	0	26	6.9999
1/11/1990 5:00	0	-21.619	0	26	6.9999
1/11/1990 6:00	132.46	97.547	8.0001	26	6.9999

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
1/11/1990 7:00	3081.3	3000.8	160	26	8.0001
1/11/1990 8:00	8363.6	8137.6	388.01	25	8.0001
1/11/1990 9:00	12997	12561	592.99	25	8.0001
1/11/1990 10:00	15860	15253	731	26	8.0001
1/11/1990 11:00	12205	11810	563.99	26	8.0001
1/11/1990 12:00	7740.8	7537	360.01	26	8.0001
1/11/1990 13:00	15944	15332	735	26	8.0001
1/11/1990 14:00	13839	13357	633.99	26	8.0001
1/11/1990 15:00	9981.2	9691.2	460.01	26	8.0001
1/11/1990 16:00	4794.7	4678.1	238	26	8.0001
1/11/1990 17:00	651.67	610.31	37.001	26	8.0001
1/11/1990 18:00	0	-21.619	0	26	8.0001
1/11/1990 19:00	0	-21.619	0	26	8.0001
1/11/1990 20:00	0	-21.619	0	26	8.0001
1/11/1990 21:00	0	-21.619	0	26	8.0001
1/11/1990 22:00	0	-21.619	0	26	6.9999
1/11/1990 23:00	0	-21.619	0	26	6.9999
2/11/1990 0:00	0	-21.619	0	26	6.9999
2/11/1990 1:00	0	-21.619	0	26	6.9999
2/11/1990 2:00	0	-21.619	0	27	6.9999
2/11/1990 3:00	0	-21.619	0	27	6.9999
2/11/1990 4:00	0	-21.619	0	26	8.0001
2/11/1990 5:00	0	-21.619	0	27	8.0001
2/11/1990 6:00	289.01	252.34	16	26	8.9997
2/11/1990 7:00	3033.8	2954.1	157	26	8.9997
2/11/1990 8:00	8506.3	8275.1	396.01	26	8.9997
2/11/1990 9:00	12981	12546	593.99	26	8.9997
2/11/1990 10:00	16100	15477	742	26	8.9997
2/11/1990 11:00	17590	16864	819	27	8.9997
2/11/1990 12:00	17063	16374	791	27	8.9997
2/11/1990 13:00	16451	15804	761	27	8.9997
2/11/1990 14:00	11450	11093	525.99	27	8.0001
2/11/1990 15:00	9229.1	8970.5	425.01	26	8.0001
2/11/1990 16:00	4780.5	4664.3	237	26	8.0001
2/11/1990 17:00	602.32	561.7	34.001	27	8.0001
2/11/1990 18:00	0	-21.619	0	27	8.0001
2/11/1990 19:00	0	-21.619	0	27	8.9997
2/11/1990 20:00	0	-21.619	0	27	8.9997
2/11/1990 21:00	0	-21.619	0	26	8.9997
2/11/1990 22:00	0	-21.619	0	26	8.9997
2/11/1990 23:00	0	-21.619	0	26	8.9997
3/11/1990 0:00	0	-21.619	0	26	8.0001
3/11/1990 1:00	0	-21.619	0	26	8.0001
3/11/1990 2:00	0	-21.619	0	26	6.9999
3/11/1990 3:00	0	-21.619	0	26	8.0001
3/11/1990 4:00	0	-21.619	0	26	8.0001
3/11/1990 5:00	0	-21.619	0	26	8.9997
3/11/1990 6:00	152.52	117.38	9.0001	25	8.0001
3/11/1990 7:00	1531.9	1476.7	75.001	25	8.0001
3/11/1990 8:00	4077.4	3977.9	191	25	8.0001
3/11/1990 9:00	5922.5	5776.1	274	25	6.9999
3/11/1990 10:00	8316.5	8092.6	385.01	25	8.0001
3/11/1990 11:00	14568	14044	670.99	26	8.9997
3/11/1990 12:00	10652	10333	494.01	26	8.9997
3/11/1990 13:00	9255.7	8996.9	429.01	26	8.9997
3/11/1990 14:00	9240	8981.7	425.01	26	8.0001
3/11/1990 15:00	3780	3687	179	26	8.0001
3/11/1990 16:00	1685.3	1627.3	81.001	25	6.9999
3/11/1990 17:00	421.77	383.47	22	26	8.0001
3/11/1990 18:00	0	-21.619	0	26	8.0001

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
3/11/1990 19:00	0	-21.619	0	26	6.9999
3/11/1990 20:00	0	-21.619	0	26	6.9999
3/11/1990 21:00	0	-21.619	0	26	8.0001
3/11/1990 22:00	0	-21.619	0	26	8.9997
3/11/1990 23:00	0	-21.619	0	27	8.9997
4/11/1990 0:00	0	-21.619	0	27	8.9997
4/11/1990 1:00	0	-21.619	0	27	8.9997
4/11/1990 2:00	0	-21.619	0	27	8.9997
4/11/1990 3:00	0	-21.619	0	27	8.0001
4/11/1990 4:00	0	-21.619	0	26	8.9997
4/11/1990 5:00	0	-21.619	0	27	8.0001
4/11/1990 6:00	0	-21.619	6.0001	27	8.0001
4/11/1990 7:00	1164.2	1115.3	57.001	27	8.0001
4/11/1990 8:00	5892.4	5746.7	275	26	8.0001
4/11/1990 9:00	11972	11590	549.99	27	8.0001
4/11/1990 10:00	15159	14598	698.99	27	8.0001
4/11/1990 11:00	15829	15225	732	27	8.0001
4/11/1990 12:00	17450	16733	810	27	8.9997
4/11/1990 13:00	15673	15079	723	27	8.9997
4/11/1990 14:00	10394	10087	479.01	27	8.9997
4/11/1990 15:00	8544.2	8311.9	395.01	27	8.9997
4/11/1990 16:00	4348.3	4242.6	216	27	8.0001
4/11/1990 17:00	650.96	609.68	39.001	27	6.9999
4/11/1990 18:00	0	-21.619	0	27	6.9999
4/11/1990 19:00	0	-21.619	0	27	8.0001
4/11/1990 20:00	0	-21.619	0	27	8.0001
4/11/1990 21:00	0	-21.619	0	27	8.0001
4/11/1990 22:00	0	-21.619	0	27	6.9999
4/11/1990 23:00	0	-21.619	0	27	6.0002
5/11/1990 0:00	0	-21.619	0	27	6.0002
5/11/1990 1:00	0	-21.619	0	27	6.0002
5/11/1990 2:00	0	-21.619	0	27	6.0002
5/11/1990 3:00	0	-21.619	0	27	6.0002
5/11/1990 4:00	0	-21.619	0	27	6.0002
5/11/1990 5:00	0	-21.619	0	27	5
5/11/1990 6:00	0	-21.619	3	27	5
5/11/1990 7:00	2280.1	2213	115	27	6.0002
5/11/1990 8:00	3736.7	3644.6	177	27	6.0002
5/11/1990 9:00	8068.5	7853.4	375.01	27	6.0002
5/11/1990 10:00	12941	12509	600.99	27	6.0002
5/11/1990 11:00	9715	9437	446.01	27	6.0002
5/11/1990 12:00	2987	2908.5	146	27	6.0002
5/11/1990 13:00	3337.9	3253.2	162	27	6.0002
5/11/1990 14:00	7025.6	6845.5	325	27	5
5/11/1990 15:00	7481.6	7286.4	348.01	27	5
5/11/1990 16:00	4220.6	4117.7	210	27	5
5/11/1990 17:00	656.59	615.23	38.001	27	6.0002
5/11/1990 18:00	0	-21.619	0	27	6.0002
5/11/1990 19:00	0	-21.619	0	27	6.9999
5/11/1990 20:00	0	-21.619	0	27	6.9999
5/11/1990 21:00	0	-21.619	0	27	6.0002
5/11/1990 22:00	0	-21.619	0	27	6.0002
5/11/1990 23:00	0	-21.619	0	27	5
6/11/1990 0:00	0	-21.619	0	27	5
6/11/1990 1:00	0	-21.619	0	27	5
6/11/1990 2:00	0	-21.619	0	27	5
6/11/1990 3:00	0	-21.619	0	27	5
6/11/1990 4:00	0	-21.619	0	27	5
6/11/1990 5:00	0	-21.619	0	27	5
6/11/1990 6:00	228.71	192.77	13	27	5

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
6/11/1990 7:00	3049.9	2970.2	160	27	5
6/11/1990 8:00	7486.1	7290.7	351.01	27	5
6/11/1990 9:00	12294	11895	565.99	27	5
6/11/1990 10:00	15731	15134	731	27	5
6/11/1990 11:00	17199	16502	804	27	5
6/11/1990 12:00	15470	14890	722	27	3.9998
6/11/1990 13:00	6595.5	6428.9	311	27	5
6/11/1990 14:00	5869.9	5725	276	27	5
6/11/1990 15:00	4496.5	4387.4	212	27	6.0002
6/11/1990 16:00	3663	3572.1	180	27	6.0002
6/11/1990 17:00	556.53	516.53	32	27	6.0002
6/11/1990 18:00	0	-21.619	0	27	5
6/11/1990 19:00	0	-21.619	0	27	3.9998
6/11/1990 20:00	0	-21.619	0	27	3.0001
6/11/1990 21:00	0	-21.619	0	27	3.9998
6/11/1990 22:00	0	-21.619	0	27	3.9998
6/11/1990 23:00	0	-21.619	0	27	3.9998
7/11/1990 0:00	0	-21.619	0	27	3.9998
7/11/1990 1:00	0	-21.619	0	27	3.9998
7/11/1990 2:00	0	-21.619	0	27	3.9998
7/11/1990 3:00	0	-21.619	0	27	3.9998
7/11/1990 4:00	0	-21.619	0	27	5
7/11/1990 5:00	0	-21.619	0	27	5
7/11/1990 6:00	56.324	-21.619	7.0001	27	3.9998
7/11/1990 7:00	1816.1	1756.3	90.001	27	3.9998
7/11/1990 8:00	3990	3892.6	189	27	3.9998
7/11/1990 9:00	11813	11439	545.99	27	3.9998
7/11/1990 10:00	14777	14240	684.99	27	5
7/11/1990 11:00	9880.1	9595.5	458.01	27	5
7/11/1990 12:00	7673.3	7471.8	360.01	26	6.0002
7/11/1990 13:00	13168	12723	609.99	26	6.0002
7/11/1990 14:00	10912	10580	501.01	26	6.0002
7/11/1990 15:00	9237.2	8978.2	427.01	26	6.0002
7/11/1990 16:00	4354.7	4248.6	219	27	6.0002
7/11/1990 17:00	637.33	596.23	37.001	27	5
7/11/1990 18:00	0	-21.619	0	27	6.0002
7/11/1990 19:00	0	-21.619	0	27	6.0002
7/11/1990 20:00	0	-21.619	0	27	5
7/11/1990 21:00	0	-21.619	0	27	5
7/11/1990 22:00	0	-21.619	0	27	5
7/11/1990 23:00	0	-21.619	0	26	5
8/11/1990 0:00	0	-21.619	0	26	5
8/11/1990 1:00	0	-21.619	0	25	5
8/11/1990 2:00	0	-21.619	0	25	6.0002
8/11/1990 3:00	0	-21.619	0	25	6.9999
8/11/1990 4:00	0	-21.619	0	25	6.9999
8/11/1990 5:00	0	-21.619	0	25	6.9999
8/11/1990 6:00	0	-21.619	2	25	8.0001
8/11/1990 7:00	613.91	573.01	31	25	8.9997
8/11/1990 8:00	2462.2	2392	118	26	8.9997
8/11/1990 9:00	4167.2	4065.8	198	26	8.9997
8/11/1990 10:00	5369.5	5238.4	255	26	8.9997
8/11/1990 11:00	3816.5	3722.8	184	26	8.9997
8/11/1990 12:00	3600.6	3511	174	26	8.9997
8/11/1990 13:00	6721.9	6551.5	315	26	8.9997
8/11/1990 14:00	12327	11927	563.99	25	8.9997
8/11/1990 15:00	8619.4	8384.2	397.01	25	8.9997
8/11/1990 16:00	4541.7	4431.2	227	25	8.9997
8/11/1990 17:00	630.94	589.85	39.001	26	8.0001
8/11/1990 18:00	0	-21.619	0	26	8.0001

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
8/11/1990 19:00	0	-21.619	0	26	8.0001
8/11/1990 20:00	0	-21.619	0	26	8.0001
8/11/1990 21:00	0	-21.619	0	26	8.0001
8/11/1990 22:00	0	-21.619	0	26	6.9999
8/11/1990 23:00	0	-21.619	0	26	6.9999
9/11/1990 0:00	0	-21.619	0	26	6.9999
9/11/1990 1:00	0	-21.619	0	26	6.9999
9/11/1990 2:00	0	-21.619	0	26	8.0001
9/11/1990 3:00	0	-21.619	0	26	8.0001
9/11/1990 4:00	0	-21.619	0	25	8.9997
9/11/1990 5:00	0	-21.619	0	25	8.9997
9/11/1990 6:00	228.85	192.86	13	25	10
9/11/1990 7:00	2963.7	2885.1	158	25	10
9/11/1990 8:00	7652.6	7451.5	356.01	25	11
9/11/1990 9:00	9503.8	9234.6	435.01	25	11
9/11/1990 10:00	15321	14749	699.99	25	11
9/11/1990 11:00	16814	16141	772	25	11
9/11/1990 12:00	17195	16495	791	25	11
9/11/1990 13:00	16113	15489	738	25	11
9/11/1990 14:00	12401	11997	563.99	25	11
9/11/1990 15:00	9244.5	8985	425.01	25	11
9/11/1990 16:00	4346.3	4240.4	217	25	10
9/11/1990 17:00	619.17	578.18	37.001	25	10
9/11/1990 18:00	0	-21.619	0	25	10
9/11/1990 19:00	0	-21.619	0	26	10
9/11/1990 20:00	0	-21.619	0	26	10
9/11/1990 21:00	0	-21.619	0	26	10
9/11/1990 22:00	0	-21.619	0	26	10
9/11/1990 23:00	0	-21.619	0	26	10
10/11/1990 0:00	0	-21.619	0	26	10
10/11/1990 1:00	0	-21.619	0	26	10
10/11/1990 2:00	0	-21.619	0	26	10
10/11/1990 3:00	0	-21.619	0	26	8.9997
10/11/1990 4:00	0	-21.619	0	26	8.9997
10/11/1990 5:00	0	-21.619	0	26	8.9997
10/11/1990 6:00	56.183	-21.619	7.0001	26	8.9997
10/11/1990 7:00	1169	1119.9	60.001	26	10
10/11/1990 8:00	1731.7	1672.9	84.001	25	10
10/11/1990 9:00	9527	9256.8	436.01	25	11
10/11/1990 10:00	5622.5	5484.5	261	25	11
10/11/1990 11:00	16377	15735	755	26	11
10/11/1990 12:00	17133	16438	790	26	11
10/11/1990 13:00	13276	12826	608.99	26	11
10/11/1990 14:00	11376	11022	519.99	26	11
10/11/1990 15:00	8221.6	8000.9	380.01	26	12
10/11/1990 16:00	2928.1	2850.2	142	26	12
10/11/1990 17:00	358.01	320.5	19	26	11
10/11/1990 18:00	0	-21.619	0	27	11
10/11/1990 19:00	0	-21.619	0	27	12
10/11/1990 20:00	0	-21.619	0	26	12
10/11/1990 21:00	0	-21.619	0	26	12
10/11/1990 22:00	0	-21.619	0	26	11
10/11/1990 23:00	0	-21.619	0	26	12
11/11/1990 0:00	0	-21.619	0	26	11
11/11/1990 1:00	0	-21.619	0	26	11
11/11/1990 2:00	0	-21.619	0	26	11
11/11/1990 3:00	0	-21.619	0	26	11
11/11/1990 4:00	0	-21.619	0	26	11
11/11/1990 5:00	0	-21.619	0	26	8.9997
11/11/1990 6:00	149.32	114.24	9.0001	26	8.9997

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
11/11/1990 7:00	2626.9	2554	137	26	10
11/11/1990 8:00	6590.1	6423.6	308	26	10
11/11/1990 9:00	12366	11963	564.99	26	10
11/11/1990 10:00	15434	14855	709	26	10
11/11/1990 11:00	17090	16398	790	26	10
11/11/1990 12:00	17450	16733	808	26	10
11/11/1990 13:00	16207	15576	746	26	10
11/11/1990 14:00	13494	13032	618.99	27	10
11/11/1990 15:00	9479.9	9210.5	438.01	26	10
11/11/1990 16:00	4381	4274.2	222	26	10
11/11/1990 17:00	602.63	562	37.001	27	8.9997
11/11/1990 18:00	0	-21.619	0	27	8.9997
11/11/1990 19:00	0	-21.619	0	27	8.9997
11/11/1990 20:00	0	-21.619	0	27	8.9997
11/11/1990 21:00	0	-21.619	0	28	10
11/11/1990 22:00	0	-21.619	0	28	10
11/11/1990 23:00	0	-21.619	0	27	10
12/11/1990 0:00	0	-21.619	0	27	11
12/11/1990 1:00	0	-21.619	0	27	11
12/11/1990 2:00	0	-21.619	0	26	11
12/11/1990 3:00	0	-21.619	0	26	11
12/11/1990 4:00	0	-21.619	0	26	11
12/11/1990 5:00	0	-21.619	0	26	10
12/11/1990 6:00	149.85	114.76	9.0001	26	10
12/11/1990 7:00	2544	2472.4	133	26	10
12/11/1990 8:00	7407.1	7214.2	347.01	26	8.9997
12/11/1990 9:00	12333	11932	563.99	26	8.9997
12/11/1990 10:00	15032	14478	689.99	26	8.9997
12/11/1990 11:00	14644	14114	671.99	26	8.9997
12/11/1990 12:00	17319	16611	803	26	8.9997
12/11/1990 13:00	15910	15299	734	26	8.0001
12/11/1990 14:00	13480	13018	617.99	26	8.0001
12/11/1990 15:00	9312.5	9050	431.01	26	8.0001
12/11/1990 16:00	4399.8	4292.3	225	26	8.0001
12/11/1990 17:00	622.19	581.23	39.001	26	6.9999
12/11/1990 18:00	0	-21.619	0	26	6.9999
12/11/1990 19:00	0	-21.619	0	26	8.0001
12/11/1990 20:00	0	-21.619	0	26	8.0001
12/11/1990 21:00	0	-21.619	0	27	8.0001
12/11/1990 22:00	0	-21.619	0	27	8.0001
12/11/1990 23:00	0	-21.619	0	27	8.0001
13/11/90 00:00	0	-21.619	0	27	8.0001
13/11/90 01:00	0	-21.619	0	26	8.0001
13/11/90 02:00	0	-21.619	0	26	8.0001
13/11/90 03:00	0	-21.619	0	26	8.0001
13/11/90 04:00	0	-21.619	0	26	8.0001
13/11/90 05:00	0	-21.619	0	26	6.9999
13/11/90 06:00	129.89	95.01	8.0001	26	6.9999
13/11/90 07:00	2623.9	2551	142	26	6.9999
13/11/90 08:00	7833.8	7626.3	368.01	26	6.9999
13/11/90 09:00	12319	11918	564.99	26	6.9999
13/11/90 10:00	15120	14561	695.99	26	6.9999
13/11/90 11:00	17078	16388	793	26	6.9999
13/11/90 12:00	17375	16664	808	26	6.9999
13/11/90 13:00	15996	15380	739	26	6.9999
13/11/90 14:00	13488	13025	618.99	26	6.9999
13/11/90 15:00	9474.4	9205.1	439.01	26	6.9999
13/11/90 16:00	4064.8	3964.9	206	26	6.9999
13/11/90 17:00	608.15	567.38	38.001	26	6.0002
13/11/90 18:00	0	-21.619	0	26	6.0002

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
13/11/90 19:00	0	-21.619	0	26	6.9999
13/11/90 20:00	0	-21.619	0	26	6.9999
13/11/90 21:00	0	-21.619	0	26	6.9999
13/11/90 22:00	0	-21.619	0	26	8.0001
13/11/90 23:00	0	-21.619	0	26	8.0001
14/11/90 00:00	0	-21.619	0	26	8.0001
14/11/90 01:00	0	-21.619	0	25	8.0001
14/11/90 02:00	0	-21.619	0	25	8.0001
14/11/90 03:00	0	-21.619	0	24	8.0001
14/11/90 04:00	0	-21.619	0	24	6.9999
14/11/90 05:00	0	-21.619	0	25	6.0002
14/11/90 06:00	168.22	132.91	10	25	6.0002
14/11/90 07:00	2836.9	2760.3	158	25	6.0002
14/11/90 08:00	7996.8	7783.6	376.01	25	6.0002
14/11/90 09:00	12365	11962	565.99	25	6.0002
14/11/90 10:00	15494	14911	713	25	6.0002
14/11/90 11:00	17129	16435	794	25	6.0002
14/11/90 12:00	17325	16617	804	25	6.0002
14/11/90 13:00	16111	15487	743	25	6.0002
14/11/90 14:00	13470	13009	615.99	25	6.9999
14/11/90 15:00	9310	9047.4	430.01	25	6.9999
14/11/90 16:00	4206.1	4103	214	25	6.0002
14/11/90 17:00	596.73	556.12	37.001	26	6.0002
14/11/90 18:00	0	-21.619	0	26	6.9999
14/11/90 19:00	0	-21.619	0	26	6.9999
14/11/90 20:00	0	-21.619	0	26	6.9999
14/11/90 21:00	0	-21.619	0	26	8.0001
14/11/90 22:00	0	-21.619	0	26	8.0001
14/11/90 23:00	0	-21.619	0	26	8.0001
15/11/90 00:00	0	-21.619	0	26	8.0001
15/11/90 01:00	0	-21.619	0	26	8.0001
15/11/90 02:00	0	-21.619	0	26	8.0001
15/11/90 03:00	0	-21.619	0	26	8.0001
15/11/90 04:00	0	-21.619	0	26	8.0001
15/11/90 05:00	0	-21.619	0	26	6.0002
15/11/90 06:00	129.71	94.823	8.0001	26	6.0002
15/11/90 07:00	2647.7	2574.4	144	26	6.0002
15/11/90 08:00	7830.3	7622.9	369.01	26	6.0002
15/11/90 09:00	12257	11859	562.99	26	6.0002
15/11/90 10:00	15358	14784	709	26	6.0002
15/11/90 11:00	17032	16346	792	26	6.0002
15/11/90 12:00	17267	16564	804	26	6.0002
15/11/90 13:00	15879	15272	737	27	6.0002
15/11/90 14:00	12313	11913	565.99	27	6.0002
15/11/90 15:00	9412.9	9146	438.01	27	6.9999
15/11/90 16:00	4389.6	4282.2	226	26	6.9999
15/11/90 17:00	602.61	561.97	38.001	27	6.9999
15/11/90 18:00	0	-21.619	0	26	6.9999
15/11/90 19:00	0	-21.619	0	26	8.0001
15/11/90 20:00	0	-21.619	0	26	8.0001
15/11/90 21:00	0	-21.619	0	26	8.0001
15/11/90 22:00	0	-21.619	0	26	8.0001
15/11/90 23:00	0	-21.619	0	26	8.9997
16/11/90 00:00	0	-21.619	0	26	8.9997
16/11/90 01:00	0	-21.619	0	26	8.9997
16/11/90 02:00	0	-21.619	0	26	8.9997
16/11/90 03:00	0	-21.619	0	26	8.9997
16/11/90 04:00	0	-21.619	0	26	8.9997
16/11/90 05:00	0	-21.619	0	26	8.0001
16/11/90 06:00	0	-21.619	6.0001	26	8.0001

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
16/11/90 07:00	2634.4	2561.3	143	26	8.9997
16/11/90 08:00	7386.2	7193.9	347.01	26	8.9997
16/11/90 09:00	12073	11685	551.99	26	8.9997
16/11/90 10:00	15218	14652	698.99	26	8.9997
16/11/90 11:00	16831	16158	779	26	8.0001
16/11/90 12:00	17148	16453	795	26	8.0001
16/11/90 13:00	15730	15131	724	26	8.0001
16/11/90 14:00	12961	12527	592.99	26	8.0001
16/11/90 15:00	6963.2	6784.8	323	26	6.9999
16/11/90 16:00	4099.9	3999.2	208	26	6.9999
16/11/90 17:00	612.12	571.29	38.001	26	6.0002
16/11/90 18:00	0	-21.619	0	26	6.0002
16/11/90 19:00	0	-21.619	0	26	6.9999
16/11/90 20:00	0	-21.619	0	26	6.9999
16/11/90 21:00	0	-21.619	0	26	6.9999
16/11/90 22:00	0	-21.619	0	26	6.9999
16/11/90 23:00	0	-21.619	0	26	6.9999
17/11/90 00:00	0	-21.619	0	26	6.9999
17/11/90 01:00	0	-21.619	0	26	6.9999
17/11/90 02:00	0	-21.619	0	26	6.9999
17/11/90 03:00	0	-21.619	0	26	6.0002
17/11/90 04:00	0	-21.619	0	26	6.0002
17/11/90 05:00	0	-21.619	0	26	6.0002
17/11/90 06:00	147.21	112.15	9.0001	26	5
17/11/90 07:00	2649.6	2576.3	147	26	3.9998
17/11/90 08:00	7728.5	7524.5	366.01	26	3.9998
17/11/90 09:00	11968	11586	552.99	27	3.9998
17/11/90 10:00	15100	14542	699.99	27	5
17/11/90 11:00	16825	16153	784	27	6.0002
17/11/90 12:00	16868	16193	783	26	6.0002
17/11/90 13:00	15032	14478	692.99	26	6.0002
17/11/90 14:00	13140	12696	603.99	26	5
17/11/90 15:00	7200.6	7014.7	334.01	25	5
17/11/90 16:00	943.78	898.21	47.001	26	5
17/11/90 17:00	318.33	281.28	17	25	5
17/11/90 18:00	0	-21.619	0	25	5
17/11/90 19:00	0	-21.619	0	25	5
17/11/90 20:00	0	-21.619	0	25	5
17/11/90 21:00	0	-21.619	0	25	5
17/11/90 22:00	0	-21.619	0	25	5
17/11/90 23:00	0	-21.619	0	25	5
18/11/90 00:00	0	-21.619	0	26	5
18/11/90 01:00	0	-21.619	0	25	5
18/11/90 02:00	0	-21.619	0	25	5
18/11/90 03:00	0	-21.619	0	25	5
18/11/90 04:00	0	-21.619	0	25	5
18/11/90 05:00	0	-21.619	0	25	3.9998
18/11/90 06:00	108.53	-21.619	7.0001	26	3.9998
18/11/90 07:00	2608.5	2535.7	146	25	5
18/11/90 08:00	7689.1	7486.5	363.01	25	5
18/11/90 09:00	12102	11712	554.99	25	5
18/11/90 10:00	15170	14607	699.99	25	3.9998
18/11/90 11:00	16843	16169	783	25	3.9998
18/11/90 12:00	16414	15770	761	25	3.9998
18/11/90 13:00	10865	10536	502.01	25	3.9998
18/11/90 14:00	12043	11657	551.99	25	3.9998
18/11/90 15:00	9258.3	8997.7	431.01	26	3.9998
18/11/90 16:00	4298.5	4193.1	222	26	3.9998
18/11/90 17:00	590.45	549.92	37.001	26	3.9998
18/11/90 18:00	0	-21.619	0	26	3.9998

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
18/11/90 19:00	0	-21.619	0	26	5
18/11/90 20:00	0	-21.619	0	25	5
18/11/90 21:00	0	-21.619	0	25	5
18/11/90 22:00	0	-21.619	0	25	3.9998
18/11/90 23:00	0	-21.619	0	25	3.9998
19/11/90 00:00	0	-21.619	0	25	3.9998
19/11/90 01:00	0	-21.619	0	24	5
19/11/90 02:00	0	-21.619	0	24	5
19/11/90 03:00	0	-21.619	0	25	5
19/11/90 04:00	0	-21.619	0	24	5
19/11/90 05:00	0	-21.619	0	26	5
19/11/90 06:00	0	-21.619	5.0001	26	5
19/11/90 07:00	2154.8	2089.3	113	26	6.0002
19/11/90 08:00	7614.3	7414.3	358.01	25	6.0002
19/11/90 09:00	10910	10578	498.01	25	6.9999
19/11/90 10:00	13722	13247	627.99	25	6.9999
19/11/90 11:00	11395	11041	524.99	25	6.9999
19/11/90 12:00	14933	14385	686.99	25	6.9999
19/11/90 13:00	13808	13328	631.99	25	6.9999
19/11/90 14:00	12778	12353	583.99	25	6.0002
19/11/90 15:00	9304.4	9041.9	431.01	25	6.0002
19/11/90 16:00	4224.7	4121.1	216	25	6.0002
19/11/90 17:00	561.27	521.14	35.001	26	6.0002
19/11/90 18:00	0	-21.619	0	26	6.9999
19/11/90 19:00	0	-21.619	0	26	6.9999
19/11/90 20:00	0	-21.619	0	26	6.9999
19/11/90 21:00	0	-21.619	0	27	6.9999
19/11/90 22:00	0	-21.619	0	27	6.9999
19/11/90 23:00	0	-21.619	0	27	8.0001
20/11/90 00:00	0	-21.619	0	26	8.0001
20/11/90 01:00	0	-21.619	0	26	8.0001
20/11/90 02:00	0	-21.619	0	26	8.0001
20/11/90 03:00	0	-21.619	0	26	8.0001
20/11/90 04:00	0	-21.619	0	26	8.9997
20/11/90 05:00	0	-21.619	0	26	8.0001
20/11/90 06:00	0	-21.619	6.0001	26	8.0001
20/11/90 07:00	1236.9	1186.7	71.001	26	8.0001
20/11/90 08:00	7275.5	7086.8	343.01	26	8.0001
20/11/90 09:00	11834	11458	541.99	26	8.0001
20/11/90 10:00	14962	14412	686.99	26	8.0001
20/11/90 11:00	14822	14281	680.99	26	8.0001
20/11/90 12:00	14243	13737	655.99	26	8.0001
20/11/90 13:00	9877.2	9592.7	458.01	26	6.9999
20/11/90 14:00	9624.2	9349.6	439.01	25	6.9999
20/11/90 15:00	8533.8	8301.6	395.01	25	6.9999
20/11/90 16:00	3787.5	3693.6	189	25	6.9999
20/11/90 17:00	466.77	427.84	27	25	6.9999
20/11/90 18:00	0	-21.619	0	25	6.9999
20/11/90 19:00	0	-21.619	0	25	6.0002
20/11/90 20:00	0	-21.619	0	25	6.0002
20/11/90 21:00	0	-21.619	0	25	6.0002
20/11/90 22:00	0	-21.619	0	25	6.9999
20/11/90 23:00	0	-21.619	0	25	6.9999
21/11/90 00:00	0	-21.619	0	25	8.0001
21/11/90 01:00	0	-21.619	0	25	8.0001
21/11/90 02:00	0	-21.619	0	25	8.0001
21/11/90 03:00	0	-21.619	0	25	8.0001
21/11/90 04:00	0	-21.619	0	25	8.0001
21/11/90 05:00	0	-21.619	0	25	8.0001
21/11/90 06:00	0	-21.619	6.0001	25	8.0001

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
21/11/90 07:00	2520.4	2448.9	140	24	8.9997
21/11/90 08:00	7329.8	7139.3	345.01	24	8.9997
21/11/90 09:00	11922	11541	543.99	24	8.0001
21/11/90 10:00	15125	14565	691.99	24	8.0001
21/11/90 11:00	16767	16097	773	24	6.9999
21/11/90 12:00	13193	12747	606.99	25	6.9999
21/11/90 13:00	10377	10070	478.01	25	6.9999
21/11/90 14:00	9996.4	9706.5	461.01	26	6.9999
21/11/90 15:00	6977.7	6798.9	325	26	6.9999
21/11/90 16:00	3564.2	3474.9	178	26	6.9999
21/11/90 17:00	519.74	480.16	32	26	8.0001
21/11/90 18:00	0	-21.619	0	26	8.0001
21/11/90 19:00	0	-21.619	0	26	8.0001
21/11/90 20:00	0	-21.619	0	26	8.0001
21/11/90 21:00	0	-21.619	0	26	6.9999
21/11/90 22:00	0	-21.619	0	26	6.9999
21/11/90 23:00	0	-21.619	0	26	6.9999
22/11/90 00:00	0	-21.619	0	26	6.9999
22/11/90 01:00	0	-21.619	0	26	8.0001
22/11/90 02:00	0	-21.619	0	25	8.9997
22/11/90 03:00	0	-21.619	0	25	10
22/11/90 04:00	0	-21.619	0	25	10
22/11/90 05:00	0	-21.619	0	25	10
22/11/90 06:00	0	-21.619	6.0001	25	10
22/11/90 07:00	1963	1900.3	104	24	10
22/11/90 08:00	7279.6	7090.7	342.01	24	10
22/11/90 09:00	11581	11217	526.99	24	10
22/11/90 10:00	14488	13967	659.99	24	10
22/11/90 11:00	16524	15871	760	25	10
22/11/90 12:00	16738	16071	771	25	10
22/11/90 13:00	15042	14487	688.99	25	8.9997
22/11/90 14:00	12751	12328	581.99	25	8.9997
22/11/90 15:00	7342.1	7151.3	340.01	25	8.9997
22/11/90 16:00	4195.4	4092.6	213	25	8.9997
22/11/90 17:00	529.85	490.08	31	25	8.9997
22/11/90 18:00	0	-21.619	0	25	8.9997
22/11/90 19:00	0	-21.619	0	25	8.9997
22/11/90 20:00	0	-21.619	0	25	8.9997
22/11/90 21:00	0	-21.619	0	25	8.9997
22/11/90 22:00	0	-21.619	0	25	8.0001
22/11/90 23:00	0	-21.619	0	25	8.0001
23/11/90 00:00	0	-21.619	0	25	8.0001
23/11/90 01:00	0	-21.619	0	25	8.0001
23/11/90 02:00	0	-21.619	0	25	6.9999
23/11/90 03:00	0	-21.619	0	25	8.0001
23/11/90 04:00	0	-21.619	0	24	8.0001
23/11/90 05:00	0	-21.619	0	24	6.9999
23/11/90 06:00	0	-21.619	6.0001	24	6.9999
23/11/90 07:00	2403.5	2333.8	135	24	6.9999
23/11/90 08:00	7030.3	6849.6	332.01	24	6.9999
23/11/90 09:00	9465.1	9197	433.01	24	6.9999
23/11/90 10:00	8739	8499.5	398.01	24	6.9999
23/11/90 11:00	11829	11454	543.99	24	6.9999
23/11/90 12:00	15418	14840	709	24	6.9999
23/11/90 13:00	13378	12922	614.99	25	6.9999
23/11/90 14:00	5067.9	4944.6	237	24	6.9999
23/11/90 15:00	2205	2138.3	106	24	8.0001
23/11/90 16:00	1385.9	1333	67.001	24	8.0001
23/11/90 17:00	356.53	319	19	25	8.0001
23/11/90 18:00	0	-21.619	0	25	8.0001

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
23/11/90 19:00	0	-21.619	0	25	8.0001
23/11/90 20:00	0	-21.619	0	25	8.0001
23/11/90 21:00	0	-21.619	0	25	8.0001
23/11/90 22:00	0	-21.619	0	25	8.0001
23/11/90 23:00	0	-21.619	0	25	8.0001
24/11/90 00:00	0	-21.619	0	25	6.9999
24/11/90 01:00	0	-21.619	0	25	6.9999
24/11/90 02:00	0	-21.619	0	25	6.0002
24/11/90 03:00	0	-21.619	0	25	6.0002
24/11/90 04:00	0	-21.619	0	25	6.9999
24/11/90 05:00	0	-21.619	0	25	6.9999
24/11/90 06:00	0	-21.619	5.0001	25	6.9999
24/11/90 07:00	2354.7	2285.9	133	25	6.9999
24/11/90 08:00	7024.7	6844.1	333.01	25	6.9999
24/11/90 09:00	9720.8	9442	446.01	25	6.9999
24/11/90 10:00	9946.6	9658.5	454.01	25	6.9999
24/11/90 11:00	15568	14980	717	25	6.9999
24/11/90 12:00	14111	13613	651.99	26	6.9999
24/11/90 13:00	8373	8147	389.01	26	6.9999
24/11/90 14:00	8446.1	8217.3	388.01	25	6.9999
24/11/90 15:00	5430.1	5297.2	253	25	8.0001
24/11/90 16:00	3608.6	3518.3	180	25	8.0001
24/11/90 17:00	435.88	397.35	25	25	8.9997
24/11/90 18:00	0	-21.619	0	25	8.9997
24/11/90 19:00	0	-21.619	0	25	8.9997
24/11/90 20:00	0	-21.619	0	25	8.9997
24/11/90 21:00	0	-21.619	0	26	8.9997
24/11/90 22:00	0	-21.619	0	26	8.0001
24/11/90 23:00	0	-21.619	0	26	8.0001
25/11/90 00:00	0	-21.619	0	26	8.0001
25/11/90 01:00	0	-21.619	0	26	8.0001
25/11/90 02:00	0	-21.619	0	25	8.9997
25/11/90 03:00	0	-21.619	0	25	8.9997
25/11/90 04:00	0	-21.619	0	24	8.9997
25/11/90 05:00	0	-21.619	0	25	8.9997
25/11/90 06:00	0	-21.619	3	24	8.9997
25/11/90 07:00	1631.1	1573.9	83.001	24	10
25/11/90 08:00	2845	2768.3	135	24	10
25/11/90 09:00	3044.9	2965	145	24	10
25/11/90 10:00	5714.6	5574.1	267	25	8.9997
25/11/90 11:00	15737	15138	724	25	8.9997
25/11/90 12:00	16859	16183	777	25	8.9997
25/11/90 13:00	15723	15124	721	25	8.9997
25/11/90 14:00	13103	12661	597.99	25	8.9997
25/11/90 15:00	9111	8856.3	422.01	25	8.0001
25/11/90 16:00	3760.2	3666.9	187	25	8.0001
25/11/90 17:00	375.95	338.22	20	26	8.0001
25/11/90 18:00	0	-21.619	0	26	8.9997
25/11/90 19:00	0	-21.619	0	26	8.9997
25/11/90 20:00	0	-21.619	0	26	8.9997
25/11/90 21:00	0	-21.619	0	26	8.9997
25/11/90 22:00	0	-21.619	0	26	8.9997
25/11/90 23:00	0	-21.619	0	26	8.9997
26/11/90 00:00	0	-21.619	0	27	8.9997
26/11/90 01:00	0	-21.619	0	26	8.9997
26/11/90 02:00	0	-21.619	0	25	8.9997
26/11/90 03:00	0	-21.619	0	25	8.0001
26/11/90 04:00	0	-21.619	0	25	8.0001
26/11/90 05:00	0	-21.619	0	26	6.9999
26/11/90 06:00	0	-21.619	2	26	8.0001

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
26/11/90 07:00	1479.2	1425	76.001	26	8.0001
26/11/90 08:00	3120.6	3039.4	148	26	8.9997
26/11/90 09:00	6604.2	6437.4	306	26	8.9997
26/11/90 10:00	12448	12041	570.99	26	8.9997
26/11/90 11:00	14840	14297	682.99	26	8.9997
26/11/90 12:00	13284	12833	612.99	26	8.9997
26/11/90 13:00	6215.4	6060.4	291	26	8.9997
26/11/90 14:00	11546	11184	532.99	26	8.0001
26/11/90 15:00	5294.1	5164.9	248	26	8.0001
26/11/90 16:00	2556.6	2484.9	126	26	8.0001
26/11/90 17:00	545.59	505.67	30	26	8.9997
26/11/90 18:00	0	-21.619	0	26	8.9997
26/11/90 19:00	0	-21.619	0	26	8.9997
26/11/90 20:00	0	-21.619	0	26	8.9997
26/11/90 21:00	0	-21.619	0	27	8.9997
26/11/90 22:00	0	-21.619	0	27	8.9997
26/11/90 23:00	0	-21.619	0	27	8.9997
27/11/90 00:00	0	-21.619	0	27	8.9997
27/11/90 01:00	0	-21.619	0	27	8.9997
27/11/90 02:00	0	-21.619	0	27	8.9997
27/11/90 03:00	0	-21.619	0	27	8.9997
27/11/90 04:00	0	-21.619	0	27	8.9997
27/11/90 05:00	0	-21.619	0	27	8.0001
27/11/90 06:00	0	-21.619	2	27	6.9999
27/11/90 07:00	1261	1210.5	62.001	27	8.0001
27/11/90 08:00	4243.8	4140.6	201	27	8.0001
27/11/90 09:00	6647.1	6478.9	309	27	8.9997
27/11/90 10:00	11947	11565	550.99	27	8.9997
27/11/90 11:00	11446	11089	529.99	27	8.0001
27/11/90 12:00	10866	10537	506.01	27	6.9999
27/11/90 13:00	13188	12743	608.99	27	6.9999
27/11/90 14:00	9819.6	9537.1	454.01	27	6.0002
27/11/90 15:00	5495.9	5361.3	258	27	6.0002
27/11/90 16:00	2582.1	2510.2	125	27	6.9999
27/11/90 17:00	395.12	357.2	21	27	6.9999
27/11/90 18:00	0	-21.619	0	27	6.0002
27/11/90 19:00	0	-21.619	0	27	6.9999
27/11/90 20:00	0	-21.619	0	26	6.9999
27/11/90 21:00	0	-21.619	0	26	6.0002
27/11/90 22:00	0	-21.619	0	27	5
27/11/90 23:00	0	-21.619	0	27	5
28/11/90 00:00	0	-21.619	0	27	6.0002
28/11/90 01:00	0	-21.619	0	27	6.0002
28/11/90 02:00	0	-21.619	0	27	6.9999
28/11/90 03:00	0	-21.619	0	27	6.9999
28/11/90 04:00	0	-21.619	0	27	6.9999
28/11/90 05:00	0	-21.619	0	26	6.9999
28/11/90 06:00	0	-21.619	2	27	6.0002
28/11/90 07:00	909.09	864.13	45.001	27	6.0002
28/11/90 08:00	1987.1	1924.3	96.001	27	6.9999
28/11/90 09:00	2669.1	2595.8	129	27	6.9999
28/11/90 10:00	3722.2	3630.3	179	27	6.9999
28/11/90 11:00	4568.9	4458.1	219	27	6.0002
28/11/90 12:00	8560.5	8327.8	402.01	27	6.0002
28/11/90 13:00	8928.3	8681.9	418.01	27	6.0002
28/11/90 14:00	9220.2	8962.7	428.01	27	6.0002
28/11/90 15:00	4803.6	4686.9	226	27	6.9999
28/11/90 16:00	1949.6	1887.2	94.001	26	8.0001
28/11/90 17:00	336.23	299	18	26	8.0001
28/11/90 18:00	0	-21.619	0	26	8.0001

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
28/11/90 19:00	0	-21.619	0	26	8.9997
28/11/90 20:00	0	-21.619	0	26	8.9997
28/11/90 21:00	0	-21.619	0	26	8.9997
28/11/90 22:00	0	-21.619	0	26	8.9997
28/11/90 23:00	0	-21.619	0	27	10
29/11/90 00:00	0	-21.619	0	27	10
29/11/90 01:00	0	-21.619	0	26	10
29/11/90 02:00	0	-21.619	0	26	10
29/11/90 03:00	0	-21.619	0	26	10
29/11/90 04:00	0	-21.619	0	26	10
29/11/90 05:00	0	-21.619	0	26	8.9997
29/11/90 06:00	0	-21.619	4.0001	26	8.9997
29/11/90 07:00	1409	1355.9	77.001	26	10
29/11/90 08:00	6014.9	5865.3	285	26	10
29/11/90 09:00	7747.2	7543.1	358.01	26	10
29/11/90 10:00	13721	13246	627.99	26	10
29/11/90 11:00	14190	13687	649.99	26	10
29/11/90 12:00	15810	15206	726	26	10
29/11/90 13:00	15524	14938	713	26	10
29/11/90 14:00	12918	12486	590.99	26	8.9997
29/11/90 15:00	7714.4	7511.2	358.01	26	8.9997
29/11/90 16:00	3578.5	3488.8	179	26	8.9997
29/11/90 17:00	575.71	535.38	34.001	26	8.9997
29/11/90 18:00	0	-21.619	0	26	8.9997
29/11/90 19:00	0	-21.619	0	26	8.9997
29/11/90 20:00	0	-21.619	0	26	8.9997
29/11/90 21:00	0	-21.619	0	27	8.0001
29/11/90 22:00	0	-21.619	0	27	8.0001
29/11/90 23:00	0	-21.619	0	27	8.9997
30/11/90 00:00	0	-21.619	0	27	8.9997
30/11/90 01:00	0	-21.619	0	26	8.9997
30/11/90 02:00	0	-21.619	0	26	8.9997
30/11/90 03:00	0	-21.619	0	26	8.9997
30/11/90 04:00	0	-21.619	0	26	8.9997
30/11/90 05:00	0	-21.619	0	26	8.0001
30/11/90 06:00	0	-21.619	4.0001	26	8.0001
30/11/90 07:00	2046.6	1983.3	119	26	8.0001
30/11/90 08:00	6855.3	6680	328	26	8.0001
30/11/90 09:00	11180	10835	512.99	26	8.0001
30/11/90 10:00	14505	13982	665.99	26	8.0001
30/11/90 11:00	15934	15321	734	26	8.0001
30/11/90 12:00	15022	14469	690.99	26	8.0001
30/11/90 13:00	13593	13125	622.99	26	8.0001
30/11/90 14:00	12927	12495	591.99	26	8.0001
30/11/90 15:00	9008.3	8757.6	419.01	26	6.9999
30/11/90 16:00	3693.6	3601.7	184	26	6.9999
30/11/90 17:00	396.3	358.32	21	26	6.0002
30/11/90 18:00	0	-21.619	0	26	6.0002
30/11/90 19:00	0	-21.619	0	26	6.0002
30/11/90 20:00	0	-21.619	0	26	6.0002
30/11/90 21:00	0	-21.619	0	26	6.0002
30/11/90 22:00	0	-21.619	0	26	6.9999
30/11/90 23:00	0	-21.619	0	26	6.9999
1/12/1990 0:00	0	-21.619	0	26	8.0001
1/12/1990 1:00	0	-21.619	0	26	8.0001
1/12/1990 2:00	0	-21.619	0	26	8.0001
1/12/1990 3:00	0	-21.619	0	26	8.0001
1/12/1990 4:00	0	-21.619	0	26	6.9999
1/12/1990 5:00	0	-21.619	0	26	6.9999
1/12/1990 6:00	0	-21.619	3	25	6.9999

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
1/12/1990 7:00	1637.7	1580.8	91.001	26	8.0001
1/12/1990 8:00	4928.8	4808.9	235	26	8.0001
1/12/1990 9:00	2979.4	2900.7	142	26	8.0001
1/12/1990 10:00	13318	12865	612.99	25	8.9997
1/12/1990 11:00	16156	15528	747	25	8.9997
1/12/1990 12:00	16454	15806	765	26	8.0001
1/12/1990 13:00	15132	14571	699.99	26	8.0001
1/12/1990 14:00	11177	10832	514.99	26	8.0001
1/12/1990 15:00	8664.2	8427.2	404.01	25	8.0001
1/12/1990 16:00	3097.6	3016.8	156	25	8.0001
1/12/1990 17:00	452.4	413.65	27	25	8.0001
1/12/1990 18:00	0	-21.619	0	25	8.0001
1/12/1990 19:00	0	-21.619	0	25	8.0001
1/12/1990 20:00	0	-21.619	0	26	8.0001
1/12/1990 21:00	0	-21.619	0	26	8.0001
1/12/1990 22:00	0	-21.619	0	26	8.0001
1/12/1990 23:00	0	-21.619	0	25	8.0001
2/12/1990 0:00	0	-21.619	0	25	8.0001
2/12/1990 1:00	0	-21.619	0	25	8.0001
2/12/1990 2:00	0	-21.619	0	25	8.0001
2/12/1990 3:00	0	-21.619	0	25	8.0001
2/12/1990 4:00	0	-21.619	0	25	8.0001
2/12/1990 5:00	0	-21.619	0	26	8.0001
2/12/1990 6:00	0	-21.619	4.0001	26	8.0001
2/12/1990 7:00	1876.6	1816	110	26	8.0001
2/12/1990 8:00	6601.1	6433.9	317	26	8.0001
2/12/1990 9:00	9544.7	9273	441.01	26	8.9997
2/12/1990 10:00	14338	13825	660.99	26	8.9997
2/12/1990 11:00	16247	15613	753	26	8.9997
2/12/1990 12:00	16541	15887	769	26	8.0001
2/12/1990 13:00	15231	14664	705	26	8.0001
2/12/1990 14:00	12841	12413	591.99	26	8.0001
2/12/1990 15:00	9031.2	8779.3	423.01	26	8.0001
2/12/1990 16:00	4070.2	3969.8	211	26	8.0001
2/12/1990 17:00	508.24	468.81	32	26	6.9999
2/12/1990 18:00	0	-21.619	0	26	8.0001
2/12/1990 19:00	0	-21.619	0	26	8.0001
2/12/1990 20:00	0	-21.619	0	26	8.0001
2/12/1990 21:00	0	-21.619	0	26	8.0001
2/12/1990 22:00	0	-21.619	0	26	8.0001
2/12/1990 23:00	0	-21.619	0	26	8.0001
3/12/1990 0:00	0	-21.619	0	26	8.9997
3/12/1990 1:00	0	-21.619	0	25	8.9997
3/12/1990 2:00	0	-21.619	0	25	8.9997
3/12/1990 3:00	0	-21.619	0	25	8.9997
3/12/1990 4:00	0	-21.619	0	25	10
3/12/1990 5:00	0	-21.619	0	25	8.9997
3/12/1990 6:00	0	-21.619	3	25	8.9997
3/12/1990 7:00	1862.9	1802.3	108	25	8.9997
3/12/1990 8:00	6599.3	6432	317	25	8.9997
3/12/1990 9:00	9860.5	9575.5	454.01	25	8.9997
3/12/1990 10:00	5876.4	5731.2	274	25	8.9997
3/12/1990 11:00	11153	10811	514.99	25	8.9997
3/12/1990 12:00	12186	11793	562.99	25	8.9997
3/12/1990 13:00	9303.6	9042	424.01	25	8.9997
3/12/1990 14:00	11705	11336	538.99	26	8.9997
3/12/1990 15:00	8260	8037.5	386.01	26	8.9997
3/12/1990 16:00	4079.5	3979	210	26	8.9997
3/12/1990 17:00	556.35	516.28	35.001	26	8.9997
3/12/1990 18:00	0	-21.619	0	26	8.9997

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
3/12/1990 19:00	0	-21.619	0	26	8.9997
3/12/1990 20:00	0	-21.619	0	26	8.9997
3/12/1990 21:00	0	-21.619	0	26	8.9997
3/12/1990 22:00	0	-21.619	0	26	8.9997
3/12/1990 23:00	0	-21.619	0	26	8.9997
4/12/1990 0:00	0	-21.619	0	26	8.9997
4/12/1990 1:00	0	-21.619	0	26	10
4/12/1990 2:00	0	-21.619	0	26	10
4/12/1990 3:00	0	-21.619	0	25	8.9997
4/12/1990 4:00	0	-21.619	0	25	8.9997
4/12/1990 5:00	0	-21.619	0	25	8.9997
4/12/1990 6:00	0	-21.619	2	25	8.9997
4/12/1990 7:00	1782.3	1723.1	104	26	8.9997
4/12/1990 8:00	6593.6	6426.4	318	26	8.9997
4/12/1990 9:00	10285	9981	474.01	26	10
4/12/1990 10:00	14231	13724	654.99	26	10
4/12/1990 11:00	15492	14909	715	26	10
4/12/1990 12:00	15052	14496	694.99	26	10
4/12/1990 13:00	13850	13367	637.99	26	10
4/12/1990 14:00	8197.4	7977.6	379.01	26	10
4/12/1990 15:00	8696.1	8457.9	406.01	26	10
4/12/1990 16:00	3360.6	3275.1	169	26	10
4/12/1990 17:00	395.88	357.9	23	26	10
4/12/1990 18:00	0	-21.619	0	26	10
4/12/1990 19:00	0	-21.619	0	26	10
4/12/1990 20:00	0	-21.619	0	26	10
4/12/1990 21:00	0	-21.619	0	26	10
4/12/1990 22:00	0	-21.619	0	26	11
4/12/1990 23:00	0	-21.619	0	26	11
5/12/1990 0:00	0	-21.619	0	25	12
5/12/1990 1:00	0	-21.619	0	25	12
5/12/1990 2:00	0	-21.619	0	25	11
5/12/1990 3:00	0	-21.619	0	25	12
5/12/1990 4:00	0	-21.619	0	25	11
5/12/1990 5:00	0	-21.619	0	25	11
5/12/1990 6:00	0	-21.619	2	25	10
5/12/1990 7:00	1672.2	1614.4	92.001	25	10
5/12/1990 8:00	6523.7	6358.8	313	25	10
5/12/1990 9:00	10549	10233	485.01	25	10
5/12/1990 10:00	12885	12455	590.99	25	8.9997
5/12/1990 11:00	15324	14751	706	25	8.9997
5/12/1990 12:00	15662	15067	722	25	8.9997
5/12/1990 13:00	14910	14363	685.99	25	8.9997
5/12/1990 14:00	12856	12427	589.99	25	8.9997
5/12/1990 15:00	8216.3	7995.4	383.01	25	8.9997
5/12/1990 16:00	4201.5	4098.4	213	25	8.9997
5/12/1990 17:00	506.37	466.98	28	26	8.9997
5/12/1990 18:00	0	-21.619	0	26	8.9997
5/12/1990 19:00	0	-21.619	0	26	8.9997
5/12/1990 20:00	0	-21.619	0	26	8.9997
5/12/1990 21:00	0	-21.619	0	26	8.9997
5/12/1990 22:00	0	-21.619	0	26	8.9997
5/12/1990 23:00	0	-21.619	0	26	8.9997
6/12/1990 0:00	0	-21.619	0	26	10
6/12/1990 1:00	0	-21.619	0	26	10
6/12/1990 2:00	0	-21.619	0	26	10
6/12/1990 3:00	0	-21.619	0	26	10
6/12/1990 4:00	0	-21.619	0	26	10
6/12/1990 5:00	0	-21.619	0	26	8.9997
6/12/1990 6:00	0	-21.619	3	26	8.9997

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
6/12/1990 7:00	1670.7	1613.1	93.001	26	8.9997
6/12/1990 8:00	3405	3318.8	163	26	8.9997
6/12/1990 9:00	8194.5	7974.7	380.01	26	8.9997
6/12/1990 10:00	14192	13688	653.99	26	8.9997
6/12/1990 11:00	15974	15359	741	26	8.0001
6/12/1990 12:00	15768	15167	731	26	8.0001
6/12/1990 13:00	14762	14224	682.99	26	6.9999
6/12/1990 14:00	12867	12437	593.99	26	6.9999
6/12/1990 15:00	9058.5	8805.5	425.01	26	6.0002
6/12/1990 16:00	4117.6	4016.1	213	26	6.0002
6/12/1990 17:00	540.02	500.17	34.001	26	6.0002
6/12/1990 18:00	0	-21.619	0	26	6.0002
6/12/1990 19:00	0	-21.619	0	26	6.0002
6/12/1990 20:00	0	-21.619	0	26	6.0002
6/12/1990 21:00	0	-21.619	0	26	5
6/12/1990 22:00	0	-21.619	0	26	5
6/12/1990 23:00	0	-21.619	0	26	5
7/12/1990 0:00	0	-21.619	0	26	5
7/12/1990 1:00	0	-21.619	0	25	3.9998
7/12/1990 2:00	0	-21.619	0	25	3.9998
7/12/1990 3:00	0	-21.619	0	25	3.9998
7/12/1990 4:00	0	-21.619	0	25	3.9998
7/12/1990 5:00	0	-21.619	0	26	3.9998
7/12/1990 6:00	0	-21.619	3	26	5
7/12/1990 7:00	1738.3	1679.9	104	26	6.0002
7/12/1990 8:00	6497.7	6333.3	316	26	6.0002
7/12/1990 9:00	10953	10619	508.01	26	6.0002
7/12/1990 10:00	14146	13644	655.99	26	5
7/12/1990 11:00	15959	15345	744	26	5
7/12/1990 12:00	16294	15659	763	27	5
7/12/1990 13:00	15283	14714	713	27	5
7/12/1990 14:00	12815	12388	594.99	27	5
7/12/1990 15:00	8802.7	8560.1	414.01	27	5
7/12/1990 16:00	3602.5	3512.4	183	27	5
7/12/1990 17:00	440.2	401.67	24	26	5
7/12/1990 18:00	0	-21.619	0	26	6.0002
7/12/1990 19:00	0	-21.619	0	26	6.0002
7/12/1990 20:00	0	-21.619	0	26	6.0002
7/12/1990 21:00	0	-21.619	0	26	6.0002
7/12/1990 22:00	0	-21.619	0	26	6.0002
7/12/1990 23:00	0	-21.619	0	26	6.0002
8/12/1990 0:00	0	-21.619	0	26	6.0002
8/12/1990 1:00	0	-21.619	0	26	6.0002
8/12/1990 2:00	0	-21.619	0	26	6.0002
8/12/1990 3:00	0	-21.619	0	26	6.0002
8/12/1990 4:00	0	-21.619	0	26	6.9999
8/12/1990 5:00	0	-21.619	0	26	6.9999
8/12/1990 6:00	0	-21.619	2	26	6.9999
8/12/1990 7:00	1296.4	1245.3	69.001	26	6.9999
8/12/1990 8:00	4863.7	4745.4	234	26	6.9999
8/12/1990 9:00	10140	9843	469.01	26	6.9999
8/12/1990 10:00	13436	12977	620.99	26	6.0002
8/12/1990 11:00	11998	11614	557.99	26	6.0002
8/12/1990 12:00	15487	14905	720	26	6.0002
8/12/1990 13:00	13013	12577	601.99	26	6.0002
8/12/1990 14:00	12129	11738	559.99	26	6.0002
8/12/1990 15:00	6453.8	6291.5	303	26	6.0002
8/12/1990 16:00	2124.9	2059.9	104	26	6.0002
8/12/1990 17:00	508.72	469.3	28	26	5
8/12/1990 18:00	0	-21.619	0	26	5

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
8/12/1990 19:00	0	-21.619	0	26	5
8/12/1990 20:00	0	-21.619	0	26	5
8/12/1990 21:00	0	-21.619	0	26	5
8/12/1990 22:00	0	-21.619	0	26	5
8/12/1990 23:00	0	-21.619	0	26	6.0002
9/12/1990 0:00	0	-21.619	0	26	5
9/12/1990 1:00	0	-21.619	0	26	5
9/12/1990 2:00	0	-21.619	0	26	5
9/12/1990 3:00	0	-21.619	0	26	5
9/12/1990 4:00	0	-21.619	0	26	6.0002
9/12/1990 5:00	0	-21.619	0	26	6.0002
9/12/1990 6:00	0	-21.619	3	26	6.0002
9/12/1990 7:00	1653.4	1596.4	101	26	6.0002
9/12/1990 8:00	6353	6192.9	310	26	6.0002
9/12/1990 9:00	10700	10378	496.01	26	6.0002
9/12/1990 10:00	13715	13239	633.99	26	6.0002
9/12/1990 11:00	13837	13355	643.99	27	6.0002
9/12/1990 12:00	16151	15525	754	27	6.0002
9/12/1990 13:00	15137	14577	706	27	5
9/12/1990 14:00	12758	12334	591.99	27	5
9/12/1990 15:00	8125.8	7908.1	382.01	27	5
9/12/1990 16:00	4235.2	4131.5	216	27	5
9/12/1990 17:00	591.58	551.04	36.001	26	5
9/12/1990 18:00	0	-21.619	0	26	6.0002
9/12/1990 19:00	0	-21.619	0	26	6.0002
9/12/1990 20:00	0	-21.619	0	26	6.0002
9/12/1990 21:00	0	-21.619	0	26	6.0002
9/12/1990 22:00	0	-21.619	0	26	6.0002
9/12/1990 23:00	0	-21.619	0	26	6.0002
10/12/1990 0:00	0	-21.619	0	26	6.9999
10/12/1990 1:00	0	-21.619	0	26	6.9999
10/12/1990 2:00	0	-21.619	0	26	6.9999
10/12/1990 3:00	0	-21.619	0	26	8.0001
10/12/1990 4:00	0	-21.619	0	26	8.0001
10/12/1990 5:00	0	-21.619	0	26	6.9999
10/12/1990 6:00	0	-21.619	2	26	6.9999
10/12/1990 7:00	1427.4	1374	80.001	26	6.9999
10/12/1990 8:00	4341.1	4235.5	209	26	6.9999
10/12/1990 9:00	10410	10101	482.01	26	6.9999
10/12/1990 10:00	13651	13179	629.99	26	6.9999
10/12/1990 11:00	15758	15159	734	27	6.9999
10/12/1990 12:00	15837	15231	735	26	6.9999
10/12/1990 13:00	14678	14145	678.99	26	6.9999
10/12/1990 14:00	12200	11805	561.99	26	6.9999
10/12/1990 15:00	8601.6	8366.6	402.01	26	8.0001
10/12/1990 16:00	4021.3	3922	207	26	8.0001
10/12/1990 17:00	568.83	528.59	36.001	26	8.0001
10/12/1990 18:00	0	-21.619	0	26	8.0001
10/12/1990 19:00	0	-21.619	0	26	8.0001
10/12/1990 20:00	0	-21.619	0	26	8.0001
10/12/1990 21:00	0	-21.619	0	26	8.0001
10/12/1990 22:00	0	-21.619	0	26	6.9999
10/12/1990 23:00	0	-21.619	0	27	6.9999
11/12/1990 0:00	0	-21.619	0	27	8.0001
11/12/1990 1:00	0	-21.619	0	27	8.9997
11/12/1990 2:00	0	-21.619	0	27	8.9997
11/12/1990 3:00	0	-21.619	0	27	8.9997
11/12/1990 4:00	0	-21.619	0	27	8.9997
11/12/1990 5:00	0	-21.619	0	27	8.0001
11/12/1990 6:00	0	-21.619	2	27	8.0001

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
11/12/1990 7:00	1315.2	1263.9	73.001	27	8.0001
11/12/1990 8:00	6132.7	5979.3	299	27	8.0001
11/12/1990 9:00	10644	10325	494.01	27	8.0001
11/12/1990 10:00	13915	13428	643.99	27	8.0001
11/12/1990 11:00	15811	15207	735	27	8.0001
11/12/1990 12:00	16263	15628	756	26	6.9999
11/12/1990 13:00	15233	14666	708	27	6.9999
11/12/1990 14:00	12831	12404	593.99	27	6.9999
11/12/1990 15:00	9046.5	8793.9	425.01	27	6.9999
11/12/1990 16:00	4319.5	4213.6	223	27	6.9999
11/12/1990 17:00	576.47	536.2	34.001	27	6.0002
11/12/1990 18:00	0	-21.619	0	27	6.9999
11/12/1990 19:00	0	-21.619	0	27	8.0001
11/12/1990 20:00	0	-21.619	0	27	8.0001
11/12/1990 21:00	0	-21.619	0	27	8.0001
11/12/1990 22:00	0	-21.619	0	27	8.0001
11/12/1990 23:00	0	-21.619	0	27	6.9999
12/12/1990 0:00	0	-21.619	0	27	8.0001
12/12/1990 1:00	0	-21.619	0	27	10
12/12/1990 2:00	0	-21.619	0	27	11
12/12/1990 3:00	0	-21.619	0	26	10
12/12/1990 4:00	0	-21.619	0	26	10
12/12/1990 5:00	0	-21.619	0	26	10
12/12/1990 6:00	0	-21.619	1	26	10
12/12/1990 7:00	1330	1278.3	74.001	26	10
12/12/1990 8:00	5381.6	5249.7	260	26	11
12/12/1990 9:00	9288.6	9027.2	429.01	26	11
12/12/1990 10:00	13506	13042	619.99	26	11
12/12/1990 11:00	14888	14342	685.99	26	10
12/12/1990 12:00	15975	15359	738	26	10
12/12/1990 13:00	13983	13492	643.99	26	10
12/12/1990 14:00	9589.6	9316.5	443.01	26	10
12/12/1990 15:00	7442.6	7248.6	349.01	27	8.9997
12/12/1990 16:00	3796.8	3702.6	192	27	10
12/12/1990 17:00	382.1	344.29	21	26	10
12/12/1990 18:00	0	-21.619	0	26	8.9997
12/12/1990 19:00	0	-21.619	0	27	8.9997
12/12/1990 20:00	0	-21.619	0	27	8.9997
12/12/1990 21:00	0	-21.619	0	27	8.9997
12/12/1990 22:00	0	-21.619	0	27	8.9997
12/12/1990 23:00	0	-21.619	0	27	10
13/12/90 00:00	0	-21.619	0	26	10
13/12/90 01:00	0	-21.619	0	26	10
13/12/90 02:00	0	-21.619	0	26	10
13/12/90 03:00	0	-21.619	0	26	10
13/12/90 04:00	0	-21.619	0	26	10
13/12/90 05:00	0	-21.619	0	26	8.9997
13/12/90 06:00	0	-21.619	0	26	8.9997
13/12/90 07:00	1231.7	1181.6	73.001	26	8.9997
13/12/90 08:00	5674.4	5534.2	276	26	8.9997
13/12/90 09:00	10533	10218	487.01	26	8.9997
13/12/90 10:00	13824	13341	636.99	26	8.9997
13/12/90 11:00	15794	15191	732	26	8.0001
13/12/90 12:00	15878	15270	738	27	8.0001
13/12/90 13:00	15190	14626	705	27	8.0001
13/12/90 14:00	12830	12403	593.99	27	6.9999
13/12/90 15:00	9069.9	8816.4	426.01	27	6.9999
13/12/90 16:00	4316	4210	224	27	6.9999
13/12/90 17:00	649.32	608.05	41.001	27	6.9999
13/12/90 18:00	0	-21.619	0	27	6.9999

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
13/12/90 19:00	0	-21.619	0	27	6.9999
13/12/90 20:00	0	-21.619	0	27	6.9999
13/12/90 21:00	0	-21.619	0	27	6.9999
13/12/90 22:00	0	-21.619	0	27	6.0002
13/12/90 23:00	0	-21.619	0	27	6.0002
14/12/90 00:00	0	-21.619	0	27	6.0002
14/12/90 01:00	0	-21.619	0	27	6.9999
14/12/90 02:00	0	-21.619	0	27	6.9999
14/12/90 03:00	0	-21.619	0	27	6.9999
14/12/90 04:00	0	-21.619	0	27	8.0001
14/12/90 05:00	0	-21.619	0	27	8.0001
14/12/90 06:00	0	-21.619	1	27	8.0001
14/12/90 07:00	582.32	541.97	31	27	8.0001
14/12/90 08:00	5700.8	5560	277	27	8.9997
14/12/90 09:00	10603	10285	492.01	27	8.9997
14/12/90 10:00	13823	13341	638.99	27	8.9997
14/12/90 11:00	15011	14457	694.99	27	8.9997
14/12/90 12:00	16234	15601	754	27	8.9997
14/12/90 13:00	15126	14566	701	27	8.9997
14/12/90 14:00	12845	12417	593.99	27	8.0001
14/12/90 15:00	9104.3	8849.4	427.01	27	8.0001
14/12/90 16:00	4171.4	4068.8	214	27	8.0001
14/12/90 17:00	653.66	612.25	41.001	26	8.0001
14/12/90 18:00	0	-21.619	0	26	8.0001
14/12/90 19:00	0	-21.619	0	26	8.0001
14/12/90 20:00	0	-21.619	0	26	8.9997
14/12/90 21:00	0	-21.619	0	27	8.9997
14/12/90 22:00	0	-21.619	0	27	8.0001
14/12/90 23:00	0	-21.619	0	27	8.0001
15/12/90 00:00	0	-21.619	0	27	8.0001
15/12/90 01:00	0	-21.619	0	27	8.9997
15/12/90 02:00	0	-21.619	0	27	10
15/12/90 03:00	0	-21.619	0	26	10
15/12/90 04:00	0	-21.619	0	26	10
15/12/90 05:00	0	-21.619	0	26	8.9997
15/12/90 06:00	0	-21.619	2	26	8.9997
15/12/90 07:00	990.23	943.93	53.001	26	8.0001
15/12/90 08:00	5661.1	5521.4	275	26	8.9997
15/12/90 09:00	10440	10130	483.01	26	8.9997
15/12/90 10:00	12503	12093	574.99	26	8.9997
15/12/90 11:00	15478	14895	715	26	8.9997
15/12/90 12:00	15481	14899	716	26	8.9997
15/12/90 13:00	12982	12547	598.99	26	8.9997
15/12/90 14:00	10576	10260	487.01	26	8.9997
15/12/90 15:00	8206.9	7986.4	383.01	26	8.9997
15/12/90 16:00	2579.5	2507.4	127	26	10
15/12/90 17:00	482.15	443.07	26	26	8.9997
15/12/90 18:00	0	-21.619	0	27	10
15/12/90 19:00	0	-21.619	0	27	8.9997
15/12/90 20:00	0	-21.619	0	27	10
15/12/90 21:00	0	-21.619	0	27	10
15/12/90 22:00	0	-21.619	0	27	10
15/12/90 23:00	0	-21.619	0	27	11
16/12/90 00:00	0	-21.619	0	26	12
16/12/90 01:00	0	-21.619	0	27	11
16/12/90 02:00	0	-21.619	0	27	11
16/12/90 03:00	0	-21.619	0	26	11
16/12/90 04:00	0	-21.619	0	26	12
16/12/90 05:00	0	-21.619	0	26	11
16/12/90 06:00	0	-21.619	1	26	10

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
16/12/90 07:00	1254.4	1203.9	72.001	26	11
16/12/90 08:00	5412.3	5279.4	263	26	11
16/12/90 09:00	9453.1	9184.8	437.01	26	11
16/12/90 10:00	11383	11029	522.99	26	11
16/12/90 11:00	14674	14141	675.99	26	11
16/12/90 12:00	14277	13769	658.99	26	11
16/12/90 13:00	12199	11805	563.99	26	11
16/12/90 14:00	11875	11496	545.99	26	11
16/12/90 15:00	8451.6	8222.2	394.01	26	11
16/12/90 16:00	3593.7	3503.8	178	26	11
16/12/90 17:00	315.42	278.43	17	26	11
16/12/90 18:00	0	-21.619	0	26	11
16/12/90 19:00	0	-21.619	0	26	11
16/12/90 20:00	0	-21.619	0	26	11
16/12/90 21:00	0	-21.619	0	26	11
16/12/90 22:00	0	-21.619	0	26	11
16/12/90 23:00	0	-21.619	0	26	11
17/12/90 00:00	0	-21.619	0	26	11
17/12/90 01:00	0	-21.619	0	26	11
17/12/90 02:00	0	-21.619	0	26	11
17/12/90 03:00	0	-21.619	0	25	10
17/12/90 04:00	0	-21.619	0	25	10
17/12/90 05:00	0	-21.619	0	25	10
17/12/90 06:00	0	-21.619	0	25	8.9997
17/12/90 07:00	848.79	804.52	44.001	25	8.9997
17/12/90 08:00	4584.2	4472.8	221	26	10
17/12/90 09:00	7431.1	7237.6	346.01	26	10
17/12/90 10:00	10452	10141	481.01	26	8.9997
17/12/90 11:00	13124	12681	603.99	26	8.9997
17/12/90 12:00	16151	15524	749	26	8.0001
17/12/90 13:00	15233	14666	707	27	8.0001
17/12/90 14:00	12893	12462	596.99	27	6.9999
17/12/90 15:00	9183.1	8925	431.01	27	6.9999
17/12/90 16:00	4489.5	4379.8	230	27	6.0002
17/12/90 17:00	621.81	580.86	36.001	26	6.0002
17/12/90 18:00	0	-21.619	0	26	6.9999
17/12/90 19:00	0	-21.619	0	26	6.9999
17/12/90 20:00	0	-21.619	0	26	6.9999
17/12/90 21:00	0	-21.619	0	26	6.0002
17/12/90 22:00	0	-21.619	0	26	6.0002
17/12/90 23:00	0	-21.619	0	26	6.0002
18/12/90 00:00	0	-21.619	0	26	6.0002
18/12/90 01:00	0	-21.619	0	26	6.0002
18/12/90 02:00	0	-21.619	0	26	6.9999
18/12/90 03:00	0	-21.619	0	26	6.9999
18/12/90 04:00	0	-21.619	0	26	6.9999
18/12/90 05:00	0	-21.619	0	26	6.9999
18/12/90 06:00	0	-21.619	0	26	6.9999
18/12/90 07:00	1201.7	1151.9	75.001	25	6.9999
18/12/90 08:00	5883.6	5737.2	289	25	6.9999
18/12/90 09:00	10412	10102	483.01	26	6.9999
18/12/90 10:00	13590	13121	627.99	26	6.0002
18/12/90 11:00	14335	13823	663.99	26	6.0002
18/12/90 12:00	16175	15547	755	26	5
18/12/90 13:00	15289	14719	711	26	5
18/12/90 14:00	12759	12336	589.99	26	5
18/12/90 15:00	9232	8972	433.01	26	3.9998
18/12/90 16:00	4285.9	4181.1	216	26	3.0001
18/12/90 17:00	423.58	385.26	23	26	3.0001
18/12/90 18:00	0	-21.619	0	26	3.0001

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
18/12/90 19:00	0	-21.619	0	26	3.9998
18/12/90 20:00	0	-21.619	0	25	5
18/12/90 21:00	0	-21.619	0	25	5
18/12/90 22:00	0	-21.619	0	25	5
18/12/90 23:00	0	-21.619	0	25	3.9998
19/12/90 00:00	0	-21.619	0	25	3.9998
19/12/90 01:00	0	-21.619	0	25	5
19/12/90 02:00	0	-21.619	0	25	5
19/12/90 03:00	0	-21.619	0	25	5
19/12/90 04:00	0	-21.619	0	25	5
19/12/90 05:00	0	-21.619	0	26	5
19/12/90 06:00	0	-21.619	2	26	5
19/12/90 07:00	1439.4	1385.8	88.001	26	6.0002
19/12/90 08:00	5607.7	5469.2	276	26	6.0002
19/12/90 09:00	10356	10048	481.01	26	6.0002
19/12/90 10:00	13555	13088	626.99	26	6.0002
19/12/90 11:00	15517	14932	721	26	6.0002
19/12/90 12:00	16018	15401	747	26	5
19/12/90 13:00	15254	14686	709	26	5
19/12/90 14:00	10705	10383	495.01	26	5
19/12/90 15:00	5254	5125.8	247	25	5
19/12/90 16:00	1868.1	1807.1	93.001	25	5
19/12/90 17:00	711.76	669.55	41.001	26	5
19/12/90 18:00	0	-21.619	0	26	5
19/12/90 19:00	0	-21.619	0	26	6.0002
19/12/90 20:00	0	-21.619	0	26	6.0002
19/12/90 21:00	0	-21.619	0	26	6.0002
19/12/90 22:00	0	-21.619	0	26	5
19/12/90 23:00	0	-21.619	0	25	3.9998
20/12/90 00:00	0	-21.619	0	26	5
20/12/90 01:00	0	-21.619	0	26	5
20/12/90 02:00	0	-21.619	0	25	5
20/12/90 03:00	0	-21.619	0	25	5
20/12/90 04:00	0	-21.619	0	24	6.0002
20/12/90 05:00	0	-21.619	0	25	6.9999
20/12/90 06:00	0	-21.619	1	25	6.9999
20/12/90 07:00	1190.3	1140.9	72.001	26	6.9999
20/12/90 08:00	5010.8	4888.6	245	26	6.9999
20/12/90 09:00	7735.4	7531.6	360.01	26	6.9999
20/12/90 10:00	9455	9187.8	440.01	26	6.9999
20/12/90 11:00	9324.2	9062.6	435.01	26	6.9999
20/12/90 12:00	11428	11072	530.99	26	6.9999
20/12/90 13:00	14867	14322	686.99	26	8.0001
20/12/90 14:00	12266	11868	565.99	26	8.0001
20/12/90 15:00	5975.7	5827.6	280	26	8.9997
20/12/90 16:00	3532	3443.4	175	26	8.9997
20/12/90 17:00	549.87	509.89	31	26	10
20/12/90 18:00	0	-21.619	0	26	8.9997
20/12/90 19:00	0	-21.619	0	26	8.9997
20/12/90 20:00	0	-21.619	0	26	8.9997
20/12/90 21:00	0	-21.619	0	26	10
20/12/90 22:00	0	-21.619	0	26	10
20/12/90 23:00	0	-21.619	0	26	10
21/12/90 00:00	0	-21.619	0	26	11
21/12/90 01:00	0	-21.619	0	25	11
21/12/90 02:00	0	-21.619	0	25	11
21/12/90 03:00	0	-21.619	0	25	11
21/12/90 04:00	0	-21.619	0	25	10
21/12/90 05:00	0	-21.619	0	25	10
21/12/90 06:00	0	-21.619	1	25	11

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
21/12/90 07:00	1228	1177.8	70.001	25	11
21/12/90 08:00	5115	4990.2	248	25	11
21/12/90 09:00	8323.5	8099	385.01	25	11
21/12/90 10:00	10537	10223	485.01	25	11
21/12/90 11:00	13740	13264	631.99	25	11
21/12/90 12:00	8544	8311.8	397.01	25	11
21/12/90 13:00	8468	8238.7	395.01	25	11
21/12/90 14:00	11791	11417	540.99	25	11
21/12/90 15:00	9278.1	9016.6	431.01	25	11
21/12/90 16:00	3334.3	3249.3	164	25	10
21/12/90 17:00	732.39	689.8	42.001	25	10
21/12/90 18:00	0	-21.619	0	25	11
21/12/90 19:00	0	-21.619	0	26	11
21/12/90 20:00	0	-21.619	0	26	12
21/12/90 21:00	0	-21.619	0	26	12
21/12/90 22:00	0	-21.619	0	26	12
21/12/90 23:00	0	-21.619	0	25	12
22/12/90 00:00	0	-21.619	0	25	12
22/12/90 01:00	0	-21.619	0	25	12
22/12/90 02:00	0	-21.619	0	25	12
22/12/90 03:00	0	-21.619	0	25	12
22/12/90 04:00	0	-21.619	0	25	12
22/12/90 05:00	0	-21.619	0	25	12
22/12/90 06:00	0	-21.619	0	25	12
22/12/90 07:00	765.54	722.49	39.001	25	12
22/12/90 08:00	4490.7	4381.6	216	25	12
22/12/90 09:00	5427.2	5294.5	254	25	12
22/12/90 10:00	6879.1	6703.7	321	25	12
22/12/90 11:00	5736.1	5595	270	25	12
22/12/90 12:00	9533.9	9263.7	442.01	25	12
22/12/90 13:00	7768.5	7563.7	363.01	25	12
22/12/90 14:00	6885.6	6710	321	25	12
22/12/90 15:00	6086.1	5934.8	284	25	11
22/12/90 16:00	3309.6	3225.1	161	25	11
22/12/90 17:00	459.5	420.66	24	25	11
22/12/90 18:00	0	-21.619	0	26	11
22/12/90 19:00	0	-21.619	0	26	11
22/12/90 20:00	0	-21.619	0	26	11
22/12/90 21:00	0	-21.619	0	26	11
22/12/90 22:00	0	-21.619	0	26	11
22/12/90 23:00	0	-21.619	0	26	11
23/12/90 00:00	0	-21.619	0	26	11
23/12/90 01:00	0	-21.619	0	25	11
23/12/90 02:00	0	-21.619	0	25	11
23/12/90 03:00	0	-21.619	0	25	11
23/12/90 04:00	0	-21.619	0	25	11
23/12/90 05:00	0	-21.619	0	26	11
23/12/90 06:00	0	-21.619	0	26	11
23/12/90 07:00	978.57	932.44	54.001	26	11
23/12/90 08:00	5372.9	5241.1	262	26	10
23/12/90 09:00	7531.3	7334.3	350.01	26	10
23/12/90 10:00	10324	10020	477.01	26	10
23/12/90 11:00	14597	14069	673.99	26	8.9997
23/12/90 12:00	15632	15040	724	26	8.9997
23/12/90 13:00	9259.8	9000.7	431.01	26	8.9997
23/12/90 14:00	6498.1	6334.6	305	26	8.0001
23/12/90 15:00	7147.2	6962.9	334.01	26	8.0001
23/12/90 16:00	4686	4571.8	236	26	8.0001
23/12/90 17:00	664.64	623.16	38.001	27	8.0001
23/12/90 18:00	0	-21.619	0	26	6.9999

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
23/12/90 19:00	0	-21.619	0	26	6.9999
23/12/90 20:00	0	-21.619	0	26	6.9999
23/12/90 21:00	0	-21.619	0	26	8.0001
23/12/90 22:00	0	-21.619	0	26	8.0001
23/12/90 23:00	0	-21.619	0	25	8.0001
24/12/90 00:00	0	-21.619	0	25	6.9999
24/12/90 01:00	0	-21.619	0	25	6.9999
24/12/90 02:00	0	-21.619	0	25	6.9999
24/12/90 03:00	0	-21.619	0	25	6.9999
24/12/90 04:00	0	-21.619	0	25	6.0002
24/12/90 05:00	0	-21.619	0	25	6.0002
24/12/90 06:00	0	-21.619	1	25	6.0002
24/12/90 07:00	1232.6	1182.4	69.001	25	6.0002
24/12/90 08:00	3837.4	3742.5	187	25	6.0002
24/12/90 09:00	9383.3	9117.8	435.01	25	6.0002
24/12/90 10:00	12971	12536	597.99	26	6.9999
24/12/90 11:00	15664	15070	727	26	6.9999
24/12/90 12:00	16266	15632	757	26	6.0002
24/12/90 13:00	13851	13368	641.99	26	5
24/12/90 14:00	11842	11465	547.99	26	5
24/12/90 15:00	8851.4	8607.2	414.01	26	5
24/12/90 16:00	3656.7	3565.5	182	26	5
24/12/90 17:00	712.47	670.25	43.001	26	3.9998
24/12/90 18:00	0	-21.619	0	26	5
24/12/90 19:00	0	-21.619	0	26	5
24/12/90 20:00	0	-21.619	0	26	5
24/12/90 21:00	0	-21.619	0	25	5
24/12/90 22:00	0	-21.619	0	26	3.9998
24/12/90 23:00	0	-21.619	0	25	3.9998
25/12/90 00:00	0	-21.619	0	25	3.9998
25/12/90 01:00	0	-21.619	0	25	3.0001
25/12/90 02:00	0	-21.619	0	24	3.0001
25/12/90 03:00	0	-21.619	0	24	3.0001
25/12/90 04:00	0	-21.619	0	24	1.9999
25/12/90 05:00	0	-21.619	0	25	3.0001
25/12/90 06:00	0	-21.619	0	25	3.0001
25/12/90 07:00	389.78	351.88	21	26	3.0001
25/12/90 08:00	4034.5	3935.7	196	26	3.0001
25/12/90 09:00	9319	9056.3	433.01	25	3.9998
25/12/90 10:00	12370	11967	571.99	25	3.9998
25/12/90 11:00	7816.2	7609.8	365.01	25	3.9998
25/12/90 12:00	6522.8	6358.5	309	26	3.9998
25/12/90 13:00	7296.1	7107.2	341.01	26	3.9998
25/12/90 14:00	9986.2	9696.4	462.01	25	5
25/12/90 15:00	8415	8187	392.01	25	5
25/12/90 16:00	4138	4036.8	205	26	5
25/12/90 17:00	570.09	529.85	32	26	3.0001
25/12/90 18:00	0	-21.619	0	26	1.9999
25/12/90 19:00	0	-21.619	0	25	1.9999
25/12/90 20:00	0	-21.619	0	25	3.0001
25/12/90 21:00	0	-21.619	0	25	3.9998
25/12/90 22:00	0	-21.619	0	26	3.9998
25/12/90 23:00	0	-21.619	0	26	3.9998
26/12/90 00:00	0	-21.619	0	26	3.9998
26/12/90 01:00	0	-21.619	0	25	3.9998
26/12/90 02:00	0	-21.619	0	25	5
26/12/90 03:00	0	-21.619	0	25	3.9998
26/12/90 04:00	0	-21.619	0	24	3.0001
26/12/90 05:00	0	-21.619	0	25	5
26/12/90 06:00	0	-21.619	1	25	5

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
26/12/90 07:00	741.89	699.19	38.001	25	5
26/12/90 08:00	3482.8	3395.3	167	25	6.0002
26/12/90 09:00	7102.5	6919.8	331.01	25	6.0002
26/12/90 10:00	11416	11061	525.99	25	6.0002
26/12/90 11:00	14412	13895	666.99	25	5
26/12/90 12:00	14130	13630	654.99	25	5
26/12/90 13:00	14574	14047	672.99	25	6.0002
26/12/90 14:00	12384	11980	571.99	26	6.0002
26/12/90 15:00	5427.1	5294.4	255	26	6.0002
26/12/90 16:00	4808.5	4691.4	239	26	6.9999
26/12/90 17:00	595.16	554.57	32	26	8.0001
26/12/90 18:00	0	-21.619	0	26	8.0001
26/12/90 19:00	0	-21.619	0	25	8.9997
26/12/90 20:00	0	-21.619	0	25	10
26/12/90 21:00	0	-21.619	0	25	11
26/12/90 22:00	0	-21.619	0	25	11
26/12/90 23:00	0	-21.619	0	25	12
27/12/90 00:00	0	-21.619	0	25	12
27/12/90 01:00	0	-21.619	0	24	12
27/12/90 02:00	0	-21.619	0	24	11
27/12/90 03:00	0	-21.619	0	24	11
27/12/90 04:00	0	-21.619	0	24	11
27/12/90 05:00	0	-21.619	0	24	11
27/12/90 06:00	0	-21.619	1	24	11
27/12/90 07:00	1203.9	1153.9	70.001	24	11
27/12/90 08:00	5020.3	4897.9	244	24	11
27/12/90 09:00	7795.1	7589.3	360.01	24	11
27/12/90 10:00	6404.6	6243.9	297	24	10
27/12/90 11:00	12581	12168	578.99	24	10
27/12/90 12:00	15448	14868	711	24	10
27/12/90 13:00	11711	11341	538.99	24	8.9997
27/12/90 14:00	11050	10711	506.01	24	8.9997
27/12/90 15:00	8856.8	8612.6	410.01	24	8.9997
27/12/90 16:00	3671.4	3579.8	182	24	10
27/12/90 17:00	674.61	632.78	38.001	24	10
27/12/90 18:00	0	-21.619	0	24	10
27/12/90 19:00	0	-21.619	0	24	10
27/12/90 20:00	0	-21.619	0	24	8.9997
27/12/90 21:00	0	-21.619	0	24	8.9997
27/12/90 22:00	0	-21.619	0	24	8.9997
27/12/90 23:00	0	-21.619	0	24	8.9997
28/12/90 00:00	0	-21.619	0	24	8.9997
28/12/90 01:00	0	-21.619	0	24	10
28/12/90 02:00	0	-21.619	0	24	10
28/12/90 03:00	0	-21.619	0	24	10
28/12/90 04:00	0	-21.619	0	24	8.9997
28/12/90 05:00	0	-21.619	0	24	8.9997
28/12/90 06:00	0	-21.619	0	24	8.0001
28/12/90 07:00	609.06	568.16	31	24	8.0001
28/12/90 08:00	1799.7	1739.7	87.001	25	8.0001
28/12/90 09:00	3886.2	3791.1	184	25	8.0001
28/12/90 10:00	4318.5	4213.6	206	25	8.0001
28/12/90 11:00	5741.2	5600	273	25	6.9999
28/12/90 12:00	6187.9	6033.8	294	25	6.9999
28/12/90 13:00	6152.9	5999.8	290	25	6.9999
28/12/90 14:00	8310.8	8087	386.01	25	6.9999
28/12/90 15:00	7602.6	7403.3	355.01	26	6.9999
28/12/90 16:00	3305	3220.7	161	26	6.0002
28/12/90 17:00	717.62	675.33	41.001	26	6.0002
28/12/90 18:00	0	-21.619	0	26	6.9999

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
28/12/90 19:00	0	-21.619	0	26	6.0002
28/12/90 20:00	0	-21.619	0	26	6.0002
28/12/90 21:00	0	-21.619	0	26	6.0002
28/12/90 22:00	0	-21.619	0	26	6.0002
28/12/90 23:00	0	-21.619	0	26	6.0002
29/12/90 00:00	0	-21.619	0	26	6.9999
29/12/90 01:00	0	-21.619	0	26	6.9999
29/12/90 02:00	0	-21.619	0	26	6.9999
29/12/90 03:00	0	-21.619	0	26	6.9999
29/12/90 04:00	0	-21.619	0	26	6.9999
29/12/90 05:00	0	-21.619	0	25	6.0002
29/12/90 06:00	0	-21.619	0	25	5
29/12/90 07:00	214.87	179.07	12	26	5
29/12/90 08:00	916.3	871.14	46.001	26	5
29/12/90 09:00	2421.3	2351.7	117	26	5
29/12/90 10:00	11085	10745	514.99	26	5
29/12/90 11:00	9500	9231.2	444.01	26	5
29/12/90 12:00	4301.2	4196.7	207	26	5
29/12/90 13:00	5141.4	5016.3	246	26	5
29/12/90 14:00	3118.6	3037.6	151	26	5
29/12/90 15:00	3797.5	3704.2	181	26	3.9998
29/12/90 16:00	2906	2828.6	141	26	3.9998
29/12/90 17:00	358.16	320.66	19	26	5
29/12/90 18:00	0	-21.619	0	27	5
29/12/90 19:00	0	-21.619	0	27	5
29/12/90 20:00	0	-21.619	0	27	5
29/12/90 21:00	0	-21.619	0	27	3.9998
29/12/90 22:00	0	-21.619	0	27	3.9998
29/12/90 23:00	0	-21.619	0	26	5
30/12/90 00:00	0	-21.619	0	26	5
30/12/90 01:00	0	-21.619	0	26	5
30/12/90 02:00	0	-21.619	0	26	3.9998
30/12/90 03:00	0	-21.619	0	26	3.9998
30/12/90 04:00	0	-21.619	0	26	3.9998
30/12/90 05:00	0	-21.619	0	25	6.0002
30/12/90 06:00	0	-21.619	1	25	6.0002
30/12/90 07:00	1123.7	1075.1	75.001	25	6.0002
30/12/90 08:00	5496.6	5361.2	273	26	6.0002
30/12/90 09:00	9114.2	8859.7	424.01	26	6.0002
30/12/90 10:00	9468.3	9200.3	439.01	26	6.0002
30/12/90 11:00	3907.2	3811.6	187	26	5
30/12/90 12:00	6485.1	6322	303	25	5
30/12/90 13:00	6603.9	6437	308	25	6.0002
30/12/90 14:00	11142	10800	512.99	25	6.9999
30/12/90 15:00	8104.5	7887.8	377.01	25	6.9999
30/12/90 16:00	3594.3	3504.7	175	26	6.9999
30/12/90 17:00	908.67	863.59	52.001	26	6.9999
30/12/90 18:00	0	-21.619	0	26	6.9999
30/12/90 19:00	0	-21.619	0	26	6.9999
30/12/90 20:00	0	-21.619	0	26	6.9999
30/12/90 21:00	0	-21.619	0	26	6.9999
30/12/90 22:00	0	-21.619	0	26	6.9999
30/12/90 23:00	0	-21.619	0	26	6.9999
31/12/90 00:00	0	-21.619	0	26	6.0002
31/12/90 01:00	0	-21.619	0	25	6.0002
31/12/90 02:00	0	-21.619	0	25	6.0002
31/12/90 03:00	0	-21.619	0	25	6.0002
31/12/90 04:00	0	-21.619	0	25	5
31/12/90 05:00	0	-21.619	0	26	5
31/12/90 06:00	0	-21.619	1	26	5

Date	EArray	E_Grid	GlobHor	T_Amb	WindVel
	kW	kW	W/m²	°C	m/s
31/12/90 07:00	1123.9	1075.4	71.001	26	5
31/12/90 08:00	5241.6	5113.3	259	26	5
31/12/90 09:00	7086.3	6904	331.01	26	3.9998
31/12/90 10:00	8800.2	8558.5	411.01	26	3.0001
31/12/90 11:00	9414.5	9149.3	441.01	26	3.0001
31/12/90 12:00	12992	12557	607.99	26	3.0001
31/12/90 13:00	10592	10276	496.01	26	3.0001
31/12/90 14:00	6038	5888.3	285	26	3.0001
31/12/90 15:00	5032.1	4909.7	237	26	3.0001
31/12/90 16:00	3160.9	3079.1	156	26	3.0001
31/12/90 17:00	961.49	915.74	54.001	27	1.9999
31/12/90 18:00	0	-21.619	0	26	1.0002
31/12/90 19:00	0	-21.619	0	25	0
31/12/90 20:00	0	-21.619	0	25	1.0002
31/12/90 21:00	0	-21.619	0	25	1.0002
31/12/90 22:00	0	-21.619	0	25	0
31/12/90 23:00	0	-21.619	0	25	0

Attachment D

Construction Cost Estimates

Summary of Estimated Construction and Maintenance Costs (Cayman Islands Dollars)							
		New Construction Cost Subtotal	Rehab Construction Cost Total	Total Construction Cost Subtotal By Year	Estimated Construction Cost Subtotal	Contingency (%)	Total Estimated Construction Cost
No Build Summary	2026 Totals:	$0.00	$9,478,502.49	$9,478,502.49	$50,159,360.62	20.00%	$60,191,232.74
	2036 Totals:	$0.00	$9,478,502.49	$9,478,502.49			
	2046 Totals:	$0.00	$12,245,350.64	$12,245,350.64			
	2060 Totals:	$0.00	$9,478,502.49	$9,478,502.49			
	2074 Totals:	$0.00	$9,478,502.49	$9,478,502.49			
Alternate B1 Summary	2026 Totals:	$198,627,776.03	$0.00	$198,627,776.03	$631,150,402.35	20.00%	$757,380,482.82
	2036 Totals:	$126,810,745.45	$14,939,621.22	$141,750,366.67			
	2046 Totals:	$110,848,289.60	$21,447,737.18	$132,296,026.78			
	2060 Totals:	$0.00	$25,641,026.80	$25,641,026.80			
	2074 Totals:	$84,336,942.20	$48,498,263.87	$132,835,206.08			
Alternate B2 Summary	2026 Totals:	$178,016,645.47	$0.00	$178,016,645.47	$567,056,237.28	20.00%	$680,467,484.74
	2036 Totals:	$119,743,609.18	$12,736,555.38	$132,480,164.56			
	2046 Totals:	$103,335,403.54	$18,889,223.72	$122,224,627.26			
	2060 Totals:	$0.00	$22,394,058.03	$22,394,058.03			
	2074 Totals:	$78,661,083.17	$33,279,658.80	$111,940,741.96			
Alternate B3 Summary	2026 Totals:	$178,086,367.52	$0.00	$178,086,367.52	$569,703,683.27	20.00%	$683,644,419.92
	2036 Totals:	$117,263,389.36	$12,951,935.89	$130,215,325.25			
	2046 Totals:	$104,038,194.47	$19,278,119.75	$123,316,314.21			
	2060 Totals:	$0.00	$22,872,048.55	$22,872,048.55			
	2074 Totals:	$71,434,452.77	$43,779,174.96	$115,213,627.73			
Will T Connector Summary	2026 Totals:	$8,355,299.54	$0.00	$8,355,299.54	$27,127,304.75	20.00%	$32,552,765.71
	2036 Totals:	$0.00	$3,101,275.51	$3,101,275.51			
	2046 Totals:	$0.00	$3,460,927.97	$3,460,927.97			
	2060 Totals:	$0.00	$3,101,275.51	$3,101,275.51			
	2074 Totals:	$9,108,526.23	$0.00	$9,108,526.23			

Summary of Estimated Construction and Maintenance Costs (US Dollars)							
		New Construction Cost Subtotal	Rehab Construction Cost Total	Total Construction Cost Subtotal By Year	Estimated Construction Cost Subtotal	Contingency (%)	Total Estimated Construction Cost
No Build Summary	2026 Totals:	$0.00	$11,283,931.54	$11,283,931.54	$59,713,524.54	20.00%	$71,656,229.45
	2036 Totals:	$0.00	$11,283,931.54	$11,283,931.54			
	2046 Totals:	$0.00	$14,577,798.38	$14,577,798.38			
	2060 Totals:	$0.00	$11,283,931.54	$11,283,931.54			
	2074 Totals:	$0.00	$11,283,931.54	$11,283,931.54			
Alternate B1 Summary	2026 Totals:	$236,461,638.13	$0.00	$236,461,638.13	$751,369,526.61	20.00%	$901,643,431.93
	2036 Totals:	$150,965,173.15	$17,785,263.36	$168,750,436.51			
	2046 Totals:	$131,962,249.52	$25,533,020.45	$157,495,269.97			
	2060 Totals:	$0.00	$30,525,031.91	$30,525,031.91			
	2074 Totals:	$100,401,121.67	$57,736,028.42	$158,137,150.09			
Alternate B2 Summary	2026 Totals:	$211,924,577.94	$0.00	$211,924,577.94	$675,066,949.15	20.00%	$810,080,338.98
	2036 Totals:	$142,551,915.69	$15,162,565.93	$157,714,481.62			
	2046 Totals:	$123,018,337.55	$22,487,171.10	$145,505,508.64			
	2060 Totals:	$0.00	$26,659,592.89	$26,659,592.89			
	2074 Totals:	$93,644,146.63	$39,618,641.42	$133,262,788.05			
Alternate B3 Summary	2026 Totals:	$212,007,580.38	$0.00	$212,007,580.38	$678,218,670.56	20.00%	$813,862,404.67
	2036 Totals:	$139,599,273.05	$15,418,971.30	$155,018,244.35			
	2046 Totals:	$123,854,993.41	$22,950,142.55	$146,805,135.97			
	2060 Totals:	$0.00	$27,228,629.23	$27,228,629.23			
	2074 Totals:	$85,041,015.20	$52,118,065.43	$137,159,080.63			
Will T Connector Summary	2026 Totals:	$9,946,785.17	$0.00	$9,946,785.17	$32,294,410.42	20.00%	$38,753,292.51
	2036 Totals:	$0.00	$3,691,994.65	$3,691,994.65			
	2046 Totals:	$0.00	$4,120,152.34	$4,120,152.34			
	2060 Totals:	$0.00	$3,691,994.65	$3,691,994.65			
	2074 Totals:	$10,843,483.60	$0.00	$10,843,483.60			

No Build Alternative Quantity By Year Summary and Inflation Calculations

CURRENT YEAR ESTIMATE DATE: 2024				2026		2036		2046		2060		2074		Revised Total Cost
ITEM NO.	DESCRIPTION	UNIT	UNIT PRICE	QTY	Anticipated Future Year Cost	QTY	Anticipated Future Year Cost	QTY	Anticipated Future Year Cost	QTY	Anticipated Future Year Cost	QTY	Anticipated Future Year Cost	[Sum All Years (Qty)x(Unit Price)x(% Inc.)]
9090000	Compacted Asphalt, 2" Depth	SQ YD			$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090010	Compacted Asphalt, 3.5" Depth	SQ YD	$18.62		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090020	Compacted Asphalt, 6" Depth	SQ YD	$31.92		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090030	Crusher Run, 6" Depth	SQ YD	$11.02		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090040	Cayman Rock, 6" Depth	SQ YD	$16.29		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090050	Milling, 2" Depth	SQ YD			$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090060	Asphalt Tack Coat	SQ YD			$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090070	Concrete Pavement, 6" Depth	SQ YD	$190.04		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090080	Conrete Curb, 6" Height	LF	$44.46		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090090	Concrete Curb and Gutter, 6" Height	LF	$61.81		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090100	Concrete Mountable Curb	LF	$44.45		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090110	Concrete Median Barrier	LF	$190.21		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090120	Pavement Markings, Yellow	LF	$3.10		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090130	Pavement Markings, White	LF	$3.10		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
					$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090140	Compacted Asphalt, 2" Depth-REHAB	SQ YD	$16.93	180,017	$3,048,037.07	180,017	$3,048,037.07		$0.00	180,017	$3,048,037.07	180,017	$3,048,037.07	$12,192,148.26
9090150	Compacted Asphalt, 3.5" Depth-REHAB	SQ YD	$18.62	18,002	$335,218.80	18,002	$335,218.80	180,017	$3,352,132.15	18,002	$335,218.80	18,002	$335,218.80	$4,693,007.35
9090160	Crusher Run, 6" Depth-REHAB	SQ YD	$15.48	18,002	$278,646.63	18,002	$278,646.63	180,017	$2,786,419.82	18,002	$278,646.63	18,002	$278,646.63	$3,901,006.32
9090170	Cayman Rock, 6" Depth-REHAB	SQ YD	$21.69	18,002	$390,410.05	18,002	$390,410.05	180,017	$3,904,035.41	18,002	$390,410.05	18,002	$390,410.05	$5,465,675.60
9090180	Milling, 2" Depth-REHAB	SQ YD	$23.99	180,017	$4,319,468.28	180,017	$4,319,468.28		$0.00	180,017	$4,319,468.28	180,017	$4,319,468.28	$17,277,873.11
9090190	Asphalt Tack Coat-REHAB	SQ YD	$2.00	378,036	$756,009.23	378,036	$756,009.23	180,017	$360,004.11	378,036	$756,009.23	378,036	$756,009.23	$3,384,041.03
9090200	Concrete Pavement, 6" Depth-REHAB	SQ YD	$396.02		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090210	Conrete Curb, 6" Height-REHAB	LF	$82.59		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090220	Concrete Curb and Gutter, 6" Height-REI	LF	$104.57		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090230	Concrete Mountable Curb-REHAB	LF	$84.10		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090240	Concrete Median Barrier-REHAB	LF	$267.78		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090250	Pavement Markings, Yellow-REHAB	LF	$3.81		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090260	Pavement Markings, White-REHAB	LF	$3.81	48,500	$184,924.87	48,500	$184,924.87	48,500	$184,924.87	48,500	$184,924.87	48,500	$184,924.87	$924,624.37
					$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090270	Light Poles	EA	$37,667.08		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090280	Undercut Excavation	CU YD	$20.72		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090290	Peat Excavation	CU YD	$20.72		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090300	Aggregate Borrow Material (18" Rock)	CU YD	$18.95		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090310	Embankment Material (Shot Rock)	CU YD	$13.12		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090320	Corridor Excavation	CU YD	$20.72	8,001	$165,787.57	8,001	$165,787.57	80,008	$1,657,834.28	8,001	$165,787.57	8,001	$165,787.57	$2,320,984.56
9090330	Drainage Inlet and Well - Large	EA	$28,703.27		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090340	Utility Pole Removal/Relocation - Minor	EA	$452.57		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090350	Utility Pole Removal/Relocation - Major	EA	$6,563.18		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090360	Residential Structure Demolition - Small	EA	$53,101.00		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090370	Residential Structure Demolition - Medi	EA	$106,202.00		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090380	Residential Structure Demolition - Large	EA	$185,853.50		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090390	Commercial Structure Demolition - Smal	EA	$165,940.67		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090400	Commercial Structure Demolition - Med	EA	$212,404.00		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090410	Commercial Structure Demolition - Large	EA	$265,505.00		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
					$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
	Bridge No.				$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
	B1-1	New Construction	SF	$497.00	$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
	B1-2	New Construction	SF	$497.00	$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
	B1-3	New Construction	SF	$497.00	$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
	B1-4	New Construction	SF	$497.00	$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
	B1-5	New Construction	SF	$497.00	$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
	B1-6	New Construction	SF	$497.00	$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
	B1-7	New Construction	SF	$497.00	$0.00		$0.00		$0.00		$0.00		$0.00	$0.00

	B1-8	New Construction	SF	$497.00		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
	B1-9	New Construction	SF	$497.00		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
	B1-10	New Construction	SF	$497.00		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
	B1-11	New Construction	SF	$497.00		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
	B1-12	New Construction	SF	$497.00		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
	B1-13	New Construction	SF	$497.00		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
	B1-14	New Construction	SF	$497.00		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
	B1-15	New Construction	SF	$497.00		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
	B1-16	New Construction	SF	$497.00		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
	B1-17	New Construction	SF	$497.00		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
	B1-18	New Construction	SF	$497.00		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
	B1-1	Widening	SF	$596.40		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
	B1-2	Widening	SF	$596.40		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
	B1-3	Widening	SF	$596.40		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
	B1-4	Widening	SF	$596.40		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
	B1-5	Widening	SF	$596.40		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
	B1-6	Widening	SF	$596.40		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
	B1-7	Widening	SF	$596.40		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
	B1-8	Widening	SF	$596.40		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
	B1-9	Widening	SF	$596.40		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
	B1-10	Widening	SF	$596.40		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
	B1-11	Widening	SF	$596.40		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
	B1-12	Widening	SF	$596.40		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
	B1-13	Widening	SF	$596.40		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
	B1-14	Widening	SF	$596.40		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
	B1-15	Widening	SF	$596.40		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
	B1-16	Widening	SF	$596.40		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
	B1-17	Widening	SF	$596.40		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
	B1-18	Widening	SF	$596.40		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
						$0.00		$0.00		$0.00		$0.00		$0.00	$0.00

New Construction Cost Subtotal:	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Rehab Cost Subtotal:	$9,478,502.49	$9,478,502.49	$12,245,350.64	$9,478,502.49	$9,478,502.49	$50,159,360.62

	SUBTOTAL:			SUBTOTAL:	$50,159,361.00
CONTINGENCY	20.00%		CONTINGENCY	20.00%	$10,031,872.20
	TOTAL:			TOTAL:	$60,191,233.20

(Values Shown are in Cayman Island Dollars CI$)

***Note: Unit Prices shown herein include the following incidental costs, calculated as a percentage of total construction costs.

- Construction Project Management - 12% of Base Construction Costs
- Contractor Insurance - 4.5% of Base Construction Costs
- Legal Permits and Fees - 2% of Base Construction Costs
- Inspection and Testing - 3% of Base Construction Costs
- Contractor Fee/Profit - 3.5% of Base Construction Costs
- Owner General Engineering Consultant Fees During Construction - 7% of Base Construction Costs

Alternative B1 Quantity By Year Summary and Inflation Calculations

CURRENT YEAR ESTIMATE DATE: 2024				2026		2036		2046		2060		2074		Revised Total Cost
ITEM NO.	DESCRIPTION	UNIT	UNIT PRICE	QTY	Anticipated Future Year Cost	QTY	Anticipated Future Year Cost	QTY	Anticipated Future Year Cost	QTY	Anticipated Future Year Cost	QTY	Anticipated Future Year Cost	[Sum All Years (Qty)x(Unit Price)x(% Inc.)]
9090000	Compacted Asphalt, 2" Depth	SQ YD			$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090010	Compacted Asphalt, 3.5" Depth	SQ YD	$18.62	246,887	$4,597,327.07	107,477	$2,001,348.48	45,313	$843,781.49		$0.00	108,754	$2,025,127.72	$9,467,584.77
9090020	Compacted Asphalt, 6" Depth	SQ YD	$31.92		$0.00	17,196	$548,934.71	56,059	$1,789,528.42		$0.00		$0.00	$2,338,463.12
9090030	Crusher Run, 6" Depth	SQ YD	$11.02	246,887	$2,720,096.47	107,477	$1,184,136.10	45,313	$499,239.45		$0.00	108,754	$1,198,205.54	$5,601,677.56
9090040	Cayman Rock, 6" Depth	SQ YD	$16.29	248,243	$4,042,794.77	140,817	$2,293,294.19	125,098	$2,037,300.31		$0.00	108,754	$1,771,127.90	$10,144,517.16
9090050	Milling, 2" Depth	SQ YD			$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090060	Asphalt Tack Coat	SQ YD			$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090070	Concrete Pavement, 6" Depth	SQ YD	$190.04	1,356	$257,694.32	16,144	$3,068,006.76	33,251	$6,319,022.11		$0.00		$0.00	$9,644,723.20
9090080	Conrete Curb, 6" Height	LF	$44.46	9,783	$434,915.89	1,885	$83,800.11		$0.00		$0.00		$0.00	$518,716.00
9090090	Concrete Curb and Gutter, 6" Height	LF	$61.81	10,520	$650,268.32		$0.00	8,765	$541,787.24		$0.00	26,526	$1,639,640.44	$2,831,696.00
9090100	Concrete Mountable Curb	LF	$44.45	2,303	$102,363.68	6,260	$278,244.32		$0.00		$0.00		$0.00	$380,608.00
9090110	Concrete Median Barrier	LF	$190.21	35,291	$6,712,702.90		$0.00	8,765	$1,667,191.10		$0.00		$0.00	$8,379,894.00
9090120	Pavement Markings, Yellow	LF	$3.10	85,944	$266,471.33		$0.00	13,510	$41,888.06		$0.00	29,462	$91,347.60	$399,707.00
9090130	Pavement Markings, White	LF	$3.10	109,867	$340,663.94	107,430	$333,107.55	22,264	$69,033.85		$0.00	118,842	$368,492.67	$1,111,298.00
					$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090140	Compacted Asphalt, 2" Depth-REHAB	SQ YD	$16.93		$0.00	246,887	$4,180,275.90	371,560	$6,291,231.67	472,932	$8,007,656.31	472,932	$8,007,656.31	$26,486,820.19
9090150	Compacted Asphalt, 3.5" Depth-REHAB	SQ YD	$18.62		$0.00		$0.00	2,469	$45,975.74		$0.00	247,962	$4,617,349.43	$4,663,325.17
9090160	Crusher Run, 6" Depth-REHAB	SQ YD	$15.48		$0.00		$0.00	2,469	$38,216.78		$0.00	247,962	$3,838,116.57	$3,876,333.36
9090170	Cayman Rock, 6" Depth-REHAB	SQ YD	$21.69		$0.00		$0.00	2,469	$53,545.30		$0.00	249,651	$5,414,190.58	$5,467,735.87
9090180	Milling, 2" Depth-REHAB	SQ YD	$23.99		$0.00	246,887	$5,923,999.20	371,560	$8,915,500.39	472,932	$11,347,899.20	472,932	$11,347,899.20	$37,535,298.00
9090190	Asphalt Tack Coat-REHAB	SQ YD	$2.00		$0.00	493,774	$987,466.01	743,120	$1,486,116.61	945,864	$1,891,570.95	945,864	$1,891,570.95	$6,256,724.52
9090200	Concrete Pavement, 6" Depth-REHAB	SQ YD	$396.02		$0.00		$0.00		$0.00		$0.00	1,356	$537,000.00	$537,000.00
9090210	Conrete Curb, 6" Height-REHAB	LF	$82.59		$0.00		$0.00		$0.00		$0.00	9,783	$808,001.00	$808,001.00
9090220	Concrete Curb and Gutter, 6" Height-RE	LF	$104.57		$0.00		$0.00		$0.00		$0.00	10,520	$1,100,118.00	$1,100,118.00
9090230	Concrete Mountable Curb-REHAB	LF	$84.10		$0.00		$0.00		$0.00		$0.00	2,303	$193,678.00	$193,678.00
9090240	Concrete Median Barrier-REHAB	LF	$267.78		$0.00		$0.00		$0.00		$0.00	35,291	$9,450,059.00	$9,450,059.00
9090250	Pavement Markings, Yellow-REHAB	LF	$3.81		$0.00	85,944	$327,694.47	85,944	$327,694.47	99,454	$379,206.53	99,454	$379,206.53	$1,413,802.00
9090260	Pavement Markings, White-REHAB	LF	$3.81		$0.00	109,867	$418,910.13	217,297	$828,528.26	239,561	$913,418.31	239,561	$913,418.31	$3,074,275.00
					$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090270	Light Poles	EA	$37,667.08	173	$6,516,404.96	0	$0.00	55	$2,071,689.44		$0.00	119	$4,482,382.60	$13,070,477.00
9090280	Undercut Excavation	CU YD	$20.72	18,346	$380,144.97	34,422	$713,253.58	3,088	$63,986.03		$0.00	7,645	$158,411.00	$1,315,795.58
9090290	Peat Excavation	CU YD	$20.72	369,752	$7,661,581.59	131,765	$2,730,284.89	28,592	$592,451.00		$0.00	20,885	$432,755.28	$11,417,072.76
9090300	Aggregate Borrow Material (18" Rock)	CU YD	$18.95	388,098	$7,354,105.84	166,187	$3,149,093.24	31,680	$600,307.33		$0.00	28,530	$540,617.68	$11,644,124.08
9090310	Embankment Material (Shot Rock)	CU YD	$13.12	1,560,745	$20,474,792.10	658,531	$8,639,005.93	388,309	$5,094,071.13		$0.00	218,142	$2,861,718.02	$37,069,587.19
9090320	Corridor Excavation	CU YD	$20.72	3,664	$75,921.22	951	$19,705.53	2,778	$57,562.54		$0.00	337	$6,982.93	$160,172.22
9090330	Drainage Inlet and Well - Large	EA	$28,703.27		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090340	Utility Pole Removal/Relocation - Minor	EA	$452.57		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090350	Utility Pole Removal/Relocation - Major	EA	$6,563.18		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090360	Residential Structure Demolition - Small	EA	$53,101.00		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090370	Residential Structure Demolition - Medi	EA	$106,202.00		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090380	Residential Structure Demolition - Large	EA	$185,853.50		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090390	Commercial Structure Demolition - Smal	EA	$165,940.67		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090400	Commercial Structure Demolition - Med	EA	$212,404.00		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090410	Commercial Structure Demolition - Larg	EA	$265,505.00		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
					$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
	Drainage and Stormwater Allowance	%	15.00%	165,454,327	$24,818,149.11	120,564,427	$18,084,664.06	112,030,521	$16,804,578.11	22,539,751	$3,380,962.69	107,588,417	$16,138,262.59	$79,226,616.56
					$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
	Bridge No.				$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
	B1-1 New Construction	SF	$497.00	17,643	$8,768,571.00	9,199	$4,571,903.00		$0.00		$0.00		$0.00	$13,340,474.00
	B1-2 New Construction	SF	$497.00	17,643	$8,768,571.00	9,199	$4,571,903.00		$0.00		$0.00		$0.00	$13,340,474.00
	B1-3 New Construction	SF	$497.00	17,643	$8,768,571.00	9,199	$4,571,903.00		$0.00		$0.00		$0.00	$13,340,474.00
	B1-4 New Construction	SF	$497.00	17,643	$8,768,571.00	9,199	$4,571,903.00		$0.00		$0.00		$0.00	$13,340,474.00

	B1-5	New Construction	SF	$497.00	17,643	$8,768,571.00	9,199	$4,571,903.00		$0.00		$0.00		$0.00	$13,340,474.00
	B1-6	New Construction	SF	$497.00	17,643	$8,768,571.00	9,199	$4,571,903.00		$0.00		$0.00		$0.00	$13,340,474.00
	B1-7	New Construction	SF	$497.00	17,643	$8,768,571.00		$0.00	9,199	$4,571,903.00		$0.00		$0.00	$13,340,474.00
	B1-8	New Construction	SF	$497.00	8,163	$4,057,011.00		$0.00	4,256	$2,115,232.00		$0.00		$0.00	$6,172,243.00
	B1-9	New Construction	SF	$497.00	8,163	$4,057,011.00		$0.00	4,256	$2,115,232.00		$0.00		$0.00	$6,172,243.00
	B1-10	New Construction	SF	$497.00	8,163	$4,057,011.00		$0.00	4,256	$2,115,232.00		$0.00		$0.00	$6,172,243.00
	B1-11	New Construction	SF	$497.00	8,163	$4,057,011.00		$0.00	4,256	$2,115,232.00		$0.00		$0.00	$6,172,243.00
	B1-12	New Construction	SF	$497.00	8,163	$4,057,011.00		$0.00	4,256	$2,115,232.00		$0.00		$0.00	$6,172,243.00
	B1-13	New Construction	SF	$497.00	8,163	$4,057,011.00		$0.00	4,256	$2,115,232.00		$0.00		$0.00	$6,172,243.00
	B1-14	New Construction	SF	$497.00	1,843	$915,971.00		$0.00	961	$477,617.00		$0.00		$0.00	$1,393,588.00
	B1-15	New Construction	SF	$497.00	8,163	$4,057,011.00		$0.00	4,256	$2,115,232.00		$0.00		$0.00	$6,172,243.00
	B1-16	New Construction	SF	$497.00	8,163	$4,057,011.00		$0.00	4,256	$2,115,232.00		$0.00		$0.00	$6,172,243.00
	B1-17	New Construction	SF	$497.00	8,163	$4,057,011.00		$0.00	4,256	$2,115,232.00		$0.00		$0.00	$6,172,243.00
	B1-18	New Construction	SF	$497.00	8,163	$4,057,011.00		$0.00	4,256	$2,115,232.00		$0.00		$0.00	$6,172,243.00
	B1-1	Widening	SF	$596.40		$0.00	8,040	$4,795,056.00	12,730	$7,592,172.00		$0.00		$0.00	$12,387,228.00
	B1-2	Widening	SF	$596.40		$0.00	8,040	$4,795,056.00	12,730	$7,592,172.00		$0.00		$0.00	$12,387,228.00
	B1-3	Widening	SF	$596.40		$0.00	8,040	$4,795,056.00	12,730	$7,592,172.00		$0.00		$0.00	$12,387,228.00
	B1-4	Widening	SF	$596.40		$0.00	8,040	$4,795,056.00	12,730	$7,592,172.00		$0.00		$0.00	$12,387,228.00
	B1-5	Widening	SF	$596.40		$0.00	8,040	$4,795,056.00	12,730	$7,592,172.00		$0.00		$0.00	$12,387,228.00
	B1-6	Widening	SF	$596.40		$0.00	8,040	$4,795,056.00	12,730	$7,592,172.00		$0.00		$0.00	$12,387,228.00
	B1-7	Widening	SF	$596.40		$0.00	8,040	$4,795,056.00		$0.00		$0.00	12,730	$7,592,172.00	$12,387,228.00
	B1-8	Widening	SF	$596.40		$0.00	3,720	$2,218,608.00		$0.00		$0.00	5,890	$3,512,796.00	$5,731,404.00
	B1-9	Widening	SF	$596.40		$0.00	3,720	$2,218,608.00		$0.00		$0.00	5,890	$3,512,796.00	$5,731,404.00
	B1-10	Widening	SF	$596.40		$0.00	3,720	$2,218,608.00		$0.00		$0.00	5,890	$3,512,796.00	$5,731,404.00
	B1-11	Widening	SF	$596.40		$0.00	3,720	$2,218,608.00		$0.00		$0.00	5,890	$3,512,796.00	$5,731,404.00
	B1-12	Widening	SF	$596.40		$0.00	3,720	$2,218,608.00		$0.00		$0.00	5,890	$3,512,796.00	$5,731,404.00
	B1-13	Widening	SF	$596.40		$0.00	3,720	$2,218,608.00		$0.00		$0.00	5,890	$3,512,796.00	$5,731,404.00
	B1-14	Widening	SF	$596.40		$0.00	840	$500,976.00		$0.00		$0.00	1,330	$793,212.00	$1,294,188.00
	B1-15	Widening	SF	$596.40		$0.00	3,720	$2,218,608.00		$0.00		$0.00	5,890	$3,512,796.00	$5,731,404.00
	B1-16	Widening	SF	$596.40		$0.00	3,720	$2,218,608.00		$0.00		$0.00	5,890	$3,512,796.00	$5,731,404.00
	B1-17	Widening	SF	$596.40		$0.00	3,720	$2,218,608.00		$0.00		$0.00	5,890	$3,512,796.00	$5,731,404.00
	B1-18	Widening	SF	$596.40		$0.00	3,720	$2,218,608.00		$0.00		$0.00	5,890	$3,512,796.00	$5,731,404.00

Construction of Will T Connector	$8,355,299.54				$9,108,526.23	$17,463,825.77
Maintenance of Will T Connector		$3,101,275.51	$3,460,927.97	$3,101,275.51		$9,663,478.98
New Construction Cost Subtotal:	$190,272,476.48	$126,810,745.45	$110,848,289.60	$0.00	$75,228,415.98	$506,540,890.20
Rehab Cost Subtotal:	$0.00	$11,838,345.72	$17,986,809.21	$22,539,751.30	$48,498,263.87	$100,863,170.10

	SUBTOTAL:		SUBTOTAL:	$634,531,365.05
CONTINGENCY	20.00%	CONTINGENCY	20.00%	$126,906,273.01
	TOTAL:		TOTAL:	$761,437,638.06

(Values Shown are in Cayman Island Dollars CI$)

***Note: Unit Prices shown herein include the following incidental costs, calculated as a percentage of total construction costs.
Construction Project Management - 12% of Base Construction Costs
Contractor Insurance - 4.5% of Base Construction Costs
Legal Permits and Fees - 2% of Base Construction Costs
Inspection and Testing - 3% of Base Construction Costs
Contractor Fee/Profit - 3.5% of Base Construction Costs
Owner General Engineering Consultant Fees During Construction - 7% of Base Construction Costs

Alternative B2 Quantity By Year Summary and Inflation Calculations

CURRENT YEAR ESTIMATE DATE: 2024				2026		2036		2046		2060		2074		Revised Total Cost
ITEM NO.	DESCRIPTION	UNIT	UNIT PRICE	QTY	Anticipated Future Year Cost	QTY	Anticipated Future Year Cost	QTY	Anticipated Future Year Cost	QTY	Anticipated Future Year Cost	QTY	Anticipated Future Year Cost	[Sum All Years (Qty)x(Unit Price)x(% Inc.)]
9090000	Compacted Asphalt, 2" Depth	SQ YD			$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090010	Compacted Asphalt, 3.5" Depth	SQ YD	$18.62	200,648	$3,736,302.37	100,620	$1,873,663.05	45,311	$843,744.25		$0.00	100,150	$1,864,911.10	$8,318,620.77
9090020	Compacted Asphalt, 6" Depth	SQ YD	$31.92		$0.00	17,196	$548,934.71	40,162	$1,282,060.69		$0.00		$0.00	$1,830,995.40
9090030	Crusher Run, 6" Depth	SQ YD	$11.02	200,648	$2,210,654.74	100,620	$1,108,588.57	45,311	$499,217.42		$0.00	100,150	$1,103,410.31	$4,921,871.04
9090040	Cayman Rock, 6" Depth	SQ YD	$16.29	201,875	$3,287,662.47	133,238	$2,169,865.37	114,242	$1,860,503.46		$0.00	100,150	$1,631,006.30	$8,949,037.59
9090050	Milling, 2" Depth	SQ YD			$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090060	Asphalt Tack Coat	SQ YD			$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090070	Concrete Pavement, 6" Depth	SQ YD	$190.04	1,227	$233,179.16	15,422	$2,930,797.84	28,769	$5,467,262.55		$0.00		$0.00	$8,631,239.55
9090080	Conrete Curb, 6" Height	LF	$44.46	8,331	$370,365.36		$0.00		$0.00		$0.00		$0.00	$370,365.36
9090090	Concrete Curb and Gutter, 6" Height	LF	$61.81	8,771	$542,158.12	1,885	$116,516.71		$0.00		$0.00		$0.00	$658,674.83
9090100	Concrete Mountable Curb	LF	$44.45	2,038	$90,584.97	5,256	$233,618.55		$0.00		$0.00		$0.00	$324,203.52
9090110	Concrete Median Barrier	LF	$190.21	33,660	$6,402,470.31		$0.00	8,765	$1,667,191.10		$0.00	24,895	$4,735,279.22	$12,804,940.62
9090120	Pavement Markings, Yellow	LF	$3.10	81,420	$252,444.57		$0.00	13,510	$41,888.06		$0.00	27,398	$84,948.12	$379,280.76
9090130	Pavement Markings, White	LF	$3.10	81,420	$252,458.50	101,776	$315,576.22	22,264	$69,033.85		$0.00	38,350	$118,911.61	$755,980.18
					$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090140	Compacted Asphalt, 2" Depth-REHAB	SQ YD	$16.93		$0.00	200,648	$3,397,359.92	318,464	$5,392,213.38	403,937	$6,839,437.10	203,289	$3,442,077.18	$19,071,087.57
9090150	Compacted Asphalt, 3.5" Depth-REHAB	SQ YD	$18.62		$0.00		$0.00	2,006	$37,354.12		$0.00	201,654	$3,755,039.00	$3,792,393.13
9090160	Crusher Run, 6" Depth-REHAB	SQ YD	$15.48		$0.00		$0.00	2,006	$31,050.17		$0.00	201,654	$3,121,331.33	$3,152,381.50
9090170	Cayman Rock, 6" Depth-REHAB	SQ YD	$21.69		$0.00		$0.00	2,006	$43,504.20		$0.00	203,207	$4,406,957.81	$4,450,462.01
9090180	Milling, 2" Depth-REHAB	SQ YD	$23.99		$0.00	200,648	$4,814,504.58	318,464	$7,641,473.56	403,937	$9,692,379.37	203,289	$4,877,874.79	$27,026,232.30
9090190	Asphalt Tack Coat-REHAB	SQ YD	$2.00		$0.00	401,296	$802,525.37	636,928	$1,273,750.24	807,874	$1,615,613.86	406,578	$813,088.49	$4,504,977.96
9090200	Concrete Pavement, 6" Depth-REHAB	SQ YD	$396.02		$0.00		$0.00		$0.00		$0.00	1,227	$485,913.72	$485,913.72
9090210	Conrete Curb, 6" Height-REHAB	LF	$82.59		$0.00		$0.00		$0.00		$0.00	8,331	$688,076.90	$688,076.90
9090220	Concrete Curb and Gutter, 6" Height-RE	LF	$104.57		$0.00		$0.00		$0.00		$0.00	8,771	$917,218.15	$917,218.15
9090230	Concrete Mountable Curb-REHAB	LF	$84.10		$0.00		$0.00		$0.00		$0.00	7,294	$613,411.78	$613,411.78
9090240	Concrete Median Barrier-REHAB	LF	$267.78		$0.00		$0.00		$0.00		$0.00	33,660	$9,013,317.44	$9,013,317.44
9090250	Pavement Markings, Yellow-REHAB	LF	$3.81		$0.00	81,420	$310,444.99	81,420	$310,444.99	94,930	$361,957.04	94,930	$361,957.04	$1,344,804.06
9090260	Pavement Markings, White-REHAB	LF	$3.81		$0.00	81,420	$310,445.02	183,196	$698,505.10	205,460	$783,395.15	205,460	$783,395.15	$2,575,740.42
					$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090270	Light Poles	EA	$37,667.08	164	$6,177,401.23	0	$0.00	55	$2,071,689.44		$0.00	109	$4,105,711.80	$12,354,802.47
9090280	Undercut Excavation	CU YD	$20.72	93,946	$1,946,642.28	41,502	$859,957.29	8,211	$170,139.01		$0.00	11,967	$247,966.58	$3,224,705.17
9090290	Peat Excavation	CU YD	$20.72	142,597	$2,954,733.31	62,607	$1,297,271.25	11,028	$228,509.71		$0.00	7,579	$157,043.44	$4,637,557.71
9090300	Aggregate Borrow Material (18" Rock)	CU YD	$18.95	236,543	$4,482,275.76	104,109	$1,972,771.32	19,239	$364,561.64		$0.00	19,546	$370,379.01	$7,189,987.72
9090310	Embankment Material (Shot Rock)	CU YD	$13.12	1,268,663	$16,643,084.66	644,691	$8,457,444.49	310,815	$4,077,458.21		$0.00	189,864	$2,490,750.20	$31,668,737.56
9090320	Corridor Excavation	CU YD	$20.72	2,707	$56,091.36	908	$18,814.54	1,892	$39,203.86		$0.00	1,062	$22,005.55	$136,115.31
9090330	Drainage Inlet and Well - Large	EA	$28,703.27		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090340	Utility Pole Removal/Relocation - Minor	EA	$452.57		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090350	Utility Pole Removal/Relocation - Major	EA	$6,563.18		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090360	Residential Structure Demolition - Small	EA	$53,101.00		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090370	Residential Structure Demolition - Medi	EA	$106,202.00		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090380	Residential Structure Demolition - Large	EA	$185,853.50		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090390	Commercial Structure Demolition - Smal	EA	$165,940.67		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090400	Commercial Structure Demolition - Med	EA	$212,404.00		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090410	Commercial Structure Demolition - Larg	EA	$265,505.00		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
					$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
	Drainage and Stormwater Allowance	%	15.00%	147,531,605	$22,129,740.77	112,503,382	$16,875,507.27	103,272,782	$15,490,917.30	19,292,783	$2,893,917.38	89,419,318	$13,412,897.70	$70,802,980.42
					$0.00		$0.00		$0.00		$0.00		$0.00	$0.00

	Bridge No.					$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
	B2-1	New Construction	SF	$497.00	17,643	$8,768,571.00	9,199	$4,571,903.00		$0.00		$0.00		$0.00	$13,340,474.00
	B2-2	New Construction	SF	$497.00	17,643	$8,768,571.00	9,199	$4,571,903.00		$0.00		$0.00		$0.00	$13,340,474.00
	B2-3	New Construction	SF	$497.00	17,643	$8,768,571.00	9,199	$4,571,903.00		$0.00		$0.00		$0.00	$13,340,474.00
	B2-4	New Construction	SF	$497.00	17,643	$8,768,571.00	9,199	$4,571,903.00		$0.00		$0.00		$0.00	$13,340,474.00
	B2-5	New Construction	SF	$497.00	17,643	$8,768,571.00	9,199	$4,571,903.00		$0.00		$0.00		$0.00	$13,340,474.00
	B2-6	New Construction	SF	$497.00	17,643	$8,768,571.00	9,199	$4,571,903.00		$0.00		$0.00		$0.00	$13,340,474.00
	B2-7	New Construction	SF	$497.00	17,643	$8,768,571.00		$0.00	9,199	$4,571,903.00		$0.00		$0.00	$13,340,474.00
	B2-8	New Construction	SF	$497.00	8,163	$4,057,011.00		$0.00	4,256	$2,115,232.00		$0.00		$0.00	$6,172,243.00
	B2-9	New Construction	SF	$497.00	8,163	$4,057,011.00		$0.00	4,256	$2,115,232.00		$0.00		$0.00	$6,172,243.00
	B2-10	New Construction	SF	$497.00	8,163	$4,057,011.00		$0.00	4,256	$2,115,232.00		$0.00		$0.00	$6,172,243.00
	B2-11	New Construction	SF	$497.00	8,163	$4,057,011.00		$0.00	4,256	$2,115,232.00		$0.00		$0.00	$6,172,243.00
	B2-12	New Construction	SF	$497.00	8,163	$4,057,011.00		$0.00	4,256	$2,115,232.00		$0.00		$0.00	$6,172,243.00
	B2-13	New Construction	SF	$497.00	8,163	$4,057,011.00		$0.00	4,256	$2,115,232.00		$0.00		$0.00	$6,172,243.00
	B2-14	New Construction	SF	$497.00	8,163	$4,057,011.00		$0.00	4,256	$2,115,232.00		$0.00		$0.00	$6,172,243.00
	B2-15	New Construction	SF	$497.00	8,163	$4,057,011.00		$0.00	4,256	$2,115,232.00		$0.00		$0.00	$6,172,243.00
	B2-16	New Construction	SF	$497.00	8,163	$4,057,011.00		$0.00	4,256	$2,115,232.00		$0.00		$0.00	$6,172,243.00
	B2-1	Widening	SF	$596.40		$0.00	8,040	$4,795,056.00	12,730	$7,592,172.00		$0.00		$0.00	$12,387,228.00
	B2-2	Widening	SF	$596.40		$0.00	8,040	$4,795,056.00	12,730	$7,592,172.00		$0.00		$0.00	$12,387,228.00
	B2-3	Widening	SF	$596.40		$0.00	8,040	$4,795,056.00	12,730	$7,592,172.00		$0.00		$0.00	$12,387,228.00
	B2-4	Widening	SF	$596.40		$0.00	8,040	$4,795,056.00	12,730	$7,592,172.00		$0.00		$0.00	$12,387,228.00
	B2-5	Widening	SF	$596.40		$0.00	8,040	$4,795,056.00	12,730	$7,592,172.00		$0.00		$0.00	$12,387,228.00
	B2-6	Widening	SF	$596.40		$0.00	8,040	$4,795,056.00	12,730	$7,592,172.00		$0.00		$0.00	$12,387,228.00
	B2-7	Widening	SF	$596.40		$0.00	8,040	$4,795,056.00		$0.00		$0.00	12,730	$7,592,172.00	$12,387,228.00
	B2-8	Widening	SF	$596.40		$0.00	3,720	$2,218,608.00		$0.00		$0.00	5,890	$3,512,796.00	$5,731,404.00
	B2-9	Widening	SF	$596.40		$0.00	3,720	$2,218,608.00		$0.00		$0.00	5,890	$3,512,796.00	$5,731,404.00
	B2-10	Widening	SF	$596.40		$0.00	3,720	$2,218,608.00		$0.00		$0.00	5,890	$3,512,796.00	$5,731,404.00
	B2-11	Widening	SF	$596.40		$0.00	3,720	$2,218,608.00		$0.00		$0.00	5,890	$3,512,796.00	$5,731,404.00
	B2-12	Widening	SF	$596.40		$0.00	3,720	$2,218,608.00		$0.00		$0.00	5,890	$3,512,796.00	$5,731,404.00
	B2-13	Widening	SF	$596.40		$0.00	3,720	$2,218,608.00		$0.00		$0.00	5,890	$3,512,796.00	$5,731,404.00
	B2-14	Widening	SF	$596.40		$0.00	3,720	$2,218,608.00		$0.00		$0.00	5,890	$3,512,796.00	$5,731,404.00
	B2-15	Widening	SF	$596.40		$0.00	3,720	$2,218,608.00		$0.00		$0.00	5,890	$3,512,796.00	$5,731,404.00
	B2-16	Widening	SF	$596.40		$0.00	3,720	$2,218,608.00		$0.00		$0.00	5,890	$3,512,796.00	$5,731,404.00

Construction of Will T Connector	$8,355,299.54			$9,108,526.23	$17,463,825.77
Maintenance of Will T Connector		$3,101,275.51	$3,460,927.97	$3,101,275.51		$9,663,478.98
New Construction Cost Subtotal:	$169,661,345.93	$119,743,609.18	$103,335,403.54		$69,552,556.94	$465,186,832.96
Rehab Cost Subtotal:	$0.00	$9,635,279.87	$15,428,295.75	$19,292,782.52	$33,279,658.80	$77,636,016.94

	SUBTOTAL:	SUBTOTAL:	$569,950,154.66
CONTINGENCY	20.00%	CONTINGENCY	20.00%	$113,990,030.93
	TOTAL:	TOTAL:	$683,940,185.59

(Values Shown are in Cayman Island Dollars CI$)

***Note: Unit Prices shown herein include the following incidental costs, calculated as a percentage of total construction costs.
Construction Project Management - 12% of Base Construction Costs
Contractor Insurance - 4.5% of Base Construction Costs
Legal Permits and Fees - 2% of Base Construction Costs
Inspection and Testing - 3% of Base Construction Costs
Contractor Fee/Profit - 3.5% of Base Construction Costs
Owner General Engineering Consultant Fees During Construction - 7% of Base Construction Costs

Alternative B3 Quantity By Year Summary and Inflation Calculations

CURRENT YEAR ESTIMATE DATE: 2024				2026		2036		2046		2060		2074		Revised Total Cost
ITEM NO.	DESCRIPTION	UNIT	UNIT PRICE	QTY	Anticipated Future Year Cost	QTY	Anticipated Future Year Cost	QTY	Anticipated Future Year Cost	QTY	Anticipated Future Year Cost	QTY	Anticipated Future Year Cost	[Sum All Years (Qty)x(Unit Price)x(% Inc.)]
9090000	Compacted Asphalt, 2" Depth	SQ YD			$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090010	Compacted Asphalt, 3.5" Depth	SQ YD	$18.62	205,088	$3,818,980.40	104,205	$1,940,419.98	45,313	$843,781.49		$0.00	105,802	$1,970,158.00	$8,573,339.88
9090020	Compacted Asphalt, 6" Depth	SQ YD	$31.92		$0.00	17,196	$548,934.71	42,199	$1,347,086.28		$0.00		$0.00	$1,896,020.98
9090030	Crusher Run, 6" Depth	SQ YD	$11.02	205,088	$2,259,572.78	104,205	$1,148,086.58	45,313	$499,239.45		$0.00	105,802	$1,165,681.65	$5,072,580.47
9090040	Cayman Rock, 6" Depth	SQ YD	$16.29	206,204	$3,358,162.98	123,306	$2,008,116.45	117,674	$1,916,395.75		$0.00	105,802	$1,723,052.70	$9,005,727.88
9090050	Milling, 2" Depth	SQ YD			$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090060	Asphalt Tack Coat	SQ YD			$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090070	Concrete Pavement, 6" Depth	SQ YD	$190.04	1,116	$212,084.71	15,627	$2,969,756.05	30,162	$5,731,988.36		$0.00		$0.00	$8,913,829.12
9090080	Conrete Curb, 6" Height	LF	$44.46	8,939	$397,394.78	1,885	$83,800.11		$0.00		$0.00		$0.00	$481,194.89
9090090	Concrete Curb and Gutter, 6" Height	LF	$61.81	8,956	$553,593.45		$0.00		$0.00		$0.00		$0.00	$553,593.45
9090100	Concrete Mountable Curb	LF	$44.45	1,909	$84,851.18	5,863	$260,598.47		$0.00		$0.00		$0.00	$345,449.65
9090110	Concrete Median Barrier	LF	$190.21	38,210	$7,267,926.04		$0.00	11,845	$2,253,038.05		$0.00		$0.00	$9,520,964.10
9090120	Pavement Markings, Yellow	LF	$3.10	83,506	$258,912.26		$0.00	13,510	$41,888.06		$0.00	28,243	$87,568.07	$388,368.39
9090130	Pavement Markings, White	LF	$3.10	83,506	$258,926.55	104,384	$323,662.83	22,264	$69,033.85		$0.00	40,572	$125,801.35	$777,424.58
					$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090140	Compacted Asphalt, 2" Depth-REHAB	SQ YD	$16.93		$0.00	205,088	$3,472,537.74	326,489	$5,528,092.20	414,001	$7,009,840.14	414,001	$7,009,840.14	$23,020,310.22
9090150	Compacted Asphalt, 3.5" Depth-REHAB	SQ YD	$18.62		$0.00		$0.00	2,051	$38,192.08		$0.00	206,130	$3,838,387.49	$3,876,579.56
9090160	Crusher Run, 6" Depth-REHAB	SQ YD	$15.48		$0.00		$0.00	2,051	$31,746.71		$0.00	206,130	$3,190,613.76	$3,222,360.47
9090170	Cayman Rock, 6" Depth-REHAB	SQ YD	$21.69		$0.00		$0.00	2,051	$44,480.11		$0.00	206,130	$4,470,349.02	$4,514,829.13
9090180	Milling, 2" Depth-REHAB	SQ YD	$23.99		$0.00	205,088	$4,921,041.40	326,489	$7,834,031.66	414,001	$9,933,862.84	414,001	$9,933,862.84	$32,622,798.74
9090190	Asphalt Tack Coat-REHAB	SQ YD	$2.00		$0.00	410,176	$820,283.89	652,978	$1,305,847.58	828,002	$1,655,866.52	828,002	$1,655,866.52	$5,437,864.51
9090200	Concrete Pavement, 6" Depth-REHAB	SQ YD	$396.02		$0.00		$0.00		$0.00		$0.00	1,116	$441,955.75	$441,955.75
9090210	Conrete Curb, 6" Height-REHAB	LF	$82.59		$0.00		$0.00		$0.00		$0.00	8,939	$738,293.05	$738,293.05
9090220	Concrete Curb and Gutter, 6" Height-RE	LF	$104.57		$0.00		$0.00		$0.00		$0.00	8,956	$936,564.34	$936,564.34
9090230	Concrete Mountable Curb-REHAB	LF	$84.10		$0.00		$0.00		$0.00		$0.00	1,909	$160,543.34	$160,543.34
9090240	Concrete Median Barrier-REHAB	LF	$267.78		$0.00		$0.00		$0.00		$0.00	38,210	$10,231,695.17	$10,231,695.17
9090250	Pavement Markings, Yellow-REHAB	LF	$3.81		$0.00	83,506	$318,398.66	83,506	$318,398.66	97,016	$369,910.72	97,016	$369,910.72	$1,376,618.76
9090260	Pavement Markings, White-REHAB	LF	$3.81		$0.00	83,506	$318,398.69	187,890	$716,402.78	210,154	$801,292.83	210,154	$801,292.83	$2,637,387.12
					$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090270	Light Poles	EA	$37,667.08	168	$6,328,069.56	0	$0.00	55	$2,071,689.44		$0.00	113	$4,256,380.12	$12,656,139.11
9090280	Undercut Excavation	CU YD	$20.72	17,615	$364,998.02	6,887	$142,704.59	3,358	$69,580.66		$0.00	26,218	$543,259.61	$1,120,542.88
9090290	Peat Excavation	CU YD	$20.72	286,206	$5,930,436.13	95,739	$1,983,794.98	56,657	$1,173,982.10		$0.00	15,551	$322,230.18	$9,410,443.39
9090300	Aggregate Borrow Material (18" Rock)	CU YD	$18.95	303,821	$5,757,132.96	102,626	$1,944,669.81	60,015	$1,137,229.93		$0.00	41,769	$791,484.75	$9,630,517.45
9090310	Embankment Material (Shot Rock)	CU YD	$13.12	1,284,528	$16,851,211.28	652,734	$8,562,957.40	316,903	$4,157,324.25		$0.00	136,043	$1,784,693.94	$31,356,186.87
9090320	Corridor Excavation	CU YD	$20.72	2,601	$53,894.95	971	$20,119.95	2,212	$45,834.53		$0.00	1,027	$21,280.32	$141,129.75
9090330	Drainage Inlet and Well - Large	EA	$28,703.27		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090340	Utility Pole Removal/Relocation - Minor	EA	$452.57		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090350	Utility Pole Removal/Relocation - Major	EA	$6,563.18		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090360	Residential Structure Demolition - Small	EA	$53,101.00		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090370	Residential Structure Demolition - Medi	EA	$106,202.00		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090380	Residential Structure Demolition - Large	EA	$185,853.50		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090390	Commercial Structure Demolition - Smal	EA	$165,940.67		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090400	Commercial Structure Demolition - Med	EA	$212,404.00		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090410	Commercial Structure Demolition - Larg	EA	$265,505.00		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
					$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
	Drainage and Stormwater Allowance	%	15.00%	147,592,233	$22,138,834.95	110,533,956	$16,580,093.44	104,222,075	$15,633,311.25	19,770,773	$2,965,615.96	92,265,306	$13,839,795.85	$71,157,651.45
					$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
	Bridge No.				$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
	B3-1 New Construction	SF	$497.00	17,643	$8,768,571.00	9,199	$4,571,903.00		$0.00		$0.00		$0.00	$13,340,474.00
	B3-2 New Construction	SF	$497.00	17,643	$8,768,571.00	9,199	$4,571,903.00		$0.00		$0.00		$0.00	$13,340,474.00
	B3-3 New Construction	SF	$497.00	17,643	$8,768,571.00	9,199	$4,571,903.00		$0.00		$0.00		$0.00	$13,340,474.00
	B3-4 New Construction	SF	$497.00	17,643	$8,768,571.00	9,199	$4,571,903.00		$0.00		$0.00		$0.00	$13,340,474.00
	B3-5 New Construction	SF	$497.00	17,643	$8,768,571.00	9,199	$4,571,903.00		$0.00		$0.00		$0.00	$13,340,474.00

	B3-6	New Construction	SF	$497.00	17,643	$8,768,571.00	9,199	$4,571,903.00		$0.00		$0.00		$0.00	$13,340,474.00
	B3-7	New Construction	SF	$497.00	17,643	$8,768,571.00		$0.00	9,199	$4,571,903.00		$0.00		$0.00	$13,340,474.00
	B3-8	New Construction	SF	$497.00	8,163	$4,057,011.00		$0.00	4,256	$2,115,232.00		$0.00		$0.00	$6,172,243.00
	B3-9	New Construction	SF	$497.00	8,163	$4,057,011.00		$0.00	4,256	$2,115,232.00		$0.00		$0.00	$6,172,243.00
	B3-10	New Construction	SF	$497.00	8,163	$4,057,011.00		$0.00	4,256	$2,115,232.00		$0.00		$0.00	$6,172,243.00
	B3-11	New Construction	SF	$497.00	8,163	$4,057,011.00		$0.00	4,256	$2,115,232.00		$0.00		$0.00	$6,172,243.00
	B3-12	New Construction	SF	$497.00	8,163	$4,057,011.00		$0.00	4,256	$2,115,232.00		$0.00		$0.00	$6,172,243.00
	B3-13	New Construction	SF	$497.00	8,163	$4,057,011.00		$0.00	4,256	$2,115,232.00		$0.00		$0.00	$6,172,243.00
	B3-14	New Construction	SF	$497.00	8,163	$4,057,011.00		$0.00	4,256	$2,115,232.00		$0.00		$0.00	$6,172,243.00
	B3-15	New Construction	SF	$497.00	8,163	$4,057,011.00		$0.00	4,256	$2,115,232.00		$0.00		$0.00	$6,172,243.00
	B3-1	Widening	SF	$596.40		$0.00	8,040	$4,795,056.00	12,730	$7,592,172.00		$0.00		$0.00	$12,387,228.00
	B3-2	Widening	SF	$596.40		$0.00	8,040	$4,795,056.00	12,730	$7,592,172.00		$0.00		$0.00	$12,387,228.00
	B3-3	Widening	SF	$596.40		$0.00	8,040	$4,795,056.00	12,730	$7,592,172.00		$0.00		$0.00	$12,387,228.00
	B3-4	Widening	SF	$596.40		$0.00	8,040	$4,795,056.00	12,730	$7,592,172.00		$0.00		$0.00	$12,387,228.00
	B3-5	Widening	SF	$596.40		$0.00	8,040	$4,795,056.00	12,730	$7,592,172.00		$0.00		$0.00	$12,387,228.00
	B3-6	Widening	SF	$596.40		$0.00	8,040	$4,795,056.00	12,730	$7,592,172.00		$0.00		$0.00	$12,387,228.00
	B3-7	Widening	SF	$596.40		$0.00	8,040	$4,795,056.00		$0.00		$0.00	12,730	$7,592,172.00	$12,387,228.00
	B3-8	Widening	SF	$596.40		$0.00	3,720	$2,218,608.00		$0.00		$0.00	5,890	$3,512,796.00	$5,731,404.00
	B3-9	Widening	SF	$596.40		$0.00	3,720	$2,218,608.00		$0.00		$0.00	5,890	$3,512,796.00	$5,731,404.00
	B3-10	Widening	SF	$596.40		$0.00	3,720	$2,218,608.00		$0.00		$0.00	5,890	$3,512,796.00	$5,731,404.00
	B3-11	Widening	SF	$596.40		$0.00	3,720	$2,218,608.00		$0.00		$0.00	5,890	$3,512,796.00	$5,731,404.00
	B3-12	Widening	SF	$596.40		$0.00	3,720	$2,218,608.00		$0.00		$0.00	5,890	$3,512,796.00	$5,731,404.00
	B3-13	Widening	SF	$596.40		$0.00	3,720	$2,218,608.00		$0.00		$0.00	5,890	$3,512,796.00	$5,731,404.00
	B3-14	Widening	SF	$596.40		$0.00	3,720	$2,218,608.00		$0.00		$0.00	5,890	$3,512,796.00	$5,731,404.00
	B3-15	Widening	SF	$596.40		$0.00	3,720	$2,218,608.00		$0.00		$0.00	5,890	$3,512,796.00	$5,731,404.00

Construction of Will T Connector		$8,355,299.54				$9,108,526.23	$17,463,825.77
Maintenance of Will T Connector			$3,101,275.51	$3,460,927.97	$3,101,275.51		$9,663,478.98
New Construction Cost Subtotal:		$169,731,067.98	$117,263,389.36	$104,038,194.47		$62,325,926.54	$456,324,194.30
Rehab Cost Subtotal:		$0.00	$9,850,660.38	$15,817,191.78	$19,770,773.04	$43,779,174.96	$89,217,800.17

	SUBTOTAL:	SUBTOTAL:	$572,669,299.22
CONTINGENCY	20.00%	CONTINGENCY 20.00%	$114,533,859.84
	TOTAL:	TOTAL:	$687,203,159.07

(Values Shown are in Cayman Island Dollars CI$)

***Note: Unit Prices shown herein include the following incidental costs, calculated as a percentage of total construction costs.
Construction Project Management - 12% of Base Construction Costs
Contractor Insurance - 4.5% of Base Construction Costs
Legal Permits and Fees - 2% of Base Construction Costs
Inspection and Testing - 3% of Base Construction Costs
Contractor Fee/Profit - 3.5% of Base Construction Costs
Owner General Engineering Consultant Fees During Construction - 7% of Base Construction Costs

Will T Connector Quantity By Year Summary and Inflation Calculations

CURRENT YEAR ESTIMATE DATE: 2024				2026		2036		2046		2060		2074		Revised Total Cost
ITEM NO.	DESCRIPTION	UNIT	UNIT PRICE	QTY	Anticipated Future Year Cost	QTY	Anticipated Future Year Cost	QTY	Anticipated Future Year Cost	QTY	Anticipated Future Year Cost	QTY	Anticipated Future Year Cost	[Sum All Years (Qty)x(Unit Price)x(% Inc.)]
9090000	Compacted Asphalt, 2" Depth	SQ YD			$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090010	Compacted Asphalt, 3.5" Depth	SQ YD	$18.62	56,064	$1,043,977.79		$0.00		$0.00		$0.00	56,064	$1,043,977.79	$2,087,955.58
9090020	Compacted Asphalt, 6" Depth	SQ YD	$31.92		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090030	Crusher Run, 6" Depth	SQ YD	$11.02	56,064	$617,689.42		$0.00		$0.00		$0.00	56,064	$617,689.42	$1,235,378.84
9090040	Cayman Rock, 6" Depth	SQ YD	$16.29	63,840	$1,039,674.91		$0.00		$0.00		$0.00	63,840	$1,039,674.91	$2,079,349.81
9090050	Milling, 2" Depth	SQ YD			$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090060	Asphalt Tack Coat	SQ YD			$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090070	Concrete Pavement, 6" Depth	SQ YD	$190.04	7,776	$1,477,751.52		$0.00		$0.00		$0.00	7,776	$1,477,751.52	$2,955,503.05
9090080	Conrete Curb, 6" Height	LF	$44.46		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090090	Concrete Curb and Gutter, 6" Height	LF	$61.81	30,955	$1,913,408.34		$0.00		$0.00		$0.00	30,955	$1,913,408.34	$3,826,816.69
9090100	Concrete Mountable Curb	LF	$44.45		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090110	Concrete Median Barrier	LF	$190.21		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090120	Pavement Markings, Yellow	LF	$3.10		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090130	Pavement Markings, White	LF	$3.10	46,686	$144,759.00		$0.00		$0.00		$0.00	46,686	$144,759.00	$289,517.99
					$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090140	Compacted Asphalt, 2" Depth-REHAB	SQ YD	$16.93		$0.00	56,064	$949,272.29	56,064	$949,272.29	56,064	$949,272.29		$0.00	$2,847,816.87
9090150	Compacted Asphalt, 3.5" Depth-REHAB	SQ YD	$18.62		$0.00		$0.00	5,606	$104,390.43		$0.00		$0.00	$104,390.43
9090160	Crusher Run, 6" Depth-REHAB	SQ YD	$15.48		$0.00		$0.00	5,606	$86,773.30		$0.00		$0.00	$86,773.30
9090170	Cayman Rock, 6" Depth-REHAB	SQ YD	$21.69		$0.00		$0.00	5,606	$121,577.53		$0.00		$0.00	$121,577.53
9090180	Milling, 2" Depth-REHAB	SQ YD	$23.99		$0.00	56,064	$1,345,243.34	56,064	$1,345,243.34	56,064	$1,345,243.34		$0.00	$4,035,730.01
9090190	Asphalt Tack Coat-REHAB	SQ YD	$2.00		$0.00	112,128	$224,237.38	112,128	$224,237.38	112,128	$224,237.38		$0.00	$672,712.15
9090200	Concrete Pavement, 6" Depth-REHAB	SQ YD	$396.02		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090210	Conrete Curb, 6" Height-REHAB	LF	$82.59		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090220	Concrete Curb and Gutter, 6" Height-RE	LF	$104.57		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090230	Concrete Mountable Curb-REHAB	LF	$84.10		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090240	Concrete Median Barrier-REHAB	LF	$267.78		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090250	Pavement Markings, Yellow-REHAB	LF	$3.81		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090260	Pavement Markings, White-REHAB	LF	$3.81		$0.00	46,686	$178,008.30	46,686	$178,008.30	46,686	$178,008.30		$0.00	$534,024.91
					$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090270	Light Poles	EA	$37,667.08		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090280	Undercut Excavation	CU YD	$20.72		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090290	Peat Excavation	CU YD	$20.72		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090300	Aggregate Borrow Material (18" Rock)	CU YD	$18.95		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090310	Embankment Material (Shot Rock)	CU YD	$13.12	70,838	$929,295.51		$0.00		$0.00		$0.00		$0.00	$929,295.51
9090320	Corridor Excavation	CU YD	$20.72	4,774	$98,921.37		$0.00		$0.00		$0.00	81,232	$1,683,196.60	$1,782,117.97
9090330	Drainage Inlet and Well - Large	EA	$28,703.27		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090340	Utility Pole Removal/Relocation - Mino	EA	$452.57		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090350	Utility Pole Removal/Relocation - Majo	EA	$6,563.18		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090360	Residential Structure Demolition - Smal	EA	$53,101.00		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090370	Residential Structure Demolition - Med	EA	$106,202.00		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090380	Residential Structure Demolition - Large	EA	$185,853.50		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090390	Commercial Structure Demolition - Sma	EA	$165,940.67		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090400	Commercial Structure Demolition - Med	EA	$212,404.00		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
9090410	Commercial Structure Demolition - Larg	EA	$265,505.00		$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
					$0.00		$0.00		$0.00		$0.00		$0.00	$0.00
	Drainage and Stormwater Allowance	%	15.00%	7,265,478	$1,089,821.68	2,696,761	$404,514.20	3,009,503	$451,425.39	2,696,761	$404,514.20	#######	$1,188,068.64	$3,538,344.10
					$0.00		$0.00		$0.00		$0.00		$0.00	$0.00

New Construction Cost Subtotal:		$8,355,299.54	$0.00	$0.00	$0.00	$9,108,526.23	$17,463,825.77
Rehab/Widening Cost Subtotal:		$0.00	$3,101,275.51	$3,460,927.97	$3,101,275.51	$0.00	$9,663,478.98

	SUBTOTAL:		SUBTOTAL:	$27,127,305.00
CONTINGENCY	20.00%	CONTINGENCY	20.00%	$5,425,461.00
	TOTAL:		TOTAL:	$32,552,766.00

(Values Shown are in Cayman Island Dollars CI$)

***Note: Unit Prices shown herein include the following incidental costs, calculated as a percentage of total construction costs.
Construction Project Management - 12% of Base Construction Costs
Contractor Insurance - 4.5% of Base Construction Costs
Legal Permits and Fees - 2% of Base Construction Costs
Inspection and Testing - 3% of Base Construction Costs
Contractor Fee/Profit - 3.5% of Base Construction Costs
Owner General Engineering Consultant Fees During Construction - 7% of Base Construction Costs

Bridge Quantity and Cost Sample

CURRENT YEAR ESTIMATE DATE: 2024

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	COST
400-2-10	Concrete Class II, Approach Slabs	123	CU YD	$1,144.68	$140,452.00
400-4-4	Concrete Class IV, Bridge Superstructure	357	CU YD	$1,870.33	$668,268.00
400-4-5	Concrete Class IV, Bridge Substructure	253	CU YD	$1,509.00	$381,927.00
400-4-25	Concrete Class IV, Mass, Substructure	278	CU YD	$1,530.67	$425,986.00
400-7-1	Bridge Deck Grooving	560	SQ YD	$19.25	$10,782.00
400-9-1	Bridge Deck Planing	560	SQ YD	$16.27	$9,110.00
415-1-4	Reinforcing Steel - Bridge Superstructure	78,603	LB	$3.39	$266,594.00
415-1-5	Reinforcing Steel - Bridge Substructure	114,225	LB	$2.58	$294,913.00
415-1-9	Reinforcing Steel - Approach Slabs	24,531	LB	$3.39	$83,202.00
458-1-11	Bridge Deck Expansion Joint, New Construction, F&I Poured Joint with Backer Rod	103	LF	$320.17	$32,977.00
521-5-12	Concrete Traffic Railing - Bridge, 36" Median Single-Slope	165	LF	$159.45	$26,310.00
521-5-13	Concrete Traffic Railing - Bridge, 36" Single Slope	330	LF	$159.45	$52,619.00
530-3-3	Riprap - Rubble (Bank & Shore)	876	TN	$328.84	$288,067.00
530-74	Bedding Stone	326	TN	$205.35	$66,986.00
				TOTAL:	$2,748,193.00

SQUARE FOOT COST

Total Area of Deck = 5530 ft^2

Cost per SF = $497.00 =(TOTAL/ Total Area of Deck)

Attachment E

Right of Way Cost Estimates

Alternative B1 - Parcel Impacts

Land Reference Number	Parcel Type	Vacant/ Structure	Impact (Full/Partial)	Structure Impacted (x-Impacted)	Regular Impact Area (sqft)	Wetland Impact Area (sqft)	Habitat Impact Area (sqft)	National Land Trust Impact Area (sqft)	Total Impacts (sqft)	Incidental Impact (sqft)	Mastic Trail Impact (LF)	Rate Per Sq Foot ($CI/SF)	Value of Land Taken ($CI)
27D513	-	Structure	Partial		18,005.60	-	-	-	18,005.60	-	-	$5.00	$90,028.00
31A131	-	Vacant	Partial		219,772.78	-	-	-	219,772.78	-	-	$0.75	$164,829.59
31A130	-	Vacant	Partial		61,763.30	-	-	-	61,763.30	-	-	$3.00	$185,289.90
31A164	-	Vacant	Partial		91,883.41	-	-	-	91,883.41	-	-	$3.00	$275,650.23
31A29	-	Vacant	Partial		459,897.72	-	-	-	459,897.72	-	-	$2.00	$919,795.44
31A30	-	Vacant	Partial		301,965.96	-	-	-	301,965.96	-	-	$2.00	$603,931.92
31A31	-	Vacant	Partial		233,075.93	-	-	-	233,075.93	-	-	$0.75	$174,806.95
31A168	-	Vacant	Partial		25,234.20	-	-	-	25,234.20	-	-	$1.00	$25,234.20
31A2	-	Vacant	Full		234,998.33	-	1,060.04	-	236,058.37	-	-	$0.75	$177,043.78
31A3	-	Vacant	Partial		31,332.78	-	24,477.80	-	55,810.58	-	-	$0.75	$41,857.94
31A169	-	Vacant	Partial		5,013.91	-	-	-	5,013.91	-	-	$1.00	$5,013.91
36A2	-	Vacant	Partial		-	54,805.67	6,695.63	-	61,501.30	-	-	$0.75	$46,125.98
36A3	-	Vacant	Partial		-	355,376.16	270,158.20	-	355,376.16	-	-	$2.00	$710,752.32
37A8	-	Vacant	Partial		21,927.43	-	6,263.28	-	28,190.71	-	-	$3.00	$84,572.13
37A7	-	Vacant	Partial		103,733.10	-	7,558.31	-	111,291.41	-	-	$3.00	$333,874.23
37A128	-	Vacant	Partial		28,412.83	-	-	-	28,412.83	-	-	$0.00	$0.00
37A184	-	Vacant	Partial		104,645.65	-	208,120.85	-	312,766.50	-	-	$0.00	$0.00
37A74	-	Structure	Partial		8,501.76	-	6,955.65	-	15,457.41	-	-	$2.50	$38,643.53
37A13	-	Vacant	Partial		29,324.98	-	149,095.93	-	178,420.91	-	-	$2.50	$446,052.28
43A54	-	Vacant	Partial		20,275.65	-	281,587.25	-	301,862.90	-	-	$2.50	$754,657.25
43A44	-	Structure	Partial		3,825.63	-	-	-	3,825.63	-	-	$4.00	$15,302.52
43A43	-	Vacant	Partial		128,762.68	-	6,232.60	-	134,995.28	-	-	$2.50	$337,488.20
43A409REM2	-	Vacant	Partial		242,728.73	-	16,821.00	-	259,549.73	-	-	$2.00	$519,099.46
42A1	-	Vacant	Partial		-	5,618.06	2,084.60	-	5,618.06	-	-	$0.75	$4,213.55
43A7	-	Vacant	Partial		-	-	34,127.35	-	34,127.35	-	-	$0.75	$25,595.51
42A2	-	Vacant	Partial		-	209,727.45	209,727.45	-	209,727.45	74,588.38	-	$0.75	$157,295.59
42A3	-	Vacant	Partial		-	477,805.24	436,493.75	-	477,805.24	340,729.85	-	$0.50	$238,902.62
42A10	-	Vacant	Partial		-	42,954.02	42,954.02	-	42,954.02	-	-	$3.00	$128,862.06
42A14	-	Vacant	Partial		-	70,010.31	70,010.31	-	70,010.31	13,450.10	-	$2.00	$140,020.62
43A417	-	Vacant	Partial		-	188,882.86	188,882.86	-	188,882.86	-	-	$2.00	$377,765.72
43A421	-	Vacant	Partial		-	34,074.32	34,074.32	-	34,074.32	-	-	$3.00	$102,222.96
43A422	-	Vacant	Partial		-	33,804.80	33,804.80	-	33,804.80	-	-	$3.00	$101,414.40
43A419	-	Vacant	Partial		-	67,775.67	67,775.67	-	67,775.67	-	-	$3.00	$203,327.01
43A420	-	Vacant	Partial		-	122,293.67	115,222.51	-	122,293.67	-	-	$3.00	$366,881.01
47A1	-	Vacant	Partial		-	171,943.15	168,993.72	-	171,943.15	-	-	$2.00	$343,886.30
47A10	-	Vacant	Partial		-	3,947.80	3,916.73	-	3,947.80	-	-	$1.00	$3,947.80
47A2	-	Vacant	Partial		-	280,587.27	248,516.16	-	280,587.27	-	-	$0.50	$140,293.64
47A5	-	Vacant	Partial		-	234,711.94	234,711.94	-	234,711.94	-	-	$0.50	$117,355.97
47A7	-	Vacant	Partial		130,077.01	-	508,969.05	-	639,046.06	121,926.51	-	$0.50	$319,523.03
47A43	-	Vacant	Partial		-	31,043.91	-	-	31,043.91	-	-	$1.00	$31,043.91

Alternative B1 - Parcel Impacts

Land Reference Number	Parcel Type	Vacant/ Structure	Impact (Full/Partial)	Structure Impacted (x-Impacted)	Regular Impact Area (sqft)	Wetland Impact Area (sqft)	Habitat Impact Area (sqft)	National Land Trust Impact Area (sqft)	Total Impacts (sqft)	Incidental Impact (sqft)	Mastic Trail Impact (LF)	Rate Per Sq Foot ($CI/SF)	Value of Land Taken ($CI)
47A42	-	Vacant	Partial		-	11,170.14	-	-	11,170.14	-	-	$1.00	$11,170.14
47A38	-	Vacant	Partial		350,690.01	46,262.76	-	-	396,952.77	-	-	$0.50	$198,476.39
51A24	-	Vacant	Partial		-	188,033.12	-	-	188,033.12	-	-	$0.50	$94,016.56
51A15	-	Vacant	Partial		-	342,473.19	-	-	342,473.19	116,551.94	-	$0.50	$171,236.60
51A16	-	Vacant	Partial		-	117,330.82	-	-	117,330.82	90,212.37	-	$0.50	$58,665.41
51A18	-	Vacant	Partial		-	227,974.40	-	-	227,974.40	26,528.49	-	$0.50	$113,987.20
51A26	-	Vacant	Partial		494,347.16	4,071.44	339,416.01	-	837,834.61	237,601.10	-	$0.50	$418,917.31
55A277	-	Vacant	Partial		427,965.24	-	212,850.19	-	640,815.43	-	-	$0.50	$320,407.72
55A273	-	Vacant	Partial		76,764.39	-	-	-	76,764.39	-	-	$2.00	$153,528.78
55A30	-	Vacant	Partial		93,538.54	-	-	-	93,538.54	10,204.74	-	$2.00	$187,077.08
55A272	-	Vacant	Partial		24,544.14	-	-	-	24,544.14	-	-	$2.00	$49,088.28
55A31	-	Vacant	Full		32,756.03	-	-	-	44,906.52	12,150.49	65.29	$2.00	$89,813.04
55A7	-	Vacant	Partial		13,291.54	-	-	-	13,291.54	-	128.74	$2.00	$26,583.08
54A28	-	Vacant	Partial		705,009.23	-	-	-	754,144.45	49,135.22	77.10	$0.50	$377,072.23
54A24	-	Vacant	Partial		-	-	-	23,895.06	23,895.06	-	-	$0.50	$11,947.53
54A43	-	Vacant	Partial		27,524.53	-	-	27,524.53	27,524.53	-	-	$1.00	$27,524.53
54A44	-	Vacant	Partial		-	-	-	65,764.71	65,764.71	3,604.18	-	$1.00	$65,764.71
54A45	-	Vacant	Partial		-	-	-	116,592.90	116,592.90	37,184.82	-	$1.00	$116,592.90
54A46	-	Vacant	Partial		-	-	-	96,487.34	96,487.34	105,116.39	-	$1.00	$96,487.34
54A56	-	Vacant	Partial		99,173.89	-	-	-	99,173.89	22,135.46	-	$1.00	$99,173.89
54A54	-	Vacant	Partial		704.41	-	-	-	704.41	-	-	$1.00	$704.41
58A25	-	Vacant	Partial		169,836.44	-	-	-	170,558.93	722.49	-	$2.50	$426,397.33
58A24	-	Vacant	Partial		43,187.47	-	-	-	43,187.47	-	-	$2.50	$107,968.68
58A152	-	Vacant	Partial		380.86	-	-	-	380.86	-	-	$6.00	$2,285.16
58A151	Commercial	Structure	Partial		740.56	-	-	-	740.56	-	-	$1.00	$740.56
58A111	-	Vacant	Partial		6,909.36	-	-	-	6,909.36	-	-	$1.00	$6,909.36
51A27	-	Vacant	Partial		19,006.67	-	-	-	19,006.67	-	-	$0.50	$9,503.34
55A277	-	-	-		-	-	-	-	-	-	-	$0.50	$0.00
55A5	-	Vacant	Partial		353,631.46	-	-	-	353,631.46	-	-	$1.00	$353,631.46
55A19	-	Vacant	Partial		23,659.54	-	-	-	23,659.54	-	-	$1.00	$23,659.54
55A59	-	Vacant	Partial		123,938.17	-	-	-	123,938.17	46,405.50	-	$1.00	$123,938.17
55A60	-	Structure	Partial		106,096.84	-	-	-	106,096.84	-	-	$1.00	$106,096.84
55A129	Residential	Vacant	Partial		629.08	-	-	-	629.08	-	-	$6.00	$3,774.48
55A17	School	Structure	Partial		29,765.05	-	-	-	29,765.05	-	-	$0.00	$0.00
55A107	Commercial	Structure	Partial		48,113.26	-	-	-	48,113.26	-	-	$6.00	$288,679.56
55A171	-	Structure	Partial	x	26,920.20	-	-	-	26,920.20	-	-	$6.00	$161,521.20
55A172	-	Vacant	Partial		48,386.14	-	-	-	48,386.14	-	-	$6.00	$290,316.84
55A16	Fire Station	Structure	Full	x	114,660.40	-	-	-	188,916.48	74,256.08	-	$0.00	$120,000.00
59A21	-	Vacant	Partial		15,275.53	-	-	-	15,275.53	-	-	$2.00	$30,551.06
								TOTAL =	11,554,518.91			TOTAL =	$13,496,810.09
												WILL T Connector SUBTOTAL =	$5,439,046.32
												TOTAL =	$18,935,856.41

Alternative B2 - Parcel Impacts

Land Reference Number	Parcel Type	Vacant/ Structure	Impact (Full/Partial)	Structure Impacted (x-Impacted)	Regular Impact Area (sqft)	Wetland Impact Area (sqft)	Habitat Impact Area (sqft)	Total Impacts (sqft)	Incidental Impact (sqft)	Rate Per Sq Foot ($CI/SF)	Value of Land Taken ($CI)
27D513	-	Structure	Partial		18,005.60	-	-	18,005.60	-	$5.00	$90,028.00
31A131	-	Vacant	Partial		219,772.78	-	-	219,772.78	-	$0.75	$164,829.59
31A130	-	Vacant	Partial		61,763.30	-	-	61,763.30	-	$3.00	$185,289.90
31A164	-	Vacant	Partial		91,883.41	-	-	91,883.41	-	$3.00	$275,650.23
31A29	-	Vacant	Partial		425,628.50	-	-	425,628.50	-	$2.00	$851,257.00
31A30	-	Vacant	Partial		298,453.99	-	-	298,453.99	-	$2.00	$596,907.98
31A31	-	Vacant	Partial		233,075.93	-	-	233,075.93	-	$0.75	$174,806.95
31A168	-	Vacant	Partial		25,234.20	-	-	25,234.20	-	$1.00	$25,234.20
31A2	-	Vacant	Full		234,998.33	-	1,060.04	234,998.33	-	$0.75	$176,248.75
31A3	-	Vacant	Partial		31,312.17	-	24,477.80	55,789.97	-	$0.75	$41,842.48
31A169	-	Vacant	Partial		5,013.91	-		5,013.91	-	$1.00	$5,013.91
36A2	-	Vacant	Partial		-	54,835.27	6,695.63	61,530.90	-	$0.75	$46,148.18
36A3	-	Vacant	Partial		-	85,206.72	270,158.20	355,364.92	-	$2.00	$710,729.84
37A8	-	Vacant	Partial		21,927.43	-	6,263.28	28,190.71	-	$3.00	$84,572.13
37A7	-	Vacant	Partial		103,733.10	-	7,558.31	111,291.41	-	$3.00	$333,874.23
37A128	-	Vacant	Partial		28,412.83	-	-	28,412.83	-	$0.00	$0.00
37A184	-	Vacant	Partial		104,645.65	-	208,120.85	312,766.50	-	$0.00	$0.00
37A74	-	Structure	Partial		8,501.76	-	6,955.65	15,457.41	-	$2.50	$38,643.53
37A13	-	Vacant	Partial		29,324.98	-	149,095.93	178,420.91	-	$2.50	$446,052.28
43A54	-	Vacant	Partial		20,275.65	-	281,587.25	301,862.90	-	$2.50	$754,657.25
43A43	-	Vacant	Partial		125,499.59	-	1,476.67	126,976.26	-	$2.50	$317,440.65
43A44	-	Vacant	Partial		3,825.63	-	-	3,825.63	-	$4.00	$15,302.52
43A409REM2	-	Vacant	Partial		242,728.73	-	16,821.00	259,549.73	-	$2.00	$519,099.46
42A1	-	Vacant	Partial		-	5,618.06	2,084.60	5,618.06	-	$0.75	$4,213.55
43A7	-	Vacant	Partial		-	-	34,127.35	34,127.35	-	$0.75	$25,595.51
42A2	-	Vacant	Partial		-	209,727.45	209,727.45	209,727.45	74,588.38	$0.75	$157,295.59
42A3	-	Vacant	Partial		-	479,399.95	438,063.62	479,399.95	347,336.38	$0.50	$239,699.98
42A10	-	Vacant	Partial		-	68,139.24	68,139.24	68,139.24	-	$3.00	$204,417.72
42A14	-	Vacant	Partial		-	83,953.00	83,953.00	83,953.00	26,270.53	$2.00	$167,906.00
43A417	-	Vacant	Partial		-	148,664.81	148,664.81	148,664.81	36,472.34	$2.00	$297,329.62

Alternative B2 - Parcel Impacts

Land Reference Number	Parcel Type	Vacant/ Structure	Impact (Full/Partial)	Structure Impacted (x-Impacted)	Regular Impact Area (sqft)	Wetland Impact Area (sqft)	Habitat Impact Area (sqft)	Total Impacts (sqft)	Incidental Impact (sqft)	Rate Per Sq Foot ($CI/SF)	Value of Land Taken ($CI)
43A421	-	Vacant	Partial		-	34,178.83	34,178.83	34,178.83	34,862.00	$3.00	$102,536.49
43A422	-	Vacant	Partial		-	33,960.96	33,960.96	33,960.96	46,956.19	$3.00	$101,882.88
43A419	-	Vacant	Partial		-	67,865.33	67,865.33	67,865.33	130,564.85	$3.00	$203,595.99
43A420	-	Vacant	Partial		-	120,997.86	114,613.73	120,997.86	-	$3.00	$362,993.58
47A1	-	Vacant	Partial		-	172,922.84	162,782.22	172,922.84	-	$2.00	$345,845.68
47A10	-	Vacant	Partial		219,918.83	-	39,842.23	259,761.06	-	$0.50	$129,880.53
47A11	-	Vacant	Partial		26,682.47	-	-	26,682.47	-	$1.00	$26,682.47
47A45	-	Vacant	Partial		99,494.23	-	-	99,494.23	73,617.99	$2.00	$198,988.46
48C271	-	Vacant	Partial		303,464.53	-	-	303,464.53	-	$1.00	$303,464.53
47A36	-	Vacant	Partial		301,272.15	-	-	301,272.15	-	$2.00	$602,544.30
47A8	Quarry	Vacant	Partial		9,275.93	-	-	9,275.93	-	$2.00	$18,551.86
47A37	Quarry	Vacant	Partial		598,449.98	-	-	643,668.99	45,219.01	$0.50	$321,834.50
48C282	-	Vacant	Partial		14,243.82	-	-	23,799.78	9,555.96	$1.00	$23,799.78
47A38	Quarry	Vacant	Partial		48,645.41	-	-	48,645.41	629.90	$2.00	$97,290.82
51A22	-	Vacant	Partial		54,081.75	106,657.84	134,639.43	281,873.07	27,200.05	$0.50	$140,936.54
51A23	-	Vacant	Partial		-	60,582.82	-	60,582.82	-	$1.00	$60,582.82
51A20	-	Vacant	Partial		5,347.13	144,549.03	88,441.52	166,461.12	40,072.49	$3.00	$499,383.36
51A19	-	Vacant	Partial		-	6,656.90	-	6,656.90	-	$3.00	$19,970.70
51A18	-	Vacant	Partial		-	312,679.90	165,707.82	312,679.90	180,752.77	$0.50	$156,339.95
51A28	-	Vacant	Partial		177,336.24	-	185,694.95	380,596.39	17,565.20	$0.50	$190,298.20
51A27	-	Vacant	Partial		300,305.39	-	-	300,305.39	-	$0.50	$150,152.70
55A277	-	Vacant	Partial		226,743.00	-	-	226,743.00	-	$0.50	$113,371.50
55A6	-	Vacant	Partial		45,328.42	-	-	45,328.42	-		$0.00
55A328	-	Vacant	Partial		115,035.74	-	-	115,035.74	-		$0.00
55A5	-	Vacant	Partial		194,254.00	-	-	194,254.00	-	$1.00	$194,254.00
55A59	-	Vacant	Partial		136,897.37	-	-	136,897.37	-	$1.00	$136,897.37
55A60	-	Structure	Partial	x	105,548.04	-	-	105,548.04		$1.00	$300,000.00
55A129	Residential	Vacant	Partial		2,983.21	-	-	2,983.21	-	$6.00	$17,899.26
55A17	School	Structure	Partial		15,366.97	-	-	15,366.97	-	$0.00	$0.00
55A107	Commercial	Structure	Partial		50,833.30	-	-	50,833.30	-	$6.00	$304,999.80
55A171	-	Structure	Partial	x	26,894.14	-	-	26,894.14	-		$250,000.00
55A172	-	Vacant	Partial		45,594.94	-	-	45,594.94	-	$6.00	$273,569.64
55A16	Fire Station	Structure	Full	x	81,799.21	-	-	188,916.47	107,117.26	$0.00	$0.00
59A21	-	Vacant	Partial		15,275.53	-	-	15,275.53	-	$2.00	$30,551.06
							TOTAL =	9,307,716.98		TOTAL =	$12,629,185.74
										WILL T Connector SUBTOTAL =	$5,439,046.32
										TOTAL =	$18,068,232.06

Alternative B3 - Parcel Impacts

Land Reference Number	Parcel Type	Vacant/ Structure	Impact (Full/Partial)	Structure Impacted (x-Impacted)	Regular Impact Area (sqft)	Wetland Impact Area (sqft)	Habitat Impact Area (sqft)	Total Impacts (sqft)	Incidental Impact (sqft)	Rate Per Sq Foot ($CI/SF)	Value of Land Taken ($CI)
27D513	-	Structure	Partial		18,005.60	-	-	18,005.60	-	$5.00	$90,028.00
31A131	-	Vacant	Partial		219,772.78	-	-	219,772.78	-	$0.75	$164,829.59
31A130	-	Vacant	Partial		61,763.30	-	-	61,763.30	-	$3.00	$185,289.90
31A164	-	Vacant	Partial		91,883.41	-	-	91,883.41	-	$3.00	$275,650.23
31A29	-	Vacant	Partial		459,897.72	-	-	459,897.72	-	$2.00	$919,795.44
31A30	-	Vacant	Partial		301,965.96	-	-	301,965.96	-	$2.00	$603,931.92
31A31	-	Vacant	Partial		233,075.93	-	-	233,075.93	-	$0.75	$174,806.95
31A168	-	Vacant	Partial		25,234.20	-	-	25,234.20	-	$1.00	$25,234.20
31A2	-	Vacant	Full		234,998.33	-	1,060.04	234,998.33	-	$0.75	$176,248.75
31A3	-	Vacant	Partial		31,312.17	-	24,477.80	55,789.97	-	$0.75	$41,842.48
31A169	-	Vacant	Partial		5,013.91	-		5,013.91	-	$1.00	$5,013.91
36A2	-	Vacant	Partial		-	54,805.61	6,695.63	61,501.24	-	$0.75	$46,125.93
36A3	-	Vacant	Partial		-	85,206.72	270,158.20	355,364.92	-	$2.00	$710,729.84
37A8	-	Vacant	Partial		21,927.43	-	6,263.28	28,190.71	-	$3.00	$84,572.13
37A7	-	Vacant	Partial		103,733.10	-	7,558.31	111,291.41	-	$3.00	$333,874.23
37A128	-	Vacant	Partial		28,412.83	-	-	28,412.83	-	$0.00	$0.00
37A184	-	Vacant	Partial		104,645.65	-	208,120.85	312,766.50	-	$0.00	$0.00
37A74	-	Structure	Partial		8,501.76	-	6,955.65	15,457.41	-	$2.50	$38,643.53
37A13	-	Vacant	Partial		29,324.98	-	149,095.93	178,420.91	-	$2.50	$446,052.28
43A54	-	Vacant	Partial		20,275.65	-	277,303.17	297,578.82	-	$2.50	$743,947.05
43A43	-	Vacant	Partial		128,762.68	-	1,476.67	130,239.35	-	$2.50	$325,598.38
43A44	-	Structure	Partial		3,825.63	-	-	3,825.63	-	$4.00	$15,302.52
43A409REM2	-	Vacant	Partial		242,728.73	-	16,821.00	259,549.73	-	$2.00	$519,099.46
42A1	-	Vacant	Partial		-	5,618.06	2,084.60	5,618.06	-	$0.75	$4,213.55
43A7	-	Vacant	Partial		-	-	34,127.35	34,127.35	-	$0.75	$25,595.51
42A2	-	Vacant	Partial		-	209,727.45	209,727.45	209,727.45	74,588.38	$0.75	$157,295.59
42A3	-	Vacant	Partial		-	477,805.24	436,493.75	477,805.24	340,729.85	$0.50	$238,902.62
42A10	-	Vacant	Partial		-	42,954.02	42,954.02	42,954.02	-	$3.00	$128,862.06
42A14	-	Vacant	Partial		-	70,010.31	70,010.31	70,010.31	13,450.10	$2.00	$140,020.62
43A417	-	Vacant	Partial		-	188,882.86	188,882.86	188,882.86	-	$2.00	$377,765.72
43A421	-	Vacant	Partial		-	34,074.32	34,074.32	34,074.32	-	$3.00	$102,222.96
43A422	-	Vacant	Partial		-	33,804.80	33,804.80	33,804.80	-	$3.00	$101,414.40

Alternative B3 - Parcel Impacts

Land Reference Number	Parcel Type	Vacant/ Structure	Impact (Full/Partial)	Structure Impacted (x-Impacted)	Regular Impact Area (sqft)	Wetland Impact Area (sqft)	Habitat Impact Area (sqft)	Total Impacts (sqft)	Incidental Impact (sqft)	Rate Per Sq Foot ($CI/SF)	Value of Land Taken ($CI)
43A419	-	Vacant	Partial		-	67,775.67	67,775.67	67,775.67	-	$3.00	$203,327.01
43A420	-	Vacant	Partial		-	122,293.67	115,222.51	122,293.67	-	$3.00	$366,881.01
47A1	-	Vacant	Partial		-	171,943.15	168,993.72	171,943.15	-	$2.00	$343,886.30
47A10	-	Vacant	Partial		-	3,947.80	3,916.73	3,947.80	-	$1.00	$3,947.80
47A2	-	Vacant	Partial		-	280,587.27	248,516.16	280,587.27	-	$0.50	$140,293.64
47A5	-	Vacant	Partial		-	234,711.94	234,711.94	234,711.94	-	$0.50	$117,355.97
47A7	-	Vacant	Partial		130,077.01	-	508,969.05	760,972.57	121,926.51	$0.50	$380,486.29
47A43	-	Vacant	Partial		-	31,043.91	-	31,043.91	-	$1.00	$31,043.91
47A42	-	Vacant	Partial		-	11,170.14	-	11,170.14	-	$1.00	$11,170.14
47A38	-	Vacant	Partial		350,690.01	46,059.65	-	396,749.66	-	$0.50	$198,374.83
51A24	-	Vacant	Partial		-	188,033.12	-	188,033.12	-	$0.50	$94,016.56
51A15	-	Vacant	Partial		-	342,473.19	-	459,025.13	116,551.94	$0.50	$229,512.57
51A16	-	Vacant	Partial		-	117,327.99	-	207,543.19	90,215.20	$0.50	$103,771.60
51A18	-	Vacant	Partial		-	230,591.56	-	260,402.26	29,810.70	$0.50	$130,201.13
51A26	-	Vacant	Partial		185,848.25	-	188,571.94	374,420.19	-	$0.50	$187,210.10
51A27	-	Vacant	Partial		373,804.83	-	81,514.43	474,729.70	19,410.44	$0.50	$237,364.85
55A277	-	Vacant	Partial		250,636.85	-	-	250,636.85	-	$0.50	$125,318.43
55A5	-	Vacant	Partial		363,596.39	-	-	363,596.39	-	$1.00	$363,596.39
55A19	-	Vacant	Partial		25,932.22	-	-	25,932.22	-	$1.00	$25,932.22
55A59	-	Vacant	Partial		121,990.40	-	-	121,990.40	-	$1.00	$121,990.40
55A60	-	Structure	Partial		105,641.92	-	-	105,641.92	-	$1.00	$20,000.00
55A129	Residential	Vacant	Partial		470.00	-	-	470.00	-	$6.00	$2,820.00
55A17	School	Structure	Partial		32,719.00	-	-	32,719.00	-	$0.00	$0.00
55A107	Commercial	Structure	Partial		47,419.98	-	-	47,419.98	-	$6.00	$284,519.88
55A171	-	Structure	Partial	x	26,601.70	-	-	26,601.70	-		$250,000.00
55A172	-	Vacant	Partial		47,944.29	-	-	47,944.29	-	$6.00	$287,665.74
55A16	Fire Station	Structure	Full	x	115,211.38	-	-	188,916.47	73,705.09	$0.00	$0.00
59A21	-	Vacant	Partial		15,275.53	-	-	15,275.53	-	$2.00	$30,551.06
							TOTAL =	9,859,499.10		SUBTOTAL =	$11,494,147.52
										WILL T Connector SUBTOTAL =	$5,439,046.32
										TOTAL =	$16,933,193.84

Will T Connector - Parcel Impacts

Land Reference Number	Parcel Type	Vacant/ Structure	Impact (Full/Partial)	Regular Impact Area (sqft)	Wetland Impact Area (sqft)	Habitat Impact Area (sqft)	Incidental Impact (sqft)	Total Impacts (sqft)	Rate Per Sq Foot ($CI/SF)	Value of Land Taken ($CI)
31A29	-	Vacant	Partial	61,154.47	-	-	-	61,154.47	$3.00	$183,463.41
31A9	-	Vacant	Partial	7,896.53	-	-	142,505.47	150,402.00	$2.00	$300,804.00
31A171	-	Vacant	Partial	29,101.46	-	-	12,626.18	41,727.64	$5.00	$208,638.20
31A76	Residential	Structure	Partial	6.33	-	-	-	6.33	$2.00	$12.66
31A75	Residential	Vacant	Partial	671.40	-	-	-	671.40	$7.00	$4,699.80
31A74	Residential	Vacant	Partial	2,680.47	-	-	-	2,680.47	$7.00	$18,763.29
31A90	Residential	Structure	Partial	549.55	-	-	-	549.55	$7.00	$3,846.85
31A170	Residential	Structure	Partial	27.41	-	-	-	27.41	$7.00	$191.87
31A73	Residential	Structure	Partial	315.24	-	-	-	315.24	$2.00	$630.48
31A38	Residential	Structure	Partial	1,860.57	-	-	-	1,860.57	$2.00	$3,721.14
31A68	Residential	Structure	Partial	645.61	-	-	-	645.61	$2.00	$1,291.22
31A123	Residential	Vacant	Full	405.04	-	-	-	405.04	$2.00	$810.08
31A122	Residential	Vacant	Partial	3,377.94	-	-	-	3,377.94	$7.00	$23,645.58
31A120	Residential	Vacant	Partial	862.34	-	-	-	862.34	$7.00	$6,036.38
31A116	Residential	Vacant	Partial	1,279.40	-	-	-	1,279.40	$7.00	$8,955.80
31A102	Residential	Structure	Partial	870.35	-	-	-	870.35	$2.00	$1,740.70
31A101	Residential	Structure	Partial	547.72	-	-	-	547.72	$2.00	$1,095.44
31A115	Residential	Vacant	Partial	1,375.00	-	-	-	1,375.00	$7.00	$9,625.00
31A114	Residential	Vacant	Partial	5,334.85	-	-	1,202.43	6,537.28	$7.00	$45,760.96
31A113	Residential	Vacant	Partial	3,219.26	-	-	-	3,219.26	$7.00	$22,534.82
37E196	Residential	Structure	Partial	690.46	-	-	-	690.46	$2.00	$1,380.92
31A112	Residential	Vacant	Partial	1,030.27	-	-	-	1,030.27	$7.00	$7,211.89
37E198	-	Vacant	Partial	44,323.52	-	-	39,457.61	83,781.13	$3.00	$251,343.39
Plum Tree Road										
38B382	Residential	Structure	Partial	1,730.97	-	-	-	1,730.97	$2.00	$3,461.94
38B438	Residential	Structure	Partial	1,549.52	-	-	-	1,549.52	$2.00	$3,099.04
38B383	Residential	Structure	Partial	1,104.32	-	-	-	1,104.32	$2.00	$2,208.64
38B315	Residential	Structure	Partial	1,035.39	-	-	-	1,035.39	-	$500,000.00
38B380	Residential	Structure	Partial	1,008.27	-	-	-	1,008.27	$2.00	$2,016.54
38B314	Residential	Vacant	Partial	1,010.62	-	-	-	1,010.62	$7.00	$7,074.34
38B369	Residential	Structure	Partial	960.99	-	-	-	960.99	$2.00	$1,921.98
38B188	Residential	Structure	Partial	999.41	-	-	-	999.41	$2.00	$1,998.82
38B370	Residential	Vacant	Partial	910.71	-	-	-	910.71	$7.00	$6,374.97
38B189	Residential	Structure	Partial	1,012.36	-	-	-	1,012.36	$2.00	$2,024.72
38B184	Residential	Structure	Partial	753.14	-	-	-	753.14	$2.00	$1,506.28
38B245	Residential	Structure	Partial	1,195.84	-	-	-	1,195.84	$2.00	$2,391.68
38B183	Residential	Structure	Partial	947.16	-	-	-	947.16	$2.00	$1,894.32

Will T Connector - Parcel Impacts

Land Reference Number	Parcel Type	Vacant/ Structure	Impact (Full/Partial)	Regular Impact Area (sqft)	Wetland Impact Area (sqft)	Habitat Impact Area (sqft)	Incidental Impact (sqft)	Total Impacts (sqft)	Rate Per Sq Foot ($CI/SF)	Value of Land Taken ($CI)
Northward Road										
38B354	Residential	Vacant	Partial	1,029.75	-	-	-	1,029.75	$8.00	$8,238.00
38B241	Residential	Structure	Partial	820.71	-	-	-	820.71	$2.00	$1,641.42
38B501	Residential	Structure	Partial	811.34	-	-	-	811.34	$2.00	$1,622.68
38B200	Residential	Vacant	Partial	726.52	-	-	-	726.52	$8.00	$5,812.16
37E93	Residential	Structure	Partial	1,039.81	-	-	-	1,039.81	$2.00	$2,079.62
37E33	Residential	Structure	Partial	647.58	-	-	-	647.58	$2.00	$1,295.16
37E92	Residential	Structure	Partial	697.85	-	-	-	697.85	$2.00	$1,395.70
37E32	Residential	Structure	Partial	1,073.89	-	-	-	1,073.89	$2.00	$2,147.78
Crysdel Road										
37A19	-	Vacant	Partial	32,226.70	-	-	-	32,226.70	$8.00	$257,813.60
37A20	-	Vacant	Partial	17,367.99	-	-	-	17,367.99	$8.00	$138,943.92
37A5	-	Vacant	Partial	55,475.51	-	-	-	55,475.51	$8.00	$443,804.08
37A77REM1	-	Structure	Partial	65,172.53	-	200.80	54,451.54	119,824.87	$8.00	$958,598.96
37E288	Residential	Vacant	Partial	1,566.61	-	-	-	1,566.61	$8.00	$12,532.88
37E289	Residential	Structure	Partial	1,979.59	-	-	-	1,979.59	$2.00	$3,959.18
37E290	Residential	Structure	Partial	1,060.11	-	-	-	1,060.11	$8.00	$8,480.88
37E291	Residential	Structure	Partial	532.12	-	-	-	532.12	$8.00	$4,256.96
37E292	Residential	Vacant	Partial	1,312.41	-	-	-	1,312.41	$8.00	$10,499.28
37E293	Residential	Vacant	Partial	0.93	-	-	-	0.93	$8.00	$7.44
36A3	-	Vacant	Partial		2,197.61	1,900.66	-	4,098.27	$8.00	$32,786.16
37A7	-	Vacant	Partial		296.01	-	-	296.01	$8.00	$2,368.08

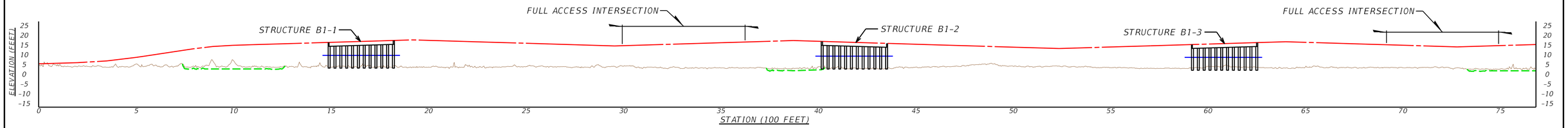
Will T Connector - Parcel Impacts

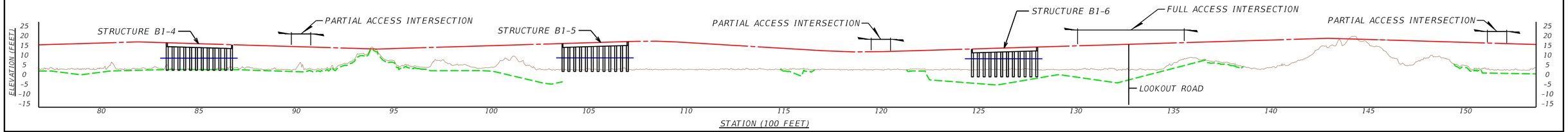
Land Reference Number	Parcel Type	Vacant/ Structure	Impact (Full/Partial)	Regular Impact Area (sqft)	Wetland Impact Area (sqft)	Habitat Impact Area (sqft)	Incidental Impact (sqft)	Total Impacts (sqft)	Rate Per Sq Foot ($CI/SF)	Value of Land Taken ($CI)
WEST STEM LEG										
31A21	-	Vacant	Partial	24,336.46	-	-		24,336.46	$6.00	$146,018.76
31A22	-	Vacant	Partial	27,441.29	-	-	21,992.79	49,434.08	$6.00	$296,604.48
31A12	-	Vacant	Partial	890.27	-	-	-	890.27	$7.00	$6,231.89
31A13	-	Vacant	Partial	4,331.92	-	-	-	4,331.92	$7.00	$30,323.44
31A14	-	Vacant	Partial	11,092.75	-	-	-	11,092.75	$7.00	$77,649.25
31A23	-	Vacant	Partial	4,572.58	-	-	-	4,572.58	$7.00	$32,008.06
31A24	-	Vacant	Partial	4,709.04	-	-	-	4,709.04	$7.00	$32,963.28
32C8	-	Vacant	Partial	7,239.84	-	-	-	7,239.84	$7.00	$50,678.88
32C61	-	Vacant	Partial	5,207.09	-	-	-	5,207.09	$7.00	$36,449.63
32C117REM2	-	Vacant	Full	14,293.68	-	-	3,724.44	18,018.12	$2.00	$36,036.24
32C62	-	Vacant	Partial	6,687.78	-	-	-	6,687.78	$7.00	$46,814.46
32C63	-	Structure	Partial	10,771.54	-	-	-	10,771.54	$7.00	$75,400.78
32C486	Residential	Structure	Partial	2,493.39	-	-	-	2,493.39	$2.00	$4,986.78
32C487	Residential	Vacant	Partial	1,753.43	-	-	-	1,753.43	$7.00	$12,274.01
32C261	Residential	Structure	Partial	4,762.52	-	-	-	4,762.52	$2.00	$9,525.04
32C398	Residential	Structure	Full	7,256.29	-	-	29,642.95	36,899.24	-	$800,000.00
Shamrock Road - Eastern Leg										
31A3	-	Vacant	Partial	81,549.20	-	-	-	81,549.20	$1.00	$81,549.20
37E210REM1	-	Vacant	Partial	22,283.71	-	-	16,951.96	39,235.67	$3.00	$117,707.01
37E223	Residential	Structure	Partial	230.23	-	-	-	230.23	$2.00	$460.46
37E224	Residential	Structure	Partial	2,218.10	-	-	-	2,218.10	$2.00	$4,436.20
37E225	Residential	Structure	Partial	233.69	-	-	-	233.69	$2.00	$467.38
							TOTAL =	937,491.09	TOTAL =	$5,439,046.32

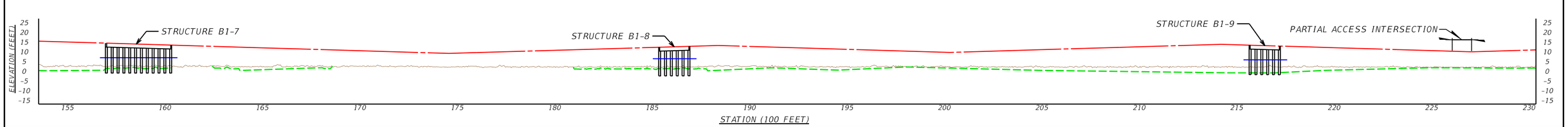
Attachment F

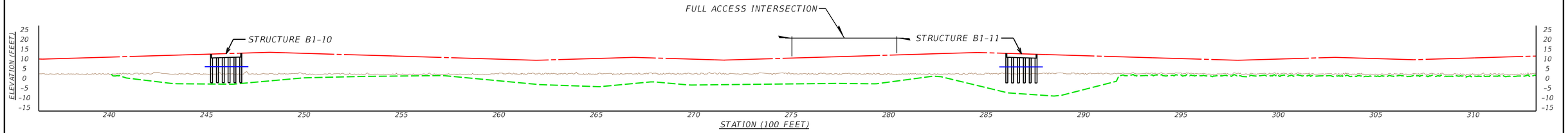
Preliminary Profiles

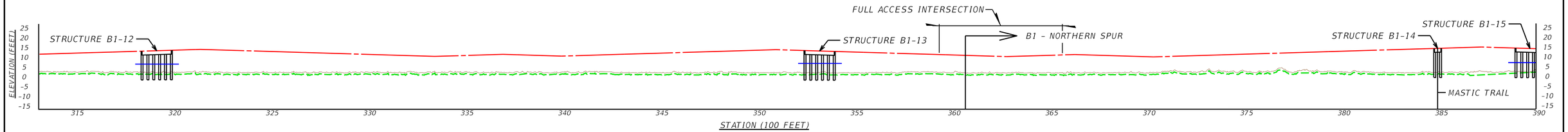
ALTERNATIVE B1 PROFILE

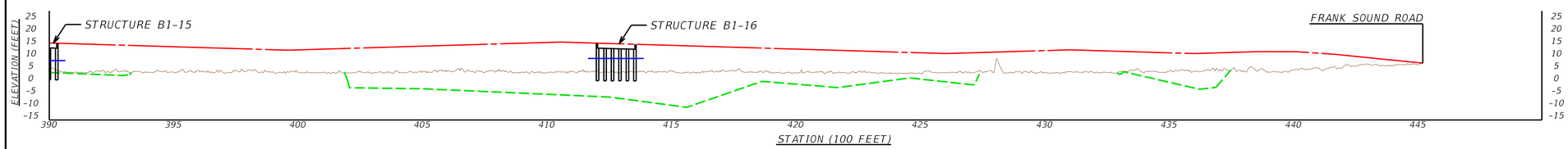


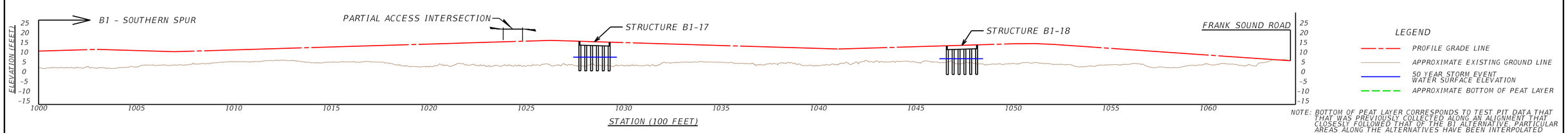






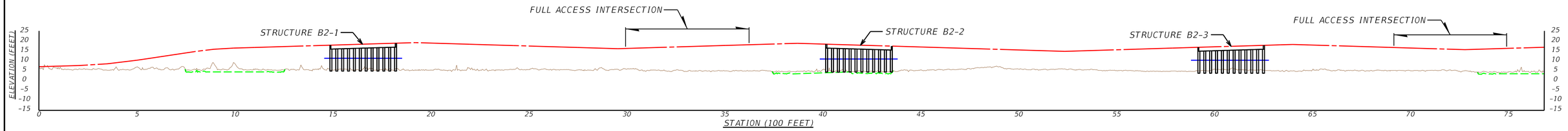


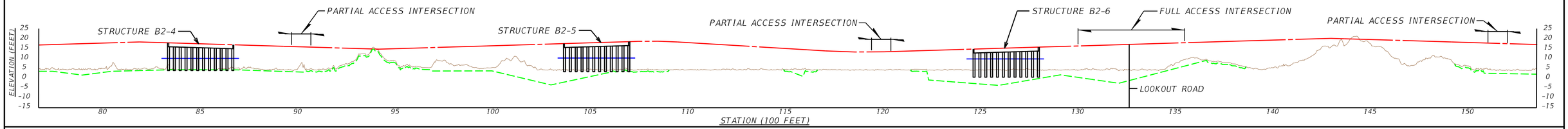


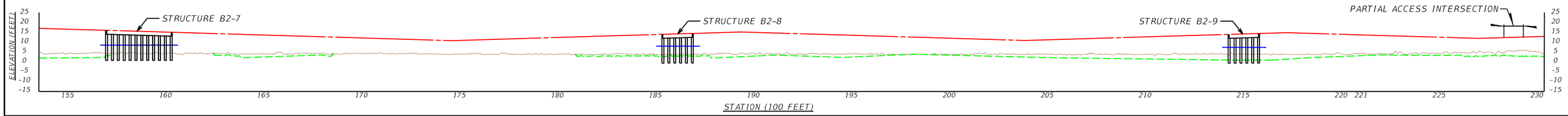


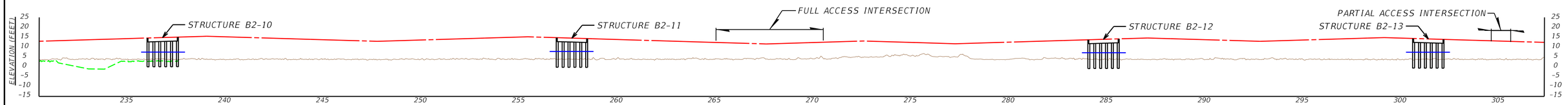
NOTE: BOTTOM OF PEAT LAYER CORRESPONDS TO TEST PIT DATA THAT THAT WAS PREVIOUSLY COLLECTED ALONG AN ALIGNMENT THAT CLOSESLY FOLLOWED THAT OF THE B1 ALTERNATIVE. PARTICULAR AREAS ALONG THE ALTERNATIVES HAVE BEEN INTERPOLATED OR PROJECTED FROM THIS DATA.

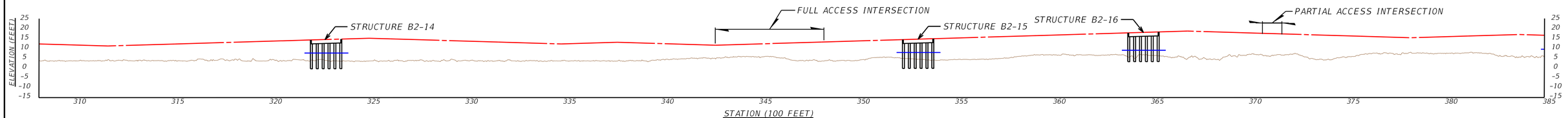
ALTERNATIVE B2 PROFILE

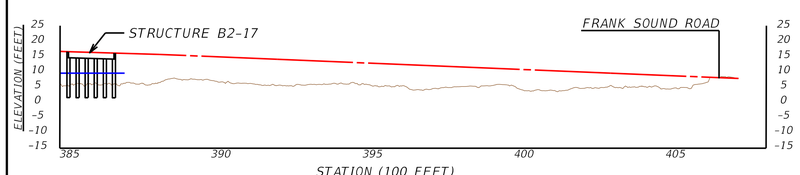










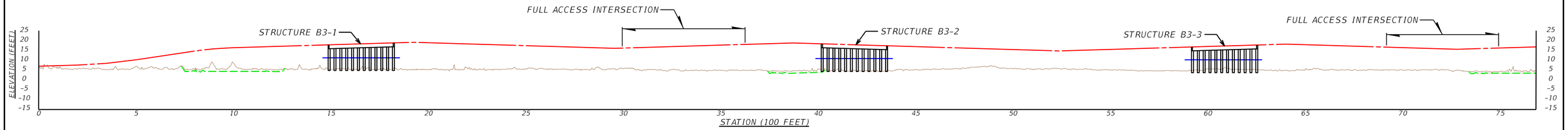


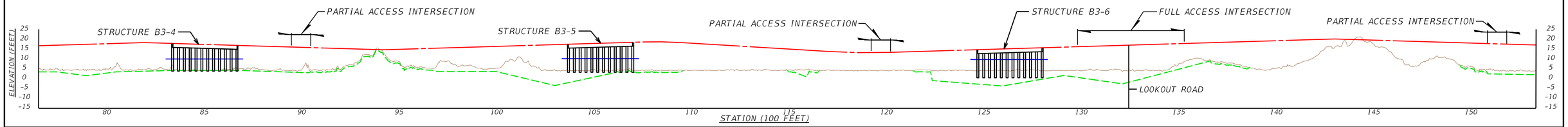
LEGEND

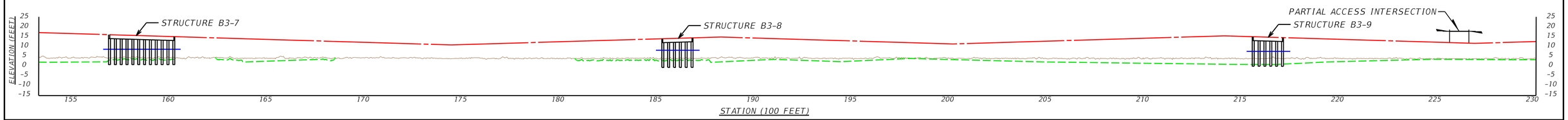
- PROFILE GRADE LINE
- APPROXIMATE EXISTING GROUND LINE
- 50 YEAR STORM EVENT WATER SURFACE ELEVATION
- APPROXIMATE BOTTOM OF PEAT LAYER

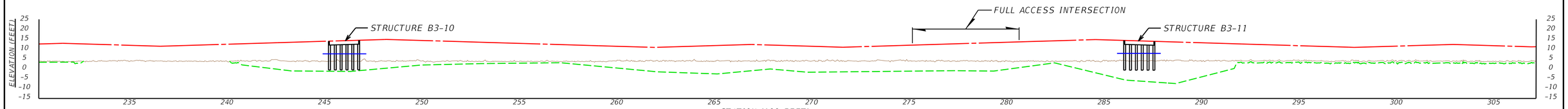
NOTE: BOTTOM OF PEAT LAYER CORRESPONDS TO TEST PIT DATA THAT THAT WAS PREVIOUSLY COLLECTED ALONG AN ALIGNMENT THAT CLOSESLY FOLLOWED THAT OF THE B1 ALTERNATIVE. PARTICULAR AREAS ALONG THE ALTERNATIVES HAVE BEEN INTERPOLATED OR PROJECTED FROM THIS DATA.

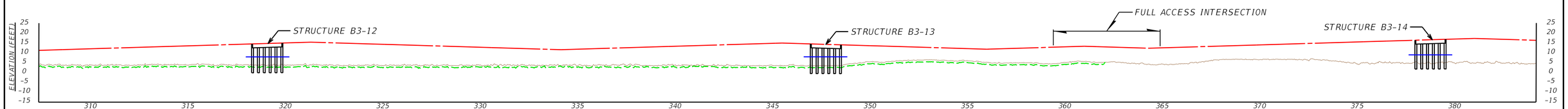
ALTERNATIVE B3 PROFILE

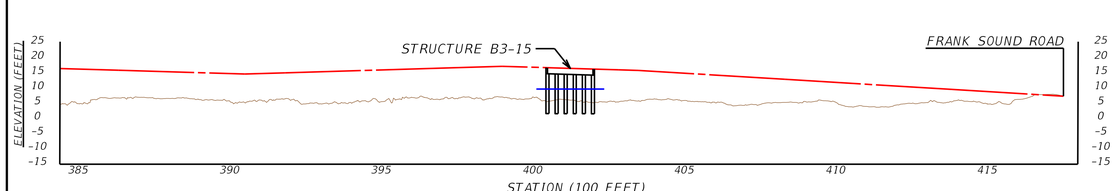












LEGEND

- PROFILE GRADE LINE
- APPROXIMATE EXISTING GROUND LINE
- 50 YEAR STORM EVENT WATER SURFACE ELEVATION
- APPROXIMATE BOTTOM OF PEAT LAYER

NOTE: BOTTOM OF PEAT LAYER CORRESPONDS TO TEST PIT DATA THAT THAT WAS PREVIOUSLY COLLECTED ALONG AN ALIGNMENT THAT CLOSESLY FOLLOWED THAT OF THE B1 ALTERNATIVE. PARTICULAR AREAS ALONG THE ALTERNATIVES HAVE BEEN INTERPOLATED OR PROJECTED FROM THIS DATA.

Appendix E, Attachment C – Socio-Economic – Assessment of Alternatives

Environmental Statement
East-West Arterial Extension:
Section 2 (Woodland Drive – Lookout Road)
Section 3 (Lookout Road – Frank Sound Road)



Socio-economic FINAL

Assessment of Alternatives

Grand Cayman East-West Arterial Extension

NRA
NATIONAL ROADS AUTHORITY

February 26, 2024

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List of Terms

CBA	Cost Benefit Analysis
CoS	Compendium of Statistics
CUC	Caribbean Utilities Company, Ltd.
DEH	Department of Environmental Health
DK/NS	Don't Know/Not Stated
EA	Enumeration Area
ECCE	Early Childhood Care and Education
EIA	Environmental Impact Assessment
EMC	Emergency Medical Centres
ESO	Economics and Statistics Office
EWA	East-West Arterial
GDP	Gross Domestic Product
HSA	Health Services Authority
LOS	Level of Service
LTS	Level of Traffic Stress
NAU	Needs Assessment Unit
NRA	National Roads Authority
ToR	Terms of Reference
UK	United Kingdom
US	United States
WebTAG	UK Department for Transport "Transport Analysis Guidance"

1 Introduction

The East-West Arterial (EWA) Extension Environmental Impact Assessment (EIA) is proposed to evaluate an alternative east-west travel route on Grand Cayman. The Terms of Reference (ToR) for the proposed EWA Extension EIA was finalized on April 4, 2023. Since then, five Build alternatives (B1, B2, B3, B4, and C1), in addition to the No-Build scenario, were developed and assessed as part of the Longlist Alternatives Evaluation. A separate Longlist Alternatives Evaluation Document has been prepared to document this analysis.

As a result of the Longlist Alternatives Evaluation, four Build alternatives (B1, B2, B3, and B4) and the No-Build scenario were advanced as a shortlist for evaluation. This report focuses on the assessment of socio-economics for these shortlisted alternatives. Information from this report will be incorporated within the Shortlist Alternatives Evaluation Document and Environmental Statement.

2 Shortlist Evaluation

Social-economic components including employment, income, and education affect how humans and communities live. Assessing the proposed project's potential to affect changes in these components provides an understanding of the comprehensive and interrelated needs of individuals and the local communities.

The following provides information on the anticipated impacts of the shortlisted alternatives on the identified socio-economics components described in **Section 3: Baseline Conditions**. The Shortlist of Alternatives includes the No-Build scenario, plus the four Build alternatives (B1, B2, B3, and B4) as depicted in **Figure 1**. The four Build alternatives all share the same common section beginning at the western terminus, near Woodland Drive, and continuing east to near Lookout Road. They also share the same common improvements to the local roadway network referred to as the Will T Connector. Additional details describing the Shortlist of Alternatives including full descriptions of the No-Build scenario and each Build alternative along with typical design sections can be found in the **Shortlist Evaluation Document** and in the **Traffic Technical Report**.

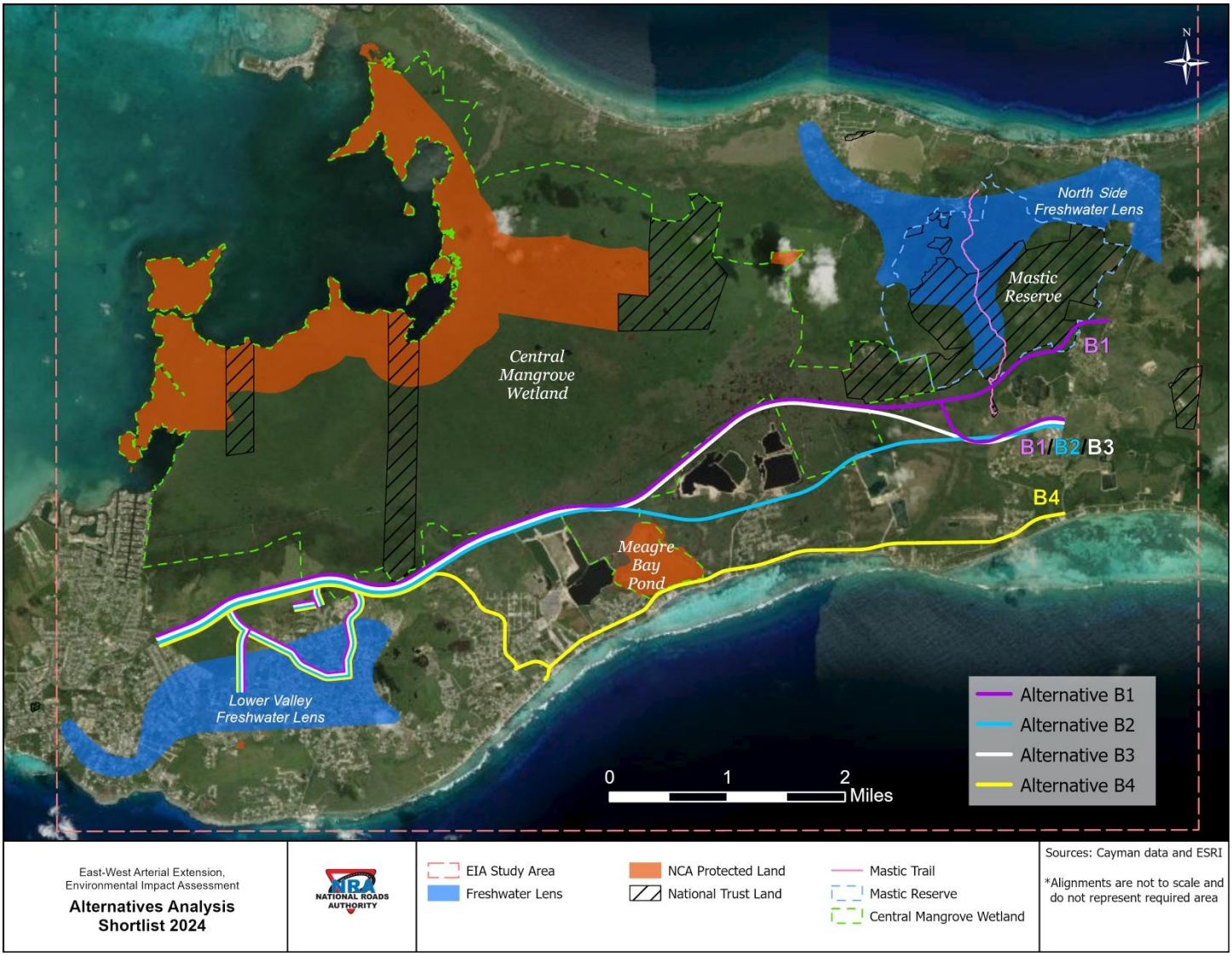

Figure 1: Shortlist of Alternatives

3 Baseline Conditions

3.1 Description of Study Area

The socio-economic study area includes all of Grand Cayman owing to the island-wide effects that could result from a new east-west roadway on population, employment, businesses, and housing. Grand Cayman has five districts: George Town, West Bay, Bodden Town, North Side, and East End (**Figure 2**), and each district is comprised of Enumeration Areas (EA; **Figure 3**). EAs separate districts into smaller statistical areas; they represent the smallest statistical units in census data. Households in EAs are specifically canvassed by enumerators to obtain necessary data. In the Cayman Islands, EAs are comprised of 100 households.

The Cayman Islands' 2021 Census of Population and Housing, and the Cayman Islands' 2021 Compendium of Statistics (CoS) were used as references to create a demographic profile and

examine the social characteristics within the study area. These documents were developed by the Cayman Islands Economics and Statistics Office (ESO), and they provide information about population, demographics, and social and economic conditions. Additional 2021 data at the district and enumeration area level were provided to the EWA EIA project team by the ESO.

While the ESO released a 2022 CoS in late 2023, that demographic data is based on small surveys rather than a larger decennial census count, and it does not contain the level of detail that the 2021 Census of Population and Housing offers. Additional data received directly from the ESO came from the 2021 census. Therefore, when summarizing demographic information, the data used for this Technical Report came primarily from the 2021 Census due to the need for consistency and the greatest accuracy.

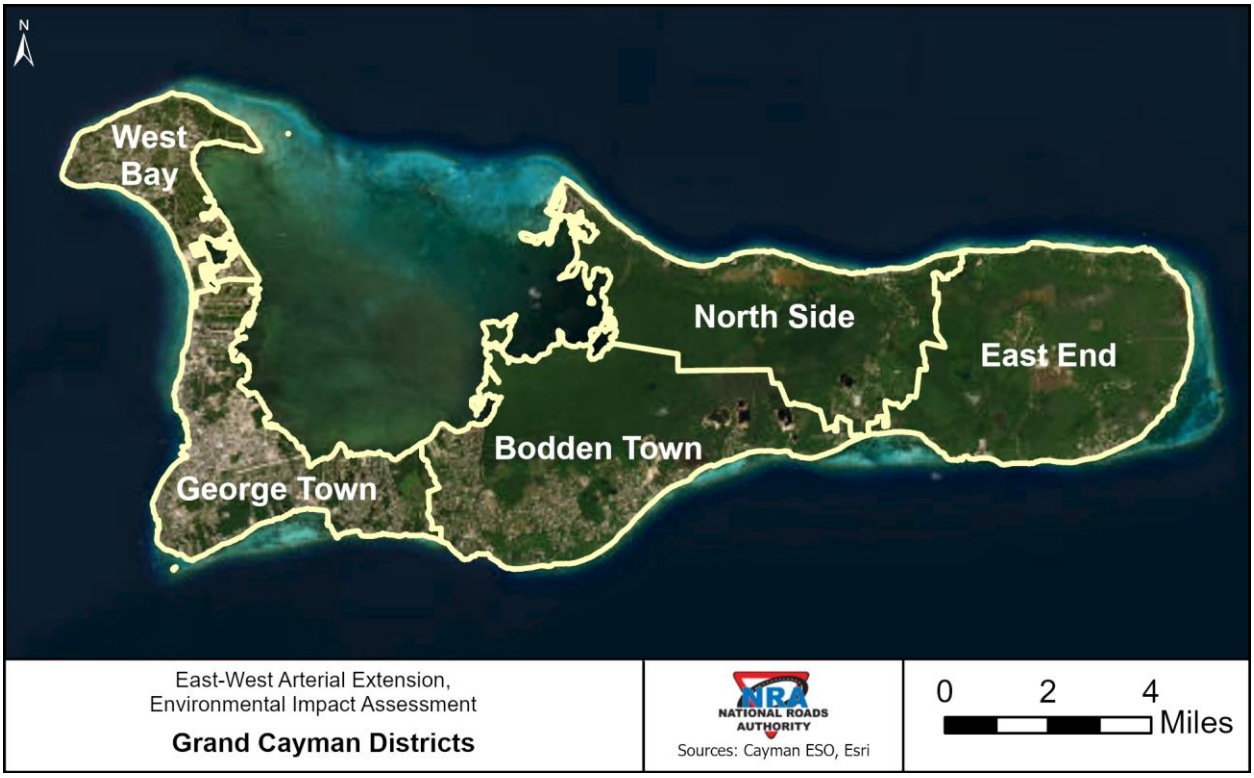

Figure 2: Grand Cayman Districts

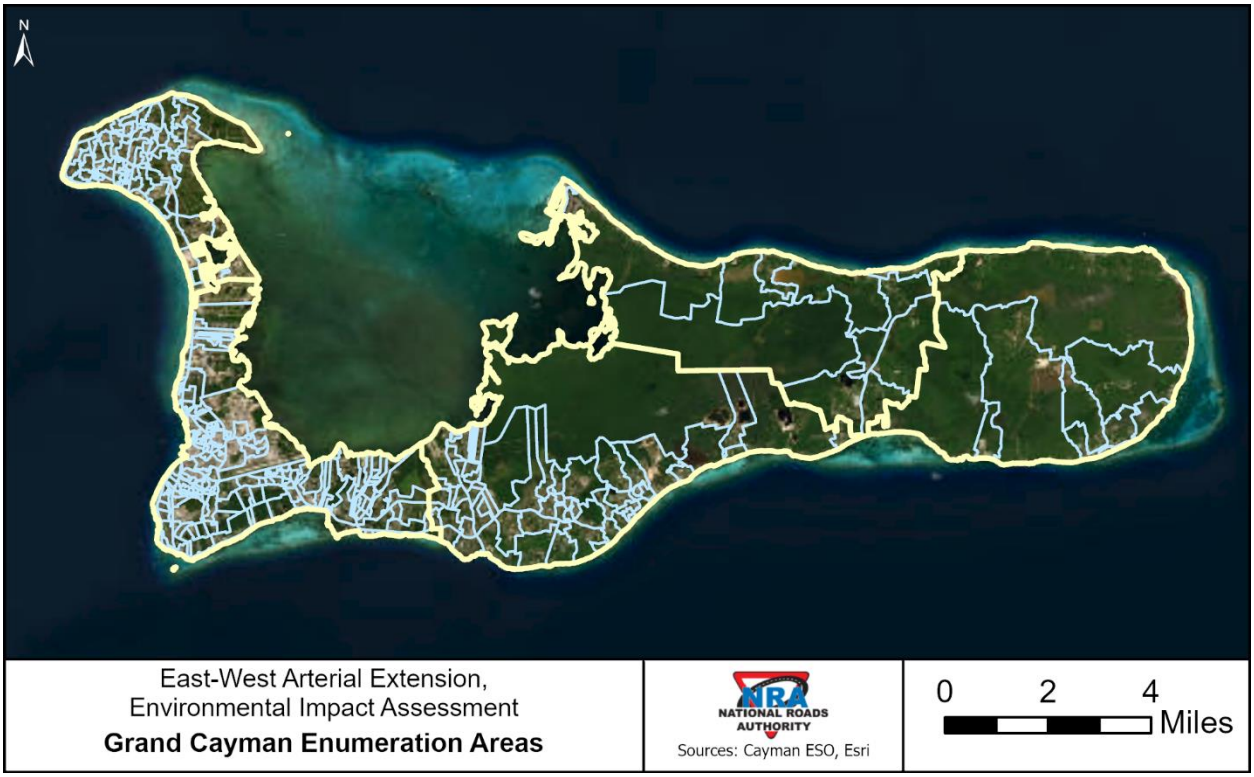

Figure 3: Grand Cayman Enumeration Areas by District

3.2 Data Sources Evaluated

Primary data collected for this evaluation came from consultations with key local Cayman stakeholders and government entities, as well as from the project area information collected during the July 24-28, 2023, field visit. Throughout the data collection process, there have also been numerous coordination events with multiple Cayman agencies like the ESO and the Lands & Survey Department to obtain socio-economic data.

3.2.1 Desktop Review

The Cayman Islands National Roads Authority (NRA), ESO, Lands & Survey Department, and Department of Education provided data and information for compiling baseline conditions and examining potential effects (**Table 1**). Secondary data sources included publicly available government information and data, news sources, non-governmental organization reports, and tourism materials.

Table 1: Socio-economic Data and Sources

File Name	Description	File Type	Providing Agency	Date Provided
"Census 2021 – NRA Data Request"	2021 Census information by Enumeration Area	Excel	ESO	7/18/2023
"ESO 2010 Census – NRA Data Request"	2010 Census information by Enumeration Area	Excel	ESO	7/18/2023
"2019_Enumeration _Area"	2019 Enumeration Areas	Shapefile	ESO	7/18/2023
"2010_Enumeration _Area"	2010 Enumeration Areas	Shapefile	ESO	7/18/2023
"Shapefiles_for_Select _Data_Requested.zip"	Includes: • Cemeteries • Government Facilities • Civic Facilities • Schools	Shapefile	Lands & Survey Department	7/31/2023
"Government School Enrolment – 2022-23"	Enrolment numbers for government school facilities for the 2022-23 school year	Excel	Department of Education	7/31/2023
"Department of Education Staff – 2022-23"	Staff numbers and parcel information for schools in 2022-23	Excel	Department of Education	7/31/2023
"Preschool Locations and Number of Staff and Children"	Staff, enrolment, and parcel information for preschools	Excel	Department of Education	7/31/2023
"Private Schools_Enrolment and Staff numbers_22-23"	Private school enrolment data for 2022-23	Excel	Department of Education	8/3/2023
"Recreation_Areas"	Recreation areas and type of facility	Shapefile	NRA	9/18/2017
"PlanningZones"	Development Plan Zoning Designation Map	Shapefile	Lands & Survey Department	7/31/2023
"Buildings"	Buildings square footage data	Shapefile	Lands & Survey Department	7/31/2023

3.2.2 Laws, Standards, and Reports

Relevant Cayman Islands laws, United Kingdom (UK) standards/guidelines, and Cayman Island government reports were reviewed to determine the needed methodology used to assess socio-economics. The assessed laws, standards, and reports included:

Laws

- Data Protection Act (2021 Revision)
  - The Cayman Islands Data Protection Act regulates how personal information can be processed and the right to privacy for residents for their personal information.
- Disaster Preparedness and Hazard Management Act, 2019 Revision
  - The Cayman Islands Disaster Preparedness and Hazard Management Act establishes a plan for preparing for, addressing, and responding to hazards, disasters, and emergency situations on the Islands.
- Disabilities (Solomon Webster) Law, 2016
  - The Cayman Islands Disabilities Law ensures that persons with disabilities receive the same legal protections and human rights as all persons and are able to participate fully in society.
- Education Act (Act 48 of 2016)
  - The Cayman Islands Education Act establishes standards, procedures, and requirements for the education system in the country and mandates that all persons aged between 5 and 17 are required to attend school.
- Employment Law (Act 3 of 2004) & Labour Act (2021 Revision)
  - The Cayman Islands Employment Law and the Cayman Islands Labour Act both establish standards for the conditions of employment on the Cayman Islands, such as terms of employment, period of employment, benefits provided, and other employee protection measures.
- Gender Equality Act (Act 21 of 2011)
  - The Cayman Islands Gender Equality Act ensures the fair and equitable treatment of all employees regardless of gender and that employment opportunities are available for all people regardless of their gender.
- Health Insurance Act (2021 Revision)
  - The Cayman Islands Health Insurance Act establishes a framework for health insurance coverage for Cayman Islands employees and establishes the requirements and obligations of employers in regard to the provision of health insurance coverage.
- Health Practice Act (2021 Revision)
  - The Cayman Islands Health Practice Act establishes the requirements for being a registered entity that provides health care services to residents.
- Health Services Authority Act (2018 Revision)
  - The Cayman Islands Health Services Authority Act established the Cayman Islands Health Services Authority and details the powers, duties, and responsibilities of the agency in their provision of health care services to residents.
- Labour Act (2021 Revision)
  - The Cayman Islands Labour Act establishes standards and conditions for employment, such as base salary requirements, leave conditions, and categories of employment.

- Land Acquisition Act (1997 Revision)
    - The Cayman Islands Land Acquisition Law establishes a process for government land acquisition and the fair compensation to those whose land was acquired.
- Older Persons Act (Act 14 of 2017)
    - The Cayman Islands Older Persons Act ensures that older persons are able to access the same resources and services as all other residents in the Cayman Islands and establishes a Council to ensure older persons have a voice in the legislation process.
- Poor Persons (Relief) Act (1997 Revision)
    - The Cayman Islands Poor Persons (Relief) Act establishes a framework for providing financial assistance and access to services to those who cannot financially afford it.
- Public Health Act (2021 Revision)
    - The Cayman Islands Public Health Act establishes a framework and standards for protecting the public health of the Cayman Islands population, such as the water supply quality, the handling of garbage, or the regulation of cemeteries, among others.
- Workmen's Compensation Act (1996 Revision)
    - The Cayman Islands Workmen's Compensation Act establishes a framework for the proper compensation of workers following any death or injury that occurs during their period of employment.
- Tourism Act (2002 Revision)
    - The Cayman Islands Tourism Act establishes the Department of Tourism and describes the rules, and procedures for how tourist activities should be regulated, as well as the promotion of tourism.
- Trade Union Act (2019 Revision)
    - The Cayman Islands Trade Union Act provides for the establishment of trade (labour) unions, which is an organization of workers to promote the betterment of work conditions in that sector.

Standards

UK Department for Transport's Transport Analysis Guidance (WebTAG):

- WebTAG unit A4-1 social impact appraisal
- WebTAG unit A4-2 distributional impact appraisal

Reports

Reports from Cayman Islands government agencies include valuable statistical information necessary for this socio-economic analysis. Those that informed this technical report include:

- *Cayman Islands' Census of Population and Housing 2021* – ESO
- *Cayman Islands' CoS 2021* – ESO
- *The Cayman Islands' Gross Domestic Product (GDP) Report 2021* – ESO
- *Data Report for the Academic Year 2021-22* – Department of Education Services

- *'Go East:' A Strategy for the Sustainable Development of the Eastern Districts of Grand Cayman 2009* – Ministry of Tourism, Environment, Investment and Commerce
- *United Nations 2030 Agenda for Sustainable Development* – United Nations

3.2.3 Stakeholder Engagement

The results of an infrastructure project like the EWA extension continue for decades after the project is completed. To assess the long-term impacts of the proposed EWA extension in the EIA, a horizon year for analysis needed to be chosen. According to the UK Green Book, which is the Central Government Guidance on Appraisal and Evaluation, "Costs and benefits should be calculated over the lifetime of an intervention. As a guideline, a time horizon of 10 years is a suitable working assumption for many interventions. In some cases, up to 60 years may be suitable, for example for buildings and infrastructure." Therefore, the EWA EIA Steering Committee chose to use a 50-year time horizon, 2074, that would represent the life-cycle year for construction and the common year used for all evaluations.

During the June 2023 Phase 2 Kick-off Meeting, growth rates (particularly population projections for future year 2074) were identified as a primary concern by the Steering Committee as they may suggest unrealistically high future populations, which could influence Cost Benefit Analysis (CBA) results and other critical analyses. Based on this feedback, the Land Use Charrette focused on determining three different land use scenarios that may occur on Grand Cayman in future year 2074 that included both geographically based and intensity-based components: where will the people be and how many people will be there. Main categories for consideration included: locations and number of population/density, employment, hotels, and cruise ships. The Charrette provided consensus on growth scenarios and geographical distribution to run the traffic modelling efforts, which would dictate engineering requirements (number of lanes), and the CBA in terms of benefit (travel times, benefited population).

The methodology for projecting the population in 2074 revolved around using the expertise of Caymanians along with past population trends to determine likely population scenarios for 2074. To forecast the population on Grand Cayman in 2074, the project team gathered members of the EWA EIA Steering Committee and relevant government ministries and departments with the aim of agreeing on population growth scenarios that could then be used for EWA study and modelling purposes. On July 25, 2023, the EWA EIA project team conducted a Land Use Planning Charrette to achieve this aim. See **Attachment A** for more detail.

Members of the EWA EIA Steering Committee and relevant government ministries and departments were in attendance; such government ministries and departments included:

- NRA
- Department of Environment
- Environmental Assessment Board
- Department of Planning
- Water Authority Cayman
- Ministry of Planning, Agriculture, Housing, and Infrastructure

- Ministry of Sustainability & Climate Resiliency

In three groups, attendees agreed on future Grand Cayman population projections for the year 2074. The groups came up with a variety of population growth scenarios and after discussion and voting chose a final population growth number for three scenarios: a low, a medium, and a high scenario. Attendees then mapped the placement and growth of population, job, and tourism growth for each scenario (**Figure 4**).

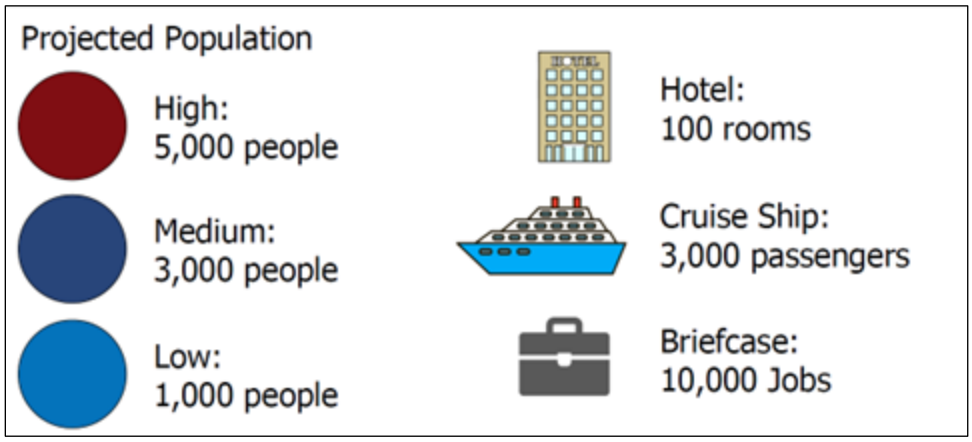

Figure 4: Legend for the Growth Scenario Activity

Current population (68,848 in 2021, rounded to 70,000 people for the purpose of the activity) for the Cayman Islands came from the 2021 CoS, and a baseline population growth of 30,000 people was assumed based on planned development data provided by the NRA, totalling an assumed baseline population of 100,000 in 2046. Data about planned developments (plans from 2017 through 2046) includes residential and commercial projects. Many planned developments would be concentrated in West Bay and George Town, but several larger developments by both acreage and predicted population distribution would occur in the East End, to the east of Frank Sound Road based on approved Planned Area Development projects (**Figures 5** and **6**).

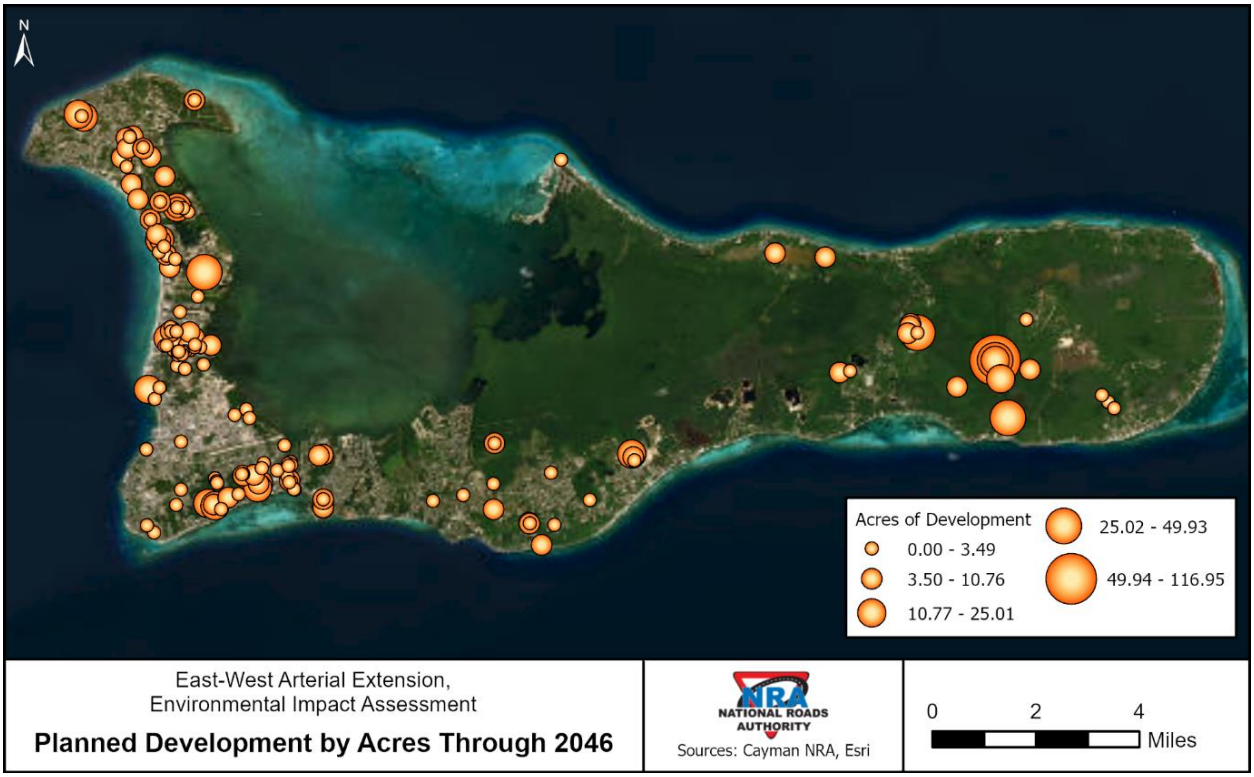

Figure 5: Planned Development by Acres through 2046

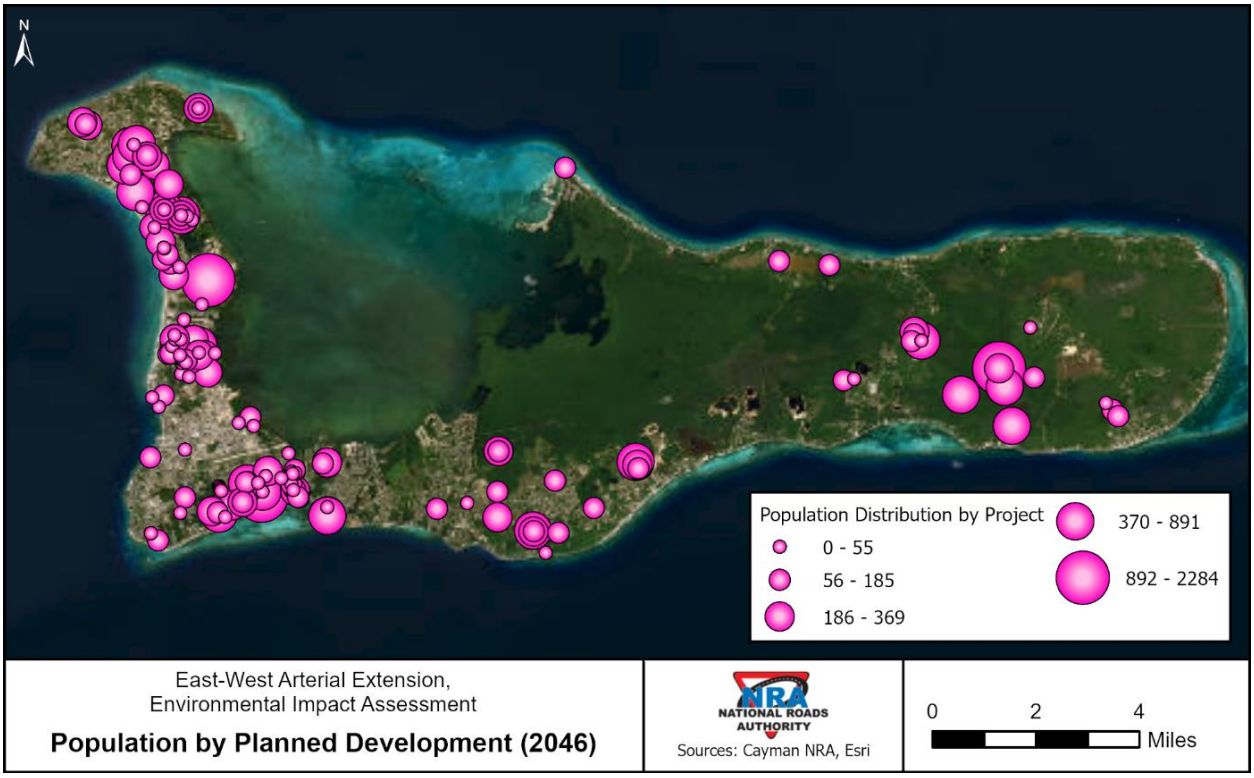

Figure 6: Population by Planned Development through 2046

The low, medium, and high growth scenarios involved additional population forecasts added to this baseline population to create a projected 2074 population per growth scenario (**Table 2**). Job growth was based on an approximate 70% employment rate (a high-level calculation to capture the approximate number of people employed based on the 2021 Census of Population and Housing and the 2021 CoS).

Table 2: 2074 Population Projections from Land Use Charrette

	Baseline Population	Added Population	Projected Population
Low Growth Scenario	100,000 (70,000 current + 30,000 projected)	15,000	115,000
Medium Growth Scenario	100,000 (70,000 current + 30,000 projected)	35,000	135,000
High Growth Scenario	100,000 (70,000 current + 30,000 projected)	200,000	300,000

After agreeing on the low, medium, and high population growth numbers, attendees received tokens representing population growth, jobs, and tourism (**Figure 4**) and were tasked with putting these tokens on the maps to represent where they believed the growth would occur. When mapping each population scenario, attendees started with a blank map. This allowed for the creation of unique population growth scenarios that did not build on the previous scenarios already mapped as part of the group activity. Finally, attendees voted and chose three winning scenarios to represent the placement of low, medium, and high growth, including populations, cruise ships, overnight tourist locations, and jobs, for the Cayman Islands (with a focus on Grand Cayman) through the year 2074 (**Figures 7, 8,** and **9**).

3.2.3.1 Low Population Growth Scenario

The low-growth population scenario projects a mixture of low, medium, and high population densities, with high densities in existing population centres of West Bay and George Town and mid and low densities focused in Bodden Town, North Side, and East End. Employment opportunities are spread across the island (**Figure 7**). This projection maintains the existing port facility location in George Town. It also projects boutique cruise ships (smaller, high-end ships) with fewer cruise ships total coming to port per month (approximately 23 per month). Hotel locations are projected along Seven Mile Beach and in West Bay. One Airbnb token was added in the East End, which represents roughly 50 homes or rental units.

The total population for the low-growth scenario was 115,000 people. This includes an assumed baseline population of 100,000 (70,000 people for the current population and 30,000 people added in planned development) and 15,000 of added population growth agreed upon during the charrette (note that tokens representing 16,000 people were placed on the map instead of 15,000 people). The low-growth scenario map represented in **Figure 7** includes an additional 30,000 people represented in growth symbols to demonstrate the baseline population growth projection.

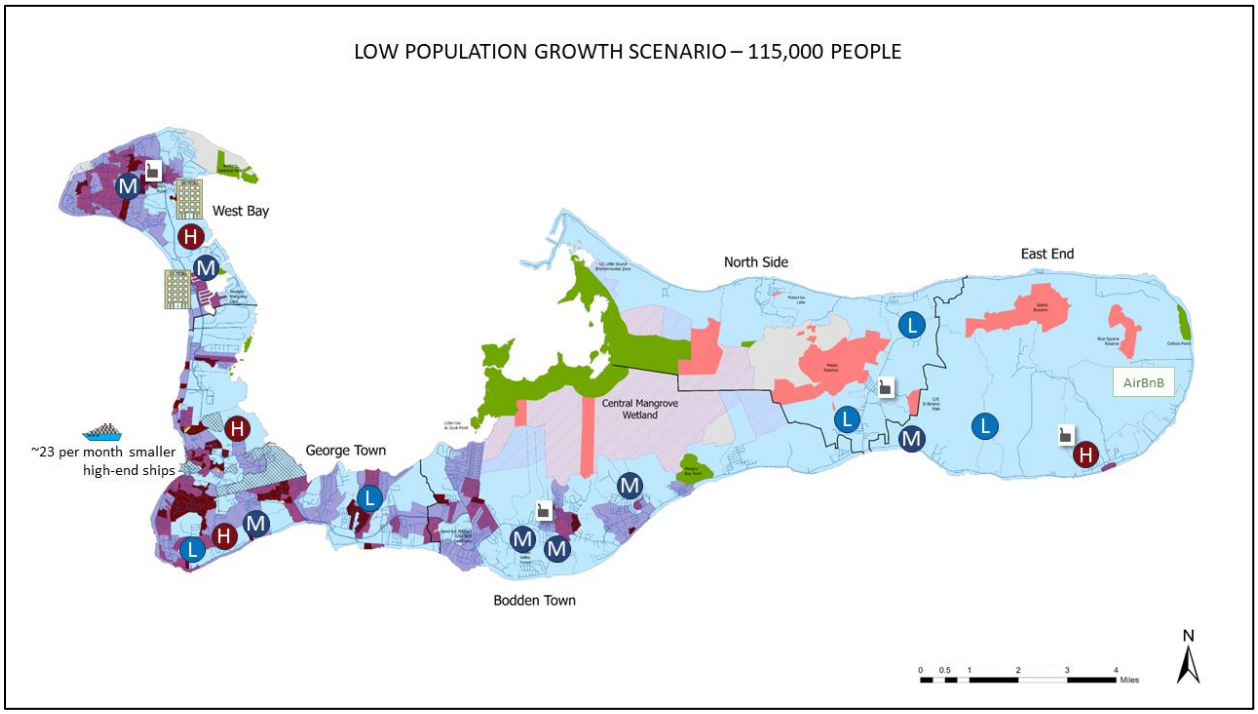

Figure 7: Low Population Growth Scenario

3.2.3.2 Medium Population Growth Scenario

The medium-growth population scenario assumes higher density locations mostly in West Bay and George Town, with modest growth in East End and North Side. It also assumes job growth across the island, but with more jobs concentrated in George Town and the western portion of Bodden Town than on the eastern side of the island, plus a small amount of growth on Cayman Brac (**Figure 8**). This projection maintains the existing port facility location in George Town. It also projects boutique cruise ships (smaller, high-end ships) with fewer cruise ships total coming to port per month (approximately 23 per month). The medium scenario also projects Airbnbs and vacation rentals (about 50 homes per Airbnb token, or 200 total) versus hotels in West Bay, Bodden Town, and East End.

The population for the medium-growth scenario was 135,000 people (100,000 people as a baseline, and 35,000 agreed upon growth). Like with the low-growth scenario map, the medium-growth scenario map represented in **Figure 8** includes an additional 30,000 people represented in growth symbols to demonstrate the baseline population growth projection. This 135,000-person growth scenario was used in evaluations as the "core" scenario for the Shortlist Evaluation.

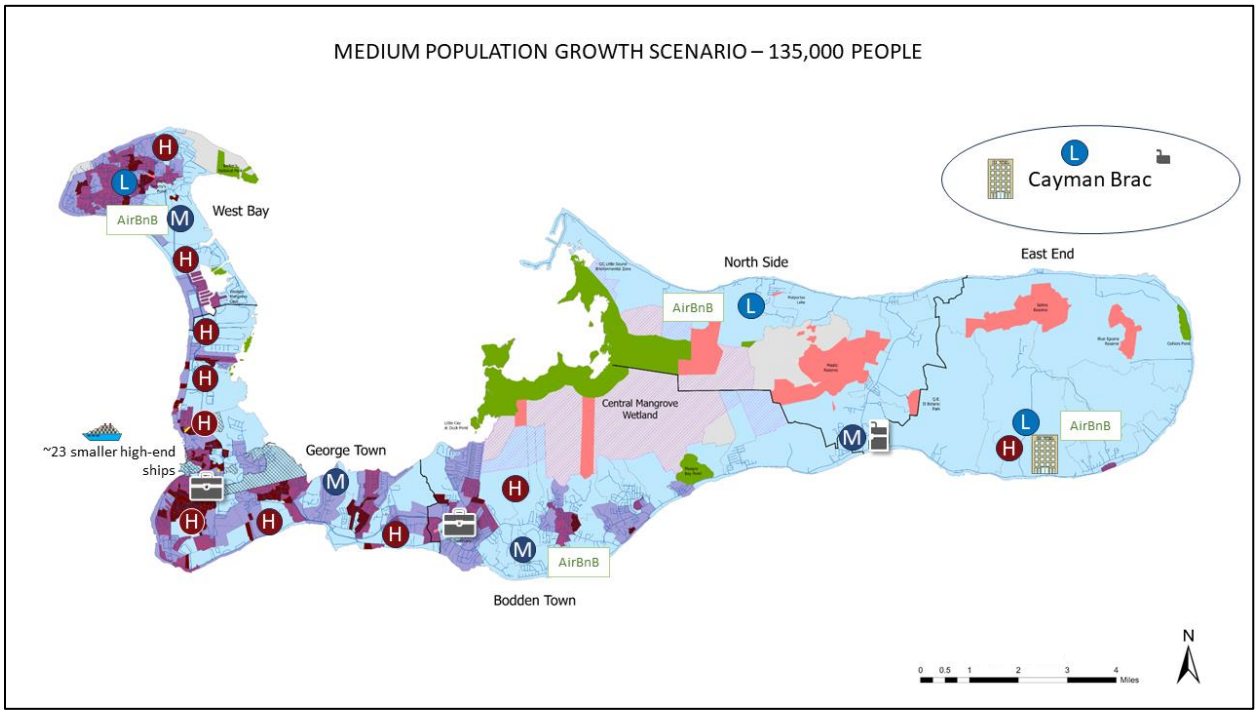

Figure 8: Medium Population Growth Scenario

3.2.3.3 High Population Growth Scenario

The high-growth population scenario projects medium and high-density population growth across the island, with emphasis on West Bay, George Town, and Bodden Town. Employment is also projected to grow across the island, with a focus in George Town and Bodden Town (**Figure 9**). Along with maintaining the existing cruise port facility location in George Town, this projection also assumes a new cargo facility east of Pease Bay in Bodden Town. It also places hotel locations along the shorelines in West Bay, Bodden Town, and East End.

The population for the high-growth scenario was 300,000; made up of a baseline population of 100,000 (70,000 current population plus 30,000 planned development) and an additional 200,000 people (note that tokens for an additional 203,000 people were placed on the map). While this high-growth scenario map assumes the same baseline level of growth due to planned development as represented in the low-growth and medium-growth scenarios (30,000 additional people), symbols representing this baseline growth are not represented in **Figure 9** to avoid symbol crowding.

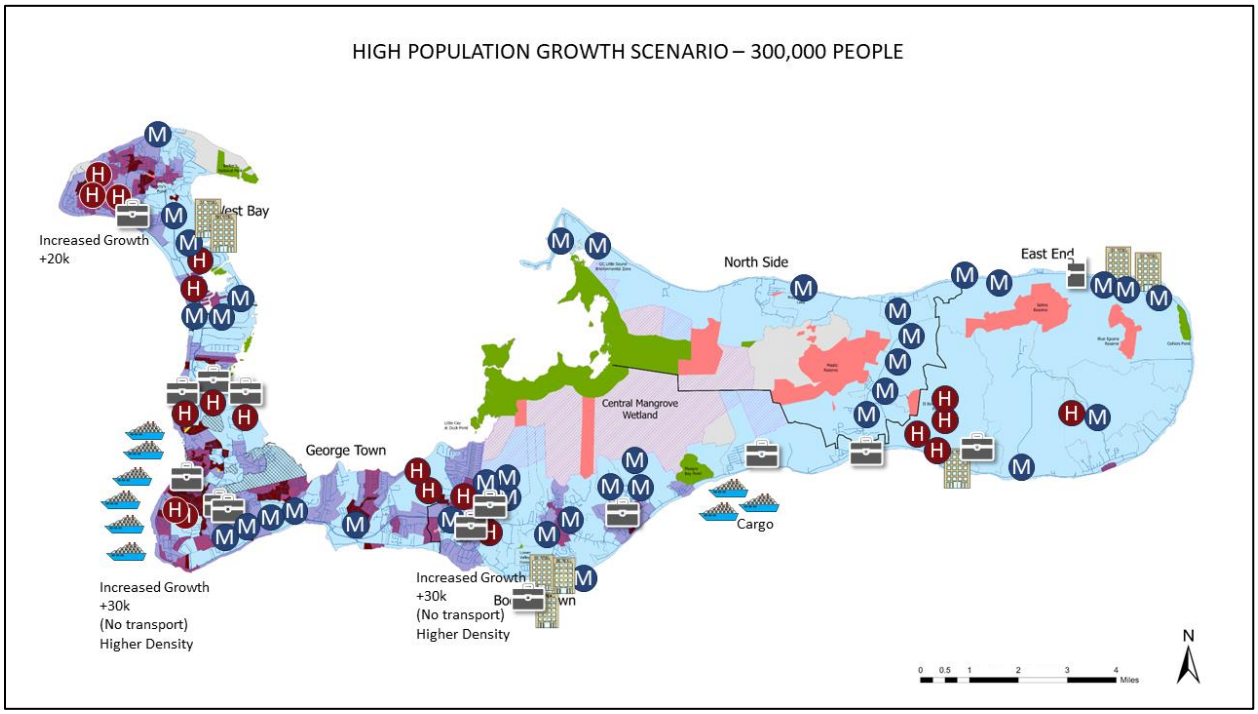

Figure 9: High Population Growth Scenario

3.2.3.4 Summary

The Land Use Charrette provided valuable information about potential population growth scenarios for 2074. These scenarios provided modelling inputs and context for evaluation of future conditions when assessing the Build alternatives compared with the No-Build scenario. **Table 3** summarizes the results of the low, medium, and high growth mapping scenarios voted on at the charrette. The medium growth scenario became the "core" scenario for further analysis.

Table 3: Land Use Charrette Growth Scenarios Summary

Population	Employment	Hotels	Cruise Ships
Low			
115,000 • 100,000 base population (70,000 existing and 30,000 planned) • Estimated 15,000 additional	1 briefcase (10,000 jobs)	2 hotels (200 rooms); 1 Airbnb (50 homes)	23 smaller, high-end ships per month (number of passengers not clarified)
Medium			
135,000 • 100,000 base population (70,000 existing and 30,000 planned) • Estimated 35,000 additional	2.5 briefcases (25,000 jobs)	1 hotel (100 rooms); 4 Airbnbs (200 homes)	23 smaller, high-end ships per month (number of passengers not clarified)
High			
300,000 • 100,000 base population (70,000 existing and 30,000 planned) • Estimated 200,000 additional	14 briefcases (140,000 jobs)	8 hotels (800 rooms)	9 cruise ships (18,000 passengers)

3.3 Demographics

3.3.1 Population, Growth, and Density

According to 2021 census data reported by ESO, 71,105 persons reside on the Cayman Islands, which are made up of Grand Cayman, Cayman Brac, and Little Cayman; 68,848 persons live on Grand Cayman. **Table 4** shows population growth from 1989 to 2021 and **Figure 10** shows population growth from 1960 to 2021.

Table 4: Cayman Islands Population, 1989-2021

	1989	1999	2010	2021
Cayman Islands	25,355	39,020	55,036	71,105
Grand Cayman	**23,881**	**37,083**	**52,740**	**68,848**
George Town	*12,921*	*20,626*	*28,089*	*34,921*
West Bay	*5,632*	*8,243*	*11,222*	*15,335*
Bodden Town	*3,407*	*5,764*	*10,543*	*14,845*
North Side	*1,064*	*1,371*	*1,407*	*1,902*
East End	*857*	*1,079*	*1,479*	*1,846*

Source: Cayman Islands Compendium of Statistics (2021) Table 1.08 (p. 20) and Table 1.10 (p. 22)

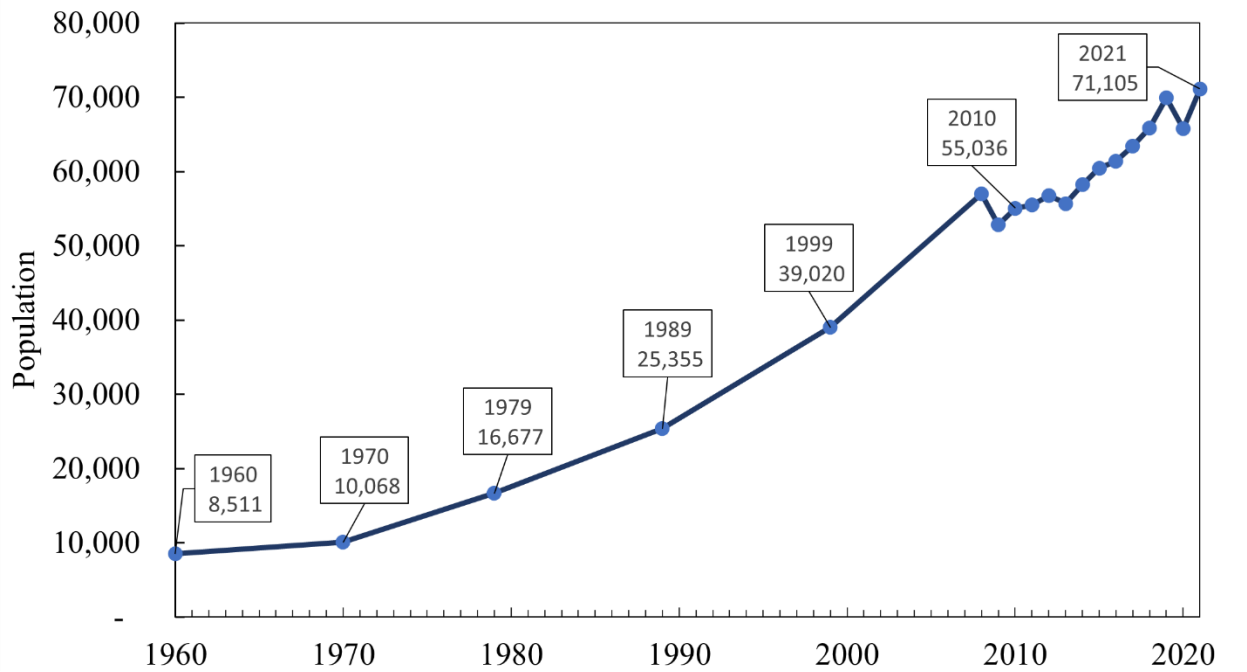

Figure 10: Cayman Islands Population Growth, 1960-2021

Source: Data provided by the ESO

Grand Cayman is the most populous of the three islands. In 2021, 34,921 persons resided in George Town; 15,335 persons resided in West Bay; 14,845 persons resided in Bodden Town; 1,902

persons resided in North Side; and 1,846 persons resided in East End (**Table 4**). **Figure 11** illustrates the population growth by district from 1960 to 2021.

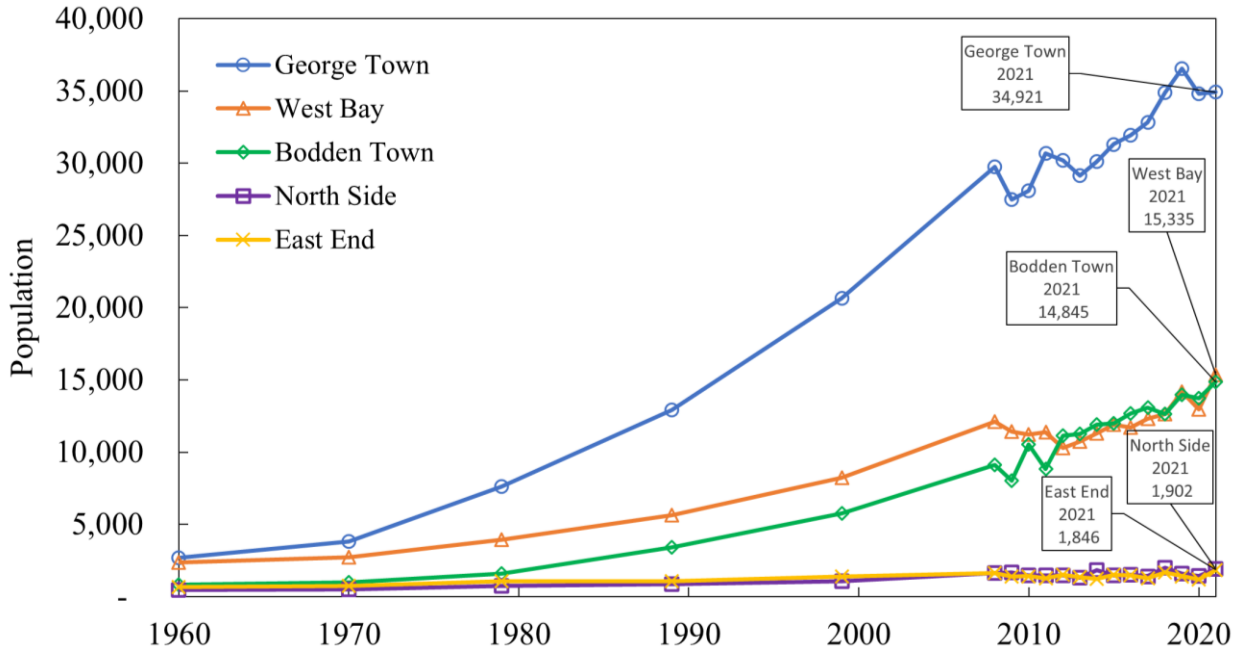

Figure 11: Grand Cayman Population Growth by District, 1960-2021
Source: Data provided by the ESO

From 1989 to 1999, the Cayman Islands grew by 53.9%; from 1999 to 2010, the Islands grew by 41%; and from 2010 to 2021, the Islands grew by 29.2% (**Table 5**). George Town, West Bay, and Bodden Town experienced the highest growth over this period. From 1989 to 1999, George Town grew by 59.6%, West Bay grew by 46.4%, and Bodden Town grew by 69.2%; North Side and East End grew at slower rates, with 28.9% and 25.9% growth, respectively. From 1999 to 2010, Bodden Town experienced the highest growth on Grand Cayman, with 82.9% growth during this period. George Town, West Bay, and East End grew at rates of 36.2%, 36.1%, and 37.1% growth, respectively. North Side's growth from 1999 to 2010 was 2.6%. From 2010 to 2021, Bodden Town continued to experience the highest growth on Grand Cayman, with 40.8% growth. West Bay and North Side grew at rates of 36.6% and 35.2% growth, respectively. From 2010 to 2021, George Town and East End experienced rates of 24.3% and 24.8% growth, respectively (**Table 5**).

Table 5: Cayman Islands Population Percentage Growth 1989-2021

District	1989-1999		1999-2010		2010-2021	
	% Growth	Annual % Growth	% Growth	Annual % Growth	% Growth	Annual % Growth
Cayman Islands	53.9	4.4	41.0	3.2	29.2	2.4
George Town	59.6	4.8	36.2	2.8	24.3	2.0
West Bay	46.4	3.9	36.1	2.8	36.6	2.9
Bodden Town	69.2	5.4	82.9	5.6	40.8	3.2
North Side	28.9	2.6	2.6	0.2	35.2	2.8
East End	25.9	2.3	37.1	2.9	24.8	2.0

Source: Compendium of Statistics (2021) Table 1.10 (p. 22)

Population density in the Cayman Islands and on Grand Cayman has almost tripled between 1989 and 2021. With an area of 76 mi^2 (197 km^2) and a population of 68,848, Grand Cayman's density was 906 people per mi^2 (350 people/km^2) in 2021, versus 314 people per mi^2 in 1989 (121 people/km^2; **Table 6**).

Table 6: Cayman Islands Population Density 1989-2021

	Area mi^2 (*km^2*)	1989		1999		2010		2021	
		Population	Density people/mi^2 (*people/km^2*)	Population	Density people/mi^2 (*people/km^2*)	Population	Density people/mi^2 (*people/km^2*)	Population	Density people/mi^2 (*people/km^2*)
Cayman Islands	102 (*264*)	25,355	249 (*96*)	39,410	386 (*149*)	55,036	540 (*208*)	71,105	697 (*269*)
Grand Cayman	76 (*197*)	23,881	314 (*121*)	37,473	493 (*190*)	52,740	694 (*268*)	68,848	906 (*350*)

Source: Compendium of Statistics (2021) Table 1.11 (p. 22)

Compared to other countries and cities of similar land size, Grand Cayman has a lower population density (**Table 7**). Aruba, with an area of 75 mi^2 (193 km^2) and a population of 106,537 people, has a population density of 1,533 people per mi^2 (551 people per km^2). San Juan, Puerto Rico, with an area of 77 mi^2 (199 km^2) and a population of 342,259 people, has a population density of 4,445 persons per mi^2 (1,720 persons per km^2). Milan, Italy, with an area of 70 mi^2 (181 km^2) and a population of 1,371,498 people, has a population density of 19,593 people per mi^2 (7,577 people per km^2). Buenos Aires, Argentina, with an area of 78 mi^2 (203 km^2) and a population of 3,120,612 people, has a population density of 40,008 people per mi^2 (15,372 people per km^2).

Table 7: Population Density of Cities/Countries of Similar Size

City/Country	Area mi^2 (*km^2*)	Population	Density people/mi^2 (*people/km^2*)
Grand Cayman	76 (*197*)	68,848	906 (*350*)
Aruba	75 (*193*)	106,537	1,533 (*551*)
San Juan, Puerto Rico	77 (*199*)	342,259	4,445 (*1,720*)
Milan, Italy	70 (*181*)	1,371,498	19,593 (*7,577*)
Buenos Aires, Argentina	78 (*203*)	3,120,612	40,008 (*15,372*)

Source: World Bank Data Catalogue, World Development Indicators Databank (2023)

George Town is Grand Cayman's most densely populated district, with 2,772 people per mi^2 (1,071 people per km^2) as of the 2021 census (**Table 8**). West Bay has a similar population density (2,396 people per mi^2, 924 people per km^2) despite having less than half of the population of George Town, because West Bay, by area, is about half the size of George Town.

Since 1989, George Town has added between 500 and 600 people per mi^2 each decade (between 200 and 250 people per km^2). East End, the least densely populated district, has added about 17 people per mi^2 (7 people per km^2) each decade between 1989 and 2021.

Table 8: Grand Cayman Districts Population Density 1989-2021

District	Area mi^2 (*km^2*)	Population				Density people/mi^2 (*people/km^2*)			
		1989	1999	2010	2021	1989	1999	2010	2021
George Town	12.6 (*32.6*)	12,921	20,262	28,082	34,921	1,025 (*396*)	1,637 (*633*)	2,229 (*862*)	2,772 (*1,071*)
West Bay	6.4 (*16.6*)	5,632	8,243	11,257	15,335	880 (*339*)	1,288 (*497*)	1,753 (*676*)	2,396 (*924*)
Bodden Town	21.3 (*55.2*)	3,407	5,764	10,543	14,845	160 (*62*)	271 (*104*)	495 (*191*)	697 (*269*)
North Side	16.7 (*43.3*)	1,064	1,371	1,407	1,902	64 (*25*)	82 (*32*)	84 (*32*)	114 (*44*)
East End	19.4 (*50.2*)	857	1,079	1,479	1,846	44 (*17*)	56 (*21*)	76 (*29*)	95 (*37*)

Source: Shapefiles and census data provided by ESO, area geospatially calculated using ArcGIS 3.0.4

3.3.2 Population Distribution by Age & Sex

Table 9 and **Figure 12** show the distribution of the population by age and sex on the Cayman Islands: 35,984 persons are male, and 35,058 persons are female. The age bracket containing the largest number of people is age 30-39, with 13,863 persons, followed closely by age 40-49, with 13,429 persons. The smallest age bracket is age 10-19 with 7,185 persons. In each age category, males slightly outnumber females, except the 60 and older group, with 4,717 females and 4,240 males. In George Town, West Bay, North Side, and East End males outnumber females. In Bodden Town females outnumber males, with 7,674 females and 7,162 males (**Table 10**).

Table 9: Cayman Islands Population by Age and Sex, 2021

Age Group	Total by Age	Male	Female	DK/NS
0-9	7,384	3,729	3,635	20
10-19	7,185	3,656	3,522	7
20-29	8,997	4,553	4,443	-
30-39	13,863	7,104	6,758	1
40-49	13,429	6,932	6,496	1
50-59	10,772	5,483	5,289	-
60+	8,960	4,240	4,717	3
DK/NS	515	286	199	30
Total	71,105	35,984	35,058	63

Source: Compendium of Statistics (2021) Table 1.02a (p. 13)

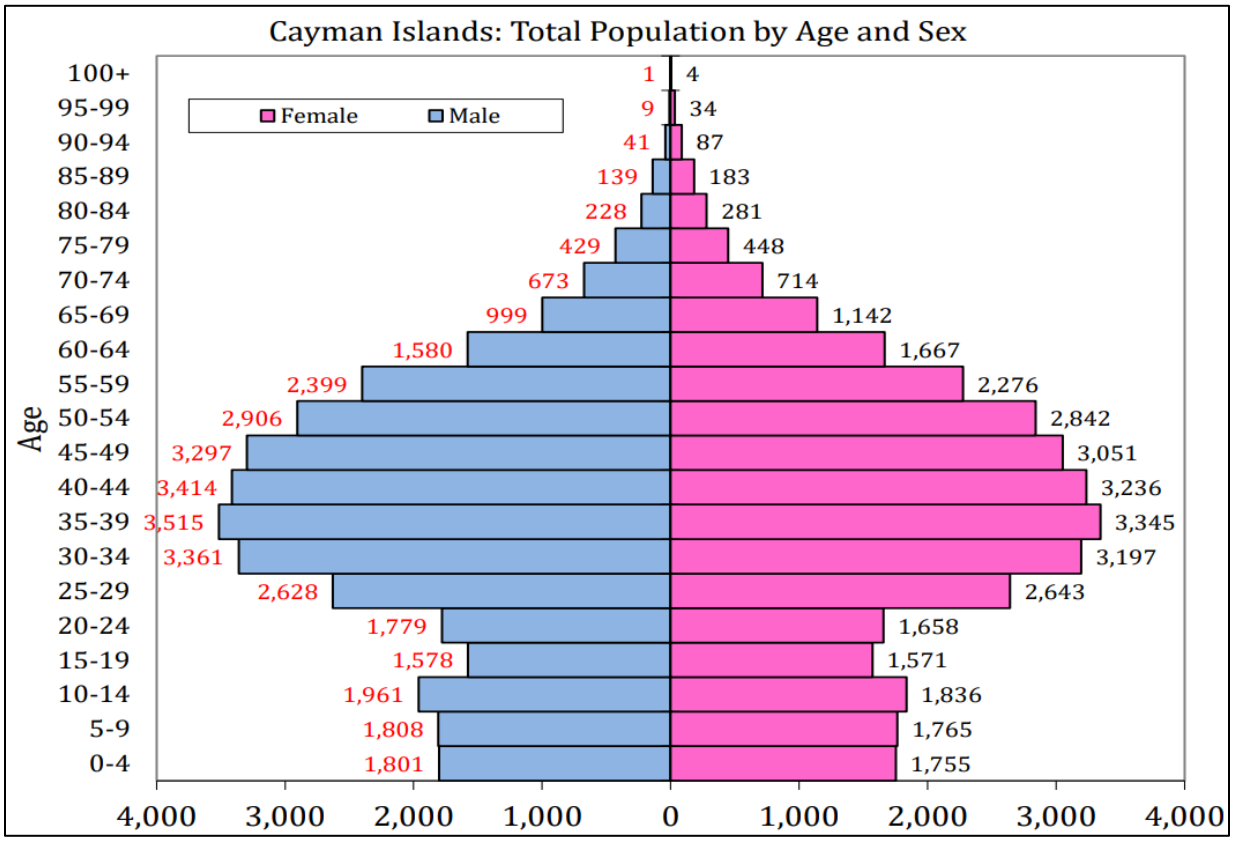

Figure 12: 2021 Cayman Islands Population Histogram
Source: Census of Population and Housing (2021) Figure 1.2E (p. 14)

Table 10: Grand Cayman Population by District and Sex, 2021

District	Total Population	Male	Female	DK/NS
George Town	34,921	18,064	16,815	42
West Bay	15,335	7,778	7,549	8
Bodden Town	14,845	7,162	7,674	9
North Side	1,902	956	945	1
East End	1,846	926	920	-
Grand Cayman	**68,848**	**34,886**	**33,903**	**60**

Source: Compendium of Statistics (2021) Table 1.01a (p. 12)

3.3.3 Housing Characteristics

According to the Cayman Islands CoS 2021, there are a total of 29,699 households in the Cayman Islands, with 28,639 households on Grand Cayman (**Table 11**). On Grand Cayman, George Town is the district with the most households, with a reported 15,331 households; in West Bay, there are 6,408 households; in Bodden Town, there are 5,478 households; in North Side, there are 726 households; and in East End, there are a reported 696 households.

Table 11: Cayman Islands Total Households, 2016-2021

	2016	2017	2018	2019	2020	2021
Cayman Islands	25,561	25,197	27,925	28,834	27,084	29,699
Grand Cayman	**24,415**	**24,131**	**27,053**	**27,667**	**26,197**	**28,639**
George Town	*13,591*	*13,497*	*14,534*	*16,136*	*15,359*	*15,331*
West Bay	*4,986*	*4,913*	*6,012*	*5,531*	*5,052*	*6,408*
Bodden Town	*4,485*	*4,466*	*4,866*	*4,945*	*4,866*	*5,478*
North Side	*708*	*644*	*942*	*545*	*491*	*726*
East End	*645*	*611*	*699*	*510*	*428*	*696*

Source: Compendium of Statistics (2021), Table 1.14 (p. 24)

For both the Cayman Islands as a whole and for Grand Cayman, the average household size is 2.4 persons per households (**Table 12**). In George Town, the average household size is 2.3 persons; in West Bay, the average is 2.4 persons; in Bodden Town, the average is 2.7 persons; in North Side, the average is 2.6 persons; and in East End, the average is 2.7 persons.

Table 12: Cayman Islands Average Household Size, 2016-2021

	2016	2017	2018	2019	2020	2021
Cayman Islands	2.4	2.5	2.4	2.4	2.4	2.4
Grand Cayman	**2.4**	**2.5**	**2.4**	**2.4**	**2.4**	**2.4**
George Town	*2.3*	*2.4*	*2.4*	*2.3*	*2.3*	*2.3*
West Bay	*2.3*	*2.5*	*2.1*	*2.6*	*2.6*	*2.4*
Bodden Town	*2.8*	*2.9*	*2.6*	*2.8*	*2.8*	*2.7*
North Side	*2.1*	*2.2*	*2.1*	*2.9*	*2.9*	*2.6*
East End	*2.3*	*2.1*	*2.4*	*2.8*	*2.8*	*2.7*

Source: Compendium of Statistics (2021), Table 1.14 (p. 24)

The average size of households without children in George Town is 1.8 persons; in West Bay it is 1.9 persons; in Bodden Town it is 2.0 persons; in North Side it is 1.9 persons; and in East End it is 2.1 persons. The average size of households with children in George Town is 3.9 persons; in West Bay it is 4.1 persons; in Bodden Town it is 4.2 persons; in North Side it is 4.5 persons; and in East End it is 4.7 persons (**Table 13**).

Table 13: Grand Cayman Districts Average Household Size With and Without Children, 2021

	Without Children	With Children
George Town	1.8	3.9
West Bay	1.9	4.1
Bodden Town	2.0	4.2
North Side	1.9	4.5
East End	2.1	4.7

Source: Data provided by ESO

In George Town, 78.6% of households within the district have an automobile; 80.5% of households have an automobile in West Bay; in Bodden Town, 85.3% of households have an automobile;

80.3% of North Side households have an automobile; and 69.7% of East End households have an automobile. East End is the district with the most households that do not have an automobile (30.3%) (**Table 14**).

Most households at the district level are households without children and with an automobile, including 57.2% of George Town households, 57.9% of West Bay households, 54.4% of Bodden Town households, 52.2% of North Side households, and 49.1% of East End households. In all districts the percentage of households with children and without a vehicle is below two percent.

Table 14: Grand Cayman Districts Households With or Without Automobiles and With or Without Children, 2021

District	Households with Auto (with children)		Households Without Auto (with children)		Households With Auto (without children)		Households Without Auto (without children)	
George Town	3,275	21.4%	206	1.3%	8,767	57.2%	3,084	20.1%
West Bay	1,448	22.6%	97	1.5%	3,715	58.0%	1,149	17.9%
Bodden Town	1,690	30.9%	77	1.4%	2,980	54.4%	731	13.3%
North Side	204	28.1%	8	1.1%	379	52.2%	135	18.6%
East End	143	20.5%	11	1.6%	342	49.1%	200	28.7%

Source: Data provided by ESO

3.3.4 Vulnerable Populations

To consider transportation-related impacts, vulnerable populations in the Cayman Islands most likely to benefit from improved access due to the EWA were identified. **Table 15** highlights the characteristics of these vulnerable groups.

Table 15: Vulnerable Groups per District for Grand Cayman (2021 census)

	George Town	West Bay	Bodden Town	North Side	East End
Population	34,921	15,335	14,845	1,902	1,846
Households	15,331	6,408	5,478	726	696
Households with children	3,480	1,545	1,767	212	154
Households without automobile	11,851	4,863	3,711	143	211
Children 14 and under	5,106	1,503	2,671	335	268
Persons age 65+	2,225	1,326	1,146	208	206
Persons commuting to work by walking	757	168	89	22	168
Persons earning less than CI$14,399	1,745	828	702	110	125
Households receiving financial assistance from NAU	808	759	511	130	159
Households (Able-bodied) receiving financial assistance	43	39	33	9	6
Households (Disabled) receiving financial assistance	138	126	68	16	24

	George Town	West Bay	Bodden Town	North Side	East End
Households (Elderly) receiving financial assistance	563	530	326	91	117
Households (Families) receiving financial assistance	64	64	84	14	12

Source: Compendium of Statistics (2021)

This social impact appraisal includes a focus on the higher proportion of vulnerable persons within the populations of North Side and East End, to ensure that the benefits of the EWA Extension would be equally shared by these vulnerable and underserved populations.

As reported in the 2021 CoS, North Side has 726 households and East End has 696 households. Like Grand Cayman as a whole, most households in North Side and East End are households without children. As calculated from the reported data, 29% of households in North Side have children, and 22% of households in East End have children. In addition, 20% of the households in North Side are without a vehicle, and 30% of the households in East End are without a vehicle.

In the Cayman Islands, the Needs Assessment Unit (NAU) provides financial assistance and resources to Caymanian residents that qualify, including older persons, disabled and able-bodied persons, and families. There are several qualifications to be eligible for financial assistance; financially, a person must make less and have saved less than the thresholds developed by the NAU. Just over 8% of Grand Cayman households receive financial assistance from the NAU. The majority of residents (68%) that receive financial assistance from the NAU are older persons.

A larger proportion of the population in North Side and East End receive financial assistance from the NAU compared to residents in the districts of George Town, Bodden Town, and West Bay. Overall, 18% of North Side households receive financial assistance and in East End, 23% of households receive financial assistance, as opposed to 5% in George Town, 12% in West Bay, and 9% in Bodden Town. In North Side, of the financial assistance provided, 7% is provided to households with able-bodied persons, 12% is provided to households with disabled persons, and 70% is provided to households with older persons. In East End, of the financial assistance provided, 4% is provided to households with able-bodied persons, 15% is provided to households with disabled persons, and 74% is provided to households with older persons.

3.3.5 Languages Spoken at Home

The ESO provides information regarding the languages spoken across Cayman Islands' households. In all of Grand Cayman's Districts, the main language spoken is English. In George Town, 85.3% (29,769 persons) of the population speaks English primarily; in West Bay, 89.0% (13,646 persons) of the population speaks English primarily; in Bodden Town, 95.2% (14,130 persons) of the population speaks English primarily; in North Side, 94.7% (1,801 persons) of the population speaks English primarily; and in East End, 89% (1,643 persons) of the population speaks English primarily.

The second most common language spoken varies depending on the district. In George Town, the second most common language spoken is Filipino, representing 6.2% (2,164 persons) of the population. In West Bay and Bodden Town, the second most common language spoken is Spanish, representing 6.2% (948 persons) and 2.8% (415 persons) of the population, respectively. Finally, in North Side and East End, the second most common languages spoken are various Indian Languages, representing 2.7% (51 persons) and 7.0% (129 persons), respectively. **Table 16** identifies the main language spoken in households in Grand Cayman. Several other languages are spoken by the Cayman Islands' residents (French, German, Italian, Portuguese, Sign Language), however, those languages have been included in the other category in the table below.

Table 16: Main Language Spoken in Households by Grand Cayman District

	George Town		West Bay		Bodden Town		North Side		East End	
English	29,769	85.3%	13,646	89.0%	14,130	95.2%	1,801	94.7%	1,643	89.0%
Spanish	1,321	3.8%	948	6.2%	415	2.8%	33	1.8%	37	2.0%
Filipino	2,164	6.2%	343	2.2%	135	0.9%	2	0.1%	21	1.2%
Indian Languages	535	1.5%	34	0.2%	17	0.1%	51	2.7%	129	7.0%
Other	852	1.6%	282	1.0%	50	0.1%	5	0.05%	4	0.06%
DK/NS	278	0.8%	82	0.5%	98	0.7%	9	0.5%	11	0.6%

Source: Census of Population and Housing (2021), Tables 4.8A-4.8G (pp. 105-111)

3.4 Employment

In 2021, 44,441 persons were employed in the Cayman Islands, compared with a working age population of 57,360 persons and a labour force of 47,120 persons (**Table 17)**. From 2015 to 2021, the working age population grew by 16.2%, or 7,991 persons; the labour force grew by 15.3%, or 6,250 persons; and the number of employed persons grew by 13.5%, or 5,303 persons.

3.4.1 Labour Force

According to the ESO, the labour force is comprised of the "non-institutionalised population" who are 15 years old and above, either employed or unemployed and looking for work. The participation rate refers to how much of the working age population makes up the labour force. On the Cayman Islands, the participation rate in the labour force has been above 80% from 2015 to 2021 (**Table 17**). From 2015 to 2019, the labour force in the Cayman Islands grew each year at an average of 4.7% per year. Between 2019 and 2020, the labour force declined by 10.5%. In 2021, the labour force then increased by 7.3%, although the number of persons in the labour force did not increase to 2019 levels.

More than 500 additional people were unemployed in 2020 than in 2019, a change from 3.5% to 5.2% unemployment rate. From 2020 to 2021, unemployment rose from 5.2% to 5.7%, an addition of 400 unemployed people.

Table 17: Cayman Islands Labour Force Indicators, 2015-2021

	2015	2016	2017	2018	2019	2020	2021
Working Age Population 15+	49,369	50,613	52,771	54,150	59,262	54,620	57,360
Labour Force	40,870	42,196	42,942	46,178	49,089	43,922	47,120
Employed	39,138	40,411	40,856	44,887	47,394	41,644	44,441
Unemployed	1,732	1,785	2,086	1,291	1,695	2,279	2,679
Not in the Labour Force	8,499	8,416	9,831	7,972	10,173	10,697	10,240
Participation Rate* (%)	82.8%	83.4%	81.4%	85.3%	82.8%	80.4%	82.1%
Unemployment Rate (%)	4.2%	4.2%	4.9%	2.8%	3.5%	5.2%	5.7%

Source: Compendium of Statistics (2021), Table 10.01a (p. 94)
*Participation rate = percent of the labour force in the working age population (15+ years)

3.4.2 Employment Characteristics by Sex

The working age population from 2015 to 2021 has been made up of roughly the same number of males and females, other than in 2016, when there were just over 1,500 more females than males in the working age population (**Table 18**). Labour force participation has been higher for males than for females every year from 2015 through 2021, with male participation rates ranging from 83.4% to 88.0%, and female participation rates ranging from 78.6% to 82.7%.

From 2015 to 2021, a greater number of women were unemployed each year when compared with men, except for 2016, when the female unemployment rate was 3.5% compared with the male rate of 4.9%, and 2018, when the unemployment rates were equal for each sex at 2.8%. In 2021, a peak number of males (1,267 persons, 2.7%) and females (1,411 persons, 3.0%) were classified as unemployed.

Table 18: Cayman Islands Labour Force by Sex, 2015-2021

	2015	2016	2017	2018	2019	2020	2021
Working Age Population 15+	**49,369**	**50,613**	**52,771**	**54,150**	**59,262**	**54,620**	**57,360**
Male	24,550	24,438	26,467	26,206	*29,367*	*27,241*	*28,976*
Female	24,819	26,175	26,304	27,944	*29,895*	*27,378*	*28,379*
Labour Force	**40,870**	**42,196**	**42,942**	**46,178**	**49,089**	**43,922**	**47,120**
Male	20,772	21,053	22,261	23,056	*25,222*	*22,732*	*24,765*
Female	20,098	21,143	20,681	23,122	*23,867*	*21,190*	*22,355*
Employed	**39,138**	**40,411**	**40,856**	**44,887**	**47,394**	**41,644**	**44,441**
Male	20,086	20,015	21,313	22,401	*24,368*	*21,772*	*23,497*
Female	19,052	20,396	19,543	22,486	*23,026*	*19,872*	*20,944*
Unemployed	**1,732**	**1,785**	**2,086**	**1,291**	**1,695**	**2,279**	**2,679**
Male	686	1,038	948	655	*854*	*961*	*1,267*
Female	1,046	747	1,138	636	*841*	*1,318*	*1,411*
Not in the Labour Force	**8,499**	**8,416**	**9,831**	**7,972**	**10,173**	**10,697**	**10,240**
Male	3,778	3,384	4,207	3,150	*4,145*	*4,509*	*4,211*
Female	4,721	5,032	5,624	4,822	*6,028*	*6,188*	*6,025*

	2015	2016	2017	2018	2019	2020	2021
Participation Rate (%)	**82.8**	**83.4**	**81.4**	**85.3**	**82.8**	**80.4**	**82.1**
Male	*84.6*	*86.1*	*84.1*	*88.0*	*85.9*	*83.4*	*85.5*
Female	*81.0*	*80.8*	*78.6*	*82.7*	*79.8*	*77.4*	*78.8*
Unemployment Rate (%)	**4.2**	**4.2**	**4.9**	**2.8**	**3.5**	**5.2**	**5.7**
Male	*3.3*	*4.9*	*4.3*	*2.8*	*3.4*	*4.2*	*5.1*
Female	*5.2*	*3.5*	*5.5*	*2.8*	*3.5*	*6.2*	*6.3*

Source: Compendium of Statistics (2021), Table 10.01a (p. 94)
+ Unemployment rate = Percent of unemployed persons in the labour force.

3.4.3 Employment Characteristics by Age

The ESO divides employment characteristics into six age brackets, as shown in **Table 19**. The age cohort with the highest number of people in the labour force is 35-44 (13,510 people), followed by 25-34 (11,245) and 45-54 (11,223). In 2021, people ages 25-34 and 35-44 had the highest labour force participation rate, at 95.1% for each group. The next highest participation rate occurred for the 45-54 age cohort at 92.8%. The age category with the lowest unemployment rate is 35-44 (3.9%), and the category with the highest unemployment rate is 15-24 (17.4%).

Table 19: Cayman Islands Labour Force and Employment Status by Age, 2021

Age	15-24	25-34	35-44	45-54	55-64	65+
Working Age Population	6,586	11,830	13,510	12,097	7,924	5,414
Labour Force	3,236	11,245	12,854	11,223	6,569	1,995
Total Employed	2,671	10,662	12,350	10,746	6,195	1,817
Total Unemployed	565	583	503	477	373	178
Participation Rate (%)	49.1	95.1	95.1	92.8	82.9	36.8
Unemployment Rate (%)	17.4	5.2	3.9	4.3	5.7	8.9

Source: Compendium of Statistics (2021), Table 10.01c (p. 96)

3.4.4 Employment Characteristics by District

George Town is the district with the highest labour force participation rate (85.0%) and the lowest unemployment rate (4.4%). George Town contains the largest working age population and the largest labour force of any district. West Bay and Bodden town have similar labour force sizes (9,834 persons and 9,418 persons respectively) and participation rates (79.1% and 80.9% respectively), West Bay has a slightly higher unemployment rate (7.7%) when compared with Bodden Town (6.6%). North Side and East End have the smallest labour forces (1,146 persons and 1,131 persons, respectively) but the highest unemployment percentages (8.7% and 8.1%, respectively). **Table 20** represents a comparison of labour force participation and unemployment rates in Grand Cayman's districts.

Table 20: Employment Characteristics by District, 2021

District	Working Age Population	Labour Force	Employed	Unemployed	Participation Rate (%)	Unemployment Rate (%)
George Town	28,513	24,232	23,170	1,062	85.0	4.4
West Bay	12,430	9,834	9,081	753	79.1	7.7
Bodden Town	11,648	9,418	8,792	625	80.9	6.6
North Side	1,523	1,146	1,047	100	75.2	8.7
East End	1,463	1,131	1,039	92	77.3	8.1

Source: Census of Population and Housing (2021), Table 9.3A (p. 246)

3.4.5 District of Employment and Residence

As the most populated district, George Town is also the district offering the most employment opportunities. **Table 21** represents a comparison of the district in which people work versus the district in which they live. 13,640 people who work in George Town live in one of the other four districts: 6,410 people (19.6%) live in West Bay; 6,239 (19.1%) in Bodden Town; 568 (1.7%) in North Side; and 405 (1.2%) in East End. In total, 7,212 people who work in George Town live in Bodden Town, North Side, or East End. More people who live in West Bay, Bodden Town, and North Side work in George Town than work in their respective districts of residence. **Figure 13** illustrates the distribution of employment and population centres on Grand Cayman based on 2021 ESO data.

Table 21: Employment by District of Residence vs. District of Employment

		District of Residence									
		George Town		West Bay		Bodden Town		North Side		East End	
District of Employment	**George Town**	19,021	58.3%	6,410	19.6%	6,239	19.1%	568	1.8%	405	1.2%
	West Bay	2,393	46.5%	2,274	44.3%	424	8.3%	24	0.5%	20	0.4%
	Bodden Town	774	28.1%	200	7.3%	1,638	59.5%	69	2.4%	77	2.7%
	North Side	107	20.2%	23	4.4%	115	21.7%	256	48.4%	28	5.3%
	East End	165	17.9%	18	1.9%	167	18.1%	103	11.2%	470	50.9%

Source: Data provided by ESO

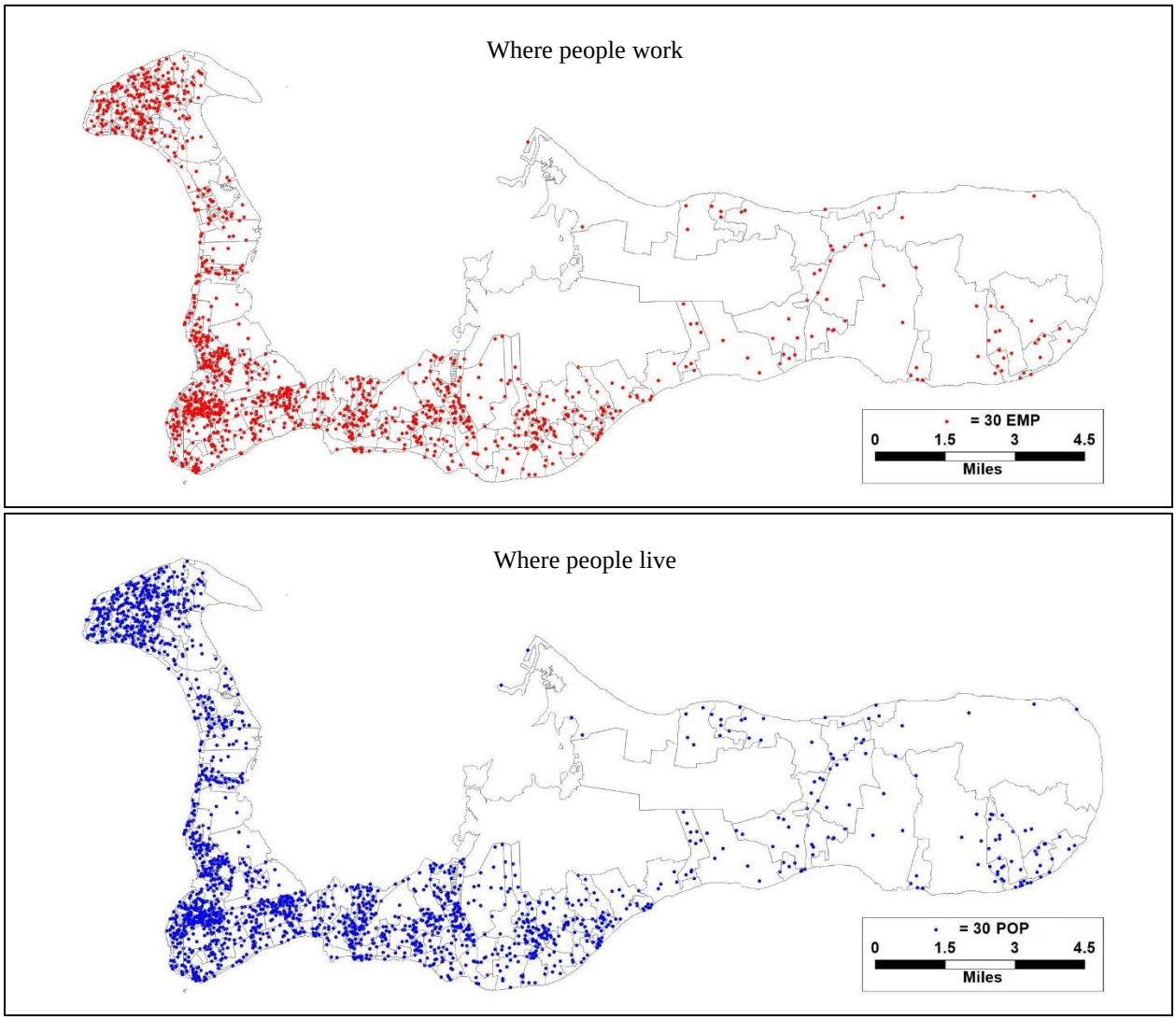

Figure 13: 2021 Grand Cayman Employment and Population Distribution

3.4.6 Occupation

In 2021, the "Professionals, Technicians, and Associate Professionals" occupation category employed 31% of Cayman workers, or 13,757 persons (**Table 22**). "Service and Sales Workers" made up the next greatest number of workers at 17.6% (7,815). The smallest occupation category was "Armed Forces," which employed 11 persons. The second smallest occupation category was "Skilled Agricultural & Fishery," which accounted for 1.2% (518) of employed persons.

Though there were more employed persons in 2021 than in 2020, between 2020 and 2021, some occupation categories saw a decline in number of employed persons. These include "Professionals, Technicians, and Associate Professionals;" "Plant & Machine Operators;" and "Skilled Agricultural & Fishery." All other occupation categories saw an increase in number of employed persons between 2020 and 2021. The occupation category that gained the most people (by both number of persons and percent) in 2021 was "Elementary Occupations."

Table 22: Cayman Islands Employed Persons by Occupation, 2017-2021

Occupation	2017	2018	2019	2020	2021
Senior Officials and Managers	3,531	4,005	5,070	4,289	4,919
Professionals, Technicians, and Associate Professionals	14,203	14,144	15,233	14,364	13,757
Clerical/Support Workers	2,840	3,750	3,328	3,072	3,262
Service and Sales Workers	8,570	8,984	8,711	6,715	7,815
Skilled Agricultural & Fishery	1,036	595	1,281	811	518
Craft & Related Trade Workers	5,205	5,305	5,742	5,813	6,263
Plant & Machine Operators	1,074	1,600	1,394	1,473	1,453
Elementary Occupations	4,279	6,257	6,187	4,770	5,894
Armed Forces	-	-	-	-	11
Not Stated	118	102	449	337	549
Total	*40,856*	*44,743*	*47,395*	*41,644*	*44,441*

Source: Compendium of Statistics (2021), Table 10.3a (p. 98)

3.4.7 Income

According to the 2021 ESO census survey, a total of 45,919 persons answered questions about income, with 43,692 reporting their income, and 2,227 reporting "Don't Know/Not Stated (DK/NS)." Information regarding income levels in the Cayman Islands are based on income ranges: employed persons making less than CI$14,399, making between CI$14,400 and CI$57,599, and making more than CI$57,600. As shown in **Table 23**, most who reported their income in the Cayman Islands made between CI$14,400 and CI$57,599 per year from their primary job. On Grand Cayman, 57.7% of those who reported income made between CI$14,400 and CI$57,599 from their primary job, 29.6% made over CI$57,600, and 7.9% made less than CI$14,399.

Table 23: Cayman Islands Employed Persons by Income From Main Job

	Employed persons by income from main job				
	Total	Less than CI$14,399	CI$14,400 - CI$57,599	More than CI$57,600	DK/NS
Cayman Islands	45,919	3,746	26,600	13,347	2,227
Grand Cayman	**44,516**	**3,510**	**25,702**	**13,169**	**2,136**
George Town	23,869	1,745	13,504	7,640	981
West Bay	9,419	828	5,345	2,711	535
Bodden Town	9,065	702	5,479	2,423	461
North Side	1,072	110	688	223	50
East End	1,091	125	685	172	109

Source: Data provided by ESO

In all five districts on Grand Cayman, most of the employed population falls into the second category, those making between CI$14,400 and CI$57,599. In North Side and East End, 64.2% and 62.8% of the employed population falls into this category, respectively. A difference between the income levels across Grand Cayman is evident by the proportion of the population that makes

more than CI$57,600. In George Town, West Bay, and Bodden Town, more than 25% of the population makes over CI$57,600. In North Side and East End, 20.8% and 15.9% of the population makes over CI$57,600, respectively.

3.4.8 Modes of Transportation

Per **Tables 24** and **25**, most workers on Grand Cayman (37,624 or 84.5%) use a private vehicle to commute to work. George Town has the most employed persons commuting via a private vehicle by number (20,036). In Bodden Town, 87.6% of the district's employed persons commute via a private vehicle, which is the highest percentage of the districts. Over 80% of the working population in each district uses a private vehicle to get to work in each district, other than East End, where 70.9% of workers (773 people) use a private vehicle to commute.

The public bus is the next most common way of commuting to work; a total of 2,884 workers on Grand Cayman (6.5%) use the bus to commute. In East End, 15.4% of the district's working population walks to work (168 people). That is also the same number of people who reportedly walk to work in West Bay, but given West Bay's higher population, it represents 1.8% of the district's working population. For information regarding the number of households with and without an automobile, see **Table 14**: Grand Cayman Districts Households With or Without Automobiles and With or Without Children, 2021.

Table 24: Mode of Commute by District 2021 (by Persons)

District	Total	Private Vehicle	Public Bus	Walking	Work from Home	Other+
George Town	23,869	20,036	1,450	757	507	1,119
West Bay	9,419	7,960	765	168	306	220
Bodden Town	9,065	7,941	518	89	340	176
North Side	1,072	914	82	22	40	13
East End	1,091	773	69	168	45	36
Total	44,516	37,624	2,884	1,204	1,238	1,564

Source: Data provided by ESO
+Other includes bicycle, boating, taxi, motorcycle/moped, and DK/NS

Table 25: Mode of Commute by District 2021 (by Percent)

District	Private Vehicle	Public Bus	Walking	Work from Home	Other+
George Town	83.9%	6.1%	3.2%	2.1%	4.7%
West Bay	84.5%	8.1%	1.8%	3.3%	2.3%
Bodden Town	87.6%	5.7%	1.0%	3.8%	1.9%
North Side	85.3%	7.7%	2.1%	3.7%	1.2%
East End	70.9%	6.3%	15.4%	4.1%	3.3%
Total	84.5%	6.5%	2.7%	2.8%	3.5%

Source: Data provided by ESO
+Other includes bicycle, boating, taxi, motorcycle/moped, and DK/NS

3.5 Economic Characteristics

3.5.1 Major Industries

According to the ESO's 2021 Gross Domestic Product (GDP) Report, the financial and insurance services industry was the highest contributor to Cayman Islands GDP from 2017 to 2021. Other industries with high contributions to GDP include professional, scientific, and technical activities; real estate activities; wholesale and retail trade; and public administration and defence (**Table 26**). Tourism historically has also been a major contributor to the GDP of the Cayman Islands. Before the COVID-19 pandemic, the Cayman Islands had more than one million visitors each year.

Table 26: Top 5 Industries Contributing to Cayman Islands GDP[+]

Industry	2019	2020	2021
Financial & Insurance Services	1,378,451.7	1,391,018.6	1,404,656.3
Professional, Scientific & Technical Activities	583,695.6	618,941.9	651,523.2
Real Estate Activities	378,847.0	368,440.3	368,810.9
Wholesale & Retail Trade	291,691.7	286,515.1	293,164.8
Public Administration & Defence	237,996.9	246,961.7	260,513.4

Source: Gross Domestic Product Report (2021), Table 2, p. 9
[+]GDP at constant basic & purchasers' prices, 2015=100 (CI$'000)

In 2021, the industries that employed the most people were construction; wholesale and retail; and professional, scientific, and technical activities. **Table 27** illustrates the major industries in 2019, 2020, and 2021 by the number of people employed in each industry.

Table 27: Major Industries and Employment in the Cayman Islands

Industry	2019	2020	2021
Construction	5,368	5,074	6,324
Wholesale and Retail	5,365	4,935	5,103
Professional, Scientific and Technical activities	4,715	3,706	4,667
Financial Services	3,502	3,659	3,654
General Public Administration Activities	3,191	3,287	3,100
Administrative and Support Service Activities	2,715	2,645	2,895
Activities of households as employers	4,042	2,883	2,886
Restaurants and Mobile Food Services Activities	2,747	1,916	2,528
Human Health and Social Work Activities	2,218	1,915	2,368
Education	2,351	1,898	2,053
Transportation and Storage	1,945	1,438	1,589
Accommodation	3,131	1,913	1,486
Other Service Activities	836	1,262	1,200
Information and Communication	868	679	825
Manufacturing, Mining and Quarrying	846	924	823
Arts, Entertainment and Recreation	1,115	753	788
Real Estate	705	892	705
DK/NS	713	1,087	567
Electricity, Gas, Steam and Air Conditioning Supply, Water Supply and Sewerage	455	335	548
Agriculture and Fishing	567	419	326

Industry	2019	2020	2021
Extra-territorial organizations	-	24	8
Total	***47,395***	***41,644***	***44,441***

Source: Compendium of Statistics (2021), Table 10.04 (p. 100)

3.5.1.1 Financial and Insurance Services

In 2021, the financial and insurance services industry contributed more than a quarter of the Cayman Islands' total GDP, per the 2021 GDP Report. According to the Ministry of Financial Services, the government has been enacting financial services legislation since the 1960s, making the islands a business-friendly environment and allowing the financial sector to grow as a significant portion of Cayman Islands GDP.

3.5.1.2 Tourism

The tourism industry in the Cayman Islands experienced a downturn during the COVID-19 pandemic. In 2019, before the pandemic, the Real GDP of hotels and restaurants (tourism-dependent industries) was CI$251 million, according to the ESO's GDP Report of 2021. The same report details that the hotels and restaurants industry's Real GDP fell to CI$122 million in 2020 and contracted a further 13.6% in 2021; one of the main factors regarding this 2021 contraction was the reduction in overnight visitors.

From a tourism perspective, Bodden Town, East End, and North Side are rich in cultural and ecological value but have remained relatively unknown to visitors, according to the "Go East" report prepared in 2009 by The Tourism Company for the Cayman Islands Department of Tourism. George Town and West Bay, in contrast, represent the core of the Cayman Islands tourism industry, with many attractions: the airport, seaport, major hotels, and established restaurants located in these areas. In addition, the Sister Islands, renowned for their tranquillity, diving, nature, and culture, have long had a distinct voice in tourism promotions. As for other attraction areas, outside of Rum Point and Cayman Kai, and to a lesser extent various timeshare properties along the North Coast, Bodden Town, East End, and North Side have not had a coherent tourism model. The consequences of having less tourism in these districts results in fewer economic advantages for the residents there. These districts complement the breadth of experiences available in Grand Cayman with much Caymanian architecture, natural environment, and culture remaining intact and highly visible in these areas (**Figure 14**). (The Tourism Company, 2009)

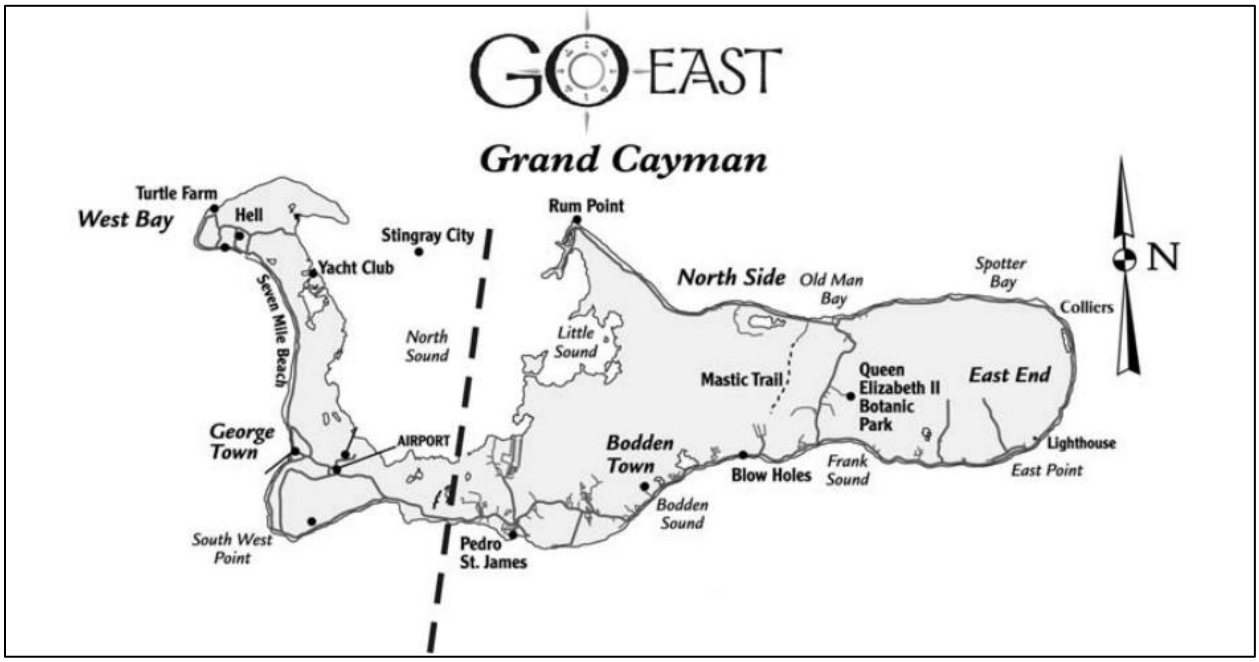

Figure 14: The Western and Eastern Districts of Grand Cayman
Source: The Tourism Company (2009).

3.6 Services

3.6.1 Transportation Services

3.6.1.1 Public Transportation

The Public Transport Unit governs and regulates the Cayman Islands' public transportation system, per the Traffic Law of 2011. **Figure 15** below depicts the current public transportation routes along Grand Cayman.

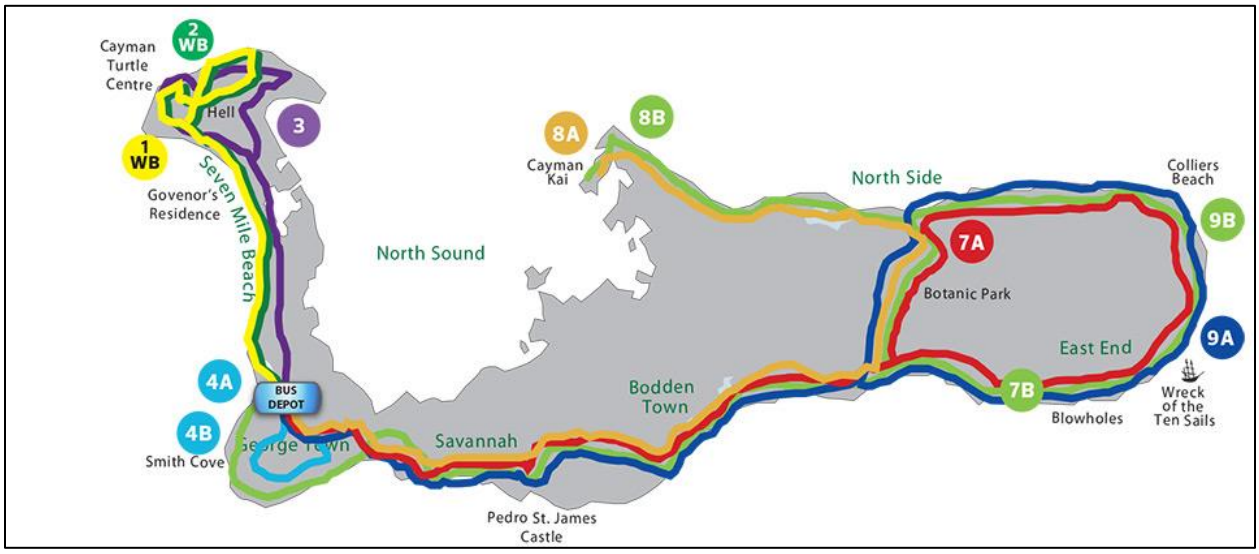

Figure 15: Cayman Bus Routes, 2022
Source: Explore Cayman (https://www.explorecayman.com/getting-around-in-cayman/buses-in-cayman)

3.6.1.2 Airports

The Cayman Islands Airports Authority owns and operates Cayman's airport facilities, which consist of two international aerodromes: Owen Roberts International Airport on Grand Cayman and Charles Kirkconnell International Airport on Cayman Brac, and the Edward Bodden Airfield on Little Cayman. The Owen Roberts International Airport, the only public airport located on Grand Cayman, is located at 210 Roberts Dr, George Town, Cayman Islands. Based on the Cayman Islands Airports Authority 2021 Statistics, Owen Roberts International Airport transported over 177,886 passengers; 568,041 kilograms of freight; and 5,644 kilograms of mail in 2021.

3.6.1.3 Cayman Port

The Port Authority of the Cayman Islands operates the Port of George Town and Port of Cayman Brac. The Port of George Town, the only port located on Grand Cayman, is located at 19.2954° N, 81.3832° W. The Port of George Town handles both cargo and passenger service on Grand Cayman.

The Port Authority averaged approximately 60,000 tons of cargo each month in 2021. The Port Authority statistics show a wide variation in cruise ship passengers, notably between season (winter versus summer) and aligning with the COVID-19 pandemic in early 2020. Passenger numbers appeared to peak in January of 2019 at over 250,000 passengers and fell to zero starting in April 2020 and continued through March of 2022. Cruise ship passengers in 2023 still appear to be lower than the pre-April 2020 values (**Figure 16** and **Figure 17**). Please reference the **Traffic Technical Report Section 4.5.3: Tourist Travel Times** for additional information regarding cargo and cruise ship passenger assumptions in relation to the traffic evaluation.

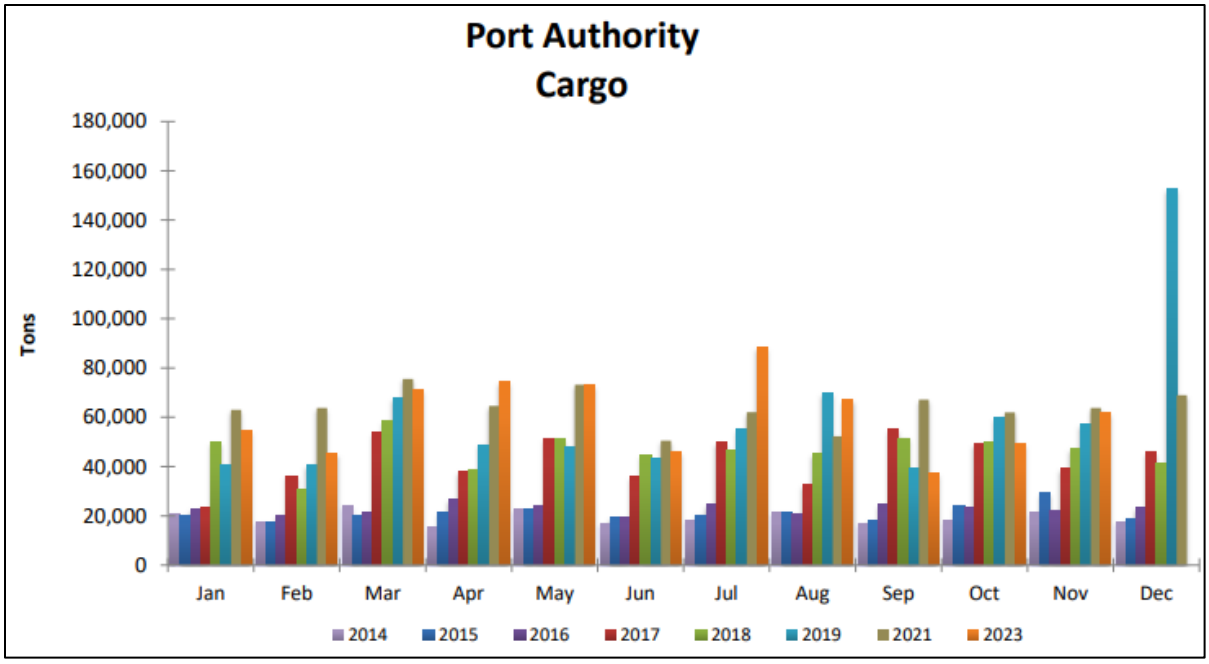

Figure 16: Port Authority Cargo

Source: Port Authority of the Cayman Islands (https://www.caymanport.com/statistics/)

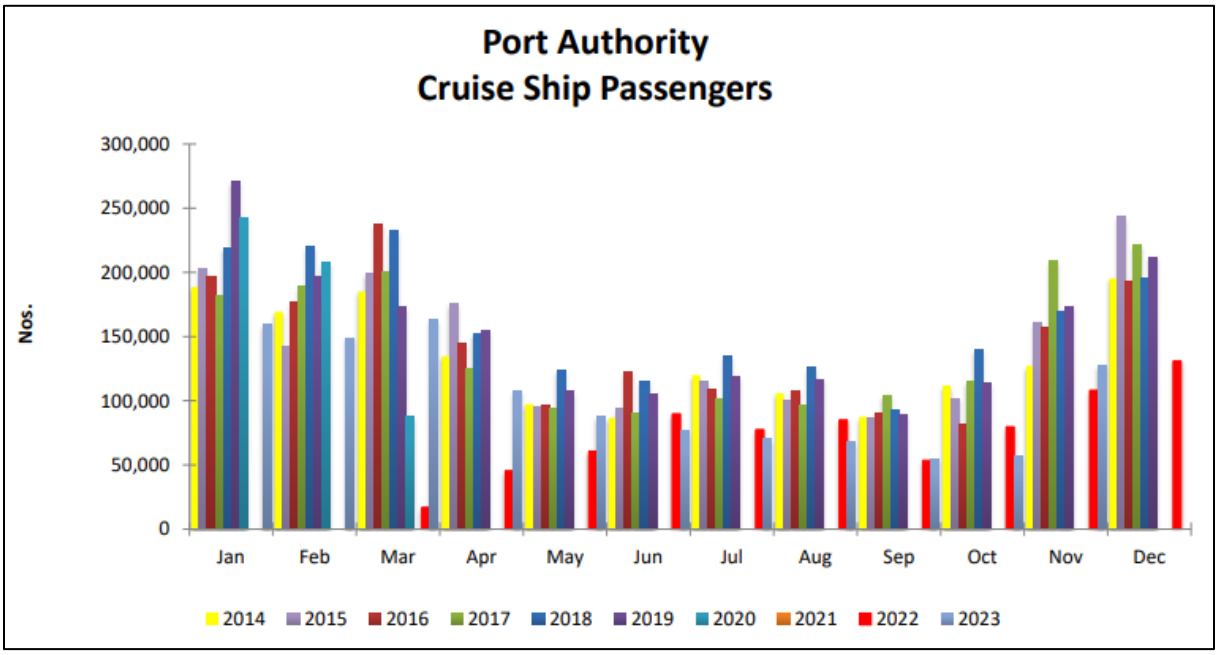

Figure 17: Port Authority Cruise Ship Passengers
Source: Port Authority of the Cayman Islands (https://www.caymanport.com/statistics/)

3.6.2 Emergency Services

The Cayman Islands Government provides emergency services to Cayman Islands residents in the form of medical, police, and fire. **Figure 18** depicts the locations of the government-operated emergency services available on Grand Cayman.

3.6.2.1 Police

Cayman Islands has a unified, national police service, the Royal Cayman Islands Police Service. Along with administrative facilities, Grand Cayman has five police stations, one in each district. The service is unarmed but is capable of an armed response if necessary. The command structure is similar to the police command structure of the UK.

3.6.2.2 Fire

The Cayman Islands Fire Service is primarily a fire fighting and rescue service. There are currently three stations in Grand Cayman, located in West Bay, George Town, and on Frank Sound Road. There are 166 personnel employed by the Fire Service. The Fire Service is called on to respond to a variety of incidents such as aircraft accidents, fires, building collapses, road accidents, situations requiring rescue techniques, and fire prevention. The Fire Service also plays a role in hurricane preparedness and carries out rescue operations in time of need.

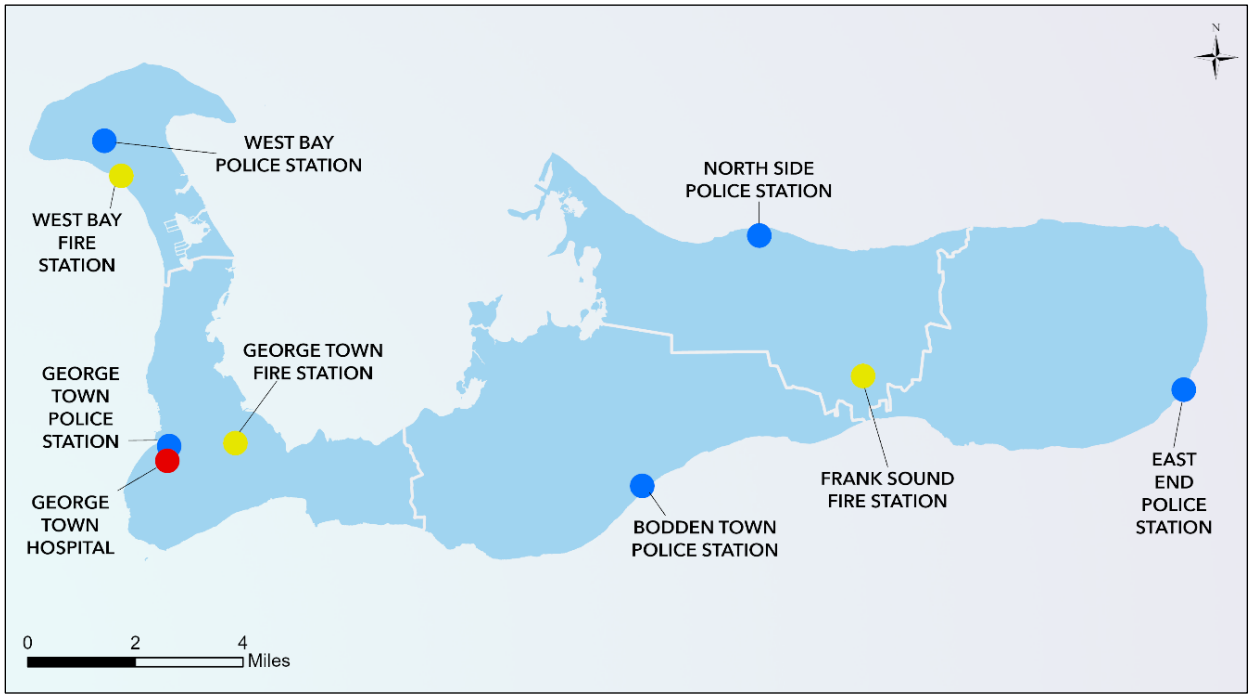

Figure 18: Government Provided Emergency Services on Grand Cayman

3.6.2.3 Medical

Grand Cayman's main hospital is George Town Hospital, part of the Health Services Authority (HSA). Per the HSA website, George Town Hospital's Accident & Emergency Unit is the Cayman Islands' only authorized provider of emergency medical services and is the destination of any dispatched government ambulances.

While George Town Hospital is the only authorized provider of 24-hour Accident & Emergency services, other hospital services are available on Grand Cayman. A private hospital, Health City Cayman Islands, located in East End, also provides emergency services. The HSA provides health centres throughout Grand Cayman that can address a variety of other medical needs.

3.6.2.4 Hurricane Shelters

As of 2022, there are 14 hurricane shelters on Grand Cayman (**Figure 19**). Seven of these operate as Emergency Medical Centres (EMC), and two shelters also accept cats and dogs. Depending on the severity of the threat and other factors, Hazard Management Cayman Islands will decide how many shelters to open. EMCs are established in key locations on Grand Cayman, Cayman Brac, and Little Cayman to provide medical care for people whose age, frailty, mobility, functional and/or medical condition make them particularly vulnerable and at risk in disaster situations.

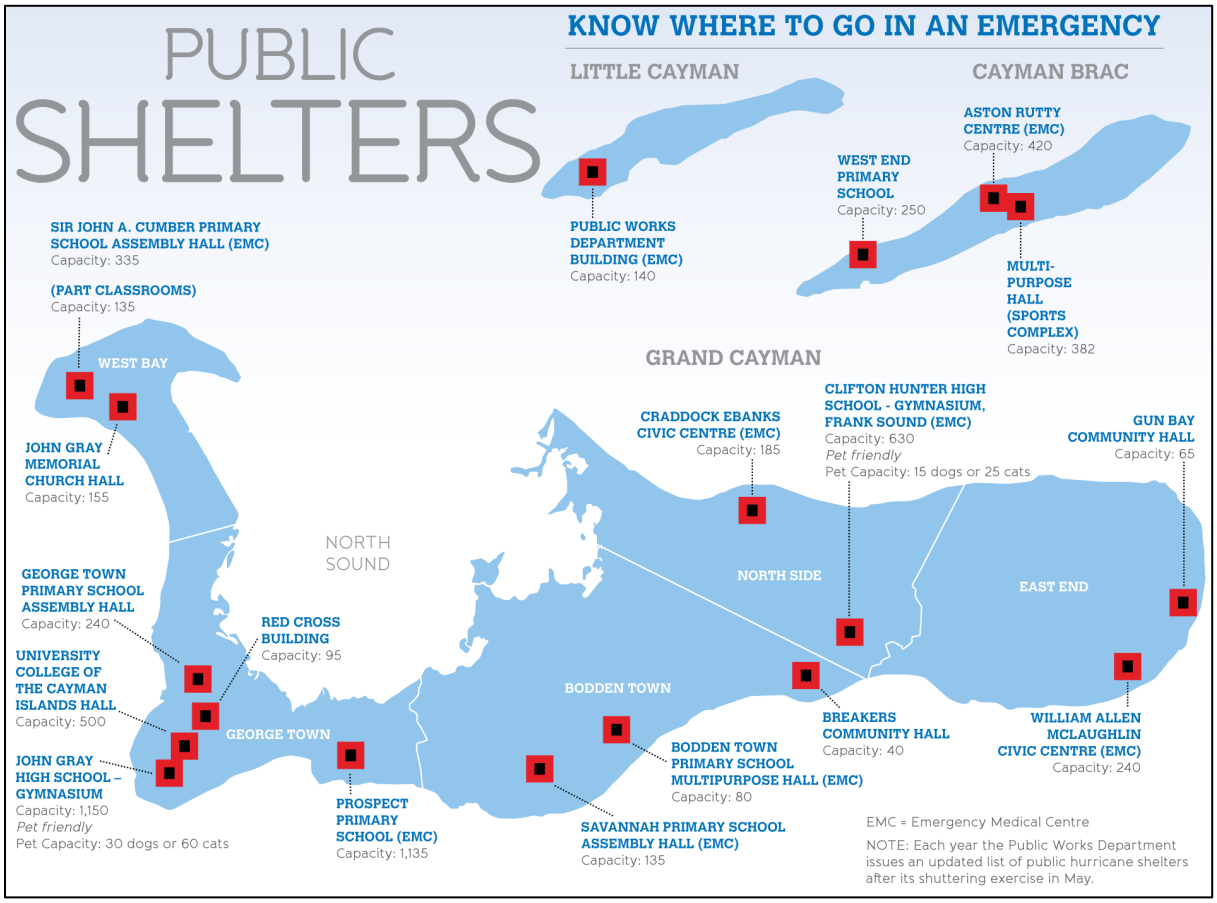

Figure 19: Public Shelters in the Cayman Islands.
Source: *Shelters*, by Cayman Islands Hazard Management **(**https://www.caymanprepared.gov.ky/resources/shelters**)**

3.6.3 Utility Services

3.6.3.1 Telecommunication Services (Phone and Internet)

The Cayman Islands has two cell phone network providers: Digicel and FLOW. FLOW is the Cayman Islands' largest mobile network providing landline, internet, mobile and entertainment service. Digicel is a mobile and internet provider. The Cayman Islands has four internet providers: Logic, FLOW, C3 Pure Fibre, and Digicel. Logic, FLOW, and C3 offer fibre optic installation.

3.6.3.2 Power

The Caribbean Utilities Company, Ltd. (CUC) is Grand Cayman's only public electric utility. The company is licensed under Generation and Transmission & Distribution Licenses with the Cayman Islands Government. Grand Cayman relies on imported diesel fuel for its electricity production. As of November 2023, the CUC's power system consists of seventeen diesel engines, two gas turbines, and one steam turbine with a combined capacity of 165.66 megawatts. One solar facility is connected to the Bodden Town Substation and provides 5 megawatt capacity.

3.6.3.3 Water and Wastewater

Water Authority – Cayman provides drinking water to over 17,000 service connections and manages the collection and treatment of wastewater. In 1983, the Water Authority Law established the Authority, which is overseen by the Ministry of District Administration and Lands. The full legal framework governing the Water Authority includes the Water Authority Act, Water Authority Regulations, Water Collections and Treatment Act, Water (Production and Supply) Law, and Wastewater Collection and Treatment Law.

The Water Authority relies on reverse osmosis to make saline groundwater safe to drink. The water plants produce drinking water, which is then stored in 10 reservoirs (8 of which are on Grand Cayman). As of November 2023, these reservoirs have a total storage capacity of 15.35 million US gallons.

3.6.3.4 Waste Collection and Disposal

The Department of Environmental Health (DEH) is responsible for waste collection and disposal on the Cayman Islands. The Cayman Islands Public Health Law charges the DEH with collecting waste. Waste is collected from the kerb from residential areas, and from large rental waste containers for commercial customers. The DEH also responds to hazardous waste and roadside litter cleanup.

Grand Cayman's George Town Landfill is located adjacent to Esterly Tibbetts Highway in George Town's Industrial Park. Along with weekly waste pickup, a drop-off facility at the landfill is open 24-hours a day for individuals to drop off small quantities of waste.

The DEH also manages recycling for the Cayman Islands. The recycling centre is located on the landfill site. Large public recycling receptacles are available throughout Grand Cayman and at the George Town Landfill's 24-hour drop-off site. The DEH collects the recycling until sufficient quantities have built up, at which point the recycling is shipped to the US.

3.6.4 Education

In the Cayman Islands, children between the ages of 5 and 17 must attend compulsory education. During the 2022-23 school year, 5,308 students were enrolled in public school (including the Cayman Islands Further Education Centre), and a total of 4,776 students were enrolled in private school, according to information received from the Department of Education. The Cayman Islands has 12 public primary schools (11 on Grand Cayman and 1 on Little Cayman) and 3 public secondary schools (all on Grand Cayman). Grand Cayman houses one school encompassing all grades (Lighthouse School), and a Further Education Centre. According to data provided by the Department of Education, Grand Cayman also houses 19 private primary and secondary schools that serve a number of age ranges and grades (**Figure 20**).



Figure 20: Location of Schools by District on Grand Cayman
Source: Cayman Islands Department of Education, provided by NRA

According to the 2022 data report by the Department of Education, encompassing the 2021 to 2022 school year, the Cayman Islands has a total of 43 Early Childhood Care and Education (ECCE) centres, 39 of which are on Grand Cayman. Per the same report, George Town houses 28 of the island's 39 ECCE centres (which may be public or private and which may also contain other grades) and 15 of the island's 23 primary and secondary schools. In the 2021-2022 school year, 6,404 primary- and secondary-age children (of 8,648 on Grand Cayman) went to school in George Town. In the same year, 1,625 children were enrolled in ECCE centres in George Town, compared with 1,930 in total on Grand Cayman. ECCE is not part of the compulsory education system.

Almost three quarters (74%) of primary- and secondary-aged children go to school in George Town, and 84% of ECCE children go to school in George Town. Of the households with children on Grand Cayman, close to 49% live in George Town. Almost 30% of all households with children live east of George Town, and over 5% of households with children live in East End or North Side (**Table 28**). In 2022-23, the Department of Education employed 898 teachers and support staff. Private schools employed an additional 818 teachers and support staff.

Table 28: Percentage of All Grand Cayman Households with Children by District

District	Number of Households with Children	Percentage of Grand Cayman Households with Children
George Town	3,480	48.6%
West Bay	1,545	21.6%
Bodden Town	1,767	24.7%
North Side	212	3.0%

District	Number of Households with Children	Percentage of Grand Cayman Households with Children
East End	154	2.1%
Total	7,158	100%

Source: Data provided by ESO

The ESO reports age in 5-year brackets as census data; to assess the population of school-aged children counted by the census, children 0-4, 5-9, and 10-14 were considered when evaluating access to education. The next age bracket is 15-19; to avoid counting adults no longer attending secondary school, this census age bracket was not considered. This age group was captured in enrolment data provided by the Department of Education. Per **Table 29**, children 0-14 years represent children who are eligible for ECCE through middle school; and children 5-14 represent children who are eligible for primary or secondary school (through middle school).

Table 29: Populations of School-Age Children by District

	West Bay	George Town	Bodden Town	East End	North Side
Children 0-14 years	2,271	5,106	2,671	327	255
Children 5-14 Years	1,571	3,273	1,990	171	243

Sources: Cayman Islands Census of Population and Housing (2021) tables 4.4A-4.4E (pp. 89-93,) and data provided by ESO

At least one public school is available in every district; however, schools serving all ages of children are not available in every district. Bodden Town and East End do not have any high schools, and North Side and East End do not have any private schools (**Table 30**). George Town contains more schools than the other four districts combined, and several schools in the district are located on Walkers Road.

Table 30: Number of Schools (Public and Private)

	West Bay	George Town	Bodden Town	East End	North Side
# of Schools serving ages 0-14	5	36	4	1	1
# Schools serving ages 5-14	3	23	2	1	1
# of Schools (excluding post-secondary)	5	38	4	1	2
# of Public schools	1	6*	2	1	2
# of Public Primary Schools	1	3	2	1	1
# of Public High Schools	0	2	0	0	1

Source: Data provided by Department of Education

*Note: Total public schools in George Town includes Lighthouse School which encompasses all grades

3.6.5 Community Facilities

3.6.5.1 Recreation Areas

Grand Cayman has recreational facilities in every district, with the highest concentration of facilities on the west side of the island (**Figure 21)**. Recreation facilities include public parks, school playgrounds and sports facilities, and private sports facilities. Of these facilities, there are 12 family parks, 2 multi-purpose facilities, 11 public beaches, along with football, baseball, and cricket fields, tennis courts, golf courses, swimming pools, and skating facilities.



Figure 21: Recreation Areas on Grand Cayman
Source: Provided by NRA

3.6.5.2 Public Libraries

There are six public libraries in the Cayman Islands as follows:

- George Town Library, 68 Edward Street, George Town
- Bodden Town Library, 69 Bodden Town Road, Bodden Town
- East End Library, 2739 Sea View Road, East End
- North Side Library, 891 North Side Road, North Side
- Emily "Teacher Redly" Powery Library, 182 Reverend Blackman Road, West Bay
- UCCI Library, located at the University College of the Cayman Islands

3.6.5.3 Post Offices

Mail delivery directly to houses and businesses is not supplied in the Cayman Islands, so P.O. Boxes are used instead. There are 16 post offices and numerous blue mailboxes located throughout the Islands. The largest post office branches are the Airport, General Post Office downtown, and

Seven Mile Beach, but there are also post offices in Savannah, Bodden Town, North Side, East End, Hell, and West Bay (**Figure 22**).



Figure 22: Post Offices on Grand Cayman
Source: Provided by NRAS

3.7 Zoning for Land Use

Cayman's Development and Planning Law establishes a Central Planning Authority for Grand Cayman. This body reviews planning permission applications, required for land development or change of zoning, and authorises enforcement. The 1997 Development Plan designates the following categories and subcategories of development planning zones:

- Agricultural/Residential
- Residential
    - Low Density
    - Medium Density
    - High Density
- Beach Resort/Residential
- Hotel/Tourism
- Commercial
    - General Commercial
    - Neighbourhood Commercial
    - Marine Commercial
- Industrial
    - Light Industrial
    - Heavy Industrial

- Institutional
- Mangrove Buffer
- Public Open Space
- Historic Overlay
- Scenic Coastline

Figure 23 depicts the zoning information for Grand Cayman as of 2022 per the Planning Department's Development Plan. Subcategories of residential, commercial, and industrial were aggregated into their respective main categories. West Bay and George Town have the most Commercial and Hotel/Tourism planning zones. George Town contains the only lands with the Industrial zoning designation. Bodden Town is primarily Residential zoning. North Side and East End are primarily zoned for Agricultural/Residential with some Low Density Residential.

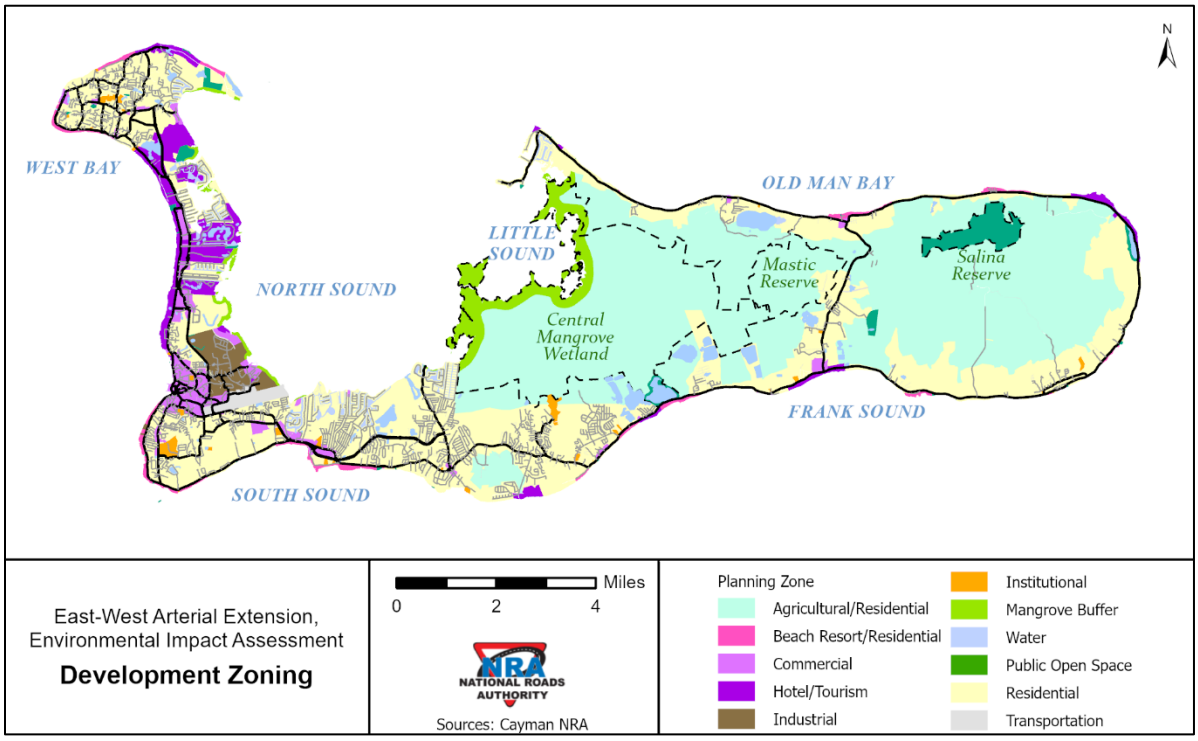

Figure 23: Zoning for Grand Cayman

3.8 Baseline Summary and Key Findings

These baseline conditions have been compiled and utilized to supplement a variety of disciplines throughout the EIA, including Traffic and Engineering. Information about the social and economic characteristics of Grand Cayman allow for appraisal of the social impacts of the four Build alternatives and No-Build scenario, which is discussed in the next section.

3.8.1 Key Findings – Demographics

The population of the Cayman Islands has more than doubled since 1989, with most of the population living on Grand Cayman. The islands experienced 4.4% annual growth between 1989

and 1999, 3.2% annual growth between 1999 and 2010, and 2.4% annual growth between 2010 and 2021. The population of George Town remains the largest of the five Grand Cayman districts. Bodden Town has grown the fastest, and now has roughly the same number of people as West Bay. Age distribution on the island favours working-age individuals; age group 30-39 contains the largest proportion of the population, and age group 40-49 contains the second-largest proportion of the population.

3.8.2 Key Findings – Employment

George Town provides the most jobs of any Grand Cayman district. Many people from West Bay, Bodden Town, North Side, and East End rely on commuting to George Town for employment opportunities. North Side and East End have the highest unemployment rates compared to other districts (over 8% while the rest are under 8%). Most people rely on a private vehicle to commute to work.

3.8.3 Key Findings – Economic Characteristics

Financial and insurance services is the top industry in the Cayman Islands in terms of GDP contribution. In 2021, the industry employing the most people was construction. Tourism is a contributor to multiple industries on Grand Cayman, however, the limited advertisement for tourism destinations in Bodden Town, North Side, and East End combined with the difficulty of day-trippers reaching these districts means that most tourism occurs in George Town and West Bay.

3.8.4 Key Findings – Services

The port and the airport are both located in George Town. The port location makes cruise passenger tourist trips to Bodden Town, North Side, and East End more difficult, and the airport location means longer travel times for residents of these three eastern districts. Police and fire stations are distributed across the island. The only Accident & Emergency hospital authorized by HSA is in George Town, though a private hospital is also available in East End. Public schools are available in each district, but the majority of private schools are situated in George Town. George Town is also home to two of Grand Cayman's three public high schools.

4 Social Impact Appraisal

This section summarizes the potential impacts of constructing the EWA Extension, as it relates to social, economic, and land use characteristics in the vicinity of the project. This social impact appraisal has been developed in reference to WebTAG unit A4-1 and WebTAG unit A4-2. WebTAG unit A4-1 describes how to assess the social impacts that are an important element of the proposed project, on either a monetary, quantitative, or qualitative scale. WebTAG unit A4-2 offers additional information on distributional impacts of some impacts described in unit A4-1.

Consideration of social impacts allows for the evaluation of how a project might affect quality of life in both beneficial and adverse ways through factors like access to employment, goods, and other services; confidence in the ability to obtain emergency services; and choices between different modes of transportation. A social impact analysis also notes vulnerable and underserved

populations to ensure they share equally in the benefits of a proposed project, and that they do not bear a greater cost than the rest of the population.

For this analysis, the No-Build scenario acts as a basis for comparison against which the four Build alternatives are evaluated. In future, the No-Build scenario (i.e. not building the EWA or making on-alignment improvements to Bodden Town Road) will impact socio-economic conditions on Grand Cayman as well. However, this social impact appraisal is evaluating the impacts of the four Build alternatives on socio-economic conditions, which requires a baseline for comparison. Because the No-Build is the basis for comparison, it receives a score of "Neutral" in all categories.

For the EWA EIA, each social component described in WebTAG unit A4-1 was assessed to determine whether the project could potentially result in an impact. Potential impacts have been identified to provide a comparative evaluation of alternatives under consideration. Where a potential impact was projected, the data for that component was reviewed to determine the type of evaluation that was most appropriate. Additional economic effects (e.g., cost of construction, monetary value of improved travel time) were assessed as part of the CBA prepared for this project.

Based on the type of project and the categories within WebTAG unit A4-1, the following were determined to be the most applicable criteria for use in this Shortlist Evaluation via quantitative and qualitative evaluation:

- Accessibility
- Severance
- Journey Quality
- Option Values

The categories of Accidents, Physical Activity, Security, and Personal Affordability were not included in this evaluation due to insufficient data to make an evaluation. Accidents were not assessed due to a lack of data concerning accidents and casualties. Physical Activity was not included because the necessary data on regular walkers and cyclists, including length and time of journey, was not available. Security was not included because the formal guidelines for Security are meant to be applied to public transport, and the level of design detail necessary to apply the guidelines to road users was not available at this stage of analysis. Personal Affordability was not included because it requires a level of travel monetary assessment and data screening that requires more detailed data than what was available for this analysis.

4.1 Accessibility

Per guidance from UK's WebTAG unit A4-1, accessibility impacts can be the physical access to public transport or the ability to get to goods and services (e.g., hospitals or education; **Section 3.6: Services**), as well as the ability to obtain information regarding public transport or other transportation related services. Accessibility impacts are a key consideration in the appraisal and assessment of transportation improvements, as accessibility barriers can result in social exclusion. Overall, the EWA Extension project is projected to improve travel to and from community facilities, jobs, and amenities, especially between the easternmost districts of Grand Cayman

(North Side and East End), where these resources are relatively limited, and the westernmost districts of Grand Cayman (George Town and West Bay). As is illustrated in this document's **Section 3.4.5: District of Employment and Residence**, **Section 3.6.2: Emergency Services**, and **Section 3.6.4: Education**, employment opportunities, emergency services, and education opportunities are more plentiful in George Town than in any other district. The study of Accessibility focuses on the populations in Bodden Town, North Side, and East End.

According to the data collected, many people in the three eastern districts depend on opportunities in the two western districts for employment (**Section 3.4.5**). Of the 1,072 employed persons who live in North Side, 568 (53%) work in George Town and 24 (2.2%) work in West Bay. Overall, 55.2% of people who live in North Side work in a western district. Of the 1,091 employed persons who live in East End, 405 (37.1%) work in George Town and 20 (1.8%) work in West Bay. Overall, 38.9% of people who live in East End work in a western district. In total, 1,017 people (47%) who live in an eastern district work in a western district. As discussed in **Section 3.4.6: Income**, the two western districts have a higher percentage of people (per district population) that fall into the highest income bracket when compared with the three eastern districts.

To consider accessibility impacts, both a quantitative and a qualitative approach were used for this evaluation. This evaluation focuses on determining the effects of improvements to travel on people's access to services primarily located on the western side of Grand Cayman (e.g., employment and education). The level of access was determined based on where people live, where services and opportunities are located, and whether journeys between these origins are "appropriate in terms of time and cost" (WebTAG unit A4-1 p. 41). The No-Build scenario represents the "without scheme" scenario described in WebTAG unit A4-1, and it was the basis of comparison for the four Build alternatives (B1, B2, B3, and B4).

In addition, vulnerable groups who could benefit most from accessibility improvements were identified (**Section 3.3.5: Vulnerable Populations**), and members of these groups in Bodden Town, North Side, and East End are listed in **Table 15** and specifically highlighted for reference in **Table 31**. A discussion of the methodology and monetization of the travel times and trip opportunities can be found in the CBA prepared as part of this study.

Table 31: Vulnerable Groups Within the Eastern Districts (2021 census)

	Bodden Town	North Side	East End
Population	14,845	1,902	1,846
Households	5,478	726	696
Households with children	1,767	212	154
Households without automobile	3,711	143	211
Children 14 and under	2,671	335	268
Persons age 65+	1,146	208	206
Persons commuting to work by walking	89	22	168
Persons earning less than CI$14,399	702	110	125
Households receiving financial assistance from NAU	511	130	159
Households (Able-bodied) receiving financial assistance	33	*9*	*6*

	Bodden Town	North Side	East End
Households (Disabled) receiving financial assistance	68	*16*	*24*
Households (Elderly) receiving financial assistance	326	*91*	*117*
Households (Families) receiving financial assistance	84	*14*	*12*

Source: 2021 Compendium of Statistics

To qualitatively assess accessibility, the seven-point scale from WebTAG unit A4-2 was used to gauge the proportion of change in travel conditions for each Build alternative when compared with the No-Build (**Table 32**).

Table 32: Accessibility Analysis Scale

Proportionate Changes	Accessibility Analysis Score
> +16%	Large Beneficial
+6% to +15%	Moderate Beneficial
+2% to +5%	Slight Beneficial
-1% to +1%	Neutral
-2% to -5%	Slight Adverse
-6% to -15%	Moderate Adverse
> -16%	Large Adverse

Source: WebTAG unit A4-2: Distributional Impact Appraisal, Table 15 p. 57

The accessibility sub-factors of travel times, trip opportunities, employment access, level of service, and emergency access for each of the Build alternatives (B1, B2, B3 and B4) were compared with the No-Build scenario for the years 2026 and 2074. Because the No-Build scenario is the baseline comparison to the Build alternatives, it is assessed as "Neutral".

4.1.1 Travel Time

4.1.1.1 Travel Time between North Side/East End and George Town

Vehicle travel times were assessed between North Side/East End and George Town. Travel times were averaged between AM westbound movement and PM eastbound movement to evaluate access improvements for the eastern districts during peak travel times for both the opening year (2026) and the horizon year (2074). The projected Grand Cayman population for 2026 is 76,373, and the projected population for 2074 is 135,000. Please see the Grand Cayman Travel Demand Model in the **Traffic Technical Report Section 3.3: Travel Demand Model** for more information. A representative number of destinations in each district were selected to provide a summary of the anticipated accessibility impacts associated with the Build alternatives. To address accessibility questions surrounding emergency services, education, and other opportunities like travel and tourism, representative destinations in the western districts were chosen to be George Town Hospital, Walkers Road schools, and Owen Roberts Airport.

Changes in travel times were compared with the No-Build scenario to calculate the percent change per origin/destination combination and per Build alternative (B1, B2, B3, and B4). A positive number indicates a percent improvement, and a negative number indicates a percent deterioration. The travel time percent changes were then averaged per alternative to calculate an overall percent

change (**Table 33**). As illustrated in **Table 33**, all Build alternatives are expected to provide a notable improvement in travel times, compared to the No-Build. It was anticipated that these travel time improvements would apply to the entire populations of North Side and East End, with vulnerable groups gaining the most benefits and access to additional opportunities in George Town. Improved travel time is expected to provide expanded regional access for Caymanians who commute to places of employment and economic opportunities (**Section 3.4.8: Modes of Transportation**); additionally, the EWA Extension would be expected to improve traffic flow across Grand Cayman to benefit access to emergency services, education, and community facilities.

Table 33: North Side/East End AM and PM Average Travel Times and % Change, 2026 and 2074

Origin / Destination	No-Build	B1	B2	B3	B4
2026 AM and PM average travel time (minutes)					
North Side / George Town Hospital	55	47	48	48	51
North Side / Walkers Road Schools	49	43	42	42	46
North Side / Owen Roberts Airport	53	46	46	46	49
East End / George Town Hospital	56	53	53	53	52
East End / Walkers Road Schools	50	48	47	47	48
East End / Owen Roberts Airport	56	51	51	51	52
Average Travel Time East / West	52.8	47.6	47.7	47.8	49.4
% Change from No-Build	**-**	**10%**	**10%**	**9%**	**6%**
2074 AM and PM average travel time (minutes)					
North Side / George Town Hospital	80	63	60	64	67
North Side / Walkers Road Schools	83	65	65	68	71
North Side / Owen Roberts Airport	80	61	62	60	63
East End / George Town Hospital	72	66	64	66	66
East End / Walkers Road Schools	77	70	70	74	73
East End / Owen Roberts Airport	72	65	67	65	64
Average Travel Time East / West	77.1	64.8	64.4	65.9	67.2
% Change from No-Build	**-**	**16%**	**16%**	**15%**	**13%**

Source: Grand Cayman Travel Demand Model

4.1.1.2 Travel Time between Frank Sound Road and Hirst Road

Travel times within the EWA EIA study area (between Frank Sound Road and Hirst Road via Bodden Town Road and Shamrock Road and via the EWA extension) were assessed for both opening year 2026 and horizon year 2074 to capture the localized congestion effects for residents of Bodden Town that are expected to occur under the four Build alternatives when compared to the No-Build scenario.

With the No-Build scenario, residents traverse the existing Bodden Town Road and Shamrock Road between Frank Sound Road and the Agricola Drive Connector, at which point they can choose to either: 1.) continue on Shamrock Road between the Agricola Drive Connector and Hirst Road or 2.) use the Agricola Drive Connector and Section 1 of the EWA extension. With Alternatives B1, B2, and B3, residents can choose to traverse either available route: 1.) Bodden Town Road and Shamrock Road or 2.) EWA Extension, between Frank Sound Road and Hirst Road, depending on their origin or destination within Bodden Town. With Alternative B4, an improved route along Bodden Town Road is available when compared to the No-Build scenario.

Travel times were assessed westbound in the AM and eastbound in the PM to capture the prominent time-of-day traffic flow; this comparison illustrates changes in travel times along the available route(s) that Bodden Town residents would be using within the study area (**Figures 24** and **25**). The percent change from the No-Build scenario was calculated after AM and PM travel times were averaged per Build alternative (**Table 34**), illustrating that the EWA extension is expected to improve localized congestion within the study area for Bodden Town residents.

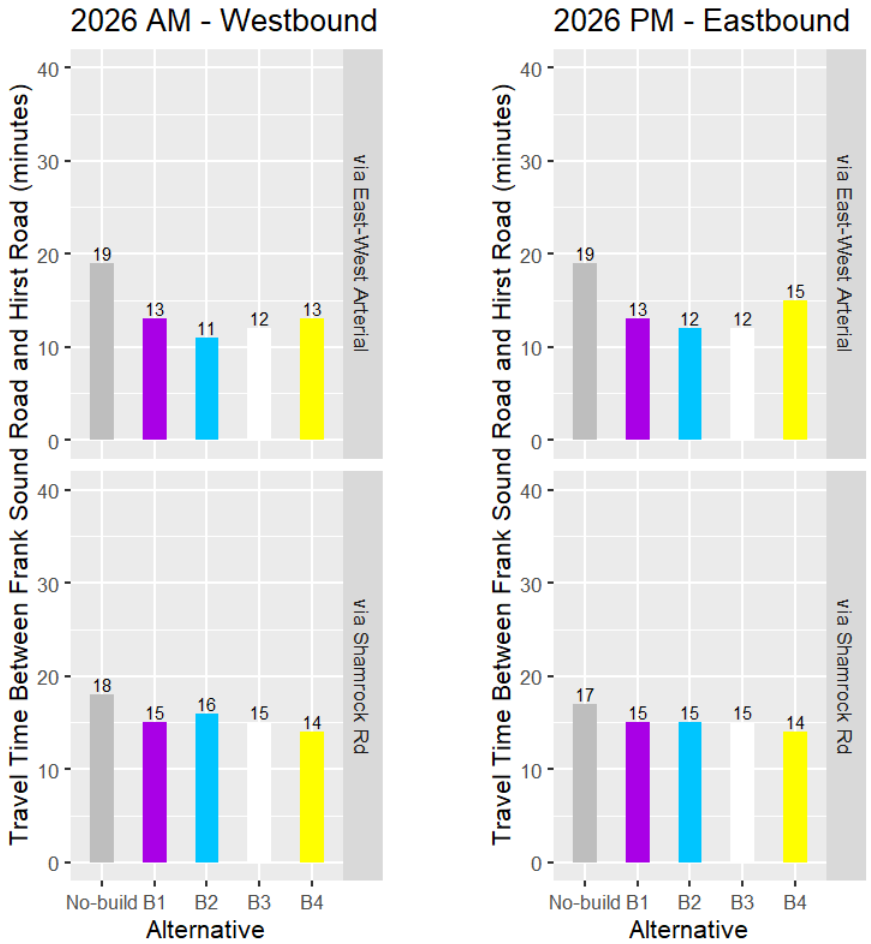

Figure 24: 2026 Travel Times between Hirst Road and Frank Sound Road

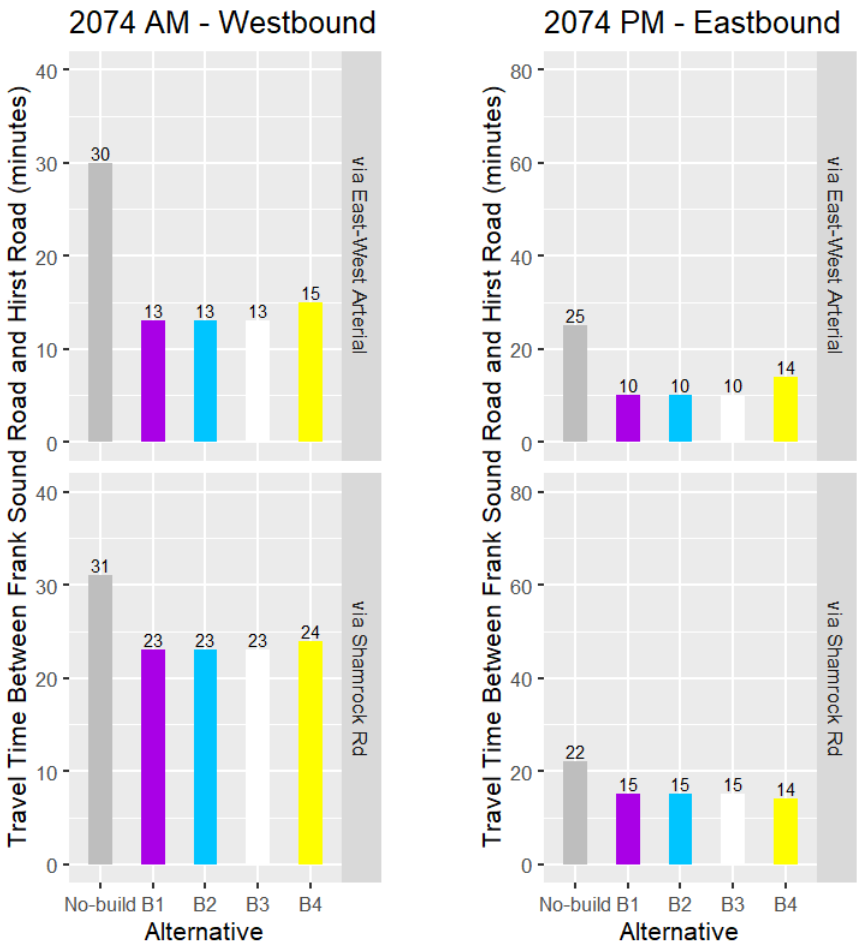

Figure 25: 2074 Travel Times between Hirst Road and Frank Sound Road

Table 34: Frank Sound Road to Hirst Road Travel Times and % Change, 2026 and 2074

	No-Build	B1	B2	B3	B4
2026 – Frank Sound Road/Hirst Road travel time (minutes)					
Via Bodden Town/Shamrock (AM)	18	15	16	15	14
Via EWA (AM)	19	13	11	12	13
Via Bodden Town/Shamrock (PM)	17	15	15	15	14
Via EWA (PM)	19	13	12	12	15
Average Travel Time East / West	18.3	14.0	13.5	13.5	14.0
% Change from No-Build	-	**23%**	**26%**	**26%**	**23%**
2074 – Frank Sound Road/Hirst Road travel time (minutes)					
Via Bodden Town/Shamrock (AM)	31	23	23	23	24
Via EWA (AM)	30	13	13	13	15
Via Bodden Town/Shamrock (PM)	22	15	15	15	14
Via EWA (PM)	25	10	10	10	14

	No-Build	B1	B2	B3	B4
Average Travel Time East / West	27.0	15.3	15.3	15.3	16.8
% Change from No-Build	**-**	**43%**	**43%**	**43%**	**38%**

Source: Grand Cayman Travel Demand Model

4.1.2 Trip Numbers

The capacity of the proposed roadway facility was also assessed to determine the additional trips that would be accommodated between North Side and East End and western districts as a result of access improvements from the EWA Extension. Improved access to and from the western side of the island is essential for employment, as well as other services on Grand Cayman and can be demonstrated by increased capacity and trip numbers compared to the No-Build. As of 2021, more than 7,000 people (more than 10% of the 2021 population of Grand Cayman) who work in George Town live in one of the three eastern districts (**Section 3.4.4: Employment Characteristics by District**).

Trip numbers were calculated from home base to work (east to west) during peak travel time in the morning and work to home base (west to east) during peak travel time in the evening. Trips between other destinations and districts of employment were also considered (**Table 35**). As illustrated in **Table 35**, all Build alternatives are expected to provide a marked increase in the number of trips compared to the No-Build, demonstrating the notable access benefits that the EWA Extension is expected to provide. Alternative B2 is predicted to provide the highest increase in work trips by 2026 and 2074. A consideration for this component is that access to employment can be restricted for vulnerable groups based on lack of vehicle, lack of childcare, low income, disability, and others.

Table 35: North Side/East End AM and PM Trip Numbers and % Change, 2026 and 2074

	No-Build	B1	B2	B3	B4
2026 - Eastern Districts / Western Districts Work Trips					
North Side / George Town	327	412	426	419	361
North Side / West Bay	37	46	47	46	40
East End / George Town	123	142	147	144	136
East End / West Bay	3	5	5	5	4
Total AM and PM Car Trips	490	605	625	614	541
% Change from No-Build	**-**	**24%**	**28%**	**25%**	**10%**
2074 - Eastern Districts / Western Districts Work Trips					
North Side / George Town	800	971	977	958	908
North Side / West Bay	55	66	68	70	62
East End / George Town	757	832	845	844	822
East End / West Bay	31	33	34	35	33

	No-Build	B1	B2	B3	B4
Total AM and PM Car Trips	1,643	1,902	1,924	1,907	1,825
% Change from No-Build	**-**	**15%**	**17%**	**16%**	**11%**

Source: Grand Cayman Travel Demand Model

4.1.3 Employment Access

As previously noted, (**Section 3.4.5: District of Employment and Residence**), more people who live in West Bay, Bodden Town, and North Side work in George Town rather than work in their respective districts of residence. The benefits associated with the EWA Extension may include improved accessibility to employment opportunities and industries across Grand Cayman.

In addition to the number of work trips generated, accessibility can also be examined based on potential increases or decreases in job opportunities that could occur as a result of the project. To assess a change in access to job opportunities, representative points in North Side and East End were selected based on the presence of existing residential neighbourhoods, and the number of jobs available within a morning commute of a certain duration (15 and 30 minutes) was calculated for the No-Build and the four Build alternatives for years 2026 and 2074 (**Figure 26** and **Table 36**). Percent change in number of jobs available was then calculated. **Table 36** shows that Alternatives B1, B2 and B3 are expected to provide the greatest improvement in access to the number of jobs when compared to the No-Build.

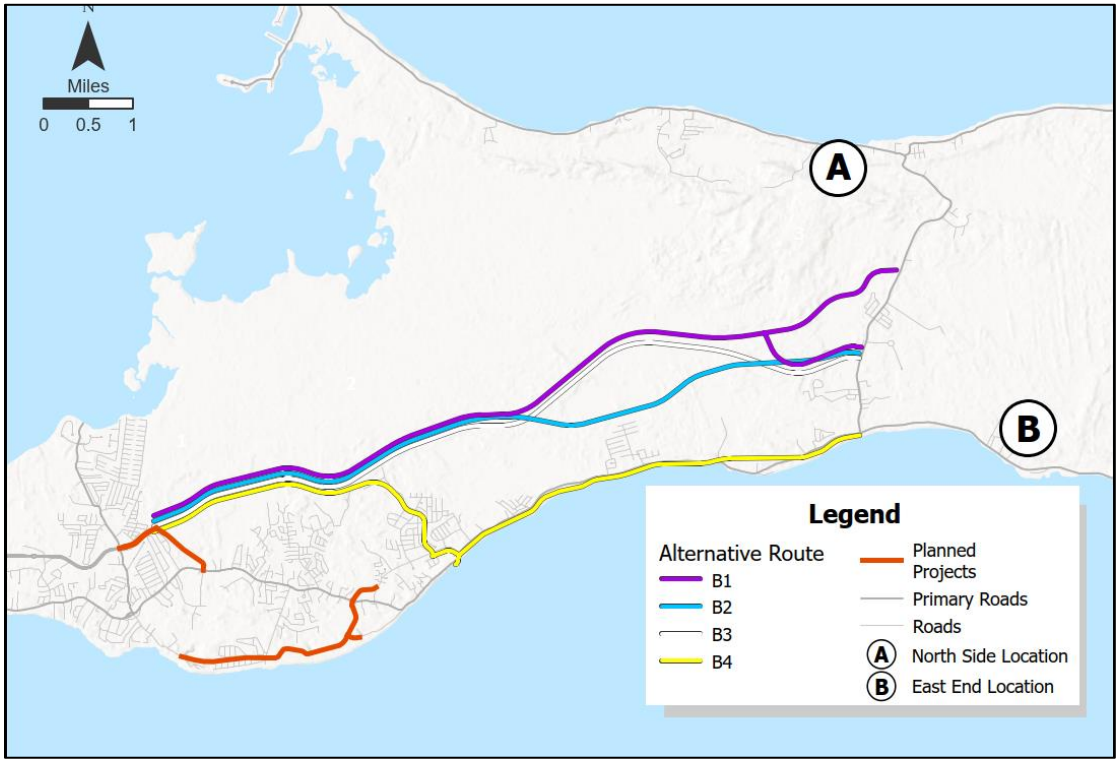

Figure 26: Representative Location in North Side for Employment Access Evaluation

Table 36: Employment Access From North Side and East End

	No-Build	B1	B2	B3	B4
2026					
Employment Access from North Side (no. of jobs)					
15 Minutes	1,187	1,536	1,536	1,536	1,310
30 minutes (additional jobs)	3,124	3,759	3,759	3,759	3,592
Employment Access from East End (no. of jobs)					
15 Minutes	1,437	1,485	1,707	1,707	1,485
30 minutes	3,581	3,759	3,759	3,759	3,759
Average Number of Jobs	**2,332**	**2,635**	**2,690**	**2,690**	**2,537**
% Change from No-Build	**-**	**13%**	**15%**	**15%**	**9%**
2074					
Employment Access from North Side (no. of jobs)					
15 Minutes	2,734	9,083	9,083	9,083	8,957
30 minutes (additional jobs)	9,119	13,100	13,100	13,100	13,100
Employment Access from East End (no. of jobs)					
15 Minutes	8,447	8,802	8,802	8,802	8,804
30 minutes	9,715	13,100	13,038	13,100	13,038
Average Number of Jobs	**7,504**	**11,021**	**11,006**	**11,021**	**10,975**
% Change from No-Build	**-**	**47%**	**47%**	**47%**	**46%**

Source: Grand Cayman Travel Demand Model

4.1.4 Emergency Access

Access between eastern and western districts is also directly affected by events that could cause road closures along Bodden Town Road. Given that this is the only road that currently connects the western and eastern districts, events like storms, crashes, and other disasters can cut off any movement (vehicular or other modes) between these districts. Depending on the severity of the event, access could be cut off for several hours or up to several days. Although some services are offered in each district, such as the Health City Cayman Islands Hospital (also known as Shetty Hospital) in East End and government district health clinics, many important goods and services are located on the western side of the island, including the Health Services Authority Hospital and Doctor's Hospital, the airport, the cargo port, most jobs, and most schools. A lack of accessibility due to a road closure can have severe effects on socio-economic quality of life, including the ability to reach emergency services, work, or school.

To assess this aspect of accessibility, the impacts of a road closure under the No-Build scenario were assessed for five segments along Bodden Town Road:

- Segment 1: Frank Sound Road to Betty Bay Pond Driveway
- Segment 2: Betty Bay Pond Driveway to Long Fellow Road

- Segment 3: Long Fellow Road to Bodden Town Bypass
- Segment 4: Bodden Town Bypass to Condor Road
- Segment 5: Condor Road to Hirst Road

Figure 27 visualizes the segments.

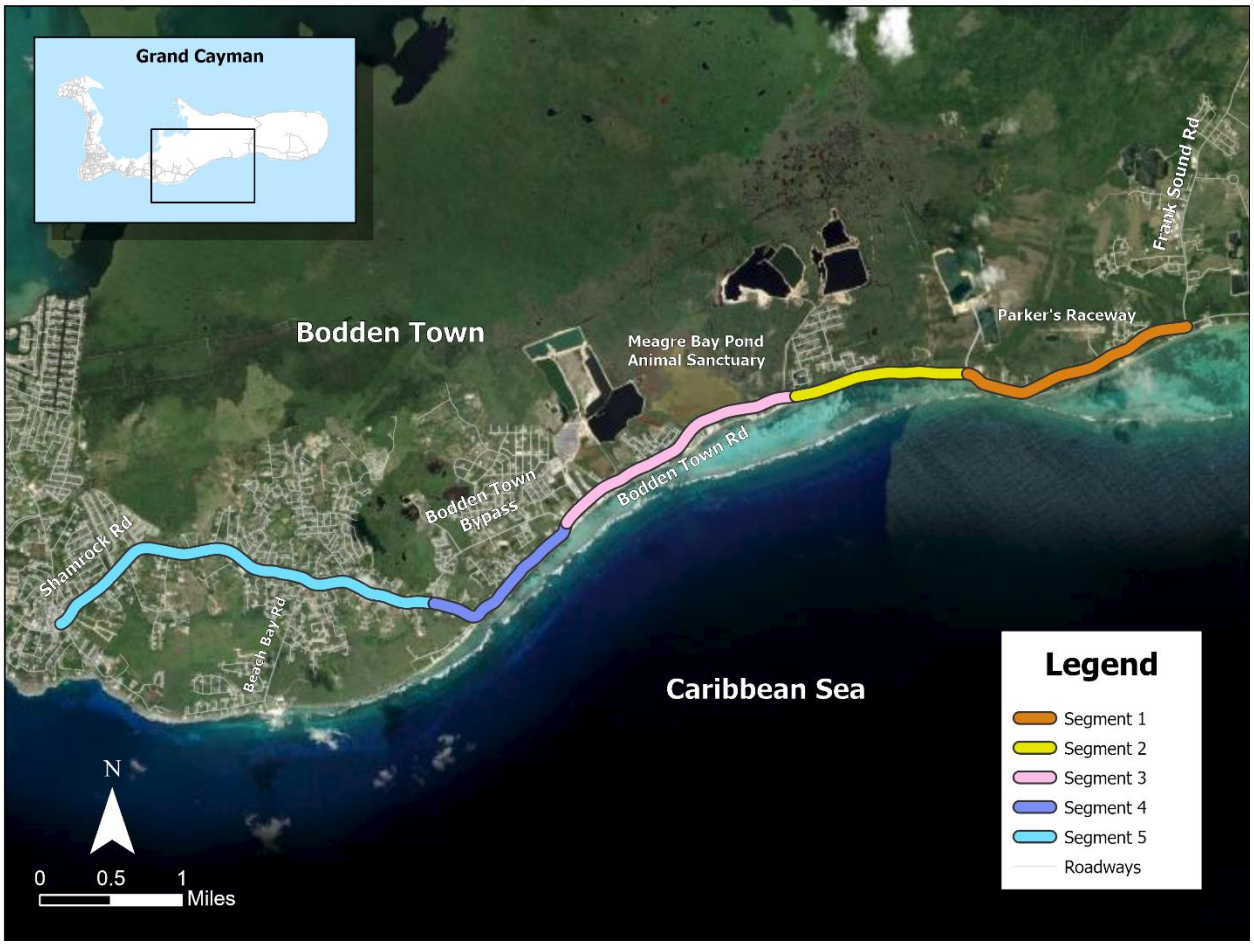

Figure 27: Road Closure Segments
Source: Grand Cayman Travel Demand Model

The eastern population affected by an unavailable segment was calculated per segment, for each alternative. (**Table 37**). If Segment 5 was unavailable, the eastern population would still be able to reach the western districts. If Segments 1, 2, 3, or 4 were unavailable, the second east-west route that would be provided by Alternatives B1, B2, or B3 would prevent the eastern population from losing access to the west. However, similar to the No-Build scenario conditions, Alternative B4 would not offer a second, separate roadway to connect the eastern and western districts. Therefore, unavailability of Segments 1-4 would cause a loss of access for up to 7,782 people in 2026 (10% of the projected population of Grand Cayman), and a loss of access for up to 19,729 people in 2074 (15% of the projected population under the core growth scenario for Grand Cayman.) The entire

populations of East End and North Side would be disconnected from the western districts if Segments 1, 2, 3, or 4 were unavailable.

Table 37: Population Losing Access in the Event of Road Closure

	No-Build	B1, B2, B3	B4
Road Closure – Population with Lost Access in 2026			
Segment 1	3,082	0	3,082
Segment 2	4,056	0	4,056
Segment 3	4,431	0	4,431
Segment 4	7,882	0	7,882
Segment 5	8,820	0	0
Road Closure – Population with Lost Access in 2074			
Segment 1	10,893	0	10,893
Segment 2	14,515	0	14,515
Segment 3	15,356	0	15,356
Segment 4	19,729	0	19,729
Segment 5	14,772	0	0

Source: Grand Cayman Travel Demand Model

To determine the percent change from the No-Build, the population with lost access was subtracted from the total Grand Cayman population per year, per alternative, and per segment. This resulted in a population with maintained access between the west and the east should the road be closed due to an emergency. The population with maintained access per year and per alternative was calculated and averaged by segment, and the percent change from the No-Build was calculated (**Table 38**).

Table 38: Population with Maintained Access in a Road Closure and % Change from No-Build

	No-Build	B1	B2	B3	B4
Road Closure - Population with Maintained Access in 2026					
Segment 1	73,291	76,373	76,373	76,373	73,291
Segment 2	72,317	76,373	76,373	76,373	72,317
Segment 3	71,942	76,373	76,373	76,373	71,942
Segment 4	68,491	76,373	76,373	76,373	68,491
Segment 5	67,553	76,373	76,373	76,373	76,373
Average	70,719	76,373	76,373	76,373	72,483
% Change from No-Build	N/A	8%	8%	8%	3%
Road Closure - Population with Maintained Access in 2074					
Segment 1	124,107	135,000	135,000	135,000	124,107

	No-Build	B1	B2	B3	B4
Segment 2	120,485	135,000	135,000	135,000	120,485
Segment 3	119,644	135,000	135,000	135,000	119,644
Segment 4	115,271	135,000	135,000	135,000	115,271
Segment 5	120,228	135,000	135,000	135,000	135,000
Average	119,947	135,000	135,000	135,000	122,901
% Change from No-Build	N/A	13%	13%	13%	3%

4.1.5 Summary

The overall accessibility analysis score was calculated by averaging the anticipated percent improvements in travel time, number of trips, and employment access and the percent of people who would lose access in an emergency service for each of the Build alternatives in years 2026 and 2074 (**Table 39**). Both years were considered in calculating the overall percent improvement to capture the projected travel time, trip volume, and employment opportunity improvements and emergency access barriers for the current and future generations on Grand Cayman. The 2026 improvements would affect current vulnerable groups in the eastern districts. The 2074 improvements would affect future generations of vulnerable groups, accounting for a growing population across the island and in the eastern districts. The following describes the results of this evaluation for each of the Build alternatives, following the scale presented in **Table 32**.

Table 39: Accessibility Analysis Score, Alternatives B1-B4

	No-Build	B1	B2	B3	B4
2026 North Side/East End Travel Time	-	10%	10%	9%	6%
2074 North Side/ East End Travel Time	-	16%	16%	15%	13%
2026 Bodden Town Travel Time	-	23%	26%	26%	23%
2074 Bodden Town Travel Time	-	43%	43%	43%	38%
2026 Work Trips	-	24%	28%	25%	10%
2074 Work Trips	-	15%	17%	16%	11%
2026 Employment Access	-	13%	15%	15%	9%
2074 Employment Access	-	47%	47%	47%	46%
2026 Lost Access	-	8%	8%	8%	3%
2074 Lost Access	-	13%	13%	13%	3%
Average	-	**21%**	**22%**	**22%**	**16%**
Accessibility Analysis Score	**Neutral**	**Large Beneficial**	**Large Beneficial**	**Large Beneficial**	**Large Beneficial**

Alternatives B1, B2, and B3

When compared with the No-Build scenario, Alternatives B1, B2, and B3 would offer a "**Large Beneficial**" improvement to accessibility of the eastern districts on Grand Cayman. Alternatives B2 and B3 have a slightly higher percent improvement overall (20% for B2 and B3 vs. 19% for B1).

The access benefits associated with Alternatives B1, B2, and B3 would be expected to translate to improved public transport services, as the proposed facility would provide the opportunity for new future bus transit services to reach areas of Grand Cayman (e.g., North Side) where current access is limited or circuitous. Additionally, access to education would be improved, particularly for residents and families traveling from East End or North Side to private educational facilities located in George Town.

Alternatives B1, B2, and B3 enhance accessibility during emergencies and/or road closures by providing a second, separate route between the eastern and western sides of the island. For example, in the event of an emergency (e.g., a storm that causes flooding or fallen debris, or a crash that blocks traffic in one or both directions) that results in a closure on Bodden Town Road, residents on the eastern side of the island are cut off from important emergency services, like the hospital, under the No-Build scenario. Additionally, eastern residents may be cut off from access to jobs, school, and family members on the western side of the island. With the redundancy of a second roadway facility, Alternatives B1, B2, and B3 are expected to increase the likelihood that the most vulnerable on the east side of the island are not cut off from necessary resources.

Alternative B4

When compared with the No-Build scenario, Alternative B4 would offer a "**Moderate Beneficial**" improvement to the accessibility of the eastern districts on Grand Cayman. While this alternative offers an improvement in travel time, trip numbers, and employment access when compared with the No-Build, it offers less improvement in these categories when compared to the other Build alternatives due to longer comparative trip times and fewer possible journeys. Additionally, it does not provide emergency access to the western districts in the event of road closures along Bodden Town Road. Therefore, should an emergency occur that prevents travellers from using Bodden Town Road to reach the western districts, accessibility is fully impaired until the closure of Bodden Town Road is addressed.

The access benefits associated with Alternative B4 would be expected to translate to improved public transport services, as the proposed facility would improve travel times on existing bus transit service routes. Additionally, access to schools would be improved, particularly for residents and families traveling from East End or North Side to private educational facilities located in George Town. Implementation of the EWA Extension would also likely improve the ability for emergency services to respond to incidents more quickly along the east-west route due to higher capacity and congestion reduction, and access to residential areas in the eastern districts.

4.2 Severance

WebTAG unit A4-1 describes severance as the issue of transportation (infrastructure or traffic flows) affecting community members' abilities to reach the facilities and services they use within their communities. Severance can impact community cohesion, a concept relating to community identity that can be affected by splitting neighbourhoods, isolating a portion of a neighbourhood or an ethnic group, generating new development, changing property values, or separating residents from community facilities. WebTAG unit A4-1 notes that severance only becomes an issue if vehicle flows or infrastructure create a barrier to pedestrian movement, and not all transportation projects will result in negative impacts associated with severance. As **Section 3.4.7: Modes of Transportation** describes, 5,652 people who reside on Grand Cayman commute using a mode other than a private automobile. People who depend on modes of transportation other than a private vehicle are at a greater risk of impact from adverse severance conditions if multimodal accommodations are not provided as part of a proposed transportation infrastructure project.

Some transportation projects result in an increase in severance (an adverse consequence) while other projects result in no change (a neutral consequence) or a decrease in severance (a beneficial consequence). The analysis of severance focuses on pedestrians and their ability to reach parts of communities. In the case of this project, because specific design features are included to benefit both pedestrians and other non-vehicular travel, allowing for them to be considered separately, biking and other micromobility movements were considered as additional sub-factors alongside pedestrian movement. **Table 40** defines the four levels of severance as defined in WebTAG unit A4-1. While **Table 40** offers definitions of the four levels of the adverse effect of increased severance, a decrease in severance is also possible for projects that encourage non-vehicular movement when compared with the No-Build scenario.

To assess severance, vulnerable populations (households with children, households with no vehicle) were identified where data was available at the EA level. Population distribution in EAs intersected by the Build alternatives (B1, B2, B3, and B4) was assessed based on aerial imagery and known building locations. Based on the proposed new roadway alignment for each of the Build alternatives, a determination was made if the alternative would travel through communities in the EAs it would intersect. Where community intersection would occur, the typical section was examined to determine the impact on community severance. Additions like multimodal paths that would facilitate walking, biking, and other modes of transport could reduce severance (i.e. improve access and mobility for micromobility users), whereas additions like concrete barriers along median strips or additional lanes could increase severance. Potential locations for pedestrian crossings to mitigate severance could be evaluated as part of the Preferred Alternative.

Table 40: Four Levels of Severance Classification

Level	Description
None/Neutral	Little or no hindrance to pedestrian movement.
Slight Adverse	All people wishing to make pedestrian movements will be able to do so, but there will probably be some hindrance to movement.
Moderate Adverse	Pedestrian journeys will be longer or less attractive; some people are likely to be dissuaded from making some journeys on foot.
Large Adverse	People are likely to be deterred from making pedestrian journeys to an extent sufficient to induce a reorganisation of their activities. In some cases, this could lead to a change in the location of centres of activity or to a permanent loss of access to certain facilities for a particular community. Those who do make journeys on foot will experience considerable hindrance.

Source: WebTAG unit A4-1, Severance Impacts 5.1.3 p. 26

The overall assessment (from WebTAG Unit A4-1 p. 27) was based on the following guidelines, with the assessment being **beneficial** if severance would be reduced, and **adverse** if severance would be increased:

- the overall assessment is likely to be **Neutral** if increases in severance are broadly balanced by relief of severance;
- the overall assessment is likely to be **Slight** where change in severance is slight or the total numbers of people affected across all levels of severance is low (less than 200 per day, say);
- the overall assessment is likely to be **Large** where change in severance is large, and affects a moderate or high number of people or the total numbers of people affected across all levels of severance is high (greater than 1,000, say); and
- the overall assessment is likely to be **Moderate** in all other cases.

Additionally, the degree of adverse or beneficial effect was considered alongside the number of people affected. For example, if a transportation change was likely to provide additional facilities for pedestrians but in an area where few pedestrian destinations are available, the magnitude of the benefit was adjusted accordingly.

A summary of the number of households and the population that could potentially be affected by each alternative is described in **Table 41**. The population shown is based on the EAs intersected by the Build alternative, as well as by which households have children or which households have automobiles (the data that was available at the EA-level necessary to conduct a severance analysis). To determine whether an EA would likely be affected by the Build alternative in question, geospatial buildings data were examined to determine whether the alternative would pass through neighbourhoods or near to any buildings. The No-Build scenario was the baseline for assessment, against which increases or decreases in severance were evaluated.

Table 41: Summary of 2021 Vulnerable Populations Potentially Impacted by Severance

Alternative	Households	Households With Children	Households Without Automobile
No-Build	--	--	--
B1	1,161	393	168
B2	1,180	408	161
B3	1,069	373	142
B4	1,880	590	313

The proposed improvement options for the Build alternatives would likely reduce severance, offering a beneficial impact for nearby communities. Because data on specific pedestrian and other non-vehicular movement was not available for this study, two access points on the eastern side were chosen to represent community hubs that many people would need to access: Valu-Med Pharmacy in Bodden Town (Evron Plaza, 126 Anton Bodden Drive) and Clifton Hunter High School (**Figure 28**). Access to Valu-Med Pharmacy and to Clifton Hunter High School were both assessed by determining the 2074 population that could reach them with a 30-minute walk, bike, or micromobility commute (**Figures 29** and **30**).

Based on conditions such as traffic volumes, speed limits, shoulder widths, bike lane availability, and sidewalk availability, some roads are deemed suitable for biking and micromobility while being ill-suited for walking. For both the No-Build scenario and Build alternatives, people would have better access to the Valu-Med Pharmacy when traveling by bike or micromobility than by walking because biking modes provide higher travel speeds, allowing people to travel farther distances compared to walking.

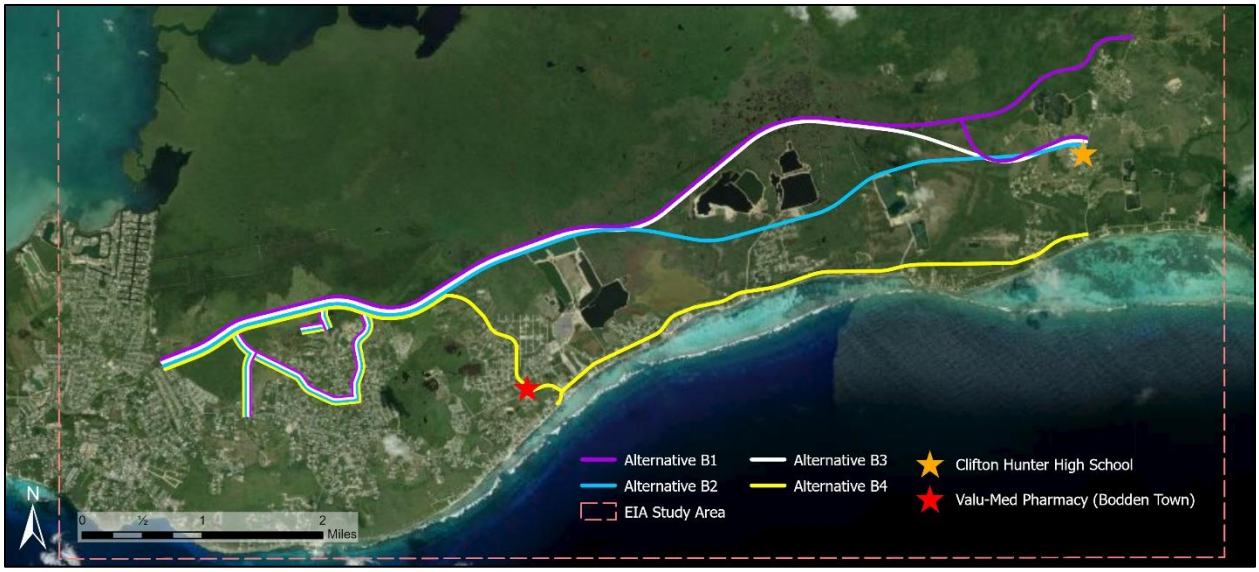

Figure 28: Location of Pharmacy and High School

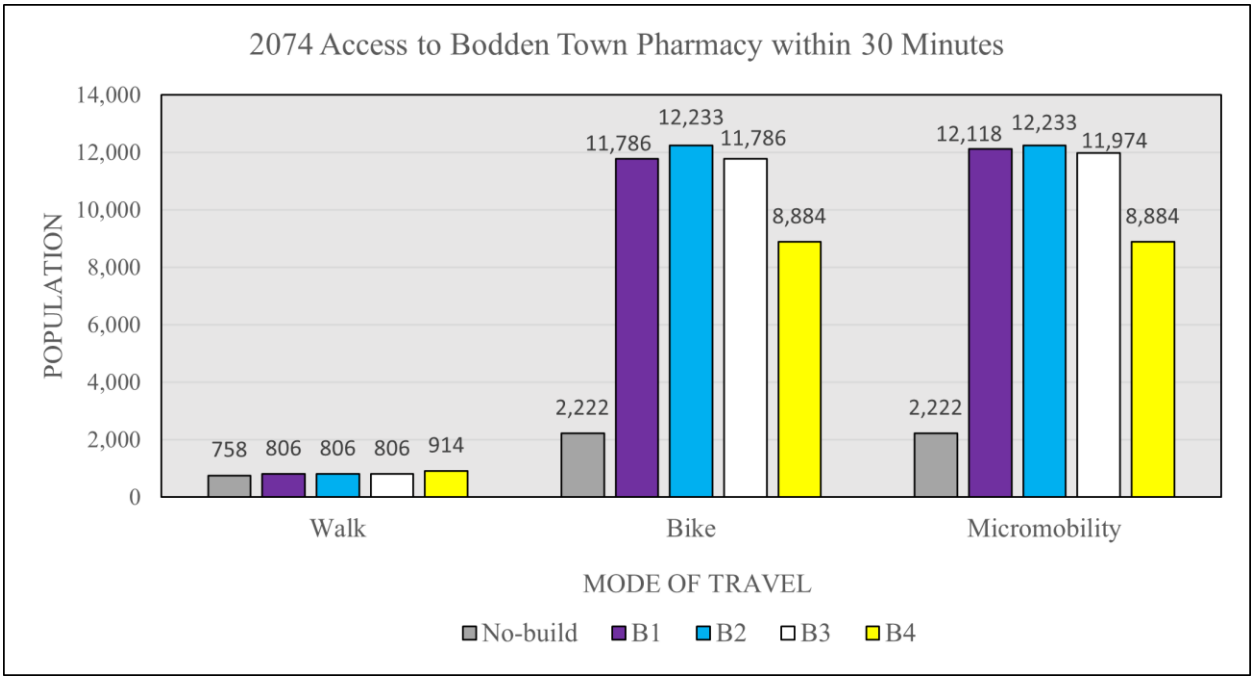

Figure 29: Potential Non-Vehicular Access to Bodden Town Pharmacy
Source: Grand Cayman Travel Demand Model

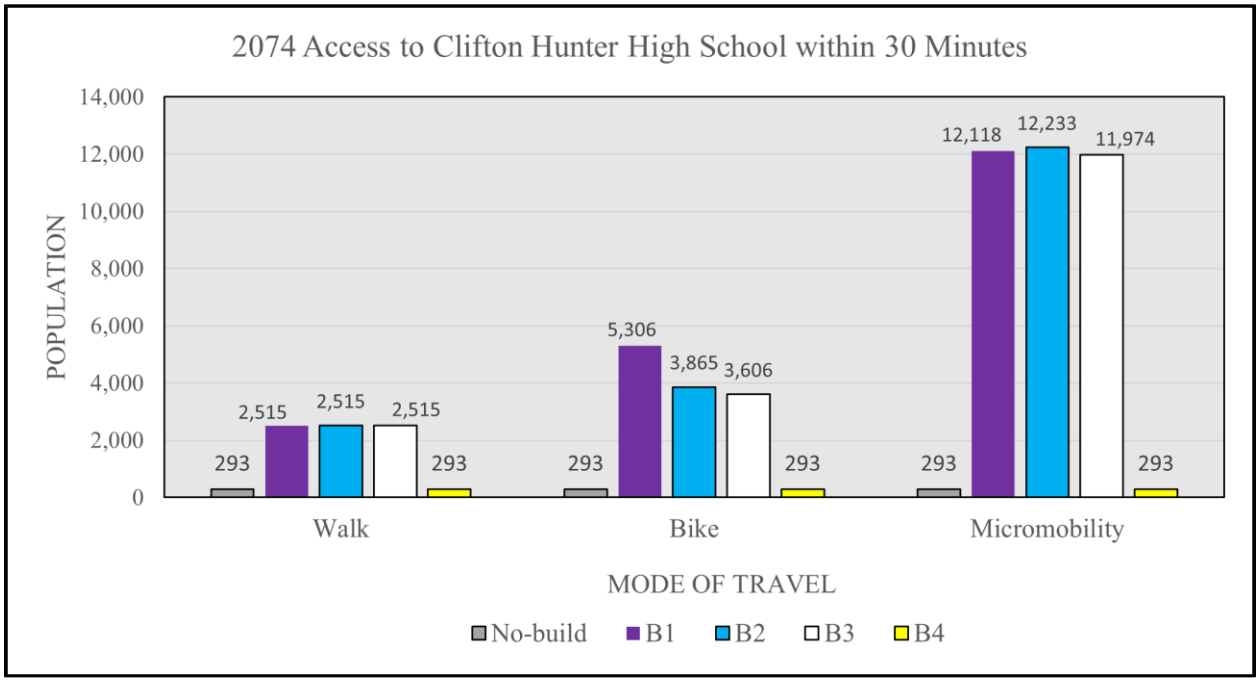

Figure 30: Potential Non-Vehicular Access to Clifton Hunter High School
Source: Grand Cayman Travel Demand Model

No-Build

The No-Build serves as the baseline of comparison for the Build alternatives. Therefore, the severance impact for the No-Build scenario was determined to be "**Neutral**".

Alternative B1

Alternative B1 would intersect 21 EAs but would not directly impact the populations of all EAs it intersects, due to the distribution of the population within each EA and the placement of Alternative B1 (**Figure 31**). Based on the evaluation of intersected EAs, Alternative B1 would be expected to directly intersect communities within the EAs outlined in grey (**Figure 31)**, which includes 1,161 households: 393 households with children and 168 households without automobiles.

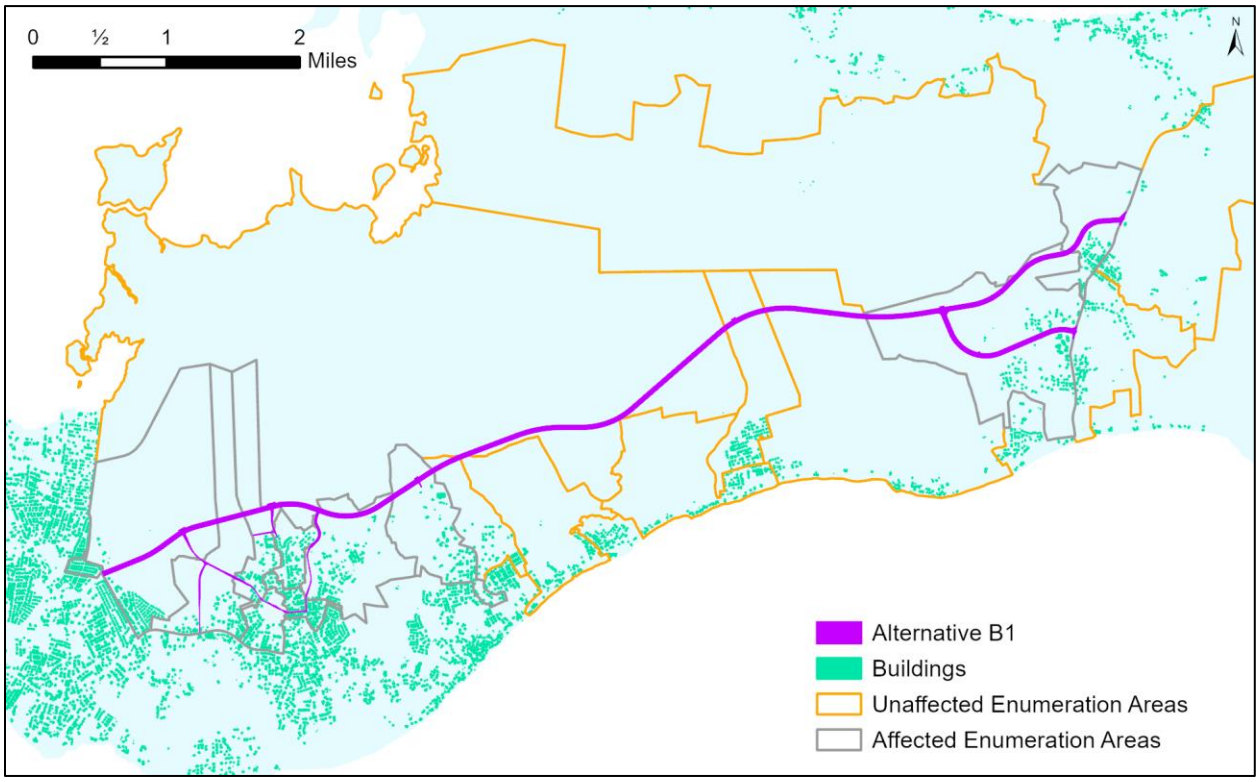

Figure 31: Alternative B1 Potential Impact on Enumeration Areas

Most of the affected households (809 out of 1,161) are located along the Will T Connector, which intersects neighbourhoods along existing roadway networks. As shown in the anticipated typical section, **Figure 32**, the new facility would include a two-lane roadway with bicycle lanes located on both sides, as well as a sidewalk for pedestrian travel. While there is the potential for severance because of some increased traffic on these roadways, the provisions for bicycle and pedestrian travel, as well as the lack of a physical barrier, could reduce severance due to the increased mobility options for walking, biking, and other micromobility transportation modes.

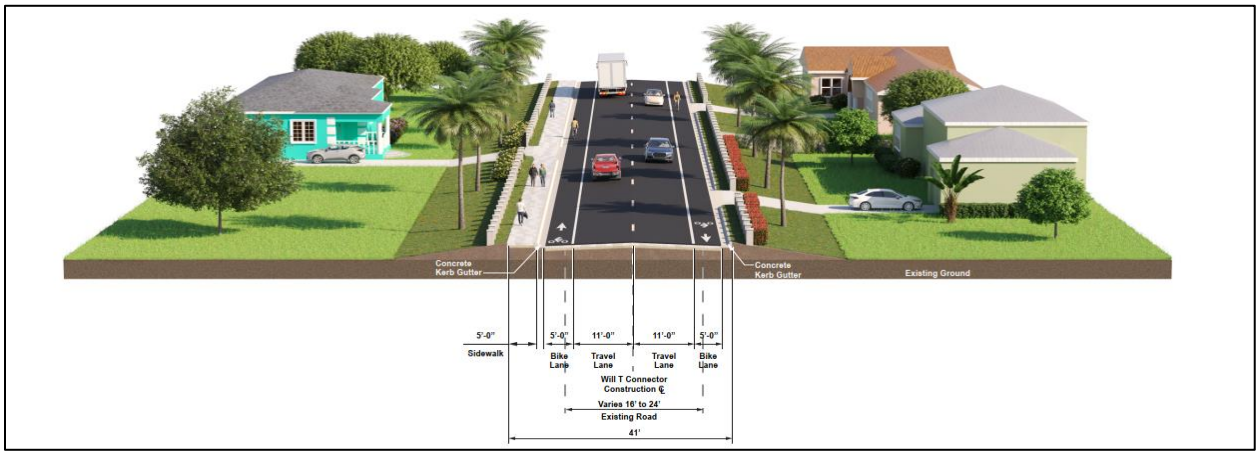

Figure 32: Will T Connector Typical Section

The remainder of affected households (352 out of 1,161) are located along the main east-west corridor for Alternative B1. As shown in the anticipated 2074 cross-section, the new facility would include a physical (concrete) barrier, as well as a sidewalk for pedestrian travel and micromobility path for bicyclists on the southern side of the trail, offering the possibility of future connectivity with southern neighbourhoods **(Figure 33)**.

The total potentially affected population is greater than 1,000 persons, however there are limited amenities identified immediately north or south of the corridor. Due to the number of people affected but the limited number of destinations for non-vehicular populations to reach, the severance impact for Alternative B1 would be "**Moderate Beneficial**."

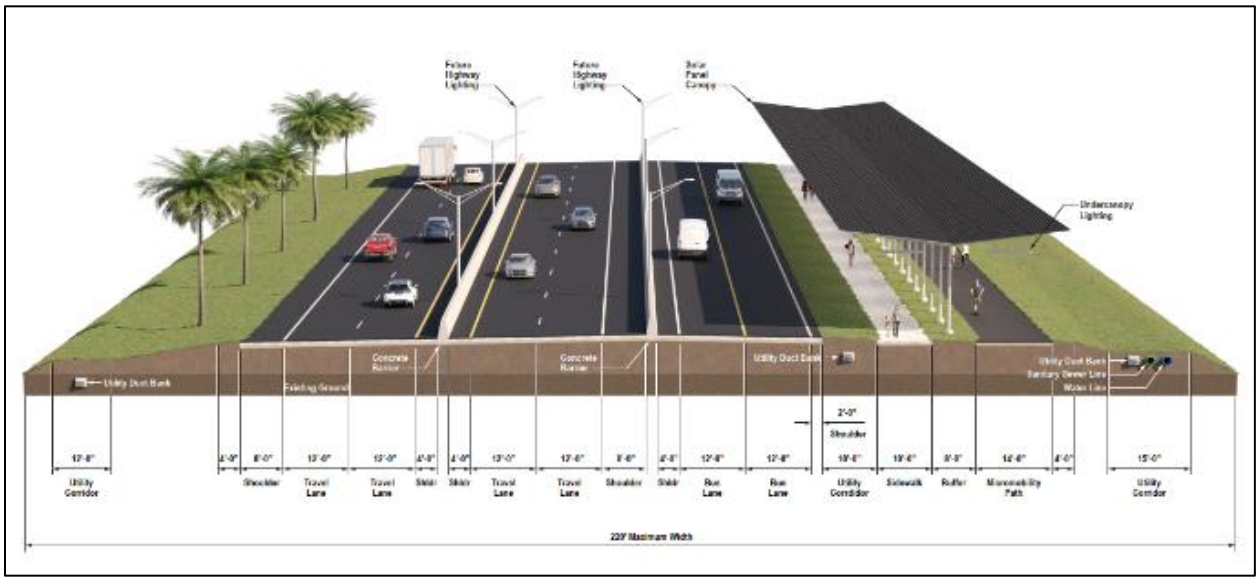

Figure 33: 2074 Build Alternative Section 2 Cross-Section for all Alternatives and Section 3 Cross Section for B1, B2, and B3

Alternative B2

Alternative B2 would intersect 18 EAs but would not directly impact the populations of all the EAs it intersects (**Figure 34**). Based on the evaluation of intersected EAs, Alternative B2 is expected to intersect the EAs outlined in grey (**Figure 34**), which includes 1,180 households: 408 households with children and 161 households without automobiles.

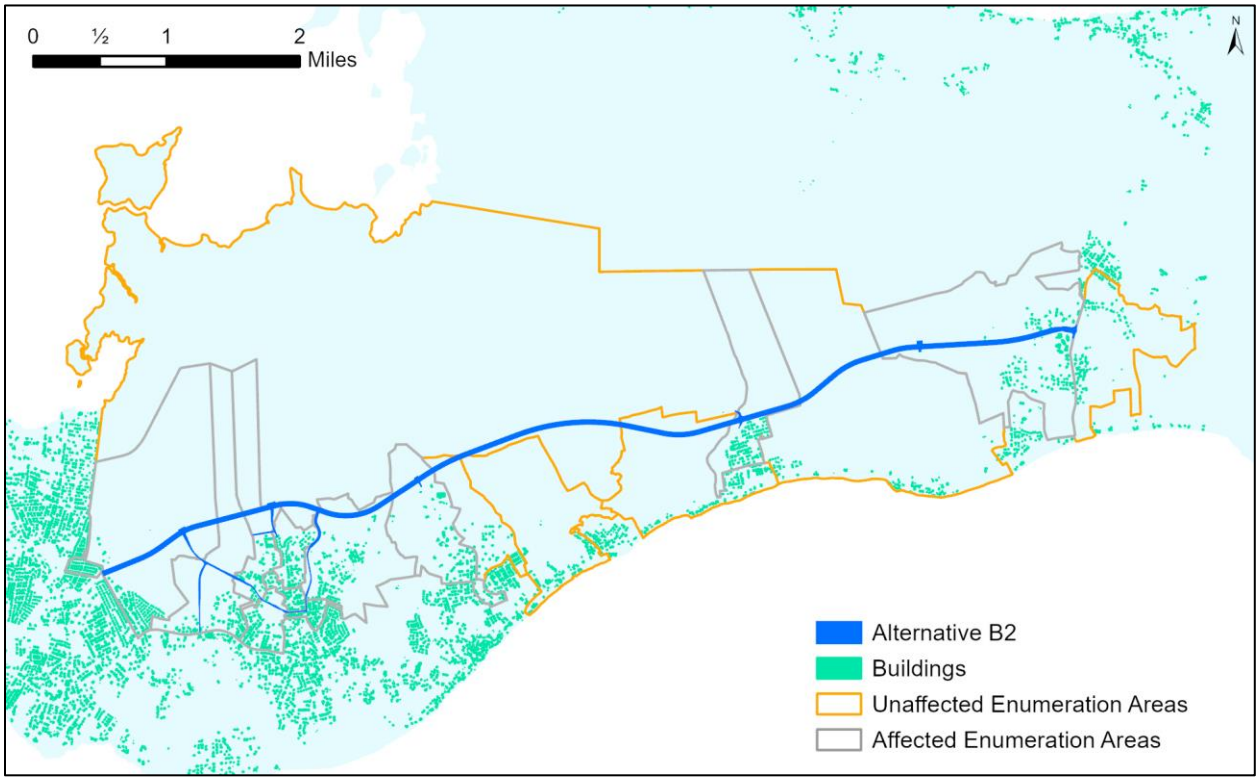

Figure 34: Alternative B2 Potential Impact on Enumeration Areas

As described with Alternative B1, Alternative B2 also includes the Will T Connector, which intersects neighbourhoods along existing roadway networks and comprises most of the affected households (809 out of 1,180). The evaluation of the Will T Connector is the same for Alternative B2 as previously described for Alternative B1.

The remainder of affected households (371 out of 1,180) are located along the main east-west corridor for Alternative B2 (**Figure 33**). The evaluation for this portion of Alternative B2 is also the same as Alternative B1. Therefore, the severance impact for Alternative B2 would be "**Moderate Beneficial**."

Alternative B3

Alternative B3 would intersect 18 EAs but would not directly impact the populations of all the EAs it intersects. Based on the evaluation of intersected EAs, Alternative B3 is expected to

intersect the EAs outlined in grey (**Figure 35**), which includes 1,069 households: 373 households with children and 142 households without automobiles.

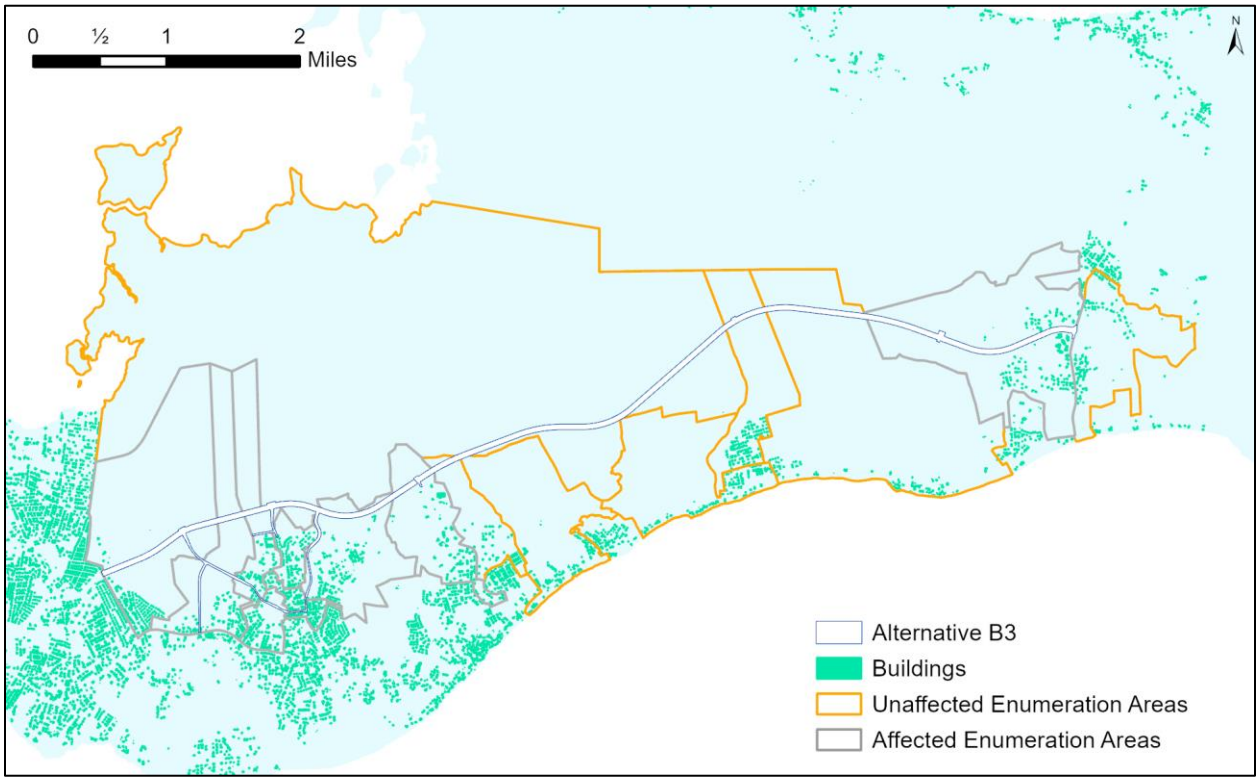

Figure 35: Alternative B3 Potential Impact on Enumeration Areas

As described with Alternatives B1 and B2, Alternative B3 also includes the Will T Connector, which intersects neighbourhoods along existing roadway networks and comprises most of the affected households (809 out of 1,069). The evaluation of the Will T Connector is the same for Alternative B3 as previously described for Alternatives B1 and B2.

The remainder of affected households (260 out of 1,069) are located along the main east-west corridor for Alternative B3 (**Figure 33**). The evaluation for this portion of Alternative B3 is the same as Alternatives B1 and B2 above. As a result, the severance impact for Alternative B3 would be "**Moderate Beneficial**."

Alternative B4

Alternative B4 would intersect 24 EAs but would not directly impact the populations of all the EAs it intersects. Based on the evaluation of intersected EAs, Alternative B4 is expected to intersect the EAs outlined in grey (**Figure 36**), which includes 1,880 households: 590 households with children and 313 households without automobiles.

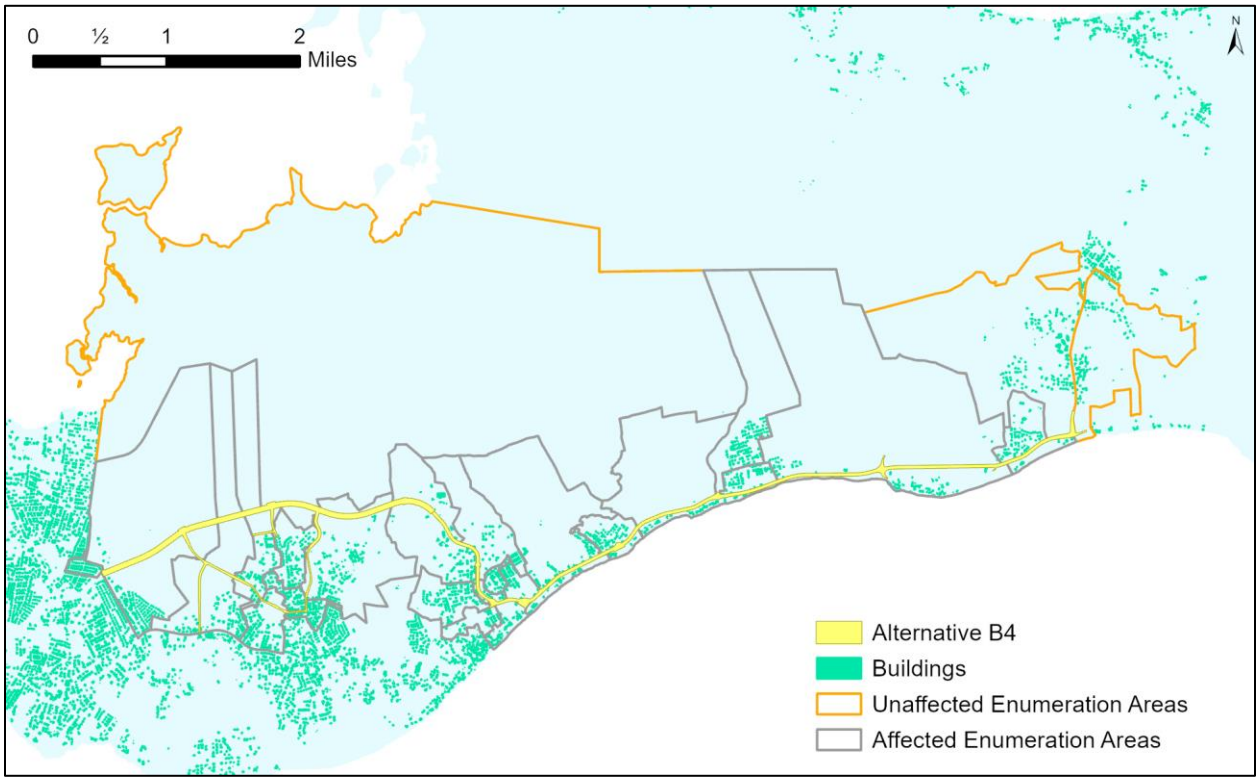

Figure 36: Alternative B4 Potential Impact on Enumeration Areas

As described with Alternatives B1, B2 and B3, Alternative B4 also includes the Will T Connector, which intersects neighbourhoods along existing roadway networks and comprises many of the affected households (809 out of 1,880). The evaluation for the Will T Connector is the same for Alternative B4 as previously described for Alternatives B1, B2, and B3.

In addition, Alternative B4 includes improvements to Anton Bodden Road and Bodden Town Road, and as a result, would bisect the existing communities along both roadways, affecting most households along Alternative B4 (1,071 out of 1,880). As shown in the typical section, **Figure 37**, the roadway would be widened from the existing two-lane to a four-lane road, and a concrete barrier would be constructed between the eastbound and westbound travel lanes. This wider roadway with median barrier would place a physical barrier between the north and south sides of Bodden Town Road. This physical barrier may have the potential to isolate residents on both the north and south sides from amenities on either side of the road, and added traffic along the coastal road would make crossing more difficult. The typical section also includes a sidewalk and two bike lanes, which improves on the current non-vehicular facilities of the coastal road.

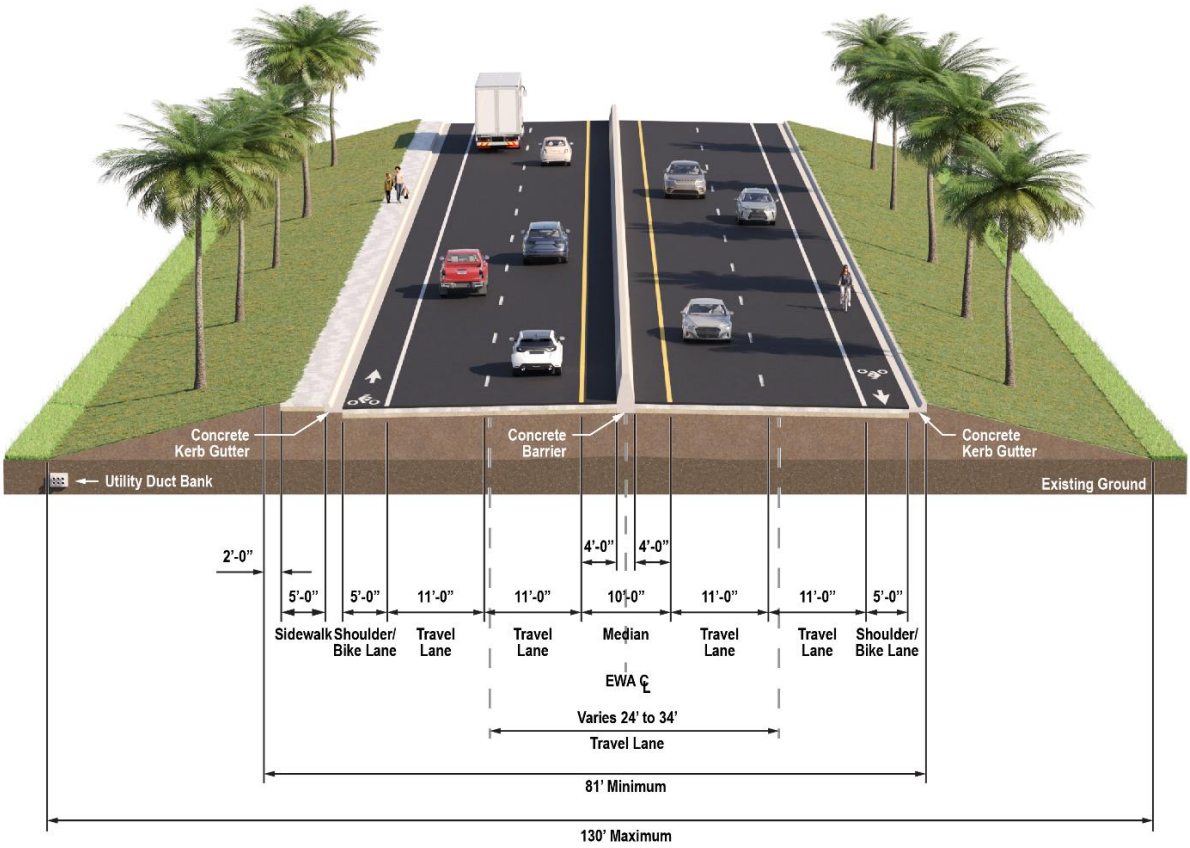

Figure 37: Alternative B4 Typical Section for 2026 (Lookout Road to Frank Sound Road)

As shown in **Figure 38**, along the south side of Bodden Town Road adjacent to Alternative B4, there are two beach access points for people to access public beach areas (blue markers) and nine shoreline access points for people to access the shoreline (red markers). There is currently one restaurant, Southcoast Bar and Grill, located on the south side of Bodden Town Road. Alternative B4 would place a physical barrier between the residents on the north side of Bodden Town Road to these beach access points, shoreline access points, and other amenities such as the restaurant on the south side of Bodden Town Road.

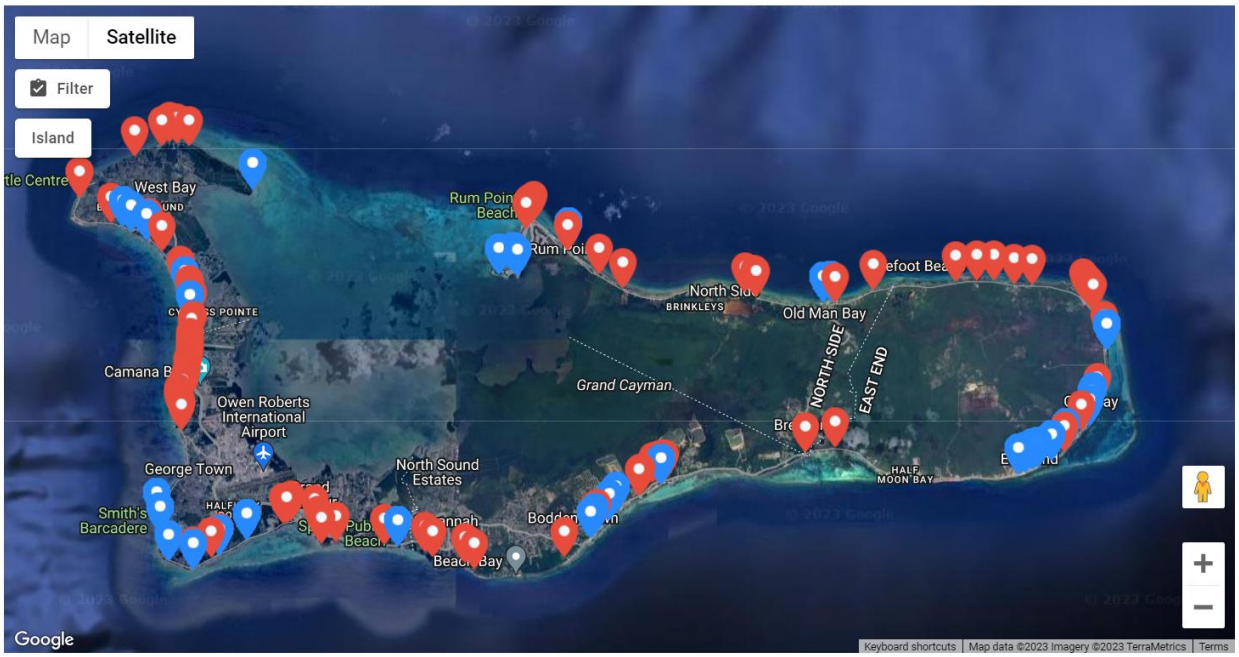

Figure 38: Public Beaches (Blue) and Shoreline Access Points (Red) on Grand Cayman
Source: Public Lands Commission, accessed 10/27/2023. (https://www.gov.ky/plc/)

Along the north side of Bodden Town Road, there are a number of restaurants, community facilities, and civic facilities. There are two restaurants, Czech Inn Grill and Everglo Bar and Restaurant; two parks and community facilities, Haig Bodden Playing Fields and the Bodden Town Civic Centre; government facilities, the Department of Vehicle and Driver's Licensing and the Bodden Town Police Station; two health facilities, the Bodden Town Health Clinic and the Jessi Ritch Memorial Health Centre; and one National Trust site, Meagre Bay Pond.

The population that could be affected by Alternative B4 is greater than 1,000 people. In the example of Bodden Town Pharmacy, more people could access the pharmacy within a 30-minute non-vehicular commute in 2074 when compared with the No-Build, indicating a benefit. In the example of Clifton Hunter High School, the same number of people could access the high school as in the No-Build, indicating no change (**Figure 30)**.

Alternative B4 contains a physical barrier within the median that could cause access issues between existing amenities and community facilities on the north and south sides of the road, but it also includes a sidewalk and two bike lanes, which facilitate better pedestrian and cyclist movement when compared with the No-Build. Alternative B4 would also increase traffic in both directions by adding additional travel lanes, making crossing from one side to the other more difficult. As a result of the aforementioned conditions, which include significant increases in severance with a few features that could reduce severance, the severance impact of Alternative B4 would be "**Moderate Adverse**."

Summary

As summarized in **Table 42**, Alternatives B1, B2, and B3 are anticipated to have a "Moderate Beneficial" impact on severance due to the ability to accommodate non-vehicular travel and a lack of physical barriers, affecting over 1,000 households, and relatively few pedestrian destinations. Alternative B4 is anticipated to have a "Moderate Adverse" impact on severance, due to a combination of adverse impacts (extra vehicle travel lanes, higher traffic volumes, and a physical barrier) and a few beneficial impacts (such as sidewalks and bike lanes) affecting over 1,000 households.

Table 42: Severance Impacts Summary

	No-Build	B1	B2	B3	B4
Households	0	1,161	1,180	1,069	1,880
Households With Children	0	393	408	373	590
Households Without Automobile	0	168	161	142	313
Severance Analysis Score	**Neutral**	**Moderate Beneficial**	**Moderate Beneficial**	**Moderate Beneficial**	**Moderate Adverse**

4.3 Journey Quality

Journey quality associated with transportation improvements is a measure of the real and perceived physical and social environment experienced while travelling. Poor journey quality may dissuade individuals from utilizing a roadway facility. A qualitative assessment of factors influencing journey quality was completed as part of this social impact evaluation for the EWA Extension. The assessment has been prepared following the approach identified in WebTAG unit A4-1, which recommends a qualitative appraisal of the following three groups of quality impacts and their sub-factors:

- **Traveller care**: aspects such as cleanliness, level of facilities, information, and the general transport environment;
- **Traveller views**: the view and pleasantness of the external surroundings in the duration of the journeys; and
- **Traveller stress**: frustration, fear of accidents, and route uncertainty.

This social impact appraisal utilizes a qualitative approach to evaluating Journey Quality. The approach utilizes population assessment guidelines described in WebTAG unit A4-1. This evaluation was modified to also consider the extent to which each sub-factor will affect potential travellers before making a final assessment. By 2074, over 10,000 people are projected to benefit from the transportation scheme from a Journey Quality perspective, which would give each alternative a "Large Beneficial" rating if the assessment were based solely on population. To differentiate between the Build alternatives, rankings were also assessed based on the approximate extent each sub-factor would benefit travellers (i.e. how much of the alignment is likely to be affected). The guideline in WebTAG unit A4-1 is as follows:

- the assessment is likely to be **neutral**, if the assessment is neutral for all or most of the sub-factors, or improvements on some sub-factors are generally balanced by deterioration on others;
- if the change in impact across the sub-factors is, on balance, for the better, the assessment is likely to be **beneficial**, and, conversely, it is likely to be **adverse** if there is an overall change for the worse;
- the assessment is likely to be **slight** (beneficial or adverse) where the numbers of travellers affected is low (less than 500 a day, say);
- the assessment is likely to be **large** (beneficial or adverse) where the numbers of travellers affected is high (more than 10,000, say);
- the assessment is likely to be **moderate** (beneficial or adverse) in all other cases.

Consistent with WebTAG Unit A4-1, only sub-factors that have not been considered in other subsections of the Social Impact Appraisal are considered under Journey Quality.

4.3.1 Traveller Views

Travel is among the most common ways that people interact with external surroundings. Viewer response to aesthetics and visual resources can impact the overall character and quality of travel. WebTAG unit A4-1 describes impacts to traveller views relative to the surrounding landscape and the presence of impediments to views of the countryside or townscape. Scientific research indicates that humans prefer natural views (Beute & de Kort, 2019). For the purposes of this analysis, the presence of natural views versus views of man-modified and urban areas has been assessed in comparison with the No-Build scenario. Geospatial landcover and habitat data has been evaluated at the desktop level to determine the amount of natural space (not man-modified landcover classifications) each Build alternative would pass through; for more information on landcover and habitat, please see the **Terrestrial Ecology Technical Report**.

The No-Build scenario would provide less than 15% natural views along its length (and more than 85% urban or man-modified views). As discussed earlier in Section 4, the No-Build is the basis for comparison, therefore it is assessed as "**Neutral**."

Alternative B1 would provide 68% natural views along its length, Alternative B2 would provide 54% natural views, and Alternative B3 would provide 63% natural views. Because Alternatives B1, B2, and B3 would provide natural views for over half the length of their journeys, a three-fold increase over the No-Build scenario, these alternatives are assessed as "**Moderate Beneficial**."

Alternative B4 would provide 30% natural views along its length. Because Alternative B4 would provide natural views for significantly less than half the length of its journeys, a two-fold increase over the No-Build scenario, this alternative is assessed as "**Slight Beneficial**."

4.3.2 Traveller Stress

Traveller safety and perceptions of safety can influence the number of people utilizing a transportation facility and impact the level of stress experienced as part of the overall journey. The EWA Extension project is being designed to provide a safe transportation facility. This new facility

would include specific design measures, such as adequate shoulder widths and turning radii, to maintain safety and minimize the possibility of traffic incidences. Traveller stress is assessed with the sub-factors of frustration, fear of potential accidents, and route uncertainty.

Frustration

One way WebTAG defines the Traveller Stress sub-factor of frustration is the "ability to make good progress along a route." To assess this sub-factor, the ability to travel locally within Bodden Town was evaluated. As discussed in the **Traffic Technical Report Section 4.6: Operations**, a specific methodology was used to assess the amount of time a vehicle will be slowed when moving through an intersection, thereby calculating delay at each intersection. This delay per intersection is translated into a letter grade, known as level of service (LOS). LOS ranges from "A" (which indicates minimal delay) to "F" (which indicates failing characteristics such as high delay, systemic breakdowns, long queues, or slow travel). Letter grades A through D typically indicate "acceptable" operations whereas letter grades E and F indicate poor or "failing" operations. Existing and proposed intersections within the EWA EIA study area were assessed for LOS in 2026 and 2074 (**Figure 39**). More information about calculating delay and LOS thresholds is available in the **Traffic Technical Report Section 4.6: Operations**.

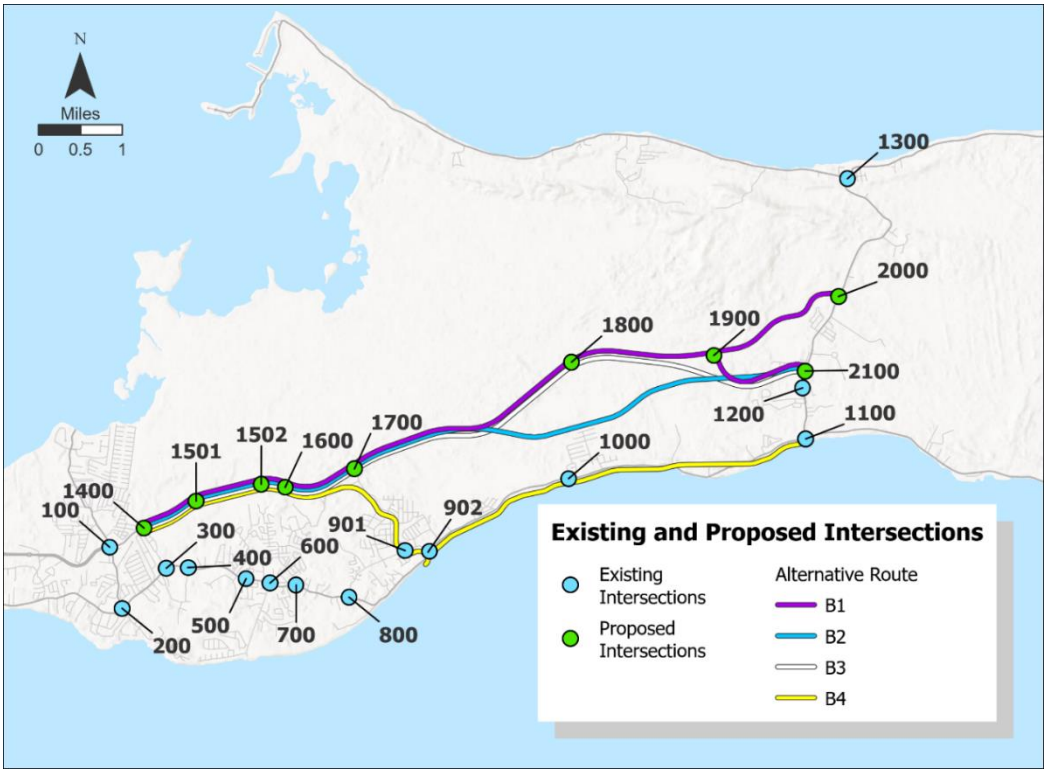

Figure 39: Traffic Analysis Intersections

To assess the ability to travel locally within Bodden Town and the EWA EIA study area, LOS was examined during both AM and PM peak hours to determine the worst-case peak for each study area intersection; a percentage of intersections operating acceptably at LOS D or better was then

calculated for both 2026 and 2074 (**Table 43**). This evaluation considered the conditions of these intersections under the No-Build scenario and the four Build alternatives.

Table 43: Percentage of Intersections Operating at LOS D or Better (2026 and 2074)

% Operating at LOS D or Better	No-Build	B1	B2	B3	B4
2026: Based on worst-case peak hour (AM or PM)	64%	100%	100%	100%	100%
2074: Based on worst-case peak hour (AM or PM)	14%	64%	71%	67%	68%

Source: Grand Cayman Travel Demand Model & Associated Operational Model

In 2026, the No-Build scenario is expected to have approximately 64% of intersections operating at LOS D or better whereas all Build alternatives are expected to have 100% of intersections operating at LOS D or better based on worst-case peak hour.

In 2074, the No-Build scenario will likely only have approximately 14% of intersections operating acceptably; this indicates that several intersections within the study area are expected to have high delay, systemic breakdowns, long queues, and/or slow travel. All Build alternatives are anticipated to have at least 64% of intersections operating acceptably at LOS D or better, with Alternative B2 operating the best at approximately 71% based on the worst-case peak hour. The existing intersections expected to show the most improvement in operations include those at and east of Bodden Town Road at Anton Bodden Road (intersection 902 in **Figure 39**).

The Build alternatives are anticipated to have all intersections operating at LOS D or better in 2026, and more than half of intersections operating at LOS D or better in 2074. Therefore, all Build alternatives are assessed as "**Large Beneficial**."

Fear of potential accidents

To assess the potential impacts to journey quality and traveller safety, considering the possibility of crashes as a sub-factor, a qualitative evaluation has been performed by measuring the number of potential conflict points associated with each alternative relative to the existing (No-Build) condition. Conflict points occur when two objects (e.g., vehicle/vehicle, pedestrian/pedestrian, vehicle/pedestrian, etc.) try to occupy the same space at the same time. More access points (e.g., cross-street intersections and driveways) along a roadway create more conflict points as vehicles enter and exit the roadway. People travelling along a corridor create opportunities for crashes at these conflict points, so roadways with higher traffic volumes result in more potential for conflicts. For this assessment, conflict points included both cross-street intersections and driveway access points. For this assessment it was assumed that all existing cross-streets and driveways access points would be maintained.

The No-Build scenario was the baseline for the number of cross-street intersections and driveway access points along the existing east-west corridor made up of Shamrock Road and Bodden Town Road. Therefore, changes to traveller safety are projected to be "**Neutral**."

Utilizing Alternatives B1, B2, and B3 as the primary east-west corridor would reduce the number of cross-street intersections and driveway access points by at least 75% as compared to the No-Build scenario. This is a result of bypassing the developed areas along Hirst Road, Shamrock Road, and Bodden Town Road and passing primarily through undeveloped areas. As a result, Alternatives B1, B2, and B3 are projected to have a "**Large Beneficial**" impact.

Utilizing Alternative B4 as the primary east-west corridor would reduce the number of cross-street intersections and driveway access points by approximately 50% as compared to the No-Build scenario. This is a result of bypassing the developed areas along Hirst and Shamrock Roads, while still passing through developed areas along Lookout Road and Bodden Town Road. As a result, Alternative B4 is projected to have a "**Moderate Beneficial**" impact.

Route uncertainty

This sub-factor considers elements like road signs and network maps. The level of design is not complete enough to consider these elements at this time, therefore this sub-factor is not being considered for the Shortlist Evaluation. Provisions for these elements may be considered for the Preferred Evaluation as applicable.

Overall, Traveller Stress impacts are evaluated as "**Large Beneficial**" for Alternatives B1, B2, and B3, and "**Moderate Beneficial**" for Alternative B4.

4.3.3 Summary

Journey quality impacts of the Build alternatives have been qualitatively assessed in comparison to the No-Build scenario. **Table 44** summarizes the consideration of each journey quality factor.

Table 44: Assessment of Journey Quality Factors

	No-Build	B1	B2	B3	B4
Traveller Views	Neutral	Moderate Beneficial	Moderate Beneficial	Moderate Beneficial	Slight Beneficial
Traveler Stress	Neutral	Large Beneficial	Large Beneficial	Large Beneficial	Moderate Beneficial
Journey Quality Analysis Score	**Neutral**	**Large Beneficial**	**Large Beneficial**	**Large Beneficial**	**Moderate Beneficial**

4.4 Option Values

Option values are defined by WebTAG unit A4-1 as the "willingness-to-pay to preserve the option of using a transport service for trips not yet anticipated or currently undertaken by other modes, over and above the projected value of any such future use." Option values are assessed when there is a change in the availability of a transportation facility or service in the study area, such as the introduction of a new roadway facility or local bus service; values are assessed as beneficial when a service is introduced and conversely as adverse when a service is removed. Consistent with WebTAG unit A4-1, the appraisal of impact on option and non-user values is focused primarily on the availability of public transport facilities or services to users and non-users within a study

area or along a given route. The availability of these transport services offers users and non-users a variety of transportation options when reaching different parts of the island, including community facilities (**Section 3.6.5**) and recreation opportunities (e.g., tourists who dock in George Town receiving the option to reach sight-seeing opportunities on the east side of the island **Section 3.5.1.2: Tourism**).

The EWA Extension project would not include implementation of new public transport services; however, each of the Build Alternatives (B1, B2, B3, and B4) includes the preservation or anticipated provision for transit lanes (dedicated bus lanes or bus pull-offs) and bicycle lanes to accommodate future public transport and beneficial option values.

To assess the anticipated option value benefits associated with the Build alternatives for the EWA Extension, an evaluation of bicycle journeys and Level of Traffic Stress (LTS), was conducted in comparison to the No-Build scenario. LTS is a performance measure that ranks a roadway facility's suitability for bicycle, pedestrian, and other micromobility access. Facilities are ranked on a scale of 1 to 4, with 1 being the most suitable for a variety of bicyclists or micromobility users, ages, and abilities and 4 being the least suitable (**Table 45**). LTS offers information on modes of transport other than vehicular that would become a user and non-user option under the various Build Scenarios. For a more in-depth discussion of LTS and non-vehicular access, please see the **Traffic Technical Report Section 4.8.1: Bicycle Level of Traffic Stress** and the **Traffic Technical Report Section 4.8.2: Non-Vehicular Access**.

Table 45: Bicycle Levels of Traffic Stress Definitions

LTS 1	Suitable for children – there is physical separation from traffic or mixing with traffic on low speed, low volume roadways
LTS 2	Suitable for the average adult – there is physical separation from high speed and multilane traffic or mixing with traffic on low, but higher than LTS 1, speed and volume roadways
LTS 3	Suitable for "enthusiastic and confident" riders – there is mixing with traffic on moderate speed, multilane traffic or mixing with high speed traffic with some separation
LTS 4	Suitable only for "strong and fearless" riders – there is mixing with high speed traffic with little separation

Source: Furth & Putta (2016), "Visualizing and Measuring Low-Stress Bicycle Network Connectivity in Delaware"

If an alternative contained provisions for additional public transport, such as bus lanes or pull-offs, and it demonstrated an LTS improvement compared with the No-Build scenario, it was considered to provide a beneficial option value for potential users. The assessed number of households in relevant districts (East End, North Side, and Bodden Town) for which the transportation intervention could potentially change the availability of transport services, including walking, biking, and other, helped inform the magnitude of impact of the option value. The option values are connected with the appraisal of Accessibility **(Section 4.1**) and with Severance impacts (**Section 4.2**), because these evaluations focus on the convenience of the facility and number of people potentially affected by each alternative.

The following qualitative assessment criteria was used to help inform the magnitude of these impacts, consistent with WebTAG unit A4-1 for social impact appraisals:

- Large impact (beneficial or adverse): ≥1,000 households
- Moderate impact (beneficial or adverse): 250-999 households
- Slight impact (beneficial or adverse): 1-249 households
- Neutral impact (beneficial or adverse): 0 household

Under 2021 base year conditions, Hirst Road, Shamrock Road, Bodden Town Road, and Frank Sound Road have LTS classifications of 3 or 4, resulting from lack of bicycle facilities, high vehicle speeds, and high vehicle volumes (**Figure 40**). As a result, vulnerable populations (see **Section 3.3.4**) utilizing these existing facilities, particularly those walking (see **Table 24**) or biking, do not have the benefit of existing safe low LTS transportation options.

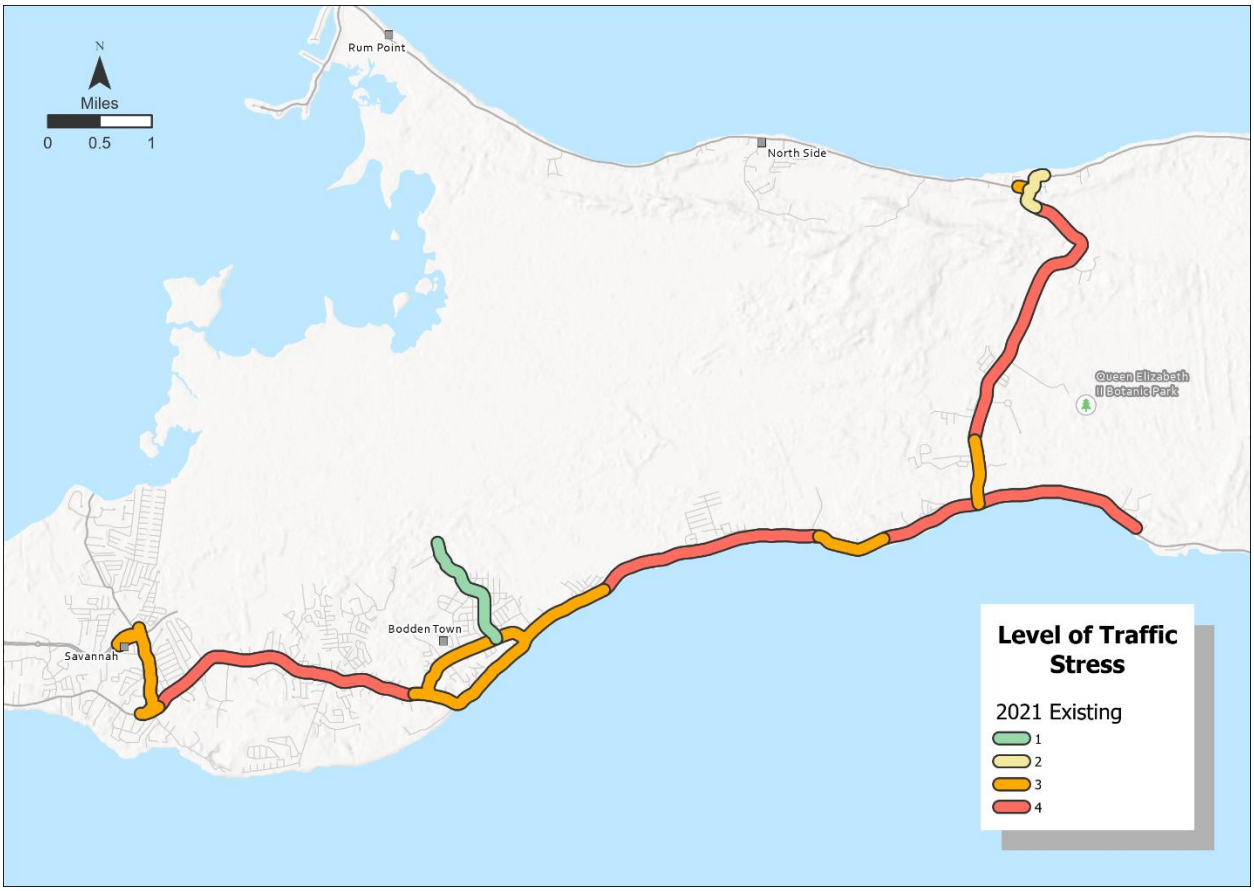

Figure 40: 2021 Base Year Bicycle Level of Traffic Stress (LTS)

Option and non-use value impacts were determined based on the assessed number of households in relevant districts (East End, North Side, and Bodden Town) for which the transportation intervention could potentially change the availability of transport services, including walking, biking, and other micromobility users. **Table 46** provides a summary of the number of households that were projected to have access to transport services based on the provisions of each of the Build Alternatives.

No-Build

The No-Build scenario would not result in the provision of new public transport services. This scenario also does not improve LTS. Because it is the basis for comparison for the Build alternatives, this scenario is assessed as "**Neutral**"; however, under the No-Build scenario, bicyclists, pedestrians, and other micromobility users would continue to be subjected to poor LTS options, as illustrated in **Figure 41**.

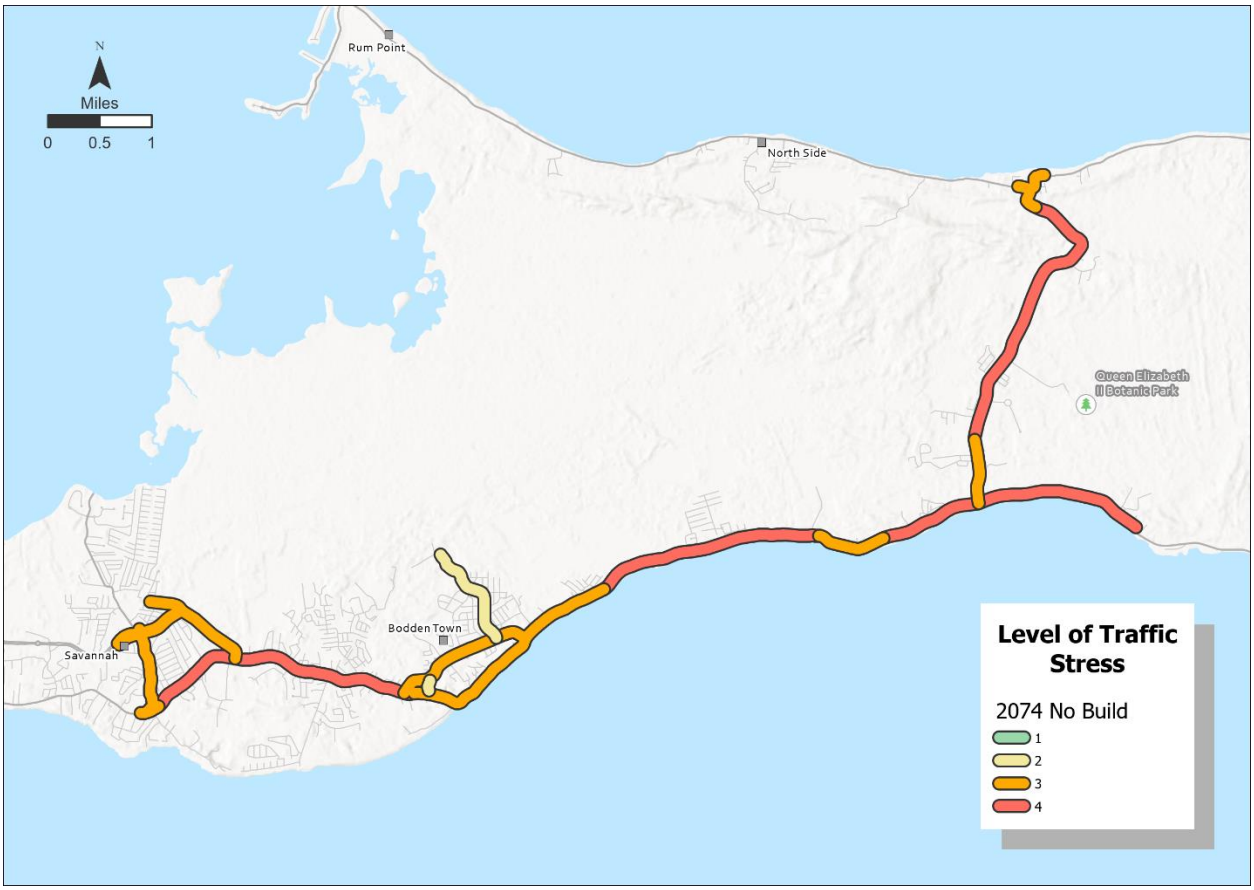

Figure 41: Level of Traffic Stress (LTS) for the No-Build Scenario

Alternatives B1, B2, and B3

Alternatives B1, B2, and B3 could accommodate a 12-foot bus lane in both directions. The inclusion of this provision could potentially facilitate the provision of new transit services along the corridor, which would add new service directly to Bodden Town and North Side. These alternatives could also accommodate separate multi-use and micromobility paths, facilitating bicycle journeys and foot traffic, by 2074. All three alternatives would have an LTS rating of 1 with the installation of separated micromobility paths, which is an improvement over the No-Build (**Figure 42**). Based on the current number of households in these districts (**Table 14**), Alternatives B1, B2, and B3 are projected to have a "**Large Beneficial**" impact on the potential option value for future public transport provisions.

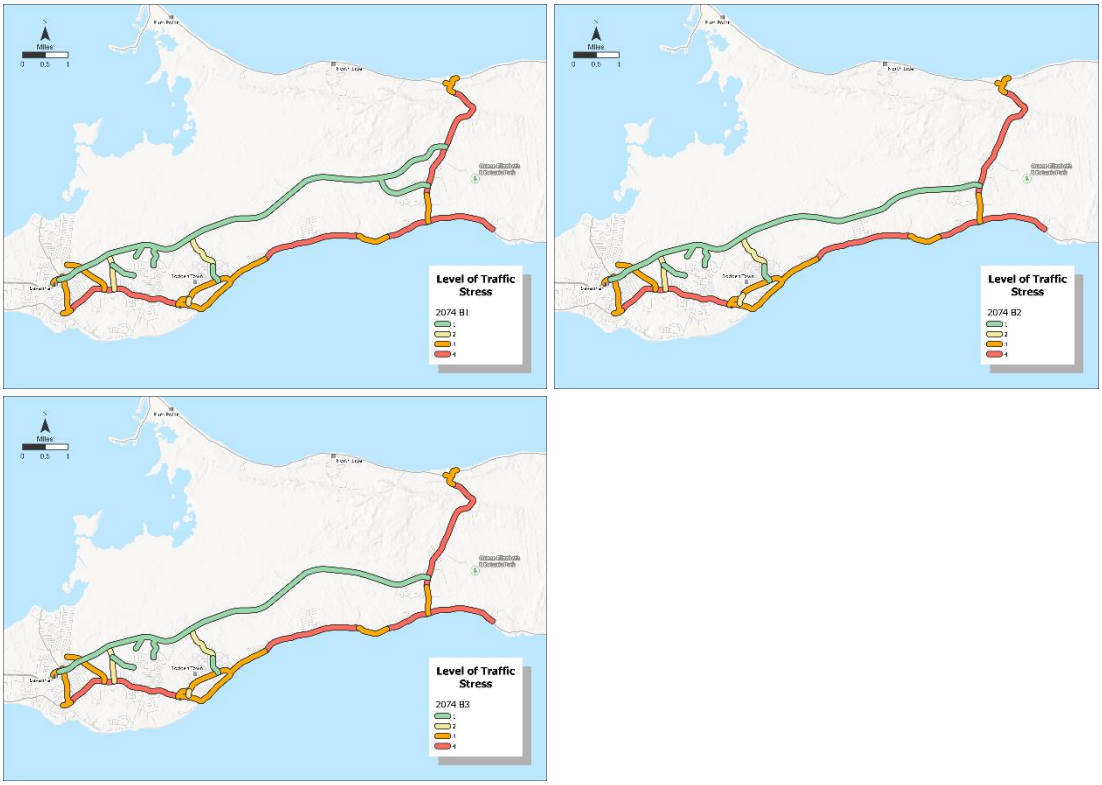

Figure 42: Level of Traffic Stress (LTS) for B1, B2, and B3 with Multi-Modal Path

Alternative B4

Alternative B4 could accommodate bus pull-offs at select locations. The inclusion of this provision could potentially facilitate the provision of enhanced transit services along the corridor. However, Alternative B4 provides a less robust public transport option when compared with Alternatives B1, B2, and B3, which could accommodate independent bus lanes and increased redundancy provided by having two east-west roads. Additionally, Alternative B4 would improve LTS over the No-Build for Section 2 of the proposed alternative, which demonstrates an LTS of 1 (**Figure 43**). Based on the current number of households in the Bodden Town District (**Table 14**) and limited potential for public transport enhancements, Alternative B4 is projected to have a "**Slight Beneficial**" impact on the potential option value for future public transport provisions.

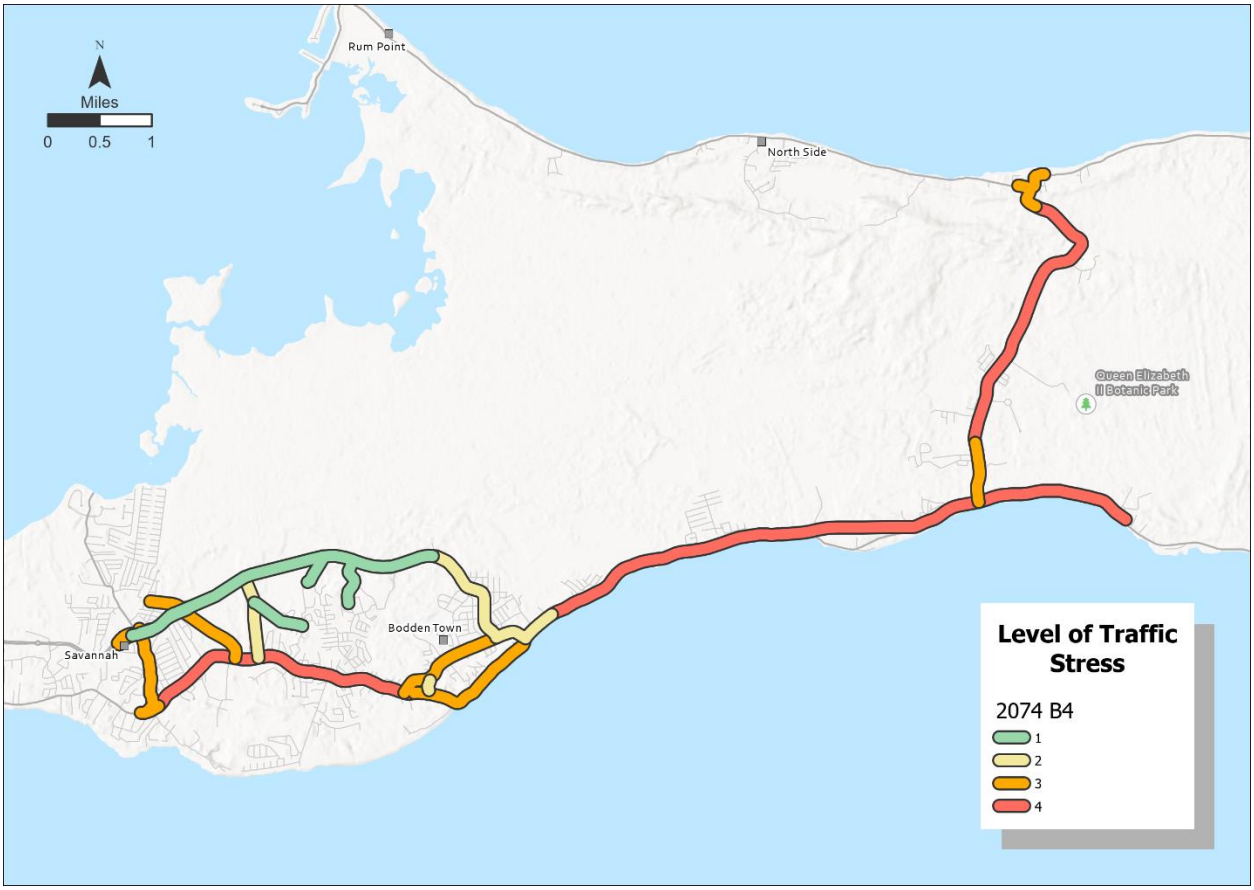

Figure 43: Level of Traffic Stress (LTS) for B4

Summary

Alternatives B1, B2, and B3 demonstrated a "**Large Beneficial**" impact on option values, due to the alternatives being able to accommodate new public transit lanes, micromobility movement, and lower LTS. These alternatives would have the potential to affect over 1,000 households. Alternative B4 also has the potential to affect over 1,000 households, but it would accommodate more limited options in terms of public and non-vehicular transport, such as bus pull-offs (instead of dedicated lanes) and micromobility and LTS improvements on only one portion of its length. Therefore, Alternative B4 demonstrated a "**Slight Beneficial**" impact on option values **Table 46**.

Table 46: Option Values Summary Table and Qualitative Score

	No-Build	B1	B2	B3	B4
Households with Automobile	--	5,253	5,253	5,253	4,670
Households Without Automobile	--	951	951	951	808
Total Households	--	6,204	6,204	6,204	5,478
Option Value Analysis Score	**Neutral**	**Large Beneficial**	**Large Beneficial**	**Large Beneficial**	**Slight Beneficial**

5 Shortlist Evaluation Summary

The No-Build scenario and each of the Build Alternatives (B1, B2, B3 and B4) were assessed according to WebTAG unit A4-1, Social Impact Appraisal, and WebTAG unit A4-2, Distributional Impact Appraisal, in the categories of accessibility, severance, journey quality, and option values. **Table 47** summarizes the outputs of each evaluation for the Overall Qualitative Rating.

Table 47: Socio-economic Shortlist Evaluation Summary Table

	No-Build	B1	B2	B3	B4
Accessibility	Neutral	Large Beneficial	Large Beneficial	Large Beneficial	Large Beneficial
Severance	Neutral	Moderate Beneficial	Moderate Beneficial	Moderate Beneficial	Moderate Adverse
Journey Quality	Neutral	Large Beneficial	Large Beneficial	Large Beneficial	Moderate Beneficial
Option Values	Neutral	Large Beneficial	Large Beneficial	Large Beneficial	Slight Beneficial
Overall Qualitative Rating	**Neutral**	**Large Beneficial**	**Large Beneficial**	**Large Beneficial**	**Slight Beneficial**

The following summarizes the results of the analysis for the identified socio-economic categories:

- *No-Build* – The No-Build scenario is anticipated to have a "Neutral" impact in the categories of accessibility, severance, journey quality, and option values, due to it being assessed as the baseline for comparison for the Build alternatives. This results in an overall **Neutral** qualitative rating.

- *Alternatives B2 and B3* – Alternatives B2, and B3 would offer significant benefits from a socio-economic standpoint, since both received a "Large Beneficial" rating in three of four categories, resulting in an overall **Large Beneficial** qualitative rating. Though Alternative B1 also received a "Large Beneficial" rating in three of four categories, Alternatives B2 and B3 both received a 22% score under accessibility, versus a 21% score for Alternative B1. At this level of evaluation there is no significant difference in the level of benefit between Alternatives B2, and B3.

- *Alternative B1* – Alternative B1 would offer significant benefits from a socio-economic standpoint since it received a "Large Beneficial" rating in three of four categories, resulting in an overall **Large Beneficial** qualitative rating. For the reasons stated in the above paragraph, it is slightly less suitable than Alternatives B2 and B3; however, at this level of evaluation there is no significant difference in the level of benefit between Alternative B1 and Alternatives B2 and B3.

- *Alternative B4* – Alternative B4 would offer the least benefit from a socio-economic standpoint since it received ratings of "Moderate Adverse," "Slight Beneficial," "Moderate Beneficial," and "Large Beneficial," resulting in an overall **Slight Beneficial** qualitative rating. It would offer improvements in the categories of accessibility, journey quality, and option values, however in these categories it would offer a smaller improvement when compared with the other Build alternatives. This alternative would provide an adverse impact to community severance. Alternative B4 also does not offer a second east-west route in the event of a road closure along Bodden Town Road.

This Socio-economic Assessment is one in a series of Technical Reports that have been prepared for the Shortlist Evaluation. The level of impacts and the identification of the least impactful or most beneficial alternative will differ based on the resource/feature evaluated in each of the Technical Reports. Therefore, the most beneficial alternative described in this evaluation summary and in each technical document **does not** move an alternative forward to the Preferred Evaluation nor does it constitute any special weighting or extra consideration in the Shortlist Evaluation Document. The comprehensive analysis of all the resources/features evaluated along with the rationale for the identification of the Preferred Alternative are presented in the Shortlist Evaluation Document.

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Appendix E, Attachment D – Noise – Assessment of Alternatives

Environmental Statement
East-West Arterial Extension:
Section 2 (Woodland Drive – Lookout Road)
Section 3 (Lookout Road – Frank Sound Road)



Noise FINAL

Assessment of Alternatives
Grand Cayman East-West Arterial Extension

NRA
NATIONAL ROADS AUTHORITY

February 27, 2024

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List of Terms

CNE	Common Noise Environment
dB(A)	Decibels; A-Weighted Scale
DMRB	UK's Highways Agency Design Manual for Roads and Bridges
EIA	Environmental Impact Assessment
ESO	Economics and Statistics Office
EWA	East West Arterial
GCM	Grand Cayman Travel Demand Model
FHWA	Federal Highway Administration
IEMA	Institute of Environmental Management and Assessment
L_{A10}	A-weighted, sound level, just exceeded for 10% of the measurement period
Leq	Equivalent Continuous Sound Level
LOAEL	Lowest Observable Adverse Effect Level
MPH	Miles Per Hour
NOEL	No Observed Effect Level
NRA	National Roads Authority
SOAEL	Significant Observable Adverse Effect Level
TNM	Traffic Noise Model
ToR	Terms of Reference
WebTAG	UK Department for Transport "Transport Analysis Guidance"

1 Introduction

The East-West Arterial (EWA) Extension Environmental Impact Assessment (EIA) is proposed to evaluate an alternative east-west travel route on Grand Cayman. The Terms of Reference (ToR) for the proposed EWA Extension EIA was finalized on April 4, 2023. Since then, five Build alternatives (B1, B2, B3, B4, and C1), in addition to the No-Build scenario, were developed and assessed as part of the Longlist Alternatives Evaluation. A separate Longlist Alternatives Evaluation Document has been prepared to document this analysis.

As a result of the Longlist Alternatives Evaluation, four Build alternatives (B1, B2, B3, and B4) and the No-Build scenario were advanced as a shortlist for evaluation. This report focuses on the assessment of noise for these shortlisted alternatives. Information from this report will be incorporated within the Shortlist Alternatives Evaluation Document and Environmental Statement.

2 Shortlist Evaluation

There are a variety of noise sensitive receptors, which are residential dwellings or other non-residential human activity areas that are potentially sensitive to noise, within the EWA EIA study area (**Figure 1**), including houses, parks, schools, prisons, trails, etc.

This report presents the evaluations of the anticipated effects of operational day-time noise caused by vehicles that are projected to be travelling along the alternatives studied as part of the EWA EIA Shortlist Evaluation. The assessment of shortlisted alternatives is carried out based on the evaluations of operational noise impact upon the receptors during the opening year (2026) and horizon year (2074). The impact due to construction works is of relatively short-duration, site specific, similar levels of noise and significantly much easier to mitigate. This will be assessed only for the Preferred Alternative.

The Shortlist of Alternatives includes the No-Build scenario and four Build alternatives (B1, B2, B3, and B4) as shown in **Figure 1**. As shown in **Figure 1,** the four Build alternatives all share the same common section beginning at the western terminus, near Woodland Drive, and continuing east to near Lookout Road. They also share the same common improvements to the local roadway network referred to as the Will T Connector. Additional details describing the Shortlist of Alternatives including full descriptions of each alternative along with typical design sections can be found in the Shortlist Evaluation Document.

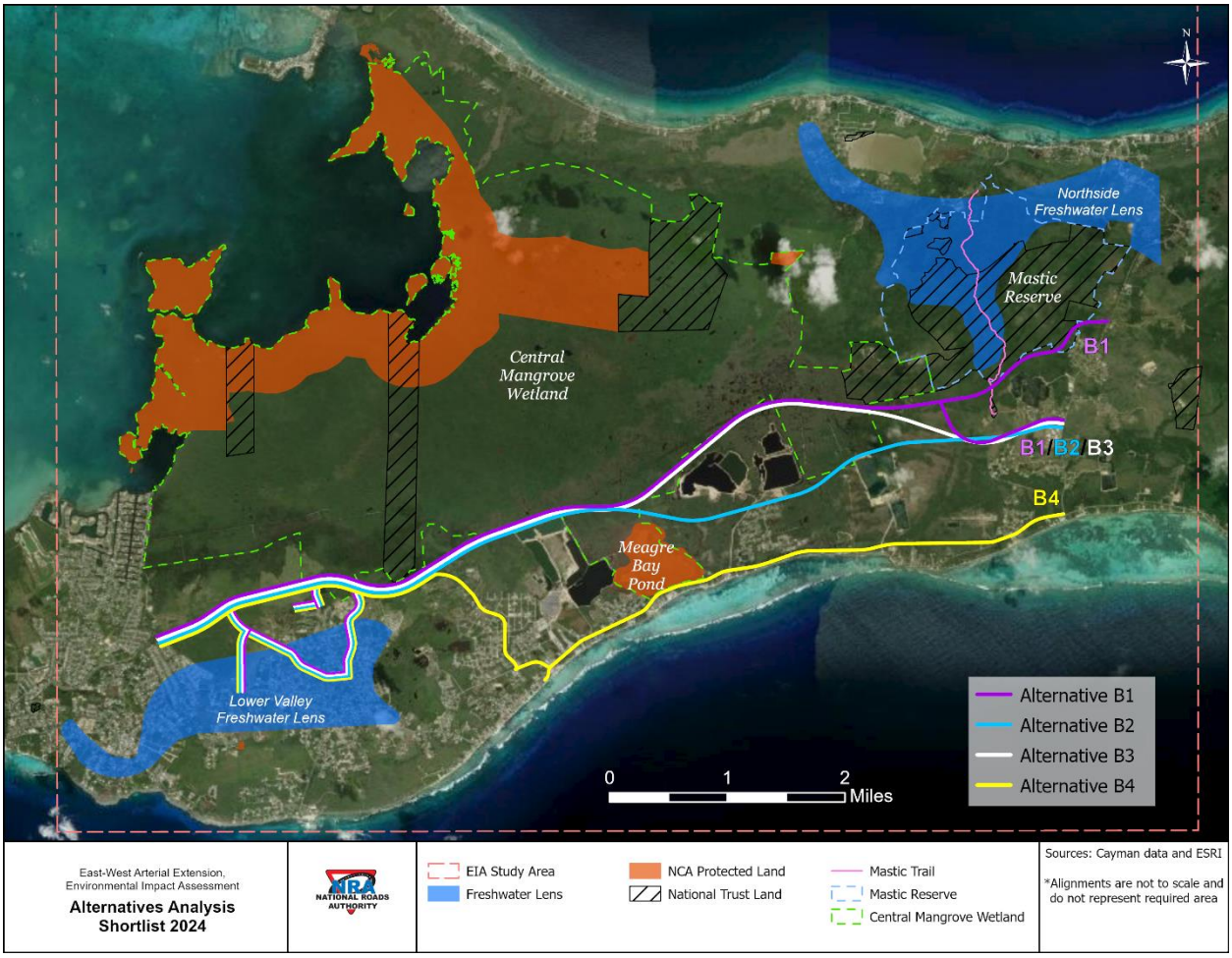


Figure 1: Shortlisted Build Alternatives

3 Baseline Conditions

3.1 Noise Study Area

In accordance with the United Kingdom's Highways Agency Design Manual for Roads and Bridges (DMRB), the noise study area for each alternative extends 2,000 feet (600 meters) to each side of the proposed roadway. As described in the DMRB, the noise study area can be reduced or extended as needed for an individual project. Because of the anticipated lower traffic volumes on the Will T Connector with its same design among the four Build alternatives, this Shortlist of Alternatives evaluation focused on the primary east-west corridor of each alternative to assess the anticipated operational noise impacts.

The overall noise study area for the Shortlist of Alternatives (Alternatives B1, B2, B3, and B4) is depicted in **Figure 2.** A re-evaluation of the noise study area will occur as part of the Preferred Alternative, including any revisions to the noise analysis due to changes in the land uses or Preferred Alternative design.

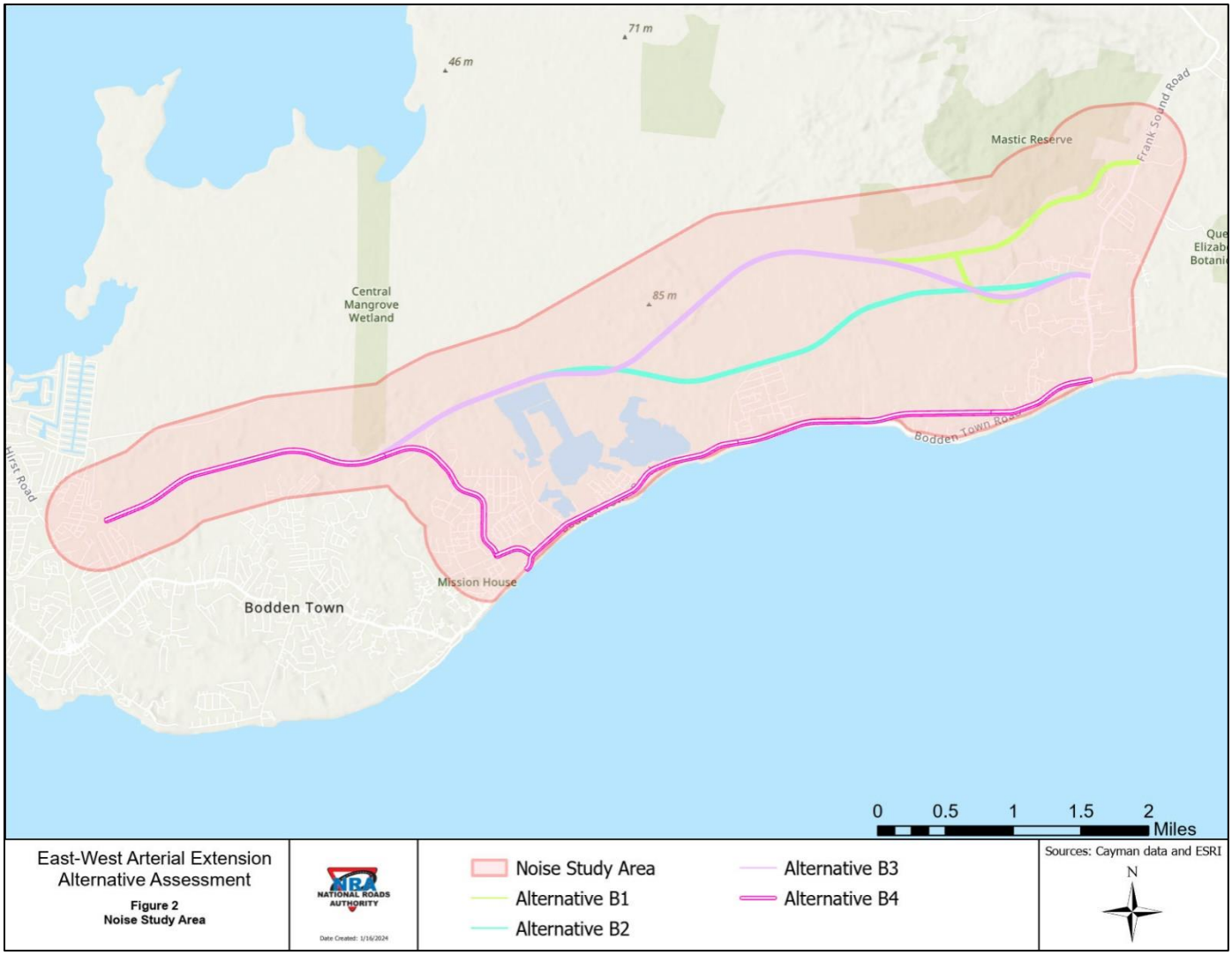


Figure 2: Noise Study Area

3.2 Identification of Receptors

After a comprehensive investigation and analysis of existing features and land uses, the sensitive noise receptors were identified within the noise study area for each alternative. Noise receptors include, but are not limited to houses, parks, schools, prisons, and trails.

The following data sources were utilized to identify noise receptors:

- Planning zone data from the Cayman Islands Planning Department (received January 2024)
- Parcel data from the Cayman Islands Lands & Survey Department (received August 2023)
- 2023 aerial imagery from Google Earth
- Field verification

For the Shortlist Evaluation, only existing conditions noise receptors were assessed. Future planned and permitted developments will be evaluated as part of the studies for the Preferred Alternative.

The identified noise receptors for the Shortlist Evaluation are shown in **Attachment F through Attachment O**.

3.3 Common Noise Environments (CNE)s

As previously described, the noise study area includes 2,000-feet (600 meters) on either side of the proposed edge of roadway pavement for the primary east-west corridors. After thoroughly reviewing the existing land use, the study area was divided into 20 Common Noise Environments (CNE)s (**Figure 3**). CNEs are a group of receptor sites that are exposed to similar locational ambient noise levels. The specific CNEs are identified by the first two digits of each receptor site. For example, site M01-01 is the number one site in CNE one, site M02-01 is the number one site in CNE two, and so forth. Each receptor site and its corresponding CNE are shown in **Attachment F through Attachment O**.

Table 1 describes the location, land use type and number of existing receptors of each CNE.

Table 1: Common Noise Environment Descriptions

CNE ID	Land Use Description	Land Uses Identified	Number of Receptors
01	This CNE is located east of Hirst Rd along Brightside St and Vision St at the western project limits. The CNE is comprised entirely of residential land uses. The CNE's noise sensitive land uses include 77 receptors (M01-01-M01-77).	Residential	77
02	This CNE is located east of Hirst Rd along Jay Hubert Dr and Kimera Way, at the western project limits. The CNE is comprised primarily of residential land uses with one school. The CNE's noise sensitive land uses include 131 receptors (M02-01-M02-131).	Residential and Educational	131
03	This CNE is located east of Hirst Rd along Lancelot Dr, Watershed Cr, and Woodland Dr, at the western project limits. The CNE is comprised entirely of residential land uses. The CNE's noise sensitive land uses include 162 receptors (M03-01-M03-162).	Residential	162
04	This CNE is in the western portion of the project area along Will T Dr and Minzett Dr. The CNE is comprised entirely of residential land uses. The CNE's noise sensitive land uses include 52 receptors (M04-01-M04-52).	Residential	52
05	This CNE is in the western portion of the project area along Sheffield Dr. The CNE is comprised of residential land uses and a section of the Northward Prison. The CNE's noise sensitive land uses include four receptors (M05-01-M05-04).	Residential and Institutional	4
06	This CNE is located north of Anton Bodden Dr and west of Lookout Rd in the middle portion of the project. The CNE is comprised entirely of residential land uses. The CNE's noise sensitive land uses include 99 receptors (M06-01-M06-99).	Residential	99

CNE ID	Land Use Description	Land Uses Identified	Number of Receptors
07	This CNE is located between Anton Bodden Dr and Bodden Town Rd in the middle portion of the project. The CNE is comprised primarily of residential land uses, mixed with cultural (Mission House and Bodden Town Historic Pirate Cemetery), recreational (Harry McCoy Sr. Park), and commercial (hotels). The CNE's noise sensitive land uses include 87 receptors (M07-01-M07-87).	Residential, Cultural, Recreational, and Commercial	87
08	This CNE is located north of Bodden Town Rd and east of Lookout Rd in the middle portion of the project. The CNE is comprised primarily of residential land uses, mixed with cultural (cemeteries), and a civic centre containing recreational facilities (M08-01). The CNE's noise sensitive land uses include 214 receptors (M08-01-M08-214).	Residential, Cultural, and Recreational	214
09	This CNE is located south of Bodden Town Rd and south of CNE 08 in the middle portion of the project. The CNE is comprised entirely of residential land uses. The CNE's noise sensitive land uses include eight receptors (M09-01-M09-08).	Residential	8
10	This CNE is located south of Bodden Town Rd and south of CNE 11 in the middle portion of the project. The CNE is comprised primarily of residential land uses with commercial (hotels). The CNE's noise sensitive land uses include nine receptors (M10-01-M10-09).	Residential and Commercial	9
11	This CNE is located north of Bodden Town Rd and north of CNE 10 in the middle portion of the project. The CNE is comprised entirely of residential land uses. The CNE's noise sensitive land uses include 150 receptors (M11-01-M11-150).	Residential	150
12	This CNE is located north of Bodden Town Rd and north of CNE 13 in the middle portion of the project. The CNE is comprised of residential land uses and the Department of Vehicle and Driver Licencing. The CNE's noise sensitive land uses include 20 residential receptors (M12-01-M12-20).	Residential and Institutional	20
13	This CNE is located south of Bodden Town Rd and south of CNE 12 in the middle portion of the project. The CNE is comprised of residential and commercial (restaurant) land uses. The CNE's noise sensitive land uses include seven receptors (M13-01-M13-07).	Residential and Commercial	7
14	This CNE is located north of Bodden Town Rd and west of Frank Sound Rd in the eastern portion of the project. The CNE is comprised of residential and commercial (racetrack) land uses. The CNE's noise sensitive land uses include 47 residential receptors (M14-01-M14-47).	Residential and Commercial	47
15	This CNE is located south of Bodden Town Rd and west of Frank Sound Rd in the eastern portion of the project. The CNE is comprised entirely of residential land uses. The CNE's noise sensitive land uses include five receptors (M15-01-M15-05).	Residential	5
16	This CNE is located east of Frank Sound Rd and north of Sea View Rd in the eastern portion of the project. The CNE is comprised entirely of residential land uses. The CNE's noise sensitive land uses include 18 receptors (M16-01-M16-18).	Residential	18

CNE ID	Land Use Description	Land Uses Identified	Number of Receptors
17	This CNE is located west of Frank Sound Rd and north of CNE 14 in the eastern portion of the project. The CNE is comprised primarily of residential land uses with one school. The CNE's noise sensitive land uses include 48 receptors (M17-01-M17-48).	Residential and Educational	48
18	This CNE is located west of Frank Sound Rd and north of CNE 17 in the eastern portion of the project. The CNE is comprised of residential land uses and recreational (Mastic Trail). The CNE's noise sensitive land uses include 77 receptors (M18-01-M18-77).	Residential and Recreational	77
19	This CNE is located east of Frank Sound Rd and north of CNE 16 in the eastern portion of the project. The CNE is comprised primarily of residential land uses and recreational (Frank Sound Park). The CNE's noise sensitive land uses include 61 receptors (M19-01-M19-61).	Residential and Recreational	61
20	This CNE is located east and west of Frank Sound Rd and north of CNE 19 and CNE 18 in the eastern portion of the project. The CNE is comprised entirely of residential land uses. The CNE's noise sensitive land uses include four receptors (M20-01-M20-04).	Residential	4

3.4 Noise Modelling

Noise models were prepared for each of the shortlisted alternatives, including the No-Build scenario and four Build Alternatives (B1, B2, B3, and B4), using the U.S. Federal Highway Administration (FHWA) Traffic Noise Model ® (TNM v2.5). TNM v2.5 is the current U.S. FHWA approved highway noise prediction model that is required to be used on all Federal-aid highway projects. Although TNM v3.1 was noted for possible use in the EWA Terms of Reference (ToR), it is currently only used on projects at the discretion of the FHWA Division and State Department of Transportation. The EWA EIA project team noted the implications of using TNM v3.0/3.1 due to model runtime practicality, version inefficiencies, and noise level prediction underestimation to the National Roads Authority (NRA); the team received concurrence from the NRA to proceed with using TNM v.2.5 for all noise evaluations as part of this EWA EIA on January 3rd, 2024.

FHWA's TNM calculates sound levels similar to the UK's Calculation of Road Traffic Noise spreadsheet calculations; however, TNM is composed of many variables that allows for the calculation of multiple receptors at varying distances with variations accounting for vehicle type and speed, as well as topography and shielding. This model creates a 3-dimensional view of the existing roadways, proposed roadways, noise-sensitive receptors, topography and uses traffic volumes, speeds and composition (i.e., cars, medium trucks, heavy trucks, busses, and motorcycles) to predict sound levels.

The data sources that were utilized for the TNM models include:

- Topographic data from LiDAR LAS geospatial data provided by the Cayman Islands Land and Survey Department (received August 4, 2023)
- Planning zone data from the Cayman Islands Planning Department (received September 2017)
- Parcel data from the Cayman Islands Lands & Survey Department (received August 2023)
- Aerial Imagery from Google Earth: June 2023 and September 2023

3.5 Noise Monitoring

Virtual and on-site survey of noise sensitive land uses and the identification of sources of acoustical shielding were conducted to identify noise sensitive receptors and the selection of noise monitoring locations. To assess existing ambient noise conditions within the study area, both short-term and long-term noise monitoring was conducted. The location of each short-term and long-term noise monitoring site in relation to the project, is shown in **Figure 3**. Short-term, 20-minute monitoring was conducted to evaluate the accuracy of the TNM model at three locations (ST-03, ST-04, and ST-05). Short term monitoring was also conducted at four other locations (ST-01, ST-02, ST-06, and ST-07) to record existing ambient conditions in areas not currently affected by roadway noise. Two long-term (LT-01 and LT-02), monitoring sessions were completed to obtain the overall existing ambient conditions for a longer period. The two long-term sites were measured for a 23-hour period. It was intended to measure at these locations for a total of 24 hours; however, impending weather caused the measurements to end one hour early.

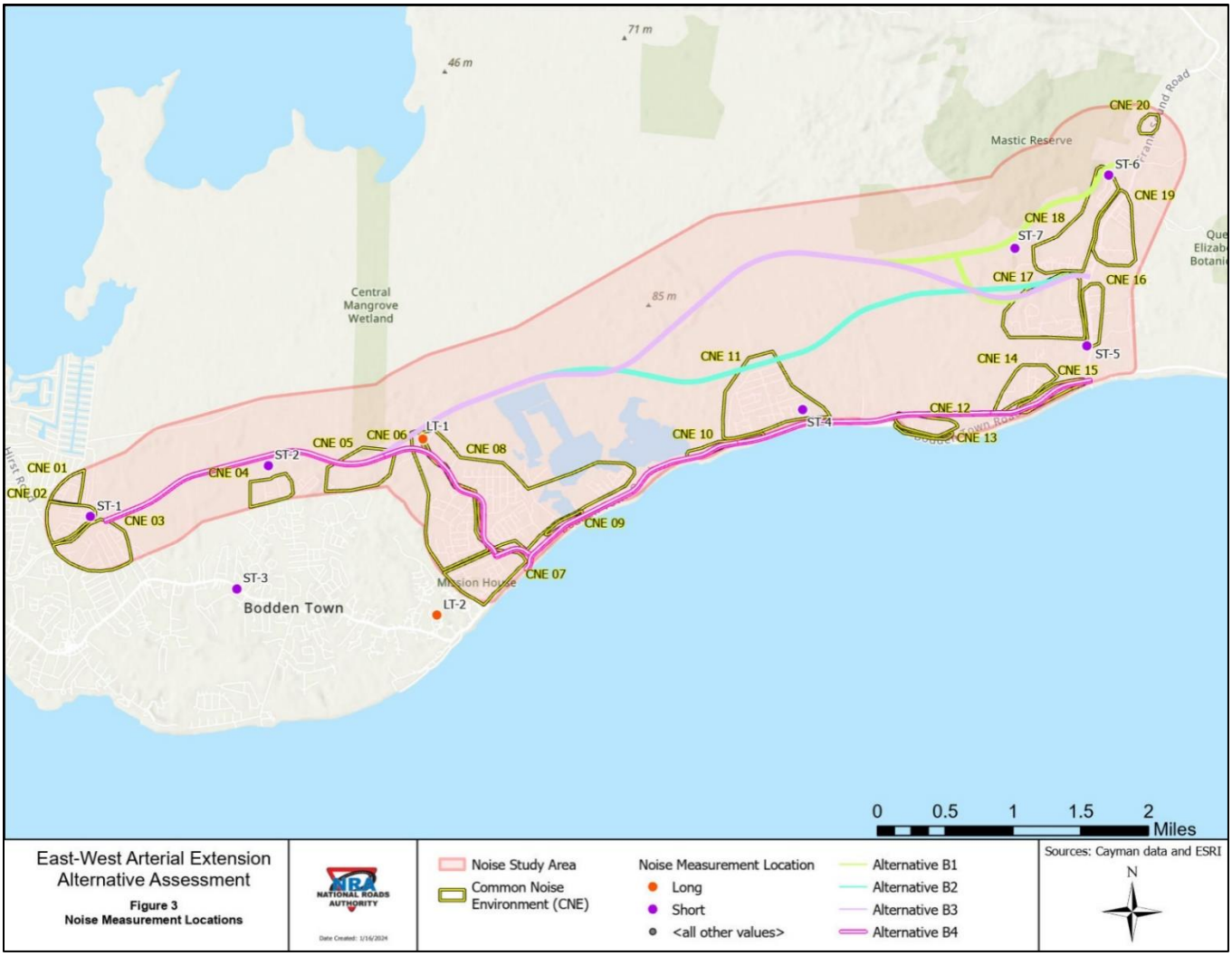


Figure 3: Noise Measurement Locations

A description of the noise monitoring duration and location for each site along with the existing monitored decibel readings are provided in **Table 2**.

Table 2: Noise Monitoring

Site	*Monitored Level dB(A)*	*Description*
ST-01	47.8	• Short term (20-minutes) existing ambient measurement • Located in a residential development along Woodland Drive
ST-02	46.0	• Short term (20-minutes) existing ambient measurement • Located adjacent to a residential area at the end of Will T Drive
ST-03	65.2	• Short term (20-minutes) measurement for TNM validation • Located in a residential area at the intersection of Shamrock Road and Midnight Road
ST-04	50.3	• Short term (20-minutes) measurement for TNM validation • Located in a residential area along Cherry Tree Drive

Site	*Monitored Level dB(A)*	*Description*
ST-05	60.4	• Short term (20-minutes) measurement for TNM validation • Located in and open area along Halley Street, adjacent to Frank Sound Road
ST-06	46.4	• Short term (20-minutes) existing ambient measurement • Located adjacent to the entrance to the Mastic Trail
ST-07	41.7	• Short term (20-minutes) existing ambient measurement • Located adjacent along Botanic Road, the entrance to Queen Elizabeth II Botanic Park
LT-01	49.0	• Long term (24-hour*) existing ambient measurement • Located along a residential driveway, adjacent to Lookout Road
LT-02	61.6	• Long term (24-hour*) existing ambient measurement • Located at the intersection of Spice Road and Shamrock Road
** Impending weather caused measurements to register for 23 hours*		

The purpose of short-term noise monitoring is to gather data that is used to develop a comparison between the monitored results and the output obtained from the noise prediction model. This analysis is only used for those sites that are currently affected by traffic noise. This validation effort is required so that the TNM can be used with confidence to determine the loudest-hour noise levels; predict both existing and future noise levels, assess noise impacts; and evaluate and design potential noise attenuation measures (i.e., noise barriers/berms). Short-term noise monitoring is not used to determine design year noise impacts or potential mitigation locations. Short-term noise monitoring provides a level of consistency between what is present in real-world situations and how that is represented in the computer noise model. Short-term monitoring does not need to occur within every CNE to validate the computer noise model.

Long-term noise monitoring provides an ambient condition for the areas where sites are located and is not necessary for the noise validation process. LT-01 is in a rural area, removed from roadway influence resulting in the ambient noise level being lesser than a location with roadway influence. LT-02 is adjacent to a main roadway at the intersection of Spice Road and Shamrock Road and thus has a higher noise ambient level. The overall decibel level at these long-term monitoring sites is used to represent the ambient noise environments of similar areas throughout the project corridor.

Short-term noise monitoring of 20-minute durations was conducted at seven locations within the study area between July 25 and 27, 2023, as part of the noise analysis. Readings were taken on the A-weighted scale and reported in decibels [dB(A)]. Readings were taken using a Class 2 integrating sound level meter calibrated before and after use. The data collection procedure involved the collection of equivalent continuous sound level (L_{eq}) measurements in consecutive 10-second intervals. Long-term sites involved the collection of L_{eq} measurements in consecutive 5-minute intervals. This method allowed for individual time intervals that include noise events unrelated to traffic noise (e.g., aircraft flights) to be excluded from consideration for model

validation purposes. Data collected by the noise meter included time, minimum noise level (L_{min}), maximum noise level (L_{max}), percentile sound levels (e.g., L_5, L_{10}, L_{50}, L_{90}, L_{95}), and the sound exposure level for each interval. $L_{eq(1h)}$ values were derived at each location from the 20-minute L_{eq} values. Existing noise measurements were collected under meteorologically acceptable conditions when the pavement was dry, and winds were calm or light. Additional data collected at each monitoring location included atmospheric conditions and the observation of non-traffic noise events.

Three of the short-term sites had roadway influence. These sites were divided into three traffic count sessions, based upon similar sources of traffic noise. During each session, traffic conditions on the dominant highway noise sources were counted and compiled by field personnel. Traffic was recorded into one of the three categories: automobiles, medium trucks, and heavy trucks. Data sheets completed during the noise monitoring are included in **Attachment A**.

The monitored L_{eq} in the study area ranged from 41.7 dB(A) to 65.2 dB(A). Bodden Town Road and Frank Sound Road are the dominant sources of traffic noise within the study area.

3.6 Noise Model Validation

Computer modeling is the accepted technique for predicting noise levels associated with traffic-induced noise for both the No-Build and the Shortlisted Build Alternatives (B1, B2, B3, and B4). The modeling process begins with model validation. The noise model validation process ensures that the TNM provides a reasonable approximation of reality and makes any adjustments to the model to bring it within a desired range. This was accomplished by comparing the monitored noise levels and the noise levels predicted by TNM, using traffic volumes and speeds that were observed during the monitoring process (i.e., 20-minute traffic data was converted to one-hour traffic data for validation of the model). This validation ensures that reported changes between the existing and future design year conditions are due to changes in traffic, and not discrepancies between monitoring and/or modeling techniques. A difference of plus or minus 3 dB(A) or less between the modeled and monitored levels is acceptable since this is the limit of change that is barely perceptible by a typical human ear. A summary of the model validation is provided in **Table 3**.

Table 3: Noise Model Validation

Site	*Monitored Level dB(A)*	*Modelled Level dB(A)*	*Difference (Mon – Mod)*
ST-01*	47.8	--	--
ST-02*	46.0	--	--
ST-03	65.2	65.0	0.2
ST-04	50.3	49.5	0.8
ST-05	60.4	59.9	0.5
ST-06*	46.4	--	--
ST-07*	41.7	--	--
LT-01*	49.0	--	--
LT-02*	61.6	--	--

* *Identifies existing ambient noise levels*

As shown for all three of the validation sites, the difference between the monitored and modeled noise levels range from 0.2 to 0.8 dB(A). The predicted levels that were modeled in TNM can differ from the recorded levels due to several additional factors. Such factors include:

- atmospheric conditions
- existing shielding by structures that may be difficult to model
- pavement properties that differ from the average pavement required for use in TNM
- complex roadway, terrain, and/or receptor geometry
- the representativeness of louder vehicles which pass by the sound level meter during the measurement period

Other types of factors (i.e., non-traffic related noise) were witnessed during the monitoring events that cannot be replicated in TNM. This non-traffic related noise can include the following:

- airplane overflights,
- compression release engine brakes (commonly known as Jake or Jacobs Brakes),
- transit events,
- emergency sirens,
- heating and air conditioning systems,
- lawnmowers (i.e., motorized lawn care activities), or
- backup alarms.

The noise from these external factors was removed from the noise monitoring data when it had a noticeable effect on the monitored noise levels. There are also factors in the noise model that may cause differences with the measured noise levels including level of detail in terrain modeling, and the degree of inclusion of smaller elements such as hard ground zones, tree zones and sparse rows of buildings.

Overall, the predicted noise level for all three validation monitoring sites was within 3 dB(A) of the monitored levels. This meets the criteria for validation of the TNM models.

4 Assessment Methodology

4.1 Noise Assessment Methodology

The Cayman Islands Government does not have any published standards or guidance on noise and vibration. This assessment will rely on the DMRB Noise and Vibration Manual, reference document LA 111, supplemented by the Institute of Environmental Management and Assessment (IEMA) Guidelines for Environmental Noise Impact Assessment. The overall quantitative, qualitative, and monetary evaluation will rely on the UK Department for Transport "Transport Analysis Guidance" (WebTAG), Unit A3. Note that while nighttime evaluation of noise impacts is applicable for some projects, it was determined inapplicable for this project as the day and nighttime traffic flows differ significantly and it is not needed to support robust decision making (WebTAG Unit 3, Section 2.2.2 and 2.2.3).

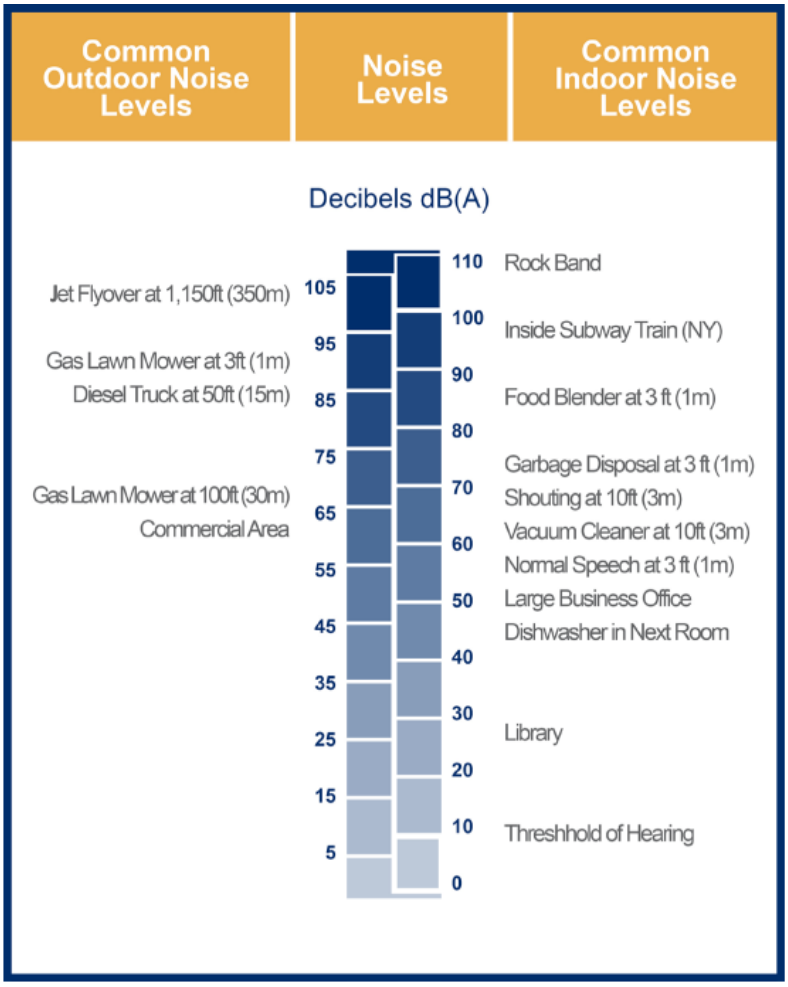


Figure 4: Noise Level Comparisons

The significance of the effect of traffic noise is dependent on both the sensitivity of the receptor and the magnitude of the impact at the receptor. Receptor sensitivity and the assessment criteria for magnitude of change is derived from the criteria in the DMRB.

The DMRB determined the significance of noise effects by establishing the no observed effect level (NOEL) and both the lowest observable adverse effect level (LOAEL) and the significant observable adverse effect level (SOAEL) for all noise sensitive receptors within the corridor during the time periods when they are typically in use (e.g., schools would only need daytime LOAELs and SOAELs). NOEL is the "level below which no effect can be detected…below this level, there is no detectable effect on health and quality of life due to the noise." LOAEL is "the level above which adverse effects on health and quality of life can be detected." SOAEL is "the level above which significant adverse effects on health and quality of life occur" (DMRB). DMRB established LOAEL and SOAEL for daytime operational noise, as shown in **Table 4**. Comparison of noise levels with common indoor and outdoor noise sources are shown in **Figure 4** [LOAEL is most comparable to normal speech at 3-feet (1-meter) and SOAEL is most comparable to a gas lawn mower at 100-feet (30-meters)].

Table 4: Operational Noise LOAELs and SOAELs

Time Period	LOAEL	SOAEL
Day (06:00 – 24:00)	55 dB $L_{A10,\ 18hr*}$ (façade)	68 dB $L_{A10,\ 18hr*}$ (façade)
** A-weighted, sound level in dB(A) exceeded for 10% of each hour over the period 06:00 - 24:00 hours*		

The magnitude of impact for noise is based upon the predicted noise levels. According to the UK Green Book, which is the Central Government Guidance on Appraisal and Evaluation, "Costs and benefits should be calculated over the lifetime of an intervention. As a guideline, a time horizon of 10 years is a suitable working assumption for many interventions. In some cases, up to 60 years may be suitable, for example for buildings and infrastructure." Therefore, the EWA EIA Steering Committee chose to use a 50-year time horizon, 2074, that would represent the life-cycle year for construction and the common year used for all evaluations.

To evaluate noise impacts across the 50-year time horizon, both opening year (2026) and horizon year (2074) were evaluated. The 2026 No-Build scenario (opening year) is used as the baseline of comparison for all magnitudes of change. Note that while both opening year (2026) and horizon year (2074) noise impacts are evaluated for inclusion within the Cost Benefit Analysis, the horizon year (2074) noise impacts will dictate noise mitigation for the Preferred Alternative and therefore focused on within the included figures (**Figure 5 to Figure 14**) and attached mapping (**Attachment F to O**).

Table 5 displays the Magnitude of Change thresholds for the opening year (2026). **Table 6** displays the Magnitude of Change thresholds for the horizon year (2074). **Table 7** displays how humans perceive these changes in noise level.

Table 5: Magnitude of Change at Receptors Opening Year (2026)

Opening Year Magnitude	Opening Year Noise Change (dB(A))
Major	≥ 5
Moderate	≥ 3 and < 5
Minor	≥ 1 and < 3
Negligible	< 1
* Source: DMRB – LA 111 Noise and Vibration	

Table 6: Magnitude of Change at Receptors Horizon Year (2074)

Horizon Year Magnitude	Horizon Year Noise Change (dB(A))
Major	≥ 10
Moderate	≥ 5 – < 10
Minor	≤ 3 – < 5
Negligible	< 3
Note: Difference in change of baseline noise level and operational noise level	
* Source: DMRB – LA 111 Noise and Vibration	

Table 7: Human Perception of Noise Level Change

Change in Noise Level	Perception
+/- 3 dB(A)	Barely Perceptible
+/- 5 dB(A)	Clearly Perceptible
+/- 10 dB(A)	Twice/Half as Loud
* Source: FHWA Highway Traffic Noise Analysis and Abatement: Policy and Guidance	

4.2 Incorporated Traffic Data Methodology

As discussed in Section 4.1 above, both opening year (2026) and horizon year (2074) were evaluated for noise impacts. The associated 2026 and 2074 traffic data was developed in coordination with the EWA EIA project team as part of the traffic evaluation, contributing to multiple components within the process including the Noise evaluation. For TNM modelling purposes, bi-direction traffic for the PM scenario was utilized for this analysis as the anticipated worst-case condition (**Attachment B** and **Attachment C)**. Please see the separate Traffic Evaluation report for additional information regarding the traffic volumes and analysis.

The traffic data was developed using a travel demand model, which is a program used to forecast future traffic flows in a transportation system based on demographic and land use data, available travel modes, the transportation network (number of lanes, traffic control, operating speed), and the most up-to-date estimate of travel costs. These models are typically used to evaluate the impact of transportation improvements or changes in land use by forecasting future traffic conditions. The Grand Cayman Travel Demand Model (GCM) was originally developed in 2019 by the NRA using a comprehensive dataset including census socioeconomic data, cruise passenger surveys, long-term visitor surveys, and traffic counts collected across the island to accurately reflect observed travel patterns across the island. The GCM underwent a calibration process where model parameters were adjusted to ensure the model would accurately reflect observed travel patterns; this process was documented and reviewed by outside experts as part of an independent modelling task.

For the EWA EIA, the GCM was updated using the 2021 Economics and Statistics Office (ESO) census data as well as travel time runs and traffic count data collected by the NRA in 2023 within the districts of Bodden Town, North Side, and East End. Within the EWA EIA study area, the GCM was calibrated to this travel time and count data to ensure the model accurately reflects observed existing conditions and can ultimately forecast realistic results under future year conditions.

Population growth for future years 2026 and 2074 was determined based on historic district growth trends from the 2021 ESO census data, and land use inputs were updated based on planned residential and commercial development projects that the NRA identified for the next 30 years. For future year 2074, three land use scenarios of low, medium, and high growth were developed based on input from stakeholders and various agencies in Grand Cayman, as detailed in the Land Use Planning Charrette Summary memorandum dated September 8, 2023. Of these three 2074 land use scenarios, the medium growth scenario was carried forward as the “core scenario” for the

Shortlist Evaluation, assuming a population of 135,000 people. This is represented as the "horizon year" throughout this report.

To determine traffic volumes by vehicle type (i.e., cars, medium trucks, heavy trucks, busses, and motorcycles), the existing vehicle composition data collected by the NRA was applied to future year volumes for TNM modelling purposes.

5 Anticipated Project Impacts – Quantitative

Opening year (2026) and horizon year (2074) traffic volumes, vehicle composition, and speeds were incorporated into the validated TNM v2.5 models to determine loudest hourly-equivalent traffic noise levels. Traffic data used in the modelling for years 2026 and 2074 is included in **Attachment B** and **Attachment C**, respectively and discussed in Section 4.2 above. Please see the Traffic Evaluation report for additional information regarding the traffic volumes and analysis.

Roadway noise generation is dependent on three main factors: traffic volume, traffic speed, and traffic composition or type. Each of these varies at any given moment. The dominant noise sources vary by speed and by vehicle type (i.e., car vs. heavy truck). As shown in **Attachment B** and **Attachment C**, traffic projections differ greatly between No-Build 2026 and the Build alternatives for 2074. Although Build 2074 volumes are greater, average traffic speeds are projected to be higher in 2026. The combination of traffic speed and volume differs under each scenario and year, creating a difference in the number of impacts for each alternative. An overview of traffic characteristics is provided in **Table 8** below.

Table 8: Averaged Traffic Characterists Within Noise Study Area

Characteristic	No-Build	B1	B2	B3	B4
2026					
Total PM peak vehicular volume within study area	5,248 vehicles	5,735 vehicles	5,636 vehicles	5,632 vehicles	5,684 vehicles
Average Speed	37 mph	42 mph	44 mph	45 mph	39 mph
2074					
Total PM peak vehicular volume within study area	14,013 vehicles	18,183 vehicles	18,081 vehicles	17,895 vehicles	17,451 vehicles
Average Speed	21 mph	36 mph	32 mph	33 mph	27 mph
Note: Vehicular composition does not vary between year or scenario.					

The No-Build noise levels were predicted without the proposed EWA EIA improvements in place. The Build noise levels were predicted by accounting for the proposed Build Alternatives (B1, B2, B3 and B4) primary east-west corridors.

The next step in the noise analysis was to determine if noise levels at the noise sensitive receptors would approach or exceed the identified impact levels. Noise levels at each modelled receptor for the opening year (2026) and horizon year (2074) conditions are shown in **Attachment D** and **Attachment E**.

For the opening year noise evaluation, the 2026 No-Build scenario is considered the baseline condition that the 2026 Build Alternatives (B1, B2, B3, and B4) are compared against. Therefore, the No-Build scenario has no change in value for the opening year noise evaluation. The Build Alternative columns depict the number of receptors experiencing an increase in noise level (major, moderate, minor, negligible), no change, or decrease in noise level (major, moderate, minor, negligible) in year 2026 compared to the No-Build scenario. Detailed noise levels for the opening year noise evaluation are included in **Attachment D**.

Based on **Table 9**, Alternatives B2 and B4 contain the highest number of receptors experiencing a major increase (≥ 5 decibels) in noise level (493 and 694 receptors, respectively) while Alternatives B1 and B3 contain the highest number of receptors experiencing a major decrease (≥ 5 decibels) in noise level (299 and 315 receptors, respectively) compared to the No-Build in 2026. Comparison of values by Alternative are dependent on the physical relationship of each Alternative to neighbouring dwellings (i.e., proximity), the volume of vehicular traffic, and differences in approximated travel speeds per scenario. Results of the traffic noise modelling in the opening year (2026) can be found in **Table 9** below:

Table 9: Anticipated Magnitude of Change at Receptors Opening Year (2026)

Change in Noise Level		Number of receptors				
		No-Build	B1	B2	B3	B4
Increase in noise level, L_{A10}	≥ 5 (Major)	---	419	493	416	694
	≥ 3 and < 5 (Moderate)	---	84	89	92	172
	≥ 1 and < 3 (Minor)	---	91	102	81	95
	< 1 (Negligible)	---	0	0	0	0
No change	0	---	52	58	68	125
Decrease in noise level, L_{A10}	< 1 (Negligible)	0	0	0	0	0
	≥ 1 and < 3 (Minor)	---	195	224	195	116
	≥ 3 and < 5 (Moderate)	---	145	142	116	31
	≥ 5 (Major)	---	299	175	315	22
Note: Values reflect proposed acquisitions under each alternative.						

Results of the traffic noise modelling in the horizon year (2074) compared to the 2026 No-Build conditions can be found in **Table 10** below:

Table 10: Anticipated Magnitude of Change at Receptors Horizon Year (2074)

Change in Noise Level		Number of receptors				
		No-Build (2074)	B1	B2	B3	B4
Increase in noise level, L_{A10}	≥ 10 (Major)	0	326	375	316	399
	≥ 5 and < 10 (Moderate)	6	346	310	332	506
	≥ 3 and <5 (Minor)	591	127	199	124	211
	< 3 (Negligible)	480	98	117	97	69
No change	0	204	86	87	79	36
Decrease in noise level, L_{A10}	< 3 (Negligible)	3	300	195	335	9
	≥ 3 and <5 (Minor)	0	0	0	0	3
	≥ 5 and < 10 (Moderate)	0	0	0	0	5
	≥ 10 (Major)	0	0	0	0	16
Note: Values reflect proposed acquisitions under each alternative.						

For the horizon year noise evaluation, the 2026 No-Build scenario is considered the baseline condition that the 2074 No-Build and Build Alternatives (B1, B2, B3, and B4) are compared against; consistent with the DMRB Noise and Vibration Manual. The No-Build and Build Alternative columns depict the number of receptors experiencing an increase in noise level (major, moderate, minor, negligible), no change, or decrease in noise level (major, moderate, minor, negligible) in year 2074 compared to the No-Build 2026 scenario. Detailed noise levels for the horizon year noise evaluation are included in **Attachment E**. Overview figures of the 2074 magnitude of change are provided in **Figures 5 to 9** below and detailed mapping is included within **Attachment F through Attachment J**.

Based on **Table 10**, a majority of noise sensitive receptors experience an increase in noise level in year 2074 for the No-Build scenario and Alternatives B1, B2, B3, and B4 compared to the No-Build 2026. This is consistent with the significant increase in traffic volume and operational speeds along the EWA and existing roadway network in year 2074.

Alternatives B2 and B4 contain the highest number of receptors experiencing a major increase in noise level (375 and 399 receptors, respectively) and only Alternative B4 contains receptors which experience a decrease in noise level above the negligible range compared to the No-Build in 2074. Comparison of values by Alternative are dependent on the physical relationship of each Alternative to neighbouring dwellings (i.e., proximity), the volume of vehicular traffic, and differences in approximated travel speeds per scenario.

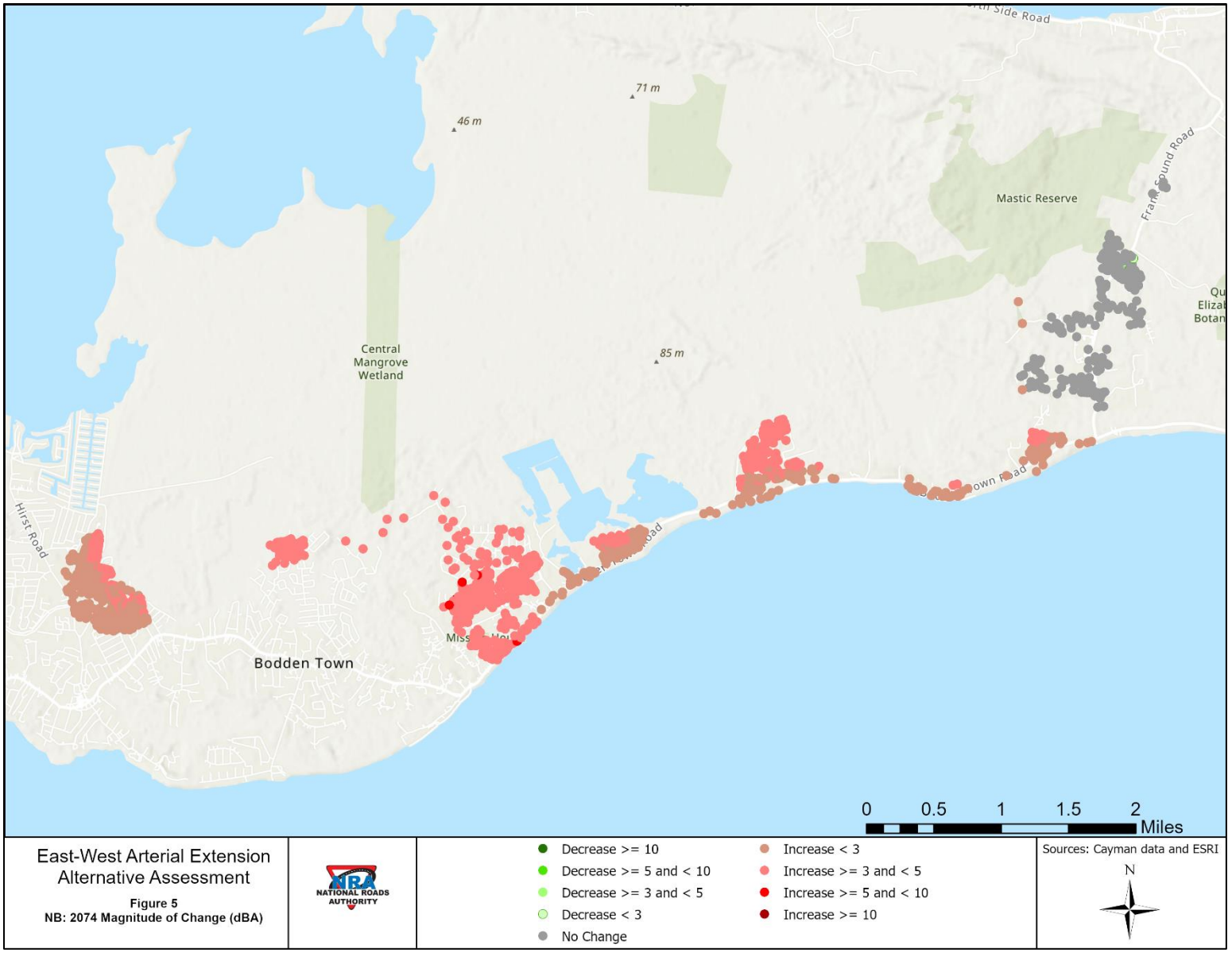


Figure 5: No-Build 2074 Magnitude of Change (dBA)

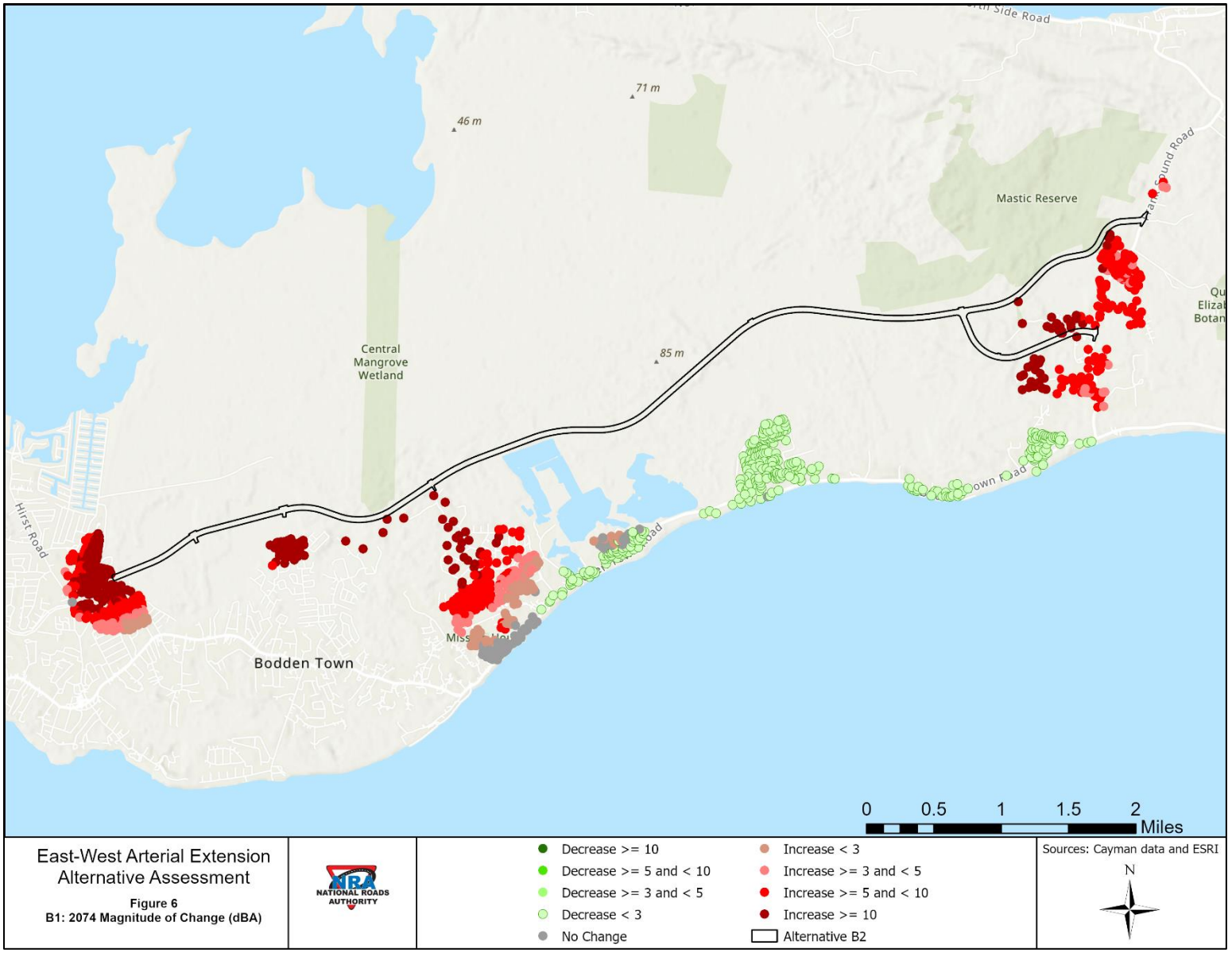


Figure 6: Alternative B1 2074 Magnitude of Change (dBA)

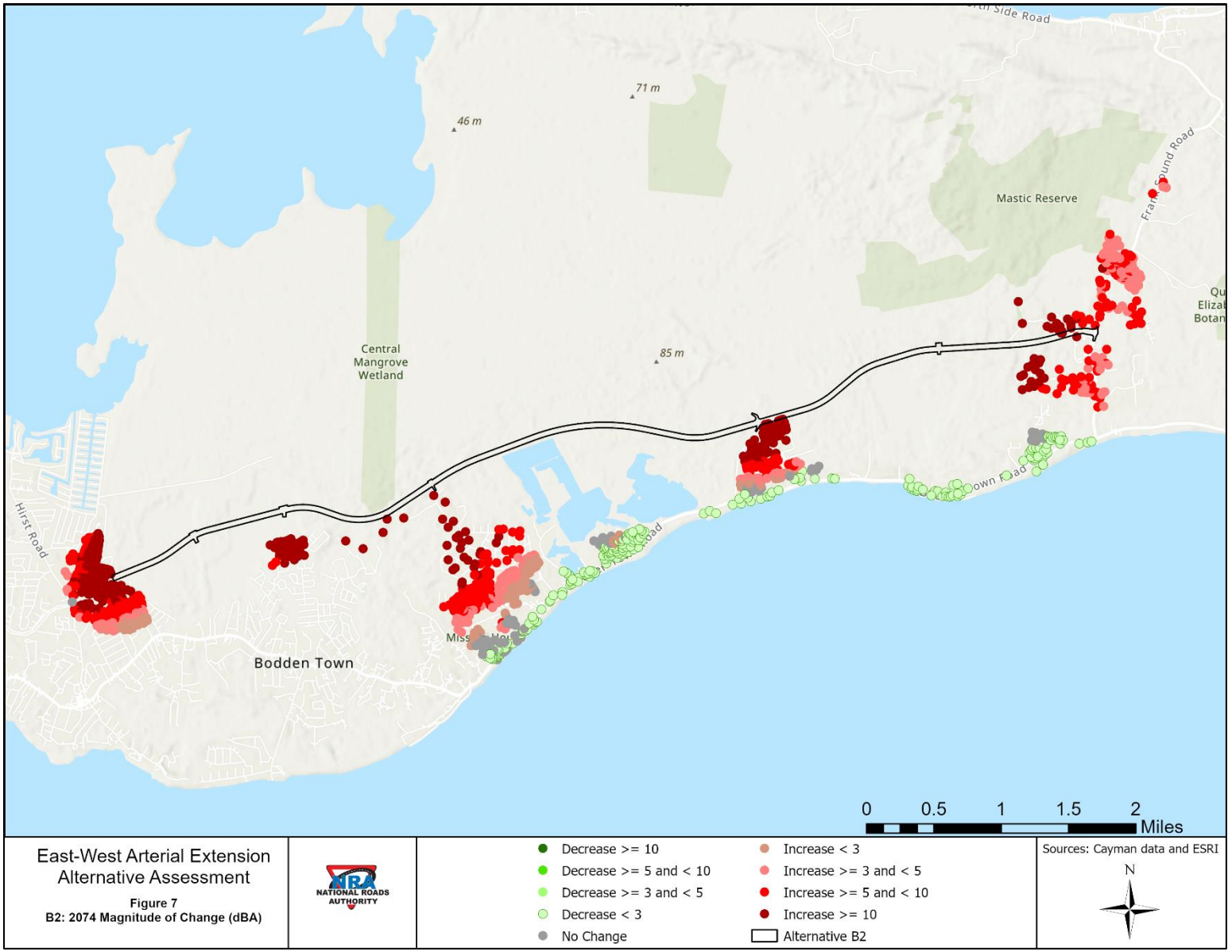


Figure 7: Alternative B2 2074 Magnitude of Change (dBA)

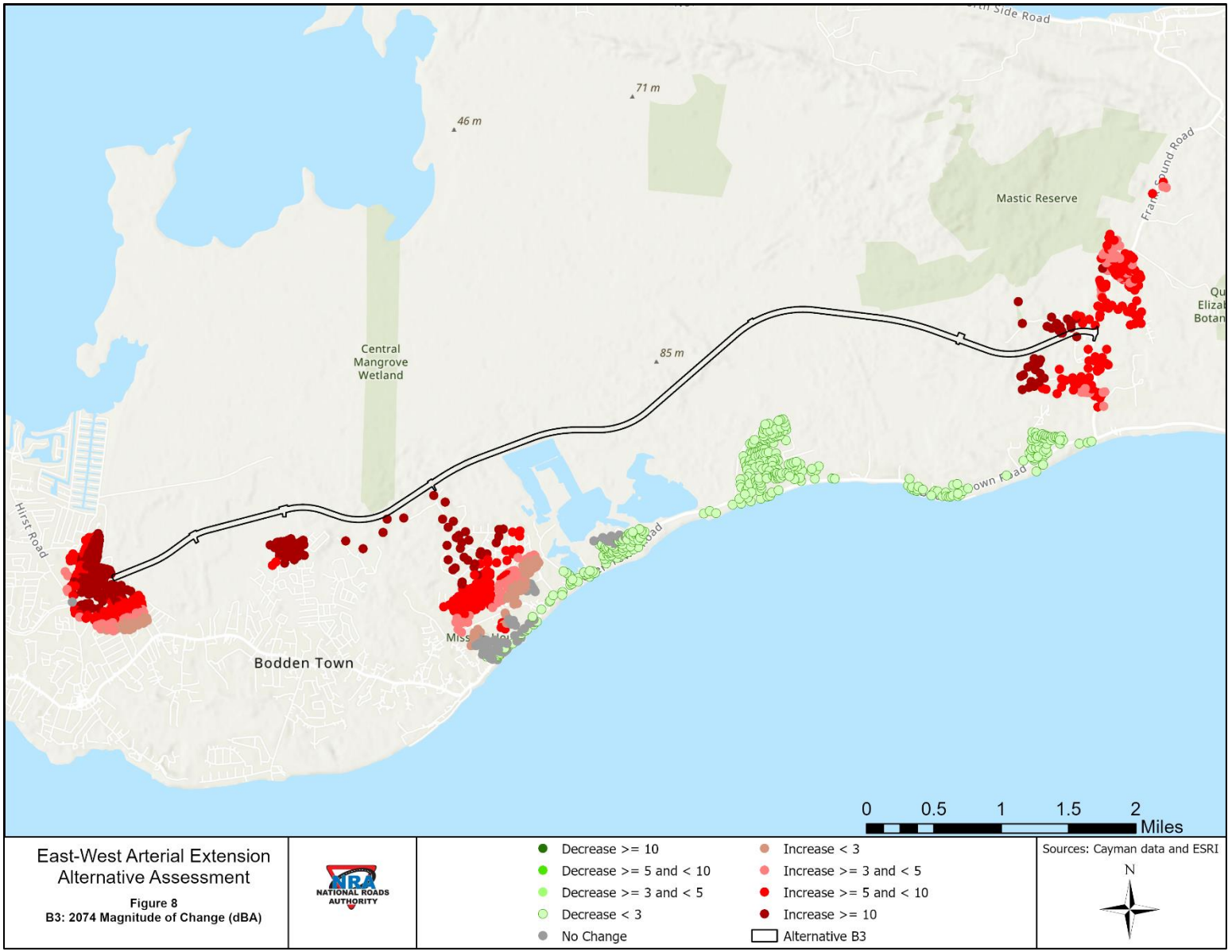


Figure 8: Alternative B3 2074 Magnitude of Change (dBA)

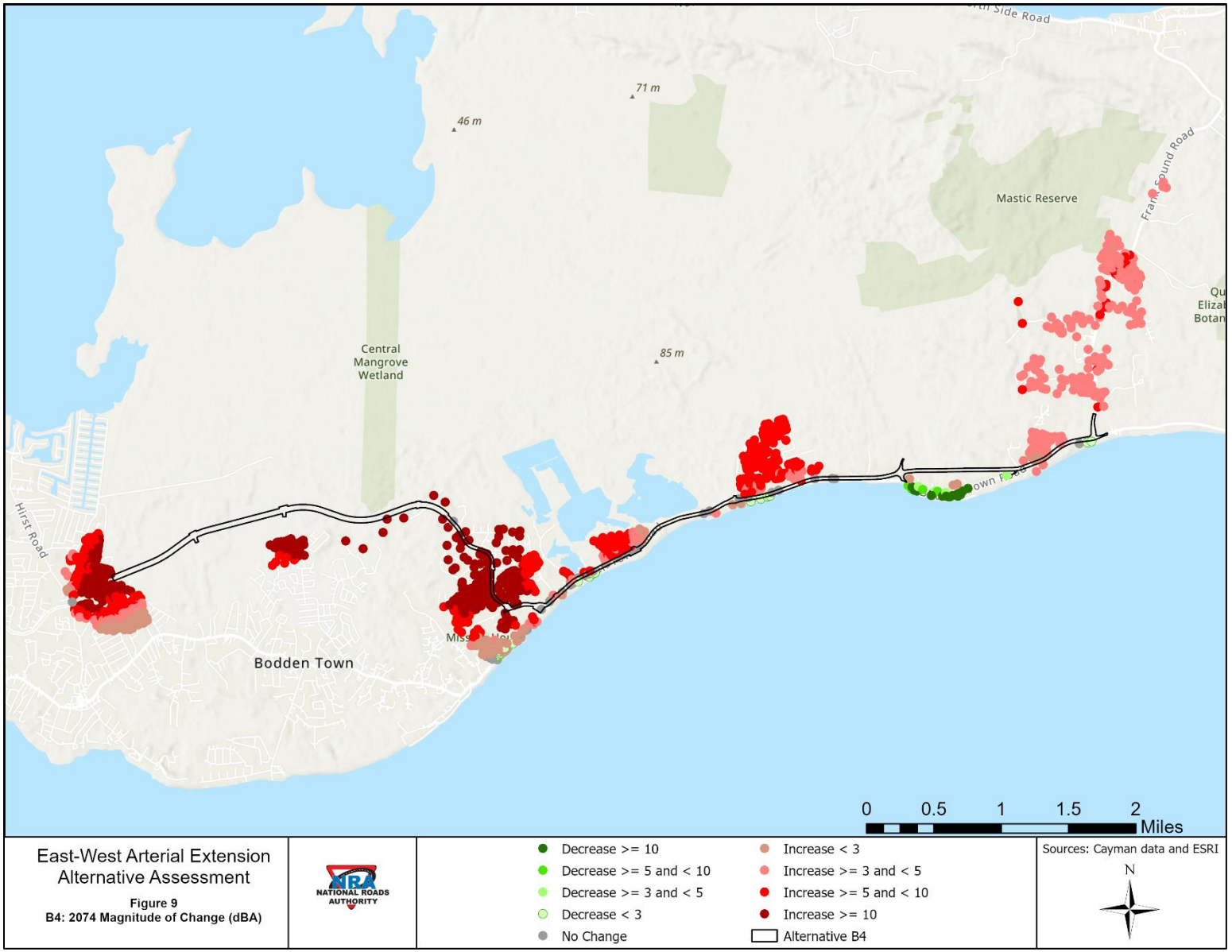


Figure 9: Alternative B4 2074 Magnitude of Change (dBA)

Results of the traffic noise modelling on receptors at or above the SOAEL threshold (68 dBA) can be found in **Table 11** below.

Table 11: Noise Sensitive Receptors At or Above SOAEL (68 dBA)

Year	No-Build	B1	B2	B3	B4
2026	113	44	51	55	96
2074	130	167	163	160	144
Note: Values reflect proposed acquisitions under each alternative.					

Based on **Table 11**, all the Build alternatives (B1, B2, B3, and B4) result in a decrease in the number of receptors at or above the SOAEL due to the anticipated shifting of traffic volumes to a less developed area and away from sensitive noise receptors along the existing roadway network in year 2026.

Table 11 also shows that, in 2074, all the Build alternatives (B1, B2, B3, and B4) result in an increase in the number of receptors at or above the SOAEL compared to the 2074 No-Build alternative. Due to the significant increase in projected 2074 traffic demand and associated volumes (**Table 8**), a majority of noise sensitive receptors along Bodden Town Road/Shamrock Road remain above the SOAEL for all the Build alternatives (Alternative B1, B2, B3, and B4) in 2074. Due to the majority of noise receptors along Bodden Town Road/Shamrock Road remaining above the SOAEL, additional noise receptors in proximity of the Build alternatives are above the SOAEL (e.g., Section 1 and Lookout Road area). Overview figures of the 2074 SOAEL impacts are provided in **Figures 10 to 14** below and detailed mapping is included within **Attachment K through Attachment O**.

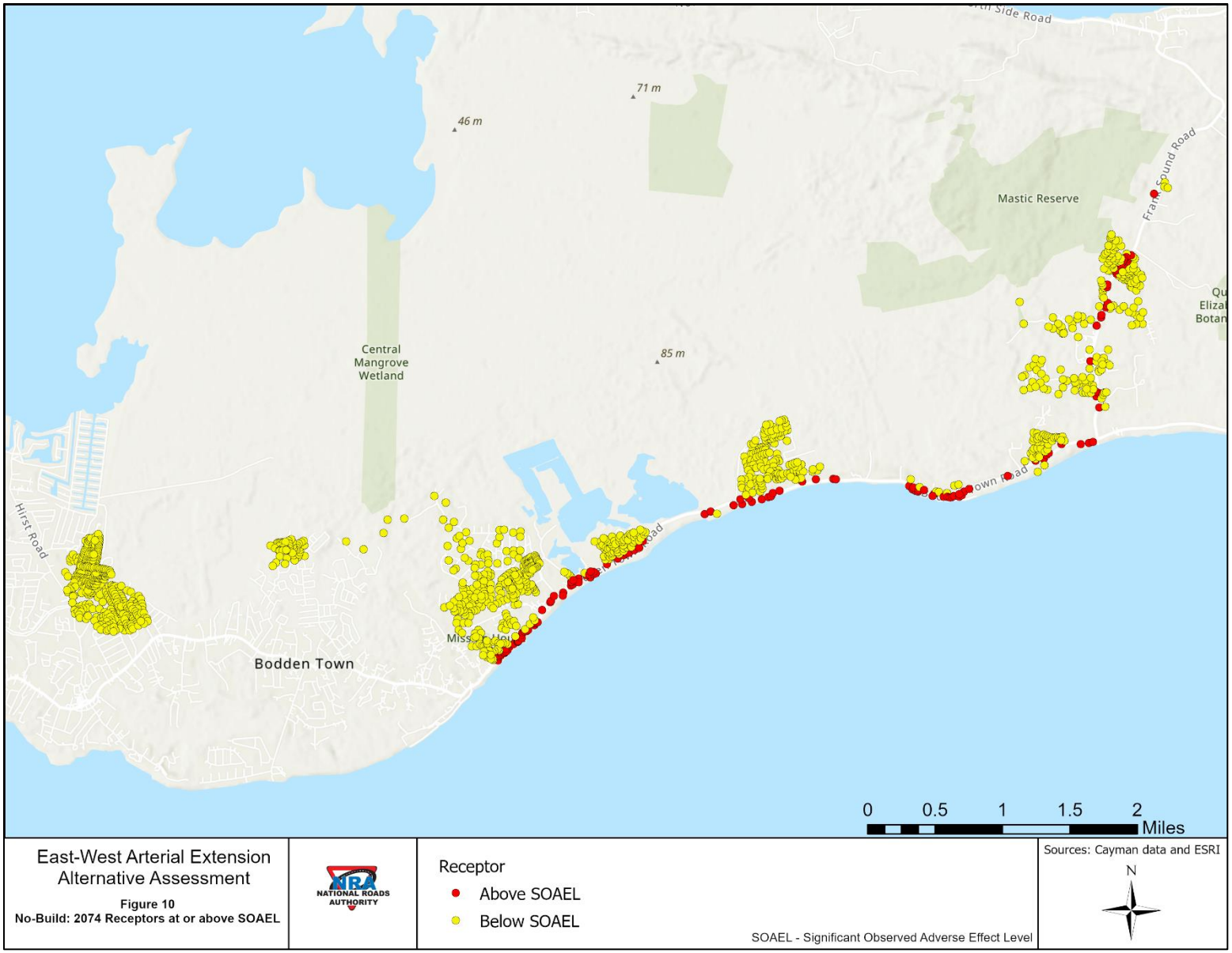


Figure 10: No-Build 2074 Noise Receptors at or above SOAEL (68 dBA)

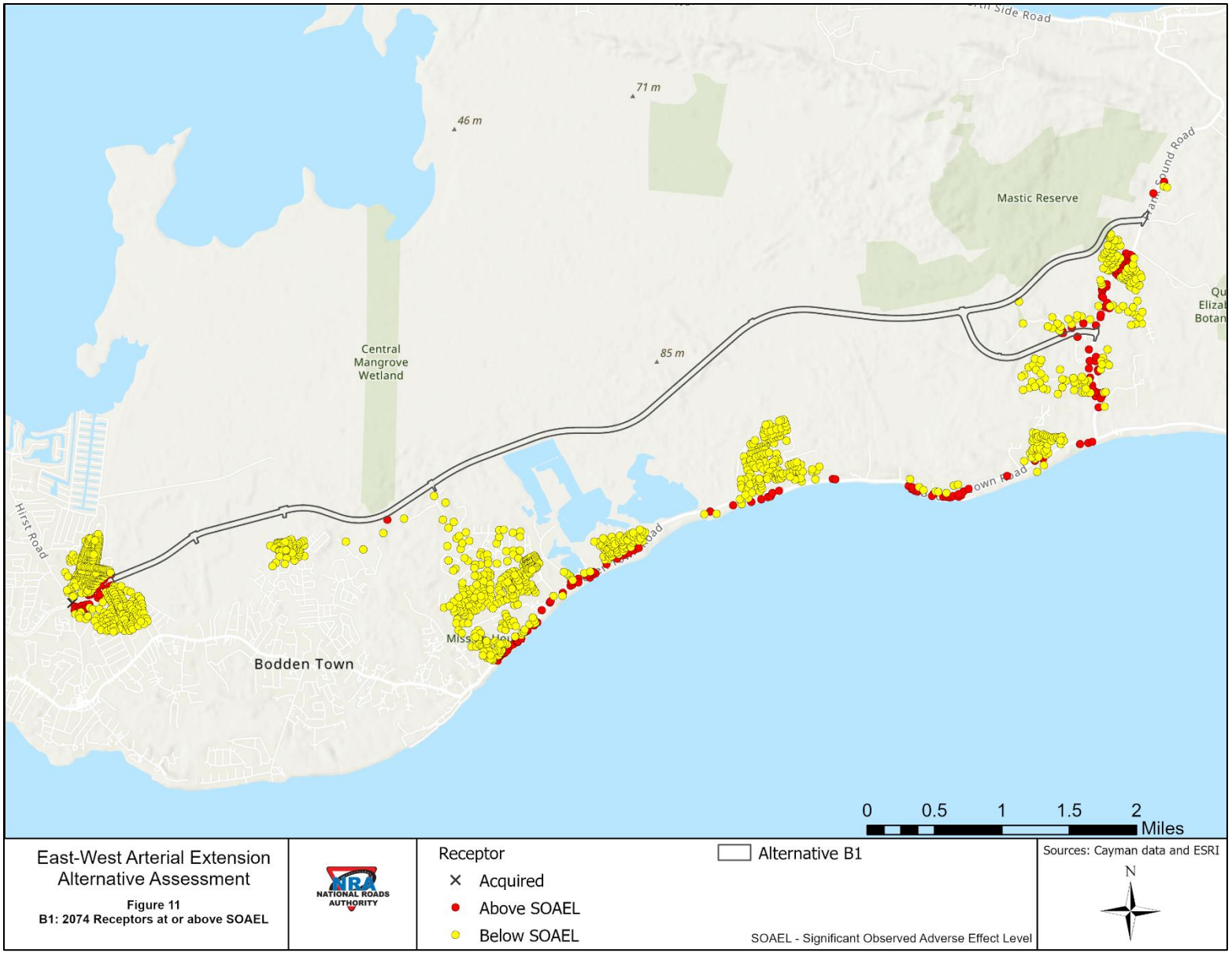


Figure 11: Alternative B1 2074 Noise Receptors at or above SOAEL (68 dBA)

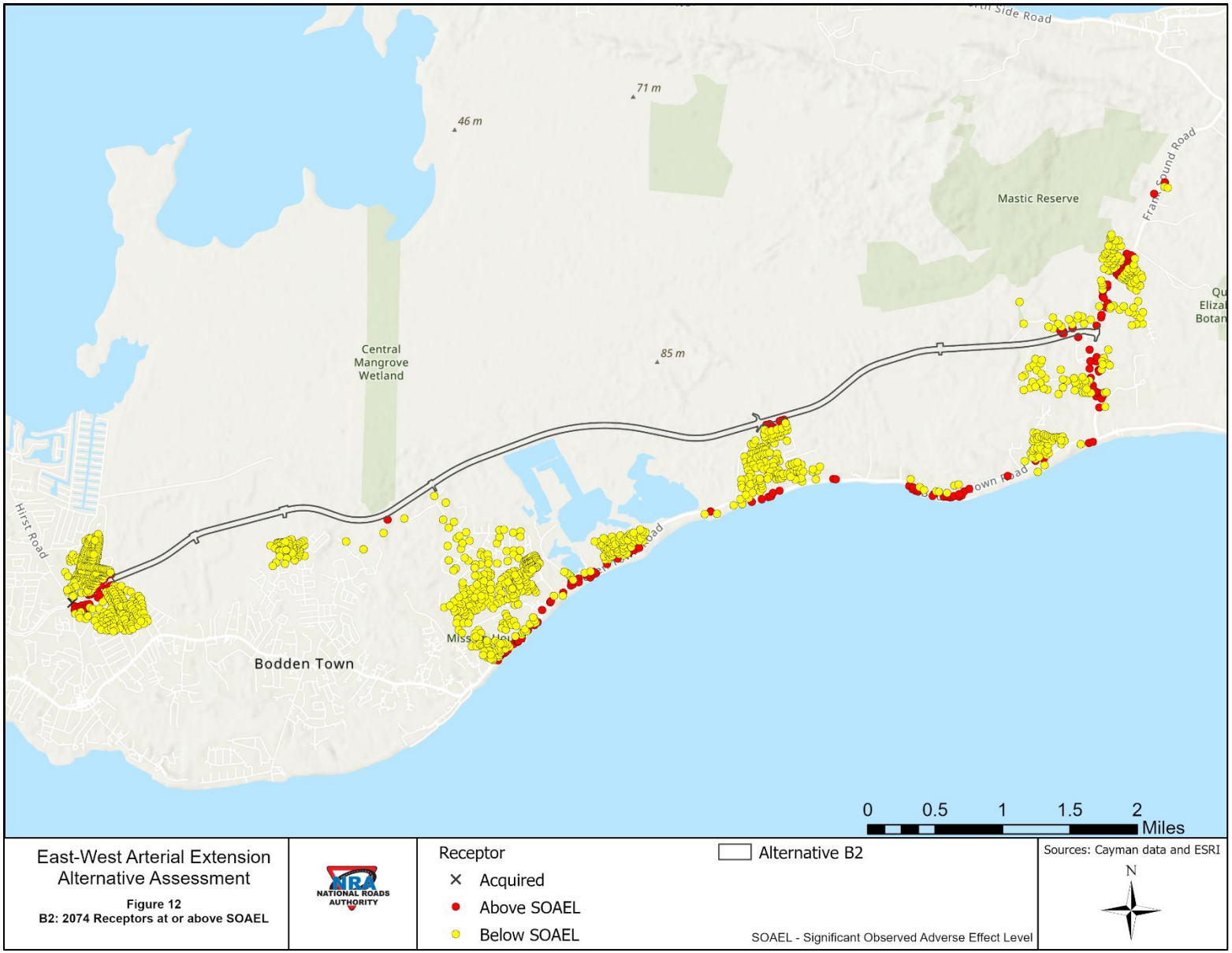


Figure 12: Alternative B2 2074 Noise Receptors at or above SOAEL (68 dBA)



Figure 13: Alternative B3 2074 Noise Receptors at or above SOAEL (68 dBA)

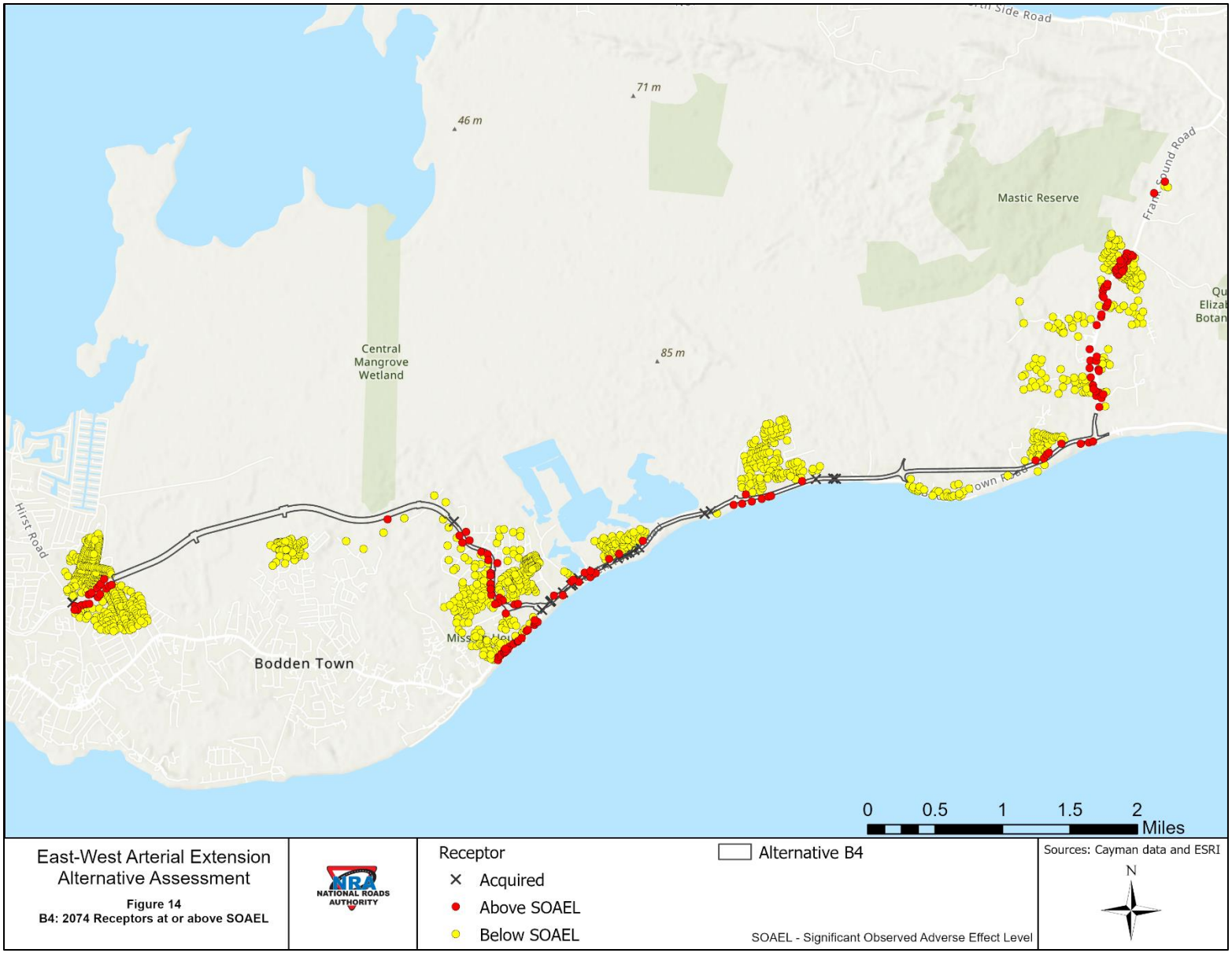


Figure 14: Alternative B4 2074 Noise Receptors at or above SOAEL (68 dBA)

6 Anticipated Project Impacts – Qualitative

Not applicable per the UK Department for Transport "Transport Analysis Guidance".

7 Anticipated Project Impacts – Monetary

As part of the Cost Benefit Analysis prepared for this project, the noise impacts of each alternative will be monetized (No-Build, Alternative B1, Alternative B2, Alternative B3, and Alternative B4). See the separate Cost Benefit Analysis and Shortlist Evaluation Document for details regarding noise monetary valuation.

8 Shortlist Evaluation Summary

The No-Build scenario and each of the Build alternatives (B1, B2, B3 and B4) were assessed in terms of anticipated noise impact in comparison to the 2026 No-Build (baseline condition). An overall comparison of the alternatives can be found in **Table 12** below.

For the unavoidable impacts reported, mitigation measures to aid in offsetting impacts may be possible. Mitigation measures have not been considered as part of this Shortlist Evaluation but will be investigated and identified for the Preferred Alternative and documented in the forthcoming Environmental Statement Document.

Table 12: Noise Evaluation Summary

Year	No-Build	B1	B2	B3	B4
2026	Baseline	Overall decrease (benefit)	Overall decrease (benefit)	Overall decrease (benefit)	Overall decrease (benefit)
2074	Overall increase (disbenefit)	Overall increase (disbenefit)	Overall increase (disbenefit)	Overall increase (disbenefit)	Overall increase (disbenefit)

The following summarizes the results of the analysis for the identified noise sensitive receptors. Quantified comparison tables of alternatives can be found in **Table 9**, **Table 10**, and **Table 11** above. Predicted noise levels at individual noise receptors can be found in **Attachment D** and **Attachment E**. The location of individual noise receptors, magnitude of change, and SOAEL threshold (68 dBA) for horizon year 2074 can be found in **Attachment F through Attachment O**. For comparison of noise levels with common indoor and outdoor sources, please see **Figure 4** above. Please note that the below is not a ranking; further comparison of alternatives in relation to noise can be found in the separate Cost Benefit Analysis and Shortlist Evaluation Document.

No-Build: The No-Build scenario is the baseline condition of comparison for the opening year (2026). The No-Build scenario results in an overall increase (disbenefit) in noise levels to noise sensitive receptors in 2074 compared to the 2026 No-Build. Compared to the Build alternatives, the No-Build scenario results in lower magnitudes of noise level increase and less noise receptors at or above the SOAEL threshold (68 dBA) in 2074.

- 2074 Magnitude of Change above Negligible: Increase at 597 noise receptors
- 2074 Receptors at or above SOAEL (68 dBA): 130 noise receptors

Alternatives B1, B2, and B3: Alternatives B1, B2, and B3 result in an overall decrease (benefit) in noise levels to noise sensitive receptors when compared to the No-Build for the opening year (2026). However, Alternatives B1, B2, and B3 result in an overall increase (disbenefit) in noise levels to noise sensitive receptors when compared to the No-Build for the horizon year (2074). Compared to the No-Build, these alternatives result in higher magnitudes of noise level increase and more noise receptors at or above the SOAEL threshold (68 dBA) in 2074. Overall, these alternatives are anticipated to result in similar noise impacts and further distinction can be found within the separate Cost Benefit Analysis and Shortlist Evaluation Document.

- 2074 Magnitude of Change above Negligible:
    - Alternative B1: Increase at 799 noise receptors
    - Alternative B2: Increase at 884 noise receptors
    - Alternative B3: Increase at 772 noise receptors
- 2074 Receptors at or above SOAEL (68 dBA):
    - Alternative B1: 167 noise receptors
    - Alternative B2: 163 noise receptors
    - Alternative B3: 160 noise receptors

Alternative B4: Alternative B4 results in an overall decrease (benefit) in noise levels to noise sensitive receptors when compared to the No-Build for the opening year (2026). However, Alternative B4 results in an overall increase (disbenefit) in noise levels to noise sensitive receptors when compared to the No-Build for the horizon year (2074). Compared to Alternatives B1, B2, and B3, Alternative B4 results in more noise receptors at or above the SOAEL threshold (68 dBA) in 2026 and less noise receptors at or above the SOAEL threshold (68 dBA) in 2074.

- 2074 Magnitude of Change above Negligible: Increase at 1,116 noise receptors
- 2074 Receptors at or above SOAEL (68 dBA): 144 noise receptors

This Noise Assessment is one in a series of Technical Reports that have been prepared for the Shortlist Evaluation. The level of impacts and the identification of the least impactful alternative will differ based on the resource/feature evaluated in each of the Technical Reports. Therefore, the least impactful alternative described in this evaluation summary and in each technical document **does not** move an alternative forward to the Preferred Evaluation nor does it constitute any special weighting or extra consideration in the Shortlist Evaluation Document. The comprehensive analysis of all the resources/features evaluated along with the rationale for the identification of the Preferred Alternative are presented in the Shortlist Evaluation Document.

9 References

Design Manual for Roads and Bridges LA 111 - Noise and vibration (2020). Revision 2. Retrieved November 8, 2023

Guidelines For Environmental Noise Impact Assessment - Version 1.2 (November 2014). Institute of Environmental Management & Assessment (IEMA)

Attachment A

Noise Monitoring Data Sheets

24A

LT-01

pg. ___ of ___

NOISE MEASUREMENT DATA SHEET

DATE: 7-26-23

EQUIPMENT: METER (Serial No.) 1-0001 CALIBRATOR (Serial no.) 01807

CALIBRATION: START 94.2 dBA END 94.4 dBA

WEATHER DATA / NOTES: TEMP. 84° APPROX. REL. HUMIDITY 79 %

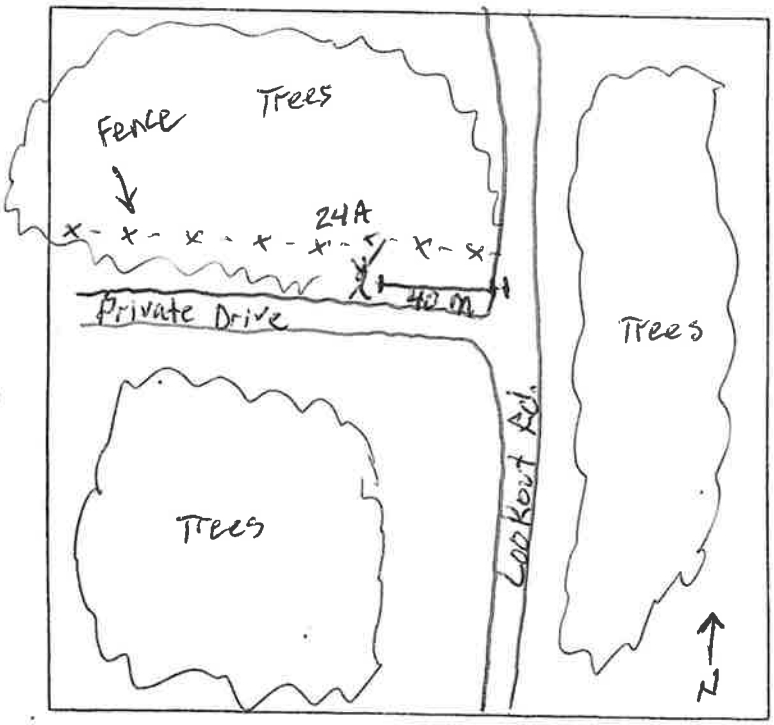
APPROX. WIND SPEED 5-7 mph

DIRECTION NE (may also be noted on site diagram below)

ROUTE: N/A LOCATION: Lookout Rd.

COMMUNITY: N/A START TIME: 12:55

SITE DIAGRAM



INTERVAL LENGTH: 5 min

TEST DURATION: 23 hrs

EVENTS LOG

Time	Event

TRAFFIC / OTHER NOTES: Site stopped after 23 hrs due to rain storm.

24B

LT-02

pg. ___ of ___

NOISE MEASUREMENT DATA SHEET

DATE: 7-26-23

EQUIPMENT: METER (Serial No.) 2-0602 CALIBRATOR (Serial no.) 01807

CALIBRATION: START 94.2 dBA END 94.4 dBA

WEATHER DATA / NOTES: TEMP. 84° APPROX. REL. HUMIDITY 79 %

APPROX. WIND SPEED 5-7 mph

DIRECTION NE (may also be noted on site diagram below)

ROUTE: Shamrock Rd. LOCATION: Spice Dr.

COMMUNITY: N/A START TIME: 13:05

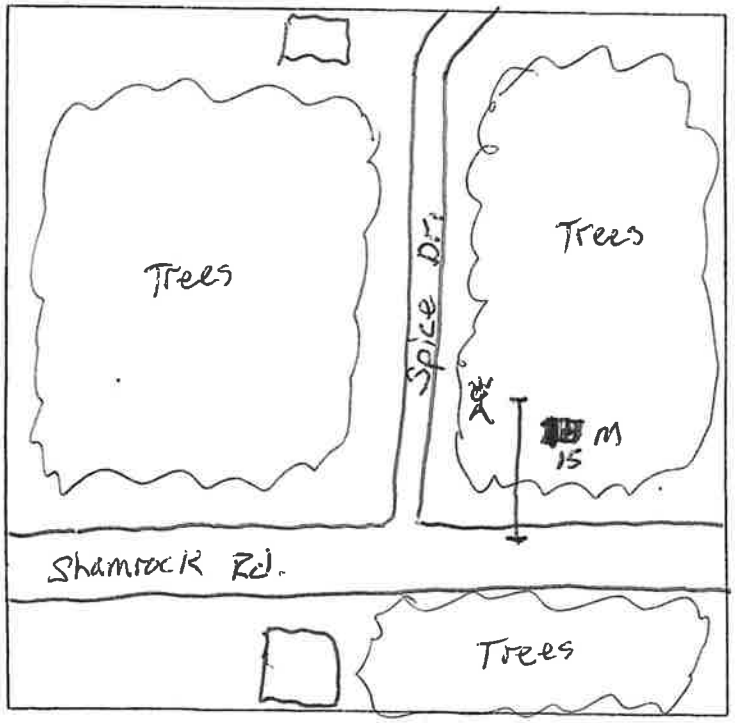
SITE DIAGRAM

INTERVAL LENGTH: 5 min

TEST DURATION: 23 hrs.

EVENTS LOG

Time	Event



TRAFFIC / OTHER NOTES: Site stopped After 23 hrs due to rainstorm.

st-1

ST-01

pg. ___ of ___

NOISE MEASUREMENT DATA SHEET

DATE: 7-25-23

EQUIPMENT: METER (Serial No.) 3-0101 CALIBRATOR (Serial no.) 01807

CALIBRATION: START 94.3 dBA END 94.4 dBA

WEATHER DATA / NOTES: TEMP. 91 APPROX. REL. HUMIDITY 75 %

APPROX. WIND SPEED 5-7 mph

DIRECTION S-N (may also be noted on site diagram below)

ROUTE: N/A LOCATION: Woodland Dr.

COMMUNITY: N/A - Ambient START TIME: 12:17

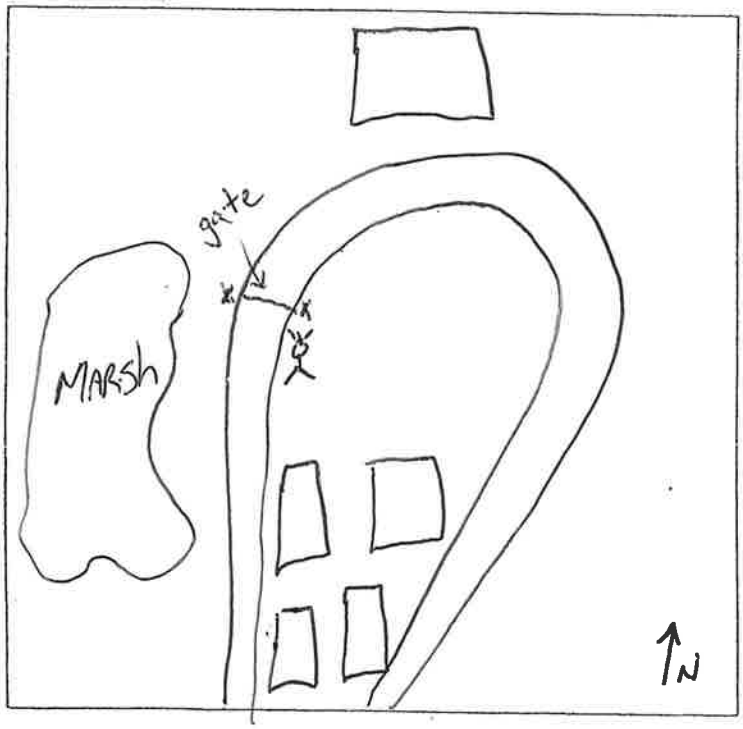
SITE DIAGRAM

INTERVAL LENGTH: 10 Sec.

TEST DURATION: 20 min

EVENTS LOG

Time	Event



TRAFFIC / OTHER NOTES:

Site moved from original location. Site moved to stay away from neighborhood traffic in the Community.

St-02

ST-02

pg. ___ of ___

NOISE MEASUREMENT DATA SHEET

DATE: 7-25-23

EQUIPMENT: METER (Serial No.) 3-0102 CALIBRATOR (Serial no.) 01807

CALIBRATION: START 94.3 dBA END 94.4 dBA

WEATHER DATA / NOTES: TEMP. 90 APPROX. REL. HUMIDITY 75 %

APPROX. WIND SPEED 6-8 mph

DIRECTION E-W (may also be noted on site diagram below)

ROUTE: N/A LOCATION: Will T-Rd

COMMUNITY: N/A START TIME: 11:43

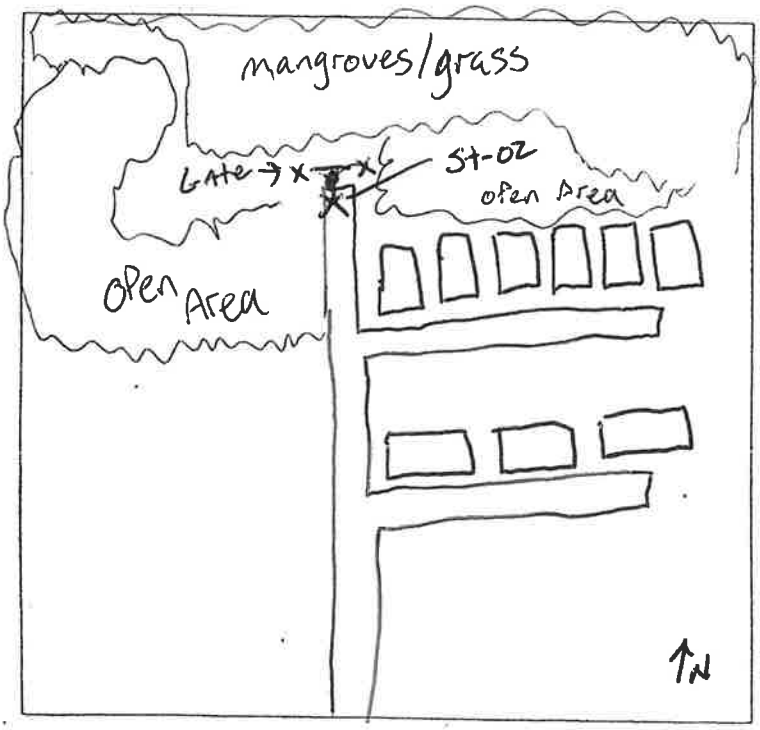
SITE DIAGRAM

INTERVAL LENGTH: 10 Sec

TEST DURATION: 20 min

EVENTS LOG

Time	Event



TRAFFIC / OTHER NOTES: Quiet - bugs and rooster noise

St-3

ST-03

pg. ___ of ___

NOISE MEASUREMENT DATA SHEET

DATE: 7-25-23

EQUIPMENT: METER (Serial No.) 3-0103 CALIBRATOR (Serial no.) 01807

CALIBRATION: START 94.3 dBA END 94.4 dBA

WEATHER DATA / NOTES: TEMP. 89 APPROX. REL. HUMIDITY 75 %

APPROX. WIND SPEED 8-10 mph

DIRECTION W-E (may also be noted on site diagram below)

ROUTE: Shamrock LOCATION: Midnight [redacted] Rd.

COMMUNITY: N/A START TIME: 11:12

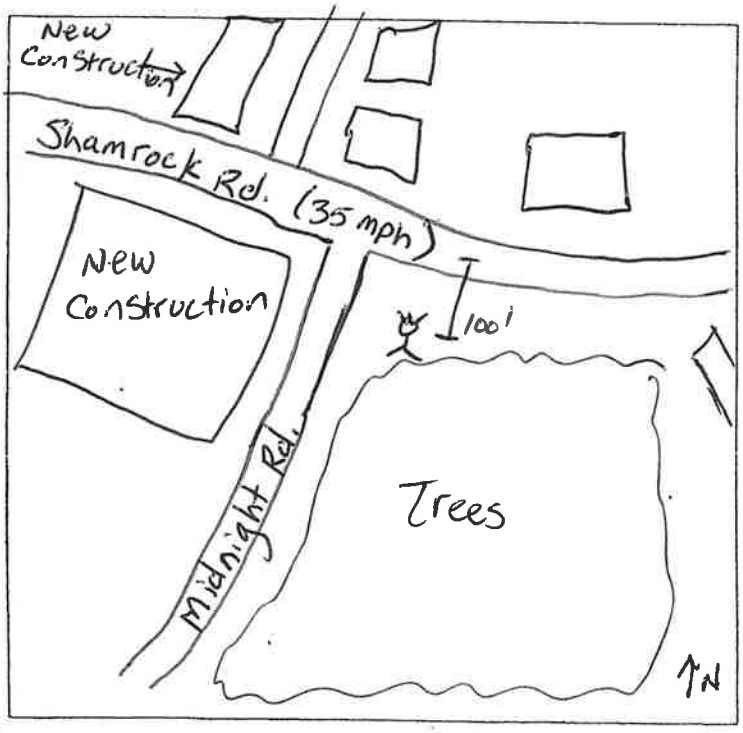
SITE DIAGRAM

INTERVAL LENGTH: 10 Sec

TEST DURATION: 20 min

EVENTS LOG

Time Event



TRAFFIC / OTHER NOTES:

Jakebrake: 11:24

C: 280 (20 min)
MT: 18 (20 min)
HT: 13 (20 min)

ST-4

ST-04

pg. ___ of ___

NOISE MEASUREMENT DATA SHEET

DATE: 7-25-23

EQUIPMENT: METER (Serial No.) 3-0104 CALIBRATOR (Serial no.) 01807

CALIBRATION: START 94.3 dBA END 94.4 dBA

WEATHER DATA / NOTES: TEMP. 88 APPROX. REL. HUMIDITY 75 %

APPROX. WIND SPEED 2-4 mph

DIRECTION N-S (may also be noted on site diagram below)

ROUTE: Bodden Town Rd. LOCATION: Midland Acres Cul-de-Sac

COMMUNITY: Midland Acres START TIME: 10:35

SITE DIAGRAM



INTERVAL LENGTH: 10 Sec

TEST DURATION: 20 Min

EVENTS LOG

Time	Event
10:45	Car Start
10:47	jake Brake
10:48	jake Brake

C: 128 (20 min)
MT: 11 (20 min)
HT: 10 (20 min)

TRAFFIC / OTHER NOTES:

Traffic Slower on WB

Profile:



ST-5

ST-05

PG. ____ of ____

NOISE MEASUREMENT DATA SHEET

DATE: 7-25-23

EQUIPMENT : METER (Serial No.) 3-0105 CALIBRATOR (Serial no.) 01807

CALIBRATION : START 94.3 dBA END 94.4 dBA

WEATHER DATA / NOTES: TEMP. 87 APPROX. REL. HUMIDITY 75 %

APPROX. WIND SPEED 2-4 mph

DIRECTION N-S (may also be noted on site diagram below)

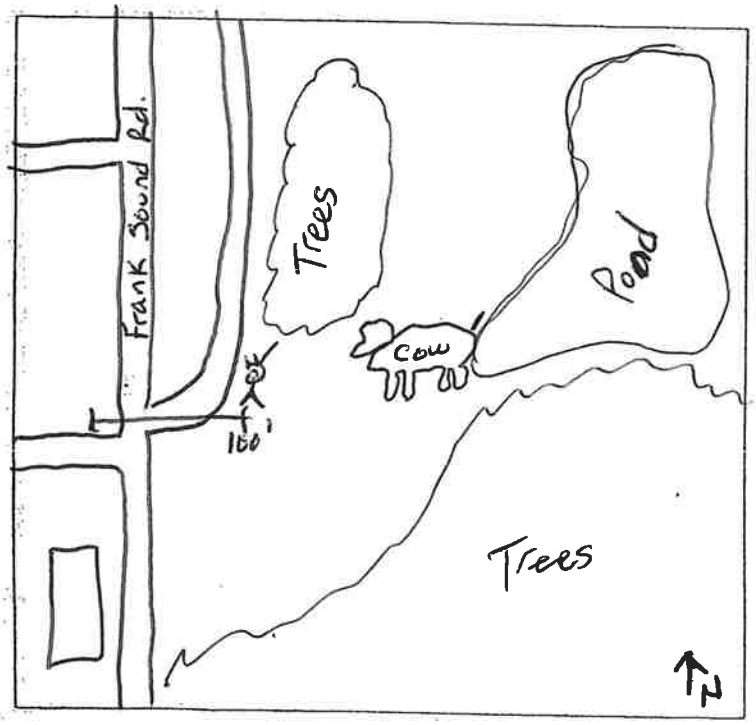
ROUTE : Frank Sound Rd. LOCATION : N/A

COMMUNITY : N/A START TIME: 10:01

INTERVAL LENGTH : 10 Sec

TEST DURATION : 20 min

SITE DIAGRAM



EVENTS LOG

Time	Event

C: 107

MT: 8

HT: 1

TRAFFIC / OTHER NOTES : Cichada noise is REALLY loud. Ave. 62-63 dBA. Weed wacker in background. Cars Ave. 40 mph. Bugs louder during 1st 10 min.

ST-6

ST-06

pg. ____ of ____

NOISE MEASUREMENT DATA SHEET

DATE: 7-25-23

EQUIPMENT : METER (Serial No.) 3-0107 CALIBRATOR (Serial no.) 01807

CALIBRATION : START 94.3 dBA END 94.4 dBA

WEATHER DATA / NOTES: TEMP. 86 APPROX. REL. HUMIDITY 75 %

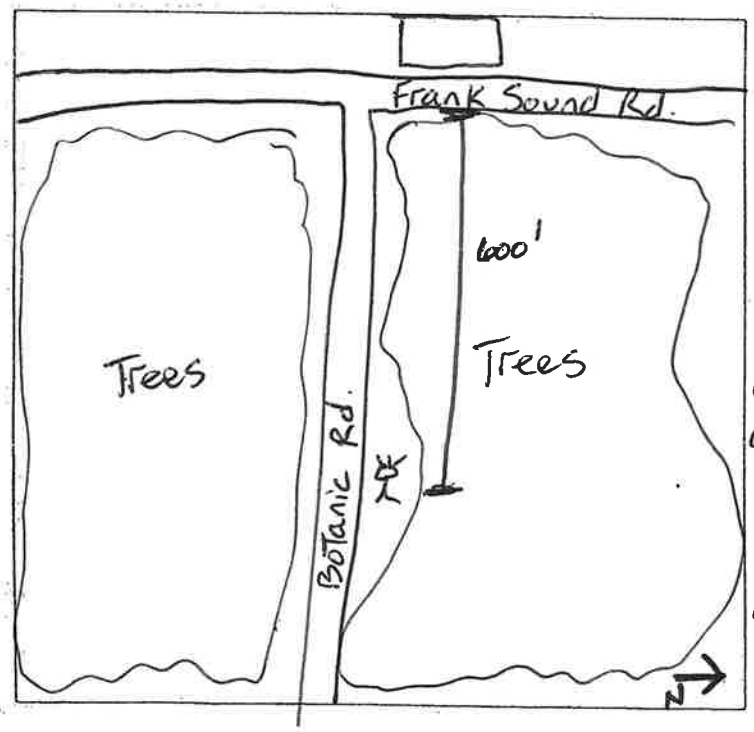
APPROX. WIND SPEED Calm mph

DIRECTION N/A (may also be noted on site diagram below)

ROUTE : Frank Sound Rd. LOCATION : Botanic Rd.

COMMUNITY : N/A - Ambient START TIME: 9:27

SITE DIAGRAM



INTERVAL LENGTH : 10 sec

TEST DURATION : 20 min

EVENTS LOG

Time	Event
9:33	Local Car
9:35	Local Car
9:36	Local Car
9:37	Local Car
9:38	Local Car
9:40	Local Car
9:41	Local Car
9:44 - 9:47	(2) medium Trucks

TRAFFIC / OTHER NOTES : No influence from Frank Sound Rd. Considered an Ambient site and was moved moved from original site to stay on Private Property. This site is equidistant to Frank Sound Rd. as the original site

ST-7

ST-07

pg. ____ of ____

NOISE MEASUREMENT DATA SHEET

DATE: 7-25-23

EQUIPMENT: METER (Serial No.) 3-0106 CALIBRATOR (Serial no.) 01807

CALIBRATION: START 94.3 dBA END 94.4 dBA

WEATHER DATA / NOTES: TEMP. 83 APPROX. REL. HUMIDITY 75 %

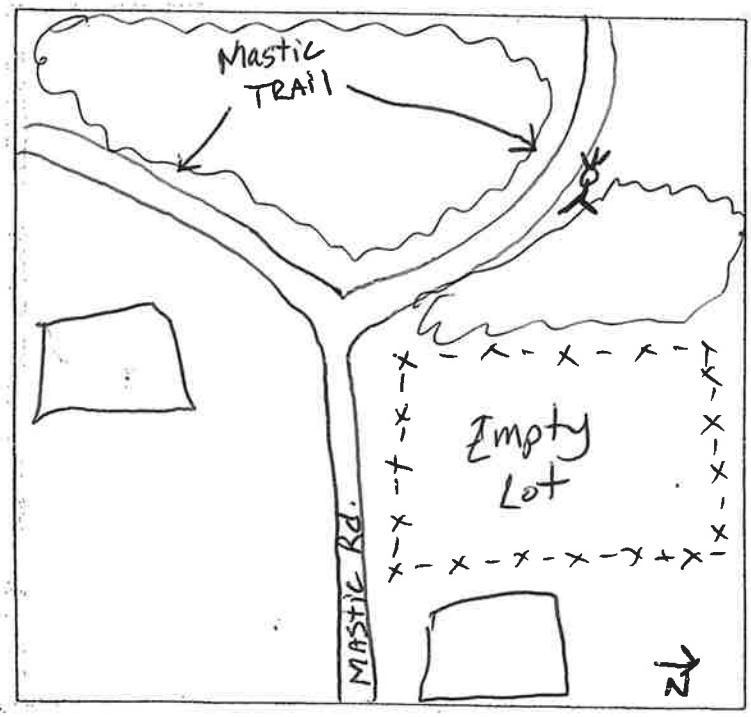
APPROX. WIND SPEED 2-3 mph

DIRECTION E-W (may also be noted on site diagram below)

ROUTE: Mastic Trail LOCATION: Mastic Trail Head

COMMUNITY: _____ START TIME: 8:54

SITE DIAGRAM



INTERVAL LENGTH: 10 Sec

TEST DURATION: 20 min

EVENTS LOG

Time	Event
9:04	Car pulled in and pulled out of Trailhead
9:09	Test ended Due to Down Pour of rain.

TRAFFIC / OTHER NOTES: Ambient noise - low to mid 40 dBA - Rooster and other bird noise was dominent.

Attachment B

Traffic Data: 2026

Cayman EWA EIA - 2026 Segment Traffic Data																
Alternative	Segment Title	Segment Speed - PM (mph)		Segment Volume - PM			Segment Volume - Direction 1 (PM)					Segment Volume - Direction 2 (PM)				
		Direction 1 (EB/NB)	Direction 2 (WB/SB)	Direction 1 (EB/NB)	Direction 2 (WB/SB)	Total	Motorcycle	Car & Trailer	Bus	Medium Trucks	Heavy Trucks	Motorcycle	Car & Trailer	Bus	Medium Trucks	Heavy Trucks
2026 No-Build	No-build Shamrock Rd from Woodland to Condor Rd (ATR 815)	29	34	1,251	654	1,905	12	1,154	26	46	12	16	607	7	16	7
	No-build Shamrock Rd from Condor Rd to Bodden Town Bypass (ATR 922)	26	27	566	389	955	5	552	2	5	2	5	325	8	46	6
	No-build Bodden Town Rd from Bodden Town Bypass to Frank Sound Rd (ATR 909)	33	34	627	497	1,124	8	581	0	22	16	10	459	2	23	4
	Hirst Rd from Shamrock Rd to EWA (ATR 803)	30	27	166	490	656	9	152	1	3	1	21	448	9	5	8
	Frank Sound Rd from Bodden Town Rd to Old Robin Rd (ATR 926)	45	45	331	277	608	6	312	4	8	0	2	251	5	18	2
2026 Alternative B1	Will T (ATR 812)	25	25	8	88	96	0	7	0	1	0	0	88	0	0	0
	Section 1 to B4 Turn (ATR 815)	39	46	824	468	1,292	8	760	17	30	8	11	434	5	11	5
	B1/2/3 from B4 Turn to B2 Southern Shift (ATR 922)	45	47	556	424	980	5	542	2	5	2	5	354	8	50	6
	B1/3 from B2 Southern Shift to Eastern End (Gazetted Corridor) (ATR 909)	43	44	556	396	952	7	515	0	19	15	8	366	2	18	3
	B1 Northern Spur from Turn South to Eastern Terminus (ATR 926)	36	39	133	115	248	3	125	2	3	0	1	104	2	7	1
	No-build from Woodland to Condor Rd (ATR 815)	37	39	523	279	802	5	482	11	19	5	7	259	3	7	3
	No-build from Condor Rd to Bodden Town Bypass (ATR 922)	29	29	153	169	322	1	149	1	1	1	2	141	3	20	3
	No-build from Bodden Town Bypass to Frank Sound Rd (ATR 909)	37	37	142	143	285	2	131	0	5	4	3	132	1	7	1
	Hirst Rd from Shamrock Rd to EWA (ATR 803)	30	30	213	222	435	11	195	1	4	1	9	203	4	2	3
	Frank Sound Rd from Bodden Town Rd to Old Robin Rd (ATR 926)	47	46	135	188	323	3	127	2	3	0	1	170	3	12	1
2026 Alternative B2	Will T (ATR 812)	25	25	11	105	116	0	10	0	1	0	0	105	0	0	0
	Section 1 to B4 Turn (ATR 815)	37	46	853	483	1,336	8	787	18	31	8	12	448	5	12	5
	B1/2/3 from B4 Turn to B2 Southern Shift (ATR 922)	44	46	595	477	1,072	5	580	2	5	2	6	398	9	57	7
	B2 from Southern Shift to Eastern Terminus (ATR 909)	45	47	542	450	992	7	502	0	19	14	9	415	2	21	3
	No-build from Woodland to Condor Rd (ATR 815)	38	39	507	276	783	5	468	11	19	5	7	256	3	7	3
	No-build from Condor Rd to Bodden Town Bypass (ATR 922)	29	29	129	145	274	1	126	1	1	1	2	121	3	17	2
	No-build from Bodden Town Bypass to Frank Sound Rd (ATR 909)	37	37	116	103	219	2	107	0	4	3	2	95	0	5	1
	Hirst Rd from Shamrock Rd to EWA (ATR 803)	30	30	180	160	340	10	165	1	4	1	7	146	3	2	2
	Frank Sound Rd from Bodden Town Rd to Old Robin Rd (ATR 926)	45	45	262	242	504	5	247	3	7	0	1	219	4	16	1
2026 Alternative B3	Will T (ATR 812)	25	25	10	93	103	0	9	0	1	0	0	93	0	0	0
	Section 1 to B4 Turn (ATR 815)	38	46	825	479	1,304	8	761	17	30	8	12	445	5	12	5
	B1/2/3 from B4 Turn to B2 Southern Shift (ATR 922)	45	47	560	438	998	5	546	2	5	2	5	366	9	52	6
	B1/3 from B2 Southern Shift to Eastern End (Gazetted Corridor) (ATR 909)	46	47	560	410	970	7	519	0	20	15	8	379	2	19	3
	No-build from Woodland to Condor Rd (ATR 815)	37	39	530	277	807	5	489	11	20	5	7	257	3	7	3
	No-build from Condor Rd to Bodden Town Bypass (ATR 922)	29	29	158	167	325	1	154	1	1	1	2	139	3	20	2
	No-build from Bodden Town Bypass to Frank Sound Rd (ATR 909)	37	37	146	137	283	2	135	0	5	4	3	126	1	6	1
	Hirst Rd from Shamrock Rd to EWA (ATR 803)	30	30	180	162	342	10	165	1	4	1	7	148	3	2	3
	Frank Sound Rd from Bodden Town Rd to Old Robin Rd (ATR 926)	46	46	260	240	500	5	245	3	7	0	1	218	4	15	1
2026 Alternative B4	Will T (ATR 812)	25	25	3	85	88	0	3	0	0	0	0	85	0	0	0
	Section 1 to B4 Turn (ATR 815)	38	48	826	354	1,180	8	762	17	30	8	9	329	4	9	4
	B4 Lookout Rd from Turn to Bodden Town Bypass/Bodden Town Rd (ATR 909)	30	33	638	466	1,104	8	591	0	22	17	9	430	2	21	3
	B4 from Bodden Town Bypass to Frank Sound Rd (ATR 909)	41	42	675	546	1,221	9	625	0	24	18	10	504	3	25	4
	No-build from Woodland to Condor Rd (ATR 815)	38	38	483	356	839	5	445	10	18	5	9	330	4	9	4
	No-build from Condor Rd to Bodden Town Bypass (ATR 922)	29	29	120	180	300	1	117	1	1	1	2	150	4	21	3
	Hirst Rd from Shamrock Rd to EWA (ATR 803)	30	30	169	142	311	9	155	1	3	1	6	130	2	1	2
	Frank Sound Rd from Bodden Town Rd to Old Robin Rd (ATR 926)	46	46	348	293	641	7	328	4	9	0	2	266	5	19	2

Attachment C

Traffic Data: 2074

Cayman EWA EIA - 2074 Segment Traffic Data																
		Segment Speed - PM (mph)		Segment Volume - PM			Segment Volume - Direction 1 (PM)					Segment Volume - Direction 2 (PM)				
Alternative	Segment Title	Direction 1 (EB/NB)	Direction 2 (WB/SB)	Direction 1 (EB/NB)	Direction 2 (WB/SB)	Total	Motorcycle	Car & Trailer	Bus	Medium Trucks	Heavy Trucks	Motorcycle	Car & Trailer	Bus	Medium Trucks	Heavy Trucks
2074 No-Build	No-build Shamrock Rd from Woodland to Condor Rd (ATR 815)	11	17	2,814	1,885	4,699	28	2,595	59	104	28	46	1,750	21	46	21
	No-build Shamrock Rd from Condor Rd to Bodden Town Bypass (ATR 922)	12	16	1,757	1,400	3,157	15	1,713	7	15	7	17	1,168	28	166	21
	No-build Bodden Town Rd from Bodden Town Bypass to Frank Sound Rd (ATR 909)	15	16	1,847	1,745	3,592	24	1,710	0	64	48	33	1,611	8	80	13
	Hirst Rd from Shamrock Rd to EWA (ATR 803)	29	23	334	865	1,199	18	306	2	7	1	37	792	15	8	13
	Frank Sound Rd from Bodden Town Rd to Old Robin Rd (ATR 926)	32	40	1,147	219	1,366	22	1,081	15	29	0	1	199	4	14	1
2074 Alternative B1	Will T (ATR 812)	25	24	21	271	292	0	19	0	2	0	0	271	0	0	0
	Section 1 to B4 Turn (ATR 815)	17	41	2,282	1,406	3,688	23	2,105	48	84	23	34	1,305	16	34	16
	B1/2/3 from B4 Turn to B2 Southern Shift (ATR 922)	32	43	1,758	1,327	3,085	15	1,714	7	15	7	16	1,107	26	157	20
	B1/3 from B2 Southern Shift to Eastern End (Gazetted Corridor) (ATR 909)	33	41	1,758	1,284	3,042	23	1,628	0	61	46	25	1,185	6	59	9
	B1 Northern Spur from Turn South to Eastern Terminus (ATR 926)	39	39	254	185	439	5	239	3	7	0	1	168	3	12	1
	No-build from Woodland to Condor Rd (ATR 815)	33	30	929	976	1,905	9	857	19	34	9	24	906	11	24	11
	No-build from Condor Rd to Bodden Town Bypass (ATR 922)	28	27	300	466	766	3	292	1	3	1	6	389	9	55	7
	No-build from Bodden Town Bypass to Frank Sound Rd (ATR 909)	36	31	322	667	989	4	298	0	11	8	13	616	3	30	5
	Hirst Rd from Shamrock Rd to EWA (ATR 803)	27	27	537	657	1,194	29	492	4	11	2	28	601	11	6	10
	Frank Sound Rd from Bodden Town Rd to Old Robin Rd (ATR 926)	40	37	1,213	1,570	2,783	23	1,143	16	31	0	9	1,423	28	101	9
2074 Alternative B2	Will T (ATR 812)	25	24	23	272	295	0	21	0	2	0	0	272	0	0	0
	Section 1 to B4 Turn (ATR 815)	16	38	2,329	1,530	3,859	23	2,148	49	86	23	38	1,420	17	38	17
	B1/2/3 from B4 Turn to B2 Southern Shift (ATR 922)	30	40	1,809	1,478	3,287	15	1,764	8	15	8	18	1,233	29	175	22
	B2 from Southern Shift to Eastern Terminus (ATR 909)	30	39	1,809	1,442	3,251	24	1,675	0	63	47	28	1,331	7	66	10
	No-build from Woodland to Condor Rd (ATR 815)	34	32	892	839	1,731	9	823	19	33	9	21	779	9	21	9
	No-build from Condor Rd to Bodden Town Bypass (ATR 922)	28	27	263	404	667	2	256	1	2	1	5	337	8	48	6
	No-build from Bodden Town Bypass to Frank Sound Rd (ATR 909)	36	33	282	530	812	4	261	0	10	7	10	489	3	24	4
	Hirst Rd from Shamrock Rd to EWA (ATR 803)	26	26	583	621	1,204	31	534	4	12	2	26	568	11	6	10
	Frank Sound Rd from Bodden Town Rd to Old Robin Rd (ATR 926)	38	36	1,364	1,611	2,975	26	1,285	17	35	0	9	1,460	28	104	9
2074 Alternative B3	Will T (ATR 812)	25	24	22	273	295	0	20	0	2	0	0	273	0	0	0
	Section 1 to B4 Turn (ATR 815)	17	39	2,292	1,484	3,776	23	2,114	48	84	23	36	1,378	17	36	17
	B1/2/3 from B4 Turn to B2 Southern Shift (ATR 922)	32	42	1,771	1,414	3,185	15	1,727	7	15	7	17	1,180	28	168	21
	B1/3 from B2 Southern Shift to Eastern End (Gazetted Corridor) (ATR 909)	31	39	1,771	1,377	3,148	23	1,640	0	62	46	26	1,271	7	63	10
	No-build from Woodland to Condor Rd (ATR 815)	32	31	922	896	1,818	9	850	19	34	9	22	832	10	22	10
	No-build from Condor Rd to Bodden Town Bypass (ATR 922)	28	27	291	415	706	2	284	1	2	1	5	346	8	49	6
	No-build from Bodden Town Bypass to Frank Sound Rd (ATR 909)	36	32	310	584	894	4	287	0	11	8	11	539	3	27	4
	Hirst Rd from Shamrock Rd to EWA (ATR 803)	27	27	547	623	1,170	29	501	4	11	2	26	570	11	6	10
	Frank Sound Rd from Bodden Town Rd to Old Robin Rd (ATR 926)	38	37	1,315	1,588	2,903	25	1,239	17	34	0	9	1,439	28	102	9
2074 Alternative B4	Will T (ATR 812)	25	24	15	240	255	0	14	0	1	0	0	240	0	0	0
	Section 1 to B4 Turn (ATR 815)	23	45	2,102	1,148	3,250	21	1,939	44	77	21	28	1,066	13	28	13
	B4 Lookout Rd from Turn to Bodden Town Bypass/Bodden Town Rd (ATR 909)	22	31	1,895	1,609	3,504	25	1,755	0	66	50	31	1,486	8	73	12
	B4 from Bodden Town Bypass to Frank Sound Rd (ATR 909)	21	23	2,043	1,950	3,993	27	1,892	0	71	53	37	1,800	9	89	14
	No-build from Woodland to Condor Rd (ATR 815)	30	25	1,053	1,169	2,222	10	971	22	39	10	29	1,085	13	29	13
	No-build from Condor Rd to Bodden Town Bypass (ATR 922)	28	27	234	448	682	2	228	1	2	1	6	374	9	53	7
	Hirst Rd from Shamrock Rd to EWA (ATR 803)	28	28	383	532	915	20	351	3	8	1	23	487	9	5	8
	Frank Sound Rd from Bodden Town Rd to Old Robin Rd (ATR 926)	39	40	1,273	1,357	2,630	24	1,200	16	33	0	8	1,230	24	87	8

Attachment D

Predicted Noise Levels: 2026

Receptor Site	Opening Year No-Build (2026)	Opening Year (2026) Alt. B1	Difference (B1-No-Build 2026)	Opening Year (2026) Alt. B2	Difference (B2-No-Build 2026)	Opening Year (2026) Alt. B3	Difference (B3-No-Build 2026)	Opening Year (2026) Alt. B4	Difference (B4-No-Build 2026)
M01-01	48	52	4	52	4	52	4	51	3
M01-02	46	52	7	52	7	52	6	51	6
M01-03	45	52	7	52	7	52	7	51	6
M01-04	44	52	8	52	8	52	8	51	7
M01-05	45	53	8	53	8	53	8	52	7
M01-06	46	55	9	55	9	55	9	54	8
M01-07	43	53	11	53	11	53	11	53	10
M01-08	42	53	11	53	11	53	11	52	10
M01-09	42	53	11	53	11	53	11	52	10
M01-10	43	52	9	52	9	52	9	51	8
M01-11	43	52	9	52	9	52	9	51	7
M01-12	44	52	8	52	8	52	8	51	7
M01-13	44	52	7	52	7	52	7	51	6
M01-14	46	52	6	52	6	52	6	51	5
M01-15	47	52	5	52	5	52	5	51	4
M01-16	48	51	4	51	4	51	3	50	3
M01-17	46	49	3	49	3	49	3	48	2
M01-18	47	51	4	51	4	51	4	50	3
M01-19	45	50	5	50	5	50	5	49	4
M01-20	42	49	7	49	7	49	7	48	6
M01-21	42	50	8	50	8	50	8	49	7
M01-22	42	51	9	51	9	51	9	49	8
M01-23	41	52	10	52	10	52	10	50	9
M01-24	41	52	11	52	11	52	11	51	10
M01-25	42	52	11	52	11	52	11	51	10
M01-26	40	52	11	52	11	52	11	51	10
M01-27	40	51	11	51	11	51	11	50	10
M01-28	40	51	10	51	10	51	10	50	9
M01-29	42	52	10	52	10	52	10	51	9
M01-30	41	51	10	51	10	51	10	50	9
M01-31	41	51	10	51	10	51	10	49	8
M01-32	42	51	9	50	9	50	9	49	7
M01-33	40	48	8	48	8	48	8	47	7
M01-34	43	50	7	50	7	50	7	49	6
M01-35	46	49	4	49	3	49	3	48	2
M01-36	42	48	6	48	6	48	6	47	5
M01-37	42	50	8	50	8	50	8	48	6
M01-38	42	50	9	50	9	50	8	49	7
M01-39	42	52	10	52	10	52	10	50	8
M01-40	41	51	10	51	10	51	10	50	9
M01-41	40	50	10	50	10	50	10	49	9
M01-42	40	50	10	50	10	50	10	49	9
M01-43	40	50	10	50	10	50	10	49	9
M01-44	41	51	10	51	10	51	10	50	8
M01-45	42	51	9	51	9	51	9	49	8
M01-46	42	50	8	50	8	50	8	48	7
M01-47	42	48	6	48	6	48	6	46	4
M01-48	42	47	5	47	5	47	5	46	4
M01-49	42	48	6	48	6	48	6	46	4
M01-50	42	48	6	48	6	48	6	46	4
M01-51	41	49	8	49	8	49	8	48	7
M01-52	41	51	10	51	10	51	10	49	8
M01-53	40	49	9	49	9	49	9	48	8
M01-54	40	49	9	49	9	49	9	48	8
M01-55	40	49	9	49	9	49	9	48	8
M01-56	41	51	9	51	9	51	9	49	8
M01-57	41	49	8	49	8	49	8	48	6
M01-58	42	47	6	47	6	47	5	46	4
M01-59	42	47	5	46	5	46	5	45	4
M01-60	41	47	6	47	6	47	6	46	5
M01-61	41	50	9	50	9	50	9	48	8
M01-62	40	48	9	48	9	48	9	47	8
M01-63	39	48	10	48	9	48	9	47	9
M01-64	39	48	9	48	9	48	9	47	8
M01-65	39	48	8	47	8	48	8	47	8
M01-66	41	49	8	49	8	49	8	48	7
M01-67	41	46	5	46	5	46	5	45	4
M01-68	42	47	5	47	5	47	5	45	3
M01-69	42	46	4	46	4	46	4	45	3
M01-70	42	47	5	47	5	47	5	46	4
M01-71	41	46	5	46	5	46	5	45	4
M01-72	41	46	6	46	6	46	6	45	4
M01-74	41	47	6	47	6	47	6	46	5
M01-75	41	48	8	48	8	48	8	47	6
M01-76	40	47	7	47	7	47	7	47	6
M01-77	39	47	8	47	8	47	8	46	7
M02-01	45	52	7	52	7	52	7	51	6
M02-02	46	52	6	52	6	52	6	51	5

Receptor Site	Opening Year No-Build (2026)	Opening Year (2026) Alt. B1	Difference (B1-No-Build 2026)	Opening Year (2026) Alt. B2	Difference (B2-No-Build 2026)	Opening Year (2026) Alt. B3	Difference (B3-No-Build 2026)	Opening Year (2026) Alt. B4	Difference (B4-No-Build 2026)
M02-03	52	59	7	59	7	59	7	58	6
M02-04	50	58	8	58	8	58	8	58	7
M02-05	48	61	13	61	13	61	13	60	12
M02-05	46	54	8	54	8	54	8	54	8
M02-06	49	58	9	58	9	58	9	58	9
M02-07	51	60	9	60	9	60	9	59	8
M02-08	44	55	11	55	11	55	11	54	10
M02-09	50	61	10	60	10	60	10	60	10
M02-10	43	56	13	56	13	56	13	55	12
M02-11	46	59	13	59	13	59	13	58	12
M02-12	44	58	14	58	14	58	14	57	14
M02-13	44	59	15	59	15	59	15	58	15
M02-14	44	60	16	60	16	60	16	59	16
M02-15	45	62	17	62	17	62	17	61	16
M02-16	43	62	19	62	19	62	19	62	19
M02-17	43	64	21	63	21	64	21	63	20
M02-18	43	66	23	65	22	65	22	65	22
M02-19	43	67	24	67	24	67	24	67	24
M02-20	44	65	21	65	21	65	21	65	21
M02-21	45	64	19	64	19	64	19	63	18
M02-22	45	63	18	63	17	63	17	62	17
M02-23	45	62	17	61	16	61	17	61	16
M02-24	47	62	15	62	15	62	15	61	15
M02-25	46	60	14	60	14	60	14	60	14
M02-26	48	61	13	61	13	61	13	60	13
M02-27	47	59	13	59	12	59	12	59	12
M02-28	46	57	11	57	11	57	11	56	10
M02-29	47	57	10	57	10	57	10	56	10
M02-30	47	57	10	57	10	57	10	56	9
M02-31	50	59	9	58	9	58	9	58	8
M02-32	49	57	8	57	8	57	8	56	8
M02-33	49	56	8	56	7	56	7	56	7
M02-34	51	58	7	57	7	57	7	57	6
M02-35	46	53	7	53	7	53	7	52	6
M02-36	48	55	7	55	7	55	7	54	7
M02-37	48	55	7	55	7	55	7	55	6
M02-38	46	58	12	58	12	58	12	57	11
M02-39	46	59	13	59	13	59	13	58	12
M02-40	44	66	22	66	22	66	22	66	22
M02-41	45	66	21	66	21	66	21	66	21
M02-42	46	66	20	65	19	65	19	65	19
M02-43	50	65	15	65	15	65	15	64	15
M02-44	46	63	18	63	18	63	18	63	17
M02-45	46	63	17	62	16	62	16	62	16
M02-46	52	63	11	63	11	63	11	63	11
M02-47	50	62	12	62	12	62	12	62	12
M02-48	49	61	13	61	12	61	12	61	12
M02-49	46	59	12	58	12	58	12	58	12
M02-50	47	58	11	58	11	58	11	57	10
M02-51	48	58	10	57	10	58	10	57	9
M02-52	50	59	9	59	9	59	9	58	8
M02-53	50	58	8	58	8	58	8	57	8
M02-54	50	57	8	57	7	57	7	57	7
M02-55	50	56	7	56	7	56	6	55	6
M02-56	49	56	7	56	7	56	7	55	6
M02-57	50	56	6	56	6	56	6	55	6
M02-58	50	56	7	56	6	56	6	56	6
M02-59	50	57	7	57	7	57	7	56	6
M02-60	49	57	8	57	8	57	8	56	8
M02-61	49	58	9	58	9	58	9	57	8
M02-62	48	58	10	58	9	58	9	57	9
M02-63	48	58	11	58	10	58	10	58	10
M02-64	47	58	11	58	11	58	11	58	11
M02-66	47	61	14	61	13	61	14	60	13
M02-67	47	62	14	61	14	62	14	61	14
M02-68	47	63	16	62	16	62	16	62	15
M02-69	46	64	17	63	17	64	17	63	17
M02-70	46	65	19	65	19	65	19	64	18
M02-71	46	66	20	66	20	66	20	66	20
M02-72	44	68	24	68	24	68	24	67	23
M02-73	49	64	15	64	15	64	15	63	15
M02-74	49	63	14	63	14	63	14	63	13
M02-75	48	62	14	62	14	62	14	61	14
M02-76	50	62	12	62	12	62	12	62	11
M02-77	47	59	11	59	11	59	11	58	11
M02-78	48	59	10	59	10	59	10	58	10
M02-79	49	58	10	58	10	58	10	58	9
M02-80	49	58	9	58	9	58	9	57	8

Receptor Site	Opening Year No-Build (2026)	Opening Year (2026) Alt. B1	Difference (B1-No-Build 2026)	Opening Year (2026) Alt. B2	Difference (B2-No-Build 2026)	Opening Year (2026) Alt. B3	Difference (B3-No-Build 2026)	Opening Year (2026) Alt. B4	Difference (B4-No-Build 2026)
M02-81	49	57	8	57	8	57	8	56	7
M02-82	49	56	7	56	7	56	7	55	6
M02-83	50	56	6	56	6	56	6	55	5
M02-84	50	55	6	55	6	55	6	55	5
M02-85	52	57	5	57	4	57	4	56	4
M02-86	52	57	5	57	5	57	5	56	5
M02-87	51	57	6	57	6	57	6	56	6
M02-88	51	58	8	58	7	58	7	57	7
M02-89	50	58	9	58	9	58	9	58	8
M02-90	49	59	10	59	10	59	10	59	10
M02-91	47	59	12	59	12	59	12	59	11
M02-92	50	63	13	62	13	63	13	62	13
M02-93	51	64	13	64	12	64	13	63	12
M02-94	52	65	13	65	13	65	13	64	13
M02-95	46	64	18	64	18	64	18	64	18
M02-96	45	70	25	70	25	70	25	70	24
M02-97	45	72	27	72	27	72	27	72	27
M02-98	44	70	26	70	26	70	26	70	26
M02-99	47	65	18	64	18	64	18	64	17
M02-100	51	65	14	65	13	65	14	64	13
M02-101	48	63	15	63	15	63	15	63	14
M02-102	51	63	12	63	12	63	12	63	12
M02-103	48	60	11	60	11	60	11	59	11
M02-104	49	60	10	59	10	59	10	59	10
M02-105	50	58	8	58	8	58	8	58	8
M02-105	52	56	4	56	3	56	3	55	3
M02-106	50	59	8	58	8	58	8	58	8
M02-107	50	60	10	60	10	60	10	59	10
M02-108	49	60	11	60	11	60	11	59	10
M02-109	49	60	11	60	11	60	11	59	10
M02-110	50	63	14	63	13	63	14	63	13
M02-111	47	65	18	65	18	65	18	65	18
M02-112	48	66	18	66	18	66	18	65	18
M02-113	48	68	20	68	20	68	20	67	19
M02-114	49	66	17	65	17	66	17	65	17
M02-115	49	63	14	63	14	63	14	63	14
M02-116	50	69	19	68	19	68	19	68	19
M02-117	50	67	17	67	17	67	17	67	17
M02-118	50	64	14	64	14	64	14	63	13
M02-119	51	62	11	62	11	62	11	61	10
M02-120	55	63	8	63	8	63	8	63	8
M02-121	58	65	6	64	6	64	6	64	6
M02-122	52	57	6	57	6	57	6	57	5
M02-123	55	59	4	59	3	59	3	58	3
M02-124	56	59	3	59	3	59	3	59	2
M02-125	59	61	2	61	2	61	2	60	2
M02-126	58	61	3	61	3	61	2	60	2
M02-127	62	63	1	63	1	62	0	62	0
M02-128	61	62	1	62	1	61	0	61	0
M02-129	63	Acquired	--	Acquired	--	Acquired	--	70	--
M02-130	53	54	1	54	1	54	1	53	0
M02-131	53	53	1	53	1	53	1	52	0
M03-01	50	65	15	64	15	65	15	64	14
M03-02	49	55	6	55	6	55	6	54	5
M03-03	48	54	6	54	6	54	6	52	4
M03-04	50	54	4	54	4	54	4	53	3
M03-05	50	54	4	54	4	54	4	53	3
M03-06	52	54	3	54	3	54	3	53	2
M03-07	52	54	2	54	2	54	2	53	1
M03-08	56	56	0	56	0	56	0	56	0
M03-09	58	58	0	58	0	58	0	57	0
M03-10	56	56	0	56	0	56	0	56	0
M03-11	53	55	2	55	2	55	2	55	2
M03-12	51	55	5	55	5	55	5	54	4
M03-13	50	56	6	56	5	56	6	55	5
M03-14	49	56	8	56	8	56	8	55	7
M03-15	48	56	9	56	9	56	9	55	8
M03-16	48	60	12	59	11	59	11	59	11
M03-17	52	62	11	62	11	62	11	62	10
M03-18	47	55	8	55	8	55	8	54	7
M03-19	50	55	5	55	5	55	5	54	5
M03-20	50	55	5	55	5	55	5	54	4
M03-21	51	55	4	55	4	55	4	54	3
M03-22	57	57	0	57	0	57	0	57	0
M03-23	57	57	0	57	0	57	0	57	0
M03-24	55	57	1	57	1	57	1	56	1
M03-25	55	57	2	57	2	56	2	56	1
M03-26	54	56	2	56	2	56	2	56	2

Receptor Site	Opening Year No-Build (2026)	Opening Year (2026) Alt. B1	Difference (B1-No-Build 2026)	Opening Year (2026) Alt. B2	Difference (B2-No-Build 2026)	Opening Year (2026) Alt. B3	Difference (B3-No-Build 2026)	Opening Year (2026) Alt. B4	Difference (B4-No-Build 2026)
M03-27	53	56	3	56	3	56	3	56	3
M03-28	52	56	4	56	4	56	4	56	4
M03-29	50	55	5	55	5	55	5	55	5
M03-30	49	55	6	55	6	55	6	54	5
M03-31	55	55	0	55	0	55	0	55	-1
M03-32	56	56	0	56	0	56	0	56	0
M03-33	55	56	1	56	0	56	0	55	0
M03-34	55	56	1	56	1	56	1	56	1
M03-35	54	55	2	55	2	55	2	55	1
M03-36	53	55	2	55	2	55	2	54	2
M03-37	51	54	3	54	3	54	3	54	2
M03-38	52	55	4	55	3	55	4	54	3
M03-39	51	55	4	55	4	55	4	54	4
M03-40	49	54	5	54	5	54	5	53	5
M03-41	49	55	6	55	6	55	6	54	5
M03-42	48	55	7	55	7	55	7	54	6
M03-43	48	56	8	55	8	55	8	55	7
M03-44	47	57	9	56	9	56	9	56	8
M03-45	47	58	11	58	11	58	11	57	10
M03-46	45	59	13	58	13	58	13	58	12
M03-47	46	61	15	61	15	61	15	60	14
M03-48	45	63	17	62	17	62	17	62	16
M03-49	45	64	19	64	19	64	19	63	18
M03-50	45	65	21	65	21	65	21	65	20
M03-51	46	68	22	68	22	68	22	67	21
M03-52	46	69	22	69	22	69	22	68	22
M03-53	50	68	18	68	18	68	18	68	18
M03-54	53	66	13	66	13	66	13	65	13
M03-55	52	64	12	64	11	64	11	64	11
M03-56	53	63	10	63	10	63	10	62	10
M03-57	53	62	9	62	9	62	9	62	8
M03-58	54	61	8	61	8	61	8	61	7
M03-59	54	61	7	61	7	61	7	60	7
M03-60	54	60	6	60	6	60	6	60	6
M03-61	54	60	5	60	5	60	5	59	5
M03-62	55	59	5	59	5	59	5	59	4
M03-63	55	59	4	59	4	59	4	59	4
M03-64	55	59	4	59	4	59	4	58	3
M03-65	55	59	3	58	3	58	3	58	3
M03-66	53	54	2	54	2	54	2	54	1
M03-67	53	54	1	54	1	54	1	54	1
M03-68	54	54	1	54	1	54	0	54	0
M03-69	54	53	0	53	0	53	0	53	-1
M03-70	54	54	-1	54	-1	54	-1	54	-1
M03-71	55	54	-1	54	-1	54	-1	54	-1
M03-72	55	54	-1	54	-1	54	-1	54	-1
M03-73	53	52	-1	52	-1	52	-1	52	-1
M03-74	53	53	0	53	0	53	0	53	0
M03-75	52	53	1	53	1	53	1	53	1
M03-76	51	53	2	53	2	53	2	53	2
M03-77	50	54	4	54	4	54	4	54	3
M03-78	48	54	6	54	6	54	6	53	5
M03-79	49	55	7	55	7	55	7	55	6
M03-80	49	56	8	56	7	56	7	56	7
M03-81	48	56	8	56	8	56	8	56	8
M03-82	48	57	9	57	9	57	9	56	9
M03-83	45	56	12	56	12	56	12	56	11
M03-84	47	59	12	59	12	59	12	59	12
M03-85	47	60	14	60	14	60	14	60	13
M03-86	47	63	17	63	17	63	17	63	16
M03-87	46	65	19	65	19	65	19	65	19
M03-88	53	65	12	65	12	65	12	64	12
M03-89	49	64	15	64	15	64	15	64	14
M03-90	51	63	12	63	12	63	12	63	11
M03-91	53	62	9	62	9	62	9	62	9
M03-92	52	61	9	61	9	61	9	61	9
M03-93	53	61	8	61	8	61	8	60	7
M03-94	54	60	7	60	7	60	7	60	6
M03-95	54	60	6	60	6	60	6	59	5
M03-96	54	59	5	59	5	59	5	59	5
M03-97	55	59	4	59	4	59	4	59	4
M03-98	55	59	4	59	4	59	4	59	3
M03-99	56	59	3	59	3	59	3	58	3
M03-100	56	58	2	58	2	58	2	58	2
M03-101	54	55	2	55	2	55	2	55	1
M03-102	55	56	1	56	1	56	1	55	1
M03-103	55	56	0	56	0	56	0	55	0
M03-104	56	56	0	56	0	56	0	55	0

Receptor Site	Opening Year No-Build (2026)	Opening Year (2026) Alt. B1	Difference (B1-No-Build 2026)	Opening Year (2026) Alt. B2	Difference (B2-No-Build 2026)	Opening Year (2026) Alt. B3	Difference (B3-No-Build 2026)	Opening Year (2026) Alt. B4	Difference (B4-No-Build 2026)
M03-105	56	55	-1	55	-1	55	-1	55	-1
M03-106	54	54	0	54	0	54	0	54	0
M03-107	53	57	3	57	3	57	3	56	3
M03-108	54	58	4	58	4	58	4	58	4
M03-109	55	59	4	59	4	59	4	59	4
M03-110	54	59	5	59	5	59	5	59	5
M03-111	54	60	6	60	6	60	6	60	6
M03-112	47	61	13	61	13	61	13	60	13
M03-113	47	69	22	69	22	69	22	69	22
M03-114	51	68	18	68	18	68	18	68	17
M03-115	53	64	11	64	10	64	11	63	10
M03-116	55	60	5	60	5	60	5	60	5
M03-117	51	55	4	55	4	55	4	55	4
M03-118	51	54	3	54	3	54	3	54	2
M03-119	53	54	2	54	2	54	2	54	1
M03-120	53	54	1	54	1	54	1	54	1
M03-121	54	54	0	54	0	54	0	54	0
M03-122	54	54	1	54	1	54	1	54	0
M03-123	53	54	1	54	1	54	1	54	1
M03-124	53	55	2	55	2	55	2	55	2
M03-125	52	55	3	55	3	55	3	55	2
M03-126	55	59	5	59	5	59	5	59	4
M03-127	52	57	5	57	5	57	5	57	5
M03-128	54	61	6	61	6	61	6	60	6
M03-129	50	61	11	61	11	61	11	60	10
M03-130	55	60	5	60	5	60	5	60	5
M03-131	52	55	3	55	3	55	3	55	2
M03-132	53	55	2	55	2	55	2	55	1
M03-133	53	54	1	54	1	54	1	54	0
M03-134	53	53	0	53	0	53	0	53	0
M03-135	53	55	2	55	1	55	1	54	1
M03-136	53	56	2	55	2	55	2	55	2
M03-137	53	57	4	57	4	57	4	56	3
M03-138	56	60	5	60	5	60	5	60	5
M03-139	54	56	2	56	2	56	2	55	2
M03-140	54	55	1	55	1	55	1	55	1
M03-141	54	55	2	55	2	55	1	55	1
M03-142	53	56	3	56	3	56	3	55	3
M03-143	52	58	6	57	6	57	6	57	5
M03-144	51	62	11	62	11	62	11	61	11
M03-145	54	59	5	59	5	59	5	59	5
M03-146	54	57	3	57	3	57	3	56	2
M03-147	58	60	1	59	1	59	1	59	0
M03-148	58	61	4	61	4	61	4	61	3
M03-149	61	64	2	64	2	63	2	63	2
M03-150	59	66	7	66	7	66	7	65	6
M03-151	56	64	8	64	8	64	8	64	8
M03-152	51	65	14	65	14	65	14	64	13
M03-153	53	66	13	66	13	66	13	66	13
M03-154	55	67	12	67	12	67	12	66	12
M03-155	56	67	11	67	11	67	11	66	10
M03-156	59	67	9	67	9	67	9	67	8
M03-157	63	69	6	69	6	69	6	68	5
M03-158	61	71	10	71	10	71	10	71	10
M03-159	57	70	13	70	13	70	13	70	13
M03-160	53	71	17	71	17	71	17	70	17
M03-161	51	70	19	70	19	70	19	70	19
M03-162	51	69	18	69	18	69	18	68	18
M04-01	42	53	11	53	11	53	11	51	9
M04-02	42	54	12	54	12	54	12	53	11
M04-03	42	54	12	54	12	54	12	52	10
M04-04	42	54	12	53	11	54	12	52	10
M04-05	42	53	12	53	11	53	11	52	10
M04-06	42	54	11	53	11	53	11	52	10
M04-07	42	54	11	53	11	53	11	52	10
M04-08	42	54	12	53	11	53	11	52	10
M04-09	42	54	12	53	12	53	12	52	10
M04-10	39	53	14	53	14	53	14	51	12
M04-11	39	53	14	53	14	53	14	51	12
M04-12	42	56	14	55	14	55	14	54	12
M04-13	42	55	13	55	13	55	13	53	11
M04-14	39	55	15	55	15	55	15	52	13
M04-15	42	54	12	54	12	54	12	52	10
M04-16	43	55	12	55	12	55	12	54	11
M04-17	43	55	13	55	12	55	12	53	11
M04-18	43	55	13	55	12	55	12	53	10
M04-19	43	55	12	55	12	55	12	53	11
M04-20	43	55	13	55	12	55	12	53	11

Receptor Site	Opening Year No-Build (2026)	Opening Year (2026) Alt. B1	Difference (B1-No-Build 2026)	Opening Year (2026) Alt. B2	Difference (B2-No-Build 2026)	Opening Year (2026) Alt. B3	Difference (B3-No-Build 2026)	Opening Year (2026) Alt. B4	Difference (B4-No-Build 2026)
M04-21	43	55	13	55	12	55	12	53	10
M04-22	43	55	12	55	12	55	12	53	11
M04-23	43	55	13	55	12	55	12	53	11
M04-24	42	55	12	54	12	54	12	52	10
M04-25	42	55	13	55	13	55	13	53	11
M04-26	41	53	12	53	12	53	12	51	10
M04-27	40	52	12	52	12	52	12	50	10
M04-28	42	55	13	55	13	55	13	53	11
M04-29	42	55	12	55	12	55	12	53	10
M04-30	41	53	11	52	11	53	11	51	9
M04-31	42	54	12	54	12	54	12	53	10
M04-32	43	55	12	54	12	54	12	53	10
M04-33	43	54	11	54	11	54	11	53	10
M04-34	43	54	11	54	11	54	11	52	9
M04-35	43	54	11	54	11	54	11	52	9
M04-36	42	54	12	54	12	54	12	52	10
M04-37	42	54	11	53	11	54	11	52	10
M04-38	42	55	13	54	12	55	12	53	11
M04-39	42	55	13	55	13	55	13	53	11
M04-40	42	55	13	55	13	55	13	53	12
M04-41	39	53	14	53	14	53	14	51	12
M04-42	41	53	12	53	12	53	12	51	10
M04-43	42	53	11	53	11	53	11	51	9
M04-44	42	53	11	53	11	53	11	51	10
M04-45	42	54	11	53	11	53	11	52	9
M04-46	42	54	11	54	11	54	11	52	10
M04-47	43	54	12	54	11	54	11	52	10
M04-48	42	51	9	51	9	51	9	49	7
M04-49	44	54	10	54	10	54	10	52	8
M04-50	42	52	9	52	9	52	9	50	7
M04-51	43	51	8	51	7	51	7	49	6
M04-52	43	49	7	49	7	49	7	48	6
M05-01	40	56	16	56	16	56	16	53	13
M05-02	39	53	14	53	14	53	14	51	11
M05-03	38	58	20	58	20	58	20	56	18
M05-04	38	67	29	67	29	67	29	67	29
M05-05	37	61	24	61	24	61	24	60	23
M06-01	43	43	0	43	-1	43	0	48	5
M06-02	43	43	0	43	0	43	0	51	8
M06-03	45	45	0	45	0	45	1	61	17
M06-04	45	46	0	45	0	46	0	69	23
M06-05	44	45	1	45	1	45	1	64	20
M06-06	43	45	2	45	2	45	2	59	16
M06-07	43	44	1	44	1	44	2	55	12
M06-08	44	46	2	46	2	46	2	55	11
M06-08	47	45	-2	44	-3	45	-3	56	9
M06-09	43	45	2	45	2	45	2	53	10
M06-09	48	45	-3	45	-3	45	-3	55	7
M06-10	43	44	2	44	2	45	2	52	9
M06-11	45	47	2	47	2	48	3	54	9
M06-12	43	44	1	44	1	45	2	51	8
M06-12	50	47	-3	47	-3	47	-3	57	7
M06-13	44	45	1	45	1	45	1	52	8
M06-14	43	43	0	43	0	43	0	50	7
M06-15	43	43	0	43	0	43	0	49	7
M06-16	42	43	1	43	1	43	1	50	8
M06-17	43	44	2	44	2	45	2	52	9
M06-18	42	44	2	44	2	45	2	51	8
M06-19	42	43	1	43	1	44	2	49	8
M06-20	42	45	2	45	2	45	3	50	8
M06-21	42	44	3	44	2	45	3	49	7
M06-22	42	44	3	44	3	44	3	49	7
M06-23	40	43	3	43	3	43	3	47	6
M06-24	41	44	2	44	2	44	3	48	7
M06-25	42	45	2	44	2	45	3	50	8
M06-26	41	43	2	43	2	43	3	48	7
M06-27	41	43	2	43	2	43	2	49	7
M06-28	41	43	2	43	2	43	3	48	7
M06-29	43	45	3	45	3	46	3	51	9
M06-30	42	44	2	44	2	45	2	51	9
M06-31	42	44	2	44	2	45	3	52	10
M06-32	43	45	2	45	2	45	3	55	12
M06-33	44	46	2	46	2	46	2	60	16
M06-34	44	46	1	46	1	46	2	63	19
M06-35	44	46	2	46	2	47	2	68	23
M06-36	43	45	2	45	2	46	3	57	14
M06-37	42	45	3	45	3	45	3	53	11
M06-38	41	44	3	44	3	44	3	51	10

Receptor Site	Opening Year No-Build (2026)	Opening Year (2026) Alt. B1	Difference (B1-No-Build 2026)	Opening Year (2026) Alt. B2	Difference (B2-No-Build 2026)	Opening Year (2026) Alt. B3	Difference (B3-No-Build 2026)	Opening Year (2026) Alt. B4	Difference (B4-No-Build 2026)
M06-39	41	44	3	44	3	45	4	50	9
M06-40	40	43	3	43	3	44	4	48	8
M06-41	36	41	5	41	5	41	5	44	8
M06-41	41	44	3	44	3	44	3	48	7
M06-42	39	43	3	43	3	43	4	48	9
M06-43	41	44	3	44	3	45	4	51	10
M06-44	41	45	3	45	3	45	4	51	10
M06-45	41	44	3	44	3	44	3	52	11
M06-46	42	45	3	45	3	46	3	55	13
M06-47	44	47	3	47	3	48	3	58	14
M06-48	43	46	2	46	2	46	3	59	16
M06-49	43	46	3	46	2	46	3	59	16
M06-50	42	44	3	44	3	44	3	63	21
M06-51	42	45	3	45	3	46	3	59	17
M06-52	42	45	3	45	3	46	4	55	13
M06-53	40	44	3	44	3	44	4	51	11
M06-54	40	45	4	45	4	45	5	50	9
M06-55	45	50	6	50	6	50	5	55	11
M06-56	41	46	5	46	5	46	6	52	11
M06-57	41	45	4	45	4	46	5	53	12
M06-58	41	45	4	45	4	45	4	54	13
M06-59	45	49	4	49	4	49	4	59	15
M06-60	44	46	2	46	2	46	3	68	24
M06-61	43	46	2	46	2	47	3	68	25
M06-62	44	47	3	47	3	48	4	63	19
M06-63	41	45	4	45	4	46	5	54	14
M06-64	37	44	7	44	7	44	7	48	11
M06-65	36	44	8	44	8	43	8	48	13
M06-66	41	45	4	45	4	46	4	59	18
M06-67	42	46	3	46	3	46	4	63	20
M06-68	43	46	3	46	3	47	4	63	20
M06-69	40	45	5	45	5	45	5	56	15
M06-70	39	45	6	45	6	45	6	54	15
M06-71	35	43	8	43	8	43	8	53	17
M06-72	40	45	5	45	5	45	5	56	16
M06-73	42	46	4	46	4	46	4	62	20
M06-74	42	45	4	45	4	45	4	68	26
M06-75	41	45	4	45	4	45	4	68	27
M06-76	40	45	5	45	5	45	5	62	22
M06-77	37	46	9	46	9	47	10	50	13
M06-78	37	46	9	46	9	47	9	51	14
M06-79	39	49	11	50	11	50	11	53	14
M06-80	39	48	8	48	8	49	9	56	17
M06-81	38	46	8	46	8	46	8	56	18
M06-82	38	45	7	45	7	45	7	55	17
M06-83	36	44	8	45	9	45	9	56	20
M06-84	40	45	6	46	6	46	6	59	19
M06-85	41	46	5	46	5	46	5	62	21
M06-86	41	46	5	46	5	47	6	64	23
M06-87	41	47	6	47	6	48	7	68	27
M06-88	40	46	6	46	6	46	7	62	23
M06-89	38	46	7	46	7	46	8	62	24
M06-90	40	47	7	47	7	47	8	67	27
M06-91	39	48	9	48	9	49	10	59	20
M06-92	39	50	11	50	11	51	11	54	15
M06-93	40	50	11	51	11	51	12	65	26
M06-94	38	50	12	50	12	51	13	62	25
M06-95	38	50	12	50	12	51	13	66	29
M06-96	35	51	17	51	17	52	18	61	27
M06-97	35	53	18	53	18	54	19	63	28
M06-98	35	63	28	63	28	63	28	58	24
M06-99	41	45	4	45	4	45	3	60	18
M07-01	47	45	-2	45	-2	45	-2	69	22
M07-02	48	45	-2	45	-3	45	-2	65	17
M07-03	48	45	-3	45	-3	45	-3	62	14
M07-04	49	46	-3	46	-4	46	-3	60	11
M07-05	49	45	-3	45	-4	45	-4	60	12
M07-06	50	47	-3	46	-4	47	-3	59	9
M07-07	51	48	-3	47	-4	48	-4	58	7
M07-10	48	45	-3	45	-3	45	-3	56	8
M07-11	48	45	-3	45	-3	45	-3	58	10
M07-13	43	42	-1	42	-1	42	-1	48	6
M07-14	46	45	-1	45	-1	46	-1	51	4
M07-15	46	45	-1	44	-2	44	-1	49	3
M07-16	45	44	-2	43	-2	43	-2	48	3
M07-17	46	45	-2	45	-2	45	-2	49	2
M07-18	45	43	-3	42	-3	42	-3	45	0
M07-19	46	45	-2	44	-2	45	-2	49	3

Receptor Site	Opening Year No-Build (2026)	Opening Year (2026) Alt. B1	Difference (B1-No-Build 2026)	Opening Year (2026) Alt. B2	Difference (B2-No-Build 2026)	Opening Year (2026) Alt. B3	Difference (B3-No-Build 2026)	Opening Year (2026) Alt. B4	Difference (B4-No-Build 2026)
M07-20	46	44	-2	44	-3	44	-2	47	0
M07-21	47	45	-3	44	-3	44	-3	46	-1
M07-22	48	45	-3	45	-3	45	-3	47	-1
M07-23	48	45	-3	45	-3	45	-3	48	0
M07-24	49	46	-3	46	-4	46	-3	48	-1
M07-25	49	46	-3	45	-3	45	-3	48	-1
M07-26	50	47	-3	46	-4	46	-3	48	-1
M07-27	50	47	-3	47	-4	47	-3	49	-1
M07-28	51	48	-3	47	-4	48	-3	50	-1
M07-29	50	48	-3	47	-4	47	-3	51	1
M07-30	49	46	-3	46	-4	46	-3	51	2
M07-31	51	48	-3	47	-4	48	-3	51	0
M07-32	52	49	-3	48	-4	49	-3	50	-2
M07-33	50	46	-3	46	-4	46	-3	48	-2
M07-34	51	48	-3	48	-4	48	-3	49	-2
M07-35	52	49	-3	48	-4	48	-4	49	-3
M07-36	53	49	-3	49	-4	49	-4	50	-2
M07-37	53	50	-3	49	-4	50	-4	51	-2
M07-38	54	50	-3	50	-4	50	-4	52	-2
M07-39	54	50	-3	50	-4	50	-3	52	-1
M07-40	56	53	-3	52	-4	52	-4	54	-2
M07-41	52	49	-3	48	-4	49	-3	51	-1
M07-42	52	48	-3	48	-4	48	-3	52	1
M07-43	55	52	-3	51	-4	52	-4	55	0
M07-44	58	55	-3	54	-4	54	-4	57	-1
M07-45	62	58	-3	57	-4	58	-4	60	-2
M07-46	61	58	-3	57	-4	58	-4	59	-2
M07-47	63	59	-3	59	-4	59	-4	60	-3
M07-48	58	55	-3	54	-4	55	-4	56	-2
M07-49	55	52	-3	51	-4	52	-4	53	-3
M07-50	54	50	-3	50	-4	50	-4	51	-3
M07-51	54	51	-3	50	-4	51	-4	52	-3
M07-52	57	54	-3	53	-4	54	-4	54	-3
M07-53	60	57	-3	56	-4	57	-4	57	-3
M07-54	62	59	-3	58	-4	58	-4	59	-3
M07-55	70	66	-3	66	-4	66	-4	67	-3
M07-56	68	65	-4	64	-4	65	-4	65	-3
M07-57	61	58	-3	57	-4	57	-4	58	-3
M07-58	65	62	-3	61	-4	62	-4	62	-3
M07-59	70	66	-4	66	-4	66	-4	66	-3
M07-60	69	66	-3	65	-4	65	-4	66	-3
M07-61	65	62	-3	61	-4	62	-3	62	-3
M07-62	68	65	-3	64	-4	65	-3	65	-3
M07-63	69	65	-3	65	-4	65	-4	66	-3
M07-64	69	66	-3	65	-4	66	-3	66	-3
M07-65	68	65	-3	64	-4	65	-3	65	-3
M07-66	69	66	-3	65	-4	66	-4	66	-3
M07-67	68	65	-3	64	-4	65	-4	65	-3
M07-68	68	65	-3	64	-4	64	-4	65	-3
M07-68	66	62	-3	62	-4	62	-4	63	-3
M07-69	70	66	-4	65	-4	66	-4	66	-3
M07-70	71	68	-3	67	-4	68	-4	68	-3
M07-71	71	68	-3	67	-4	67	-4	68	-3
M07-72	71	68	-3	67	-4	68	-4	68	-3
M07-73	62	59	-3	58	-4	58	-4	61	-1
M07-74	70	67	-3	66	-4	67	-4	68	-3
M07-75	67	64	-3	63	-4	64	-4	65	-3
M07-76	64	61	-3	60	-4	61	-4	63	-1
M07-77	65	61	-3	61	-4	61	-3	63	-2
M07-78	62	59	-3	58	-4	59	-4	62	0
M07-79	68	64	-4	64	-4	64	-4	65	-2
M07-80	69	65	-4	65	-4	65	-4	66	-2
M07-81	61	58	-4	57	-4	58	-4	64	3
M07-82	68	65	-3	64	-4	65	-4	69	0
M07-83	67	63	-3	62	-4	63	-4	70	4
M07-84	67	63	-3	63	-4	63	-4	72	5
M07-85	69	65	-4	64	-4	65	-4	72	4
M07-86	63	60	-4	59	-4	59	-4	69	5
M07-87	60	56	-4	55	-5	56	-4	66	6
M08-01	69	65	-4	64	-6	65	-5	Acquired	--
M08-02	71	66	-5	65	-6	66	-5	Acquired	--
M08-03	71	66	-5	65	-6	66	-5	Acquired	--
M08-04	67	62	-5	61	-6	62	-5	70	4
M08-05	69	64	-5	63	-6	64	-5	73	4
M08-06	72	67	-5	66	-6	67	-5	Acquired	--
M08-07	71	66	-5	65	-6	66	-5	Acquired	--
M08-08	71	66	-5	65	-6	66	-5	Acquired	--
M08-09	71	66	-5	65	-6	66	-5	Acquired	--

Receptor Site	Opening Year No-Build (2026)	Opening Year (2026) Alt. B1	Difference (B1-No-Build 2026)	Opening Year (2026) Alt. B2	Difference (B2-No-Build 2026)	Opening Year (2026) Alt. B3	Difference (B3-No-Build 2026)	Opening Year (2026) Alt. B4	Difference (B4-No-Build 2026)
M08-10	72	67	-5	66	-6	67	-5	Acquired	--
M08-11	71	66	-5	65	-6	66	-5	Acquired	--
M08-12	70	66	-5	65	-6	66	-5	Acquired	--
M08-13	69	65	-5	63	-6	64	-5	Acquired	--
M08-14	69	64	-5	63	-6	64	-5	Acquired	--
M08-15	68	64	-5	63	-6	64	-5	Acquired	--
M08-16	69	64	-5	63	-6	64	-5	Acquired	--
M08-17	70	65	-5	64	-6	65	-5	Acquired	--
M08-18	71	66	-5	65	-6	66	-5	Acquired	--
M08-19	67	63	-5	61	-6	62	-5	69	2
M08-20	62	57	-5	56	-6	57	-5	64	2
M08-21	62	58	-5	56	-6	58	-5	65	2
M08-22	60	56	-5	54	-6	55	-5	63	3
M08-23	61	56	-5	55	-6	56	-5	65	4
M08-24	62	57	-5	56	-6	57	-5	67	5
M08-25	62	57	-5	56	-6	57	-5	67	6
M08-26	63	58	-5	57	-6	58	-5	68	5
M08-27	61	56	-5	55	-6	56	-5	66	5
M08-28	62	57	-5	56	-6	57	-5	66	5
M08-29	64	59	-5	58	-6	59	-5	68	5
M08-30	63	58	-5	57	-6	58	-5	67	4
M08-31	58	53	-5	52	-6	53	-5	63	5
M08-32	58	54	-5	52	-6	53	-5	64	5
M08-33	58	54	-5	53	-6	53	-5	63	5
M08-34	57	53	-5	52	-6	53	-5	63	6
M08-35	57	52	-5	51	-6	52	-5	63	6
M08-36	60	55	-5	54	-6	55	-5	65	6
M08-37	57	52	-5	51	-6	52	-5	64	7
M08-38	59	54	-5	53	-6	54	-5	65	6
M08-39	56	51	-5	50	-6	51	-5	62	6
M08-40	58	54	-5	53	-6	54	-5	63	5
M08-41	58	54	-5	53	-6	54	-5	63	5
M08-42	55	50	-5	49	-6	50	-5	59	5
M08-43	54	49	-5	48	-6	49	-5	58	4
M08-44	53	49	-4	48	-5	49	-5	57	4
M08-45	57	52	-5	51	-6	52	-5	60	3
M08-46	55	50	-4	49	-5	50	-5	57	3
M08-47	53	48	-5	47	-6	48	-5	56	3
M08-48	52	47	-4	46	-5	47	-5	56	5
M08-49	52	47	-4	46	-5	47	-5	57	5
M08-50	52	48	-4	47	-5	47	-5	58	6
M08-51	57	53	-5	51	-6	52	-5	62	5
M08-52	55	51	-5	50	-6	51	-5	61	5
M08-53	55	50	-4	49	-5	50	-5	60	5
M08-54	53	49	-4	48	-5	49	-5	59	6
M08-55	53	49	-4	48	-5	49	-5	59	6
M08-56	55	51	-5	50	-6	51	-5	61	5
M08-57	51	47	-4	47	-5	47	-5	57	5
M08-58	50	46	-4	45	-5	45	-5	55	6
M08-59	49	45	-4	44	-5	44	-4	54	6
M08-60	51	47	-4	46	-5	47	-4	56	5
M08-61	51	47	-4	46	-5	47	-5	55	4
M08-62	48	45	-2	45	-3	43	-4	52	5
M08-63	50	46	-5	45	-6	45	-5	56	5
M08-64	47	45	-3	44	-3	43	-4	53	5
M08-65	54	49	-4	48	-5	49	-5	59	5
M08-66	54	50	-4	49	-5	50	-5	59	5
M08-67	54	50	-4	49	-5	49	-5	59	5
M08-68	52	48	-4	47	-5	47	-4	57	5
M08-69	52	49	-4	48	-5	48	-4	57	5
M08-70	53	49	-4	48	-5	48	-4	58	5
M08-71	49	46	-3	46	-3	45	-4	55	6
M08-72	46	44	-2	43	-2	42	-4	51	5
M08-73	46	43	-3	43	-4	42	-4	51	5
M08-74	47	43	-3	43	-4	43	-4	52	5
M08-75	50	46	-4	46	-4	46	-4	56	6
M08-76	51	47	-4	46	-4	47	-4	56	5
M08-77	49	46	-3	45	-4	45	-4	55	5
M08-78	50	47	-4	46	-4	46	-4	55	5
M08-79	50	46	-3	46	-4	46	-4	55	5
M08-80	50	46	-3	46	-4	46	-4	54	5
M08-81	59	54	-5	53	-6	54	-5	65	7
M08-82	57	52	-5	51	-6	52	-5	63	6
M08-83	55	50	-5	49	-6	50	-5	60	6
M08-84	53	49	-4	48	-5	48	-5	59	6
M08-85	48	46	-3	45	-3	45	-3	70	22
M08-86	48	46	-2	46	-3	46	-2	69	21
M08-87	45	44	-1	44	-1	44	-1	66	21
M08-88	45	45	0	45	0	45	0	67	22

Receptor Site	Opening Year No-Build (2026)	Opening Year (2026) Alt. B1	Difference (B1-No-Build 2026)	Opening Year (2026) Alt. B2	Difference (B2-No-Build 2026)	Opening Year (2026) Alt. B3	Difference (B3-No-Build 2026)	Opening Year (2026) Alt. B4	Difference (B4-No-Build 2026)
M08-89	45	44	-1	44	-1	43	-2	62	17
M08-90	44	44	0	44	0	44	0	61	18
M08-91	45	46	1	46	1	46	1	63	18
M08-92	42	43	1	43	1	43	1	62	20
M08-93	43	45	1	44	1	45	1	62	18
M08-94	45	46	1	46	1	47	2	61	16
M08-95	45	46	0	45	0	46	0	60	15
M08-96	48	48	0	48	0	49	1	61	13
M08-97	44	43	-1	43	-1	43	-1	59	15
M08-98	45	44	-1	44	-1	44	-1	58	14
M08-99	46	45	-1	44	-2	44	-2	60	14
M08-100	46	45	-2	44	-2	44	-2	61	15
M08-101	47	45	-2	45	-3	45	-2	61	14
M08-102	48	46	-2	46	-3	46	-2	61	13
M08-103	46	45	-1	44	-2	44	-2	58	12
M08-104	44	44	0	44	0	44	0	58	14
M08-105	49	50	1	49	0	50	1	61	12
M08-106	48	49	2	49	2	49	2	61	13
M08-107	48	50	2	50	1	50	2	60	12
M08-108	48	50	1	50	1	50	2	60	11
M08-109	48	48	0	48	0	49	1	60	12
M08-110	45	45	0	45	0	44	0	57	12
M08-111	46	45	-1	45	-1	45	-1	57	12
M08-112	46	45	-1	45	-1	45	-1	58	11
M08-113	45	44	-2	43	-2	43	-2	57	11
M08-114	46	44	-2	44	-3	44	-3	58	11
M08-115	49	46	-2	46	-3	46	-3	60	12
M08-116	46	44	-2	44	-2	44	-2	56	10
M08-117	47	45	-1	45	-2	45	-2	57	10
M08-118	46	45	-1	45	-1	45	-1	56	10
M08-119	46	45	-1	45	-1	45	-1	57	10
M08-120	46	45	0	45	0	45	0	57	11
M08-121	44	45	1	45	1	45	1	57	13
M08-122	46	47	1	47	1	47	1	57	11
M08-123	50	50	1	50	0	50	1	59	10
M08-124	46	45	0	45	-1	45	-1	56	10
M08-125	48	46	-1	46	-2	47	-1	58	10
M08-126	46	45	-1	44	-2	44	-2	56	10
M08-127	45	43	-1	43	-2	42	-2	55	10
M08-128	52	51	-2	50	-2	51	-2	61	9
M08-129	49	46	-3	45	-3	45	-3	59	11
M08-130	48	46	-3	45	-3	45	-3	58	10
M08-131	49	46	-3	45	-3	45	-3	57	9
M08-132	48	45	-3	45	-3	45	-3	56	8
M08-133	48	46	-2	45	-3	45	-3	56	9
M08-134	46	45	-1	45	-2	45	-2	55	8
M08-135	46	45	-1	45	-1	45	-1	55	9
M08-136	46	45	0	45	-1	45	-1	55	10
M08-137	49	50	1	50	1	50	1	58	9
M08-138	45	45	0	45	0	45	0	54	9
M08-139	46	46	-1	45	-1	46	-1	55	9
M08-140	50	50	-1	50	-1	50	-1	59	8
M08-141	47	45	-2	45	-2	45	-2	55	8
M08-142	45	44	-2	43	-2	43	-2	53	8
M08-143	49	46	-3	45	-4	45	-4	56	7
M08-144	49	46	-3	46	-3	46	-3	57	8
M08-145	50	47	-3	46	-4	46	-4	58	8
M08-146	49	46	-3	45	-4	45	-4	56	7
M08-147	51	47	-3	47	-4	47	-4	59	8
M08-148	47	45	-2	45	-2	45	-2	54	7
M08-149	46	45	-1	45	-2	45	-2	54	7
M08-150	46	45	-1	45	-1	44	-2	53	7
M08-151	45	45	0	45	-1	44	-1	53	8
M08-152	46	45	-1	45	-1	45	-1	53	7
M08-153	46	45	-1	45	-1	45	-1	53	7
M08-154	46	45	-1	45	-1	44	-2	52	7
M08-155	46	45	-2	45	-2	44	-2	53	6
M08-156	47	45	-1	45	-2	45	-2	53	7
M08-157	46	45	-1	45	-1	45	-1	53	7
M08-158	46	45	0	45	-1	45	-1	53	7
M08-159	45	45	0	45	0	45	0	53	8
M08-160	45	45	0	45	0	45	-1	52	7
M08-161	46	46	0	45	-1	45	-1	53	7
M08-162	46	45	-1	45	-1	45	-1	53	7
M08-163	47	46	-1	45	-2	45	-2	53	7
M08-164	46	45	-1	44	-2	44	-2	51	6
M08-165	46	45	-1	44	-2	44	-2	51	5
M08-166	47	46	-1	45	-2	45	-2	53	6

Receptor Site	Opening Year No-Build (2026)	Opening Year (2026) Alt. B1	Difference (B1-No-Build 2026)	Opening Year (2026) Alt. B2	Difference (B2-No-Build 2026)	Opening Year (2026) Alt. B3	Difference (B3-No-Build 2026)	Opening Year (2026) Alt. B4	Difference (B4-No-Build 2026)
M08-167	46	46	-1	45	-1	45	-1	53	7
M08-168	46	46	-1	45	-1	45	-1	53	7
M08-169	45	45	0	45	0	45	-1	52	7
M08-170	46	46	0	45	0	45	-1	52	7
M08-171	46	46	-1	45	-1	45	-1	53	7
M08-172	46	46	-1	45	-1	45	-1	53	7
M08-173	47	46	-1	45	-2	45	-2	53	6
M08-174	46	45	-1	45	-2	44	-2	52	6
M08-175	46	45	-1	45	-2	44	-2	52	6
M08-176	47	46	-1	46	-2	45	-2	53	6
M08-177	46	46	-1	45	-1	45	-1	53	6
M08-178	46	46	-1	45	-1	45	-1	52	6
M08-179	46	46	0	45	0	45	0	52	6
M08-180	45	46	0	45	0	45	0	52	6
M08-181	46	45	-1	45	-1	45	-1	52	6
M08-182	46	46	-1	45	-1	45	-1	53	6
M08-183	47	46	-2	46	-2	45	-2	53	6
M08-184	47	45	-2	44	-2	45	-2	52	6
M08-185	46	45	-2	44	-2	44	-2	52	6
M08-186	46	44	-2	44	-2	44	-2	52	6
M08-187	46	44	-1	44	-2	44	-2	51	6
M08-188	46	45	-1	44	-1	45	-1	52	6
M08-189	45	44	-1	44	-1	44	-1	51	6
M08-190	45	44	-1	44	-1	44	-1	52	7
M08-191	45	45	0	44	-1	45	0	52	7
M08-192	45	45	1	45	1	45	1	54	9
M08-193	44	46	2	46	2	46	2	55	11
M08-194	43	45	2	45	2	45	2	57	14
M08-195	46	50	4	50	4	50	4	64	18
M08-196	43	46	4	46	4	47	4	57	14
M08-197	43	46	3	46	3	46	3	54	11
M08-198	44	45	2	45	2	45	2	52	8
M08-199	44	51	7	51	7	51	7	59	15
M08-200	38	48	9	48	10	49	11	65	27
M08-201	38	49	10	49	11	50	11	64	26
M08-202	41	48	7	48	7	49	8	56	14
M08-203	43	48	5	48	5	49	6	52	9
M08-204	42	45	4	45	4	46	4	50	9
M08-205	41	46	5	46	5	46	5	51	10
M08-206	41	47	6	47	6	48	7	53	12
M08-207	40	46	6	47	6	47	7	54	13
M08-208	35	50	15	50	15	51	16	Acquired	--
M08-209	34	56	22	56	22	57	23	59	25
M08-210	65	60	-5	59	-6	60	-5	70	5
M08-211	67	62	-5	61	-6	62	-5	73	6
M08-212	67	62	-5	61	-6	62	-5	72	5
M08-213	48	46	-2	45	-3	45	-3	62	14
M08-214	47	44	-2	44	-3	44	-3	61	14
M09-01	67	62	-5	61	-6	62	-5	70	3
M09-02	72	68	-5	67	-6	68	-5	Acquired	--
M09-03	73	68	-5	66	-6	68	-5	Acquired	--
M09-04	73	68	-5	67	-6	68	-5	Acquired	--
M09-05	70	65	-5	64	-6	65	-5	70	0
M09-06	70	65	-5	64	-6	65	-5	69	-1
M09-07	72	67	-5	66	-6	67	-5	70	-1
M09-08	70	66	-5	65	-6	66	-5	70	0
M10-01	68	63	-5	62	-6	63	-5	Acquired	--
M10-02	72	67	-5	66	-6	67	-5	Acquired	--
M10-03	64	59	-5	58	-5	59	-5	68	4
M10-04	69	64	-5	63	-6	64	-5	69	1
M10-05	68	63	-5	62	-6	63	-5	68	0
M10-06	70	65	-5	64	-6	65	-5	70	0
M10-07	72	67	-5	66	-6	67	-5	71	-1
M10-08	72	68	-5	67	-6	67	-5	71	-1
M10-09	72	67	-5	66	-6	67	-5	71	-1
M11-01	68	63	-5	62	-6	63	-5	Acquired	--
M11-02	68	63	-5	62	-5	63	-5	Acquired	--
M11-03	69	64	-5	63	-6	64	-5	Acquired	--
M11-04	69	65	-5	64	-6	65	-5	Acquired	--
M11-05	66	61	-5	61	-5	61	-5	72	6
M11-06	67	63	-5	62	-6	63	-5	Acquired	--
M11-07	70	66	-5	65	-6	66	-5	Acquired	--
M11-08	71	66	-5	65	-6	66	-5	Acquired	--
M11-09	51	46	-5	47	-4	46	-5	57	6
M11-10	57	52	-5	53	-4	52	-5	62	5
M11-11	55	50	-5	52	-4	50	-5	60	5
M11-12	58	53	-5	53	-4	53	-5	62	5
M11-13	61	56	-5	55	-6	56	-5	65	5

Receptor Site	Opening Year No-Build (2026)	Opening Year (2026) Alt. B1	Difference (B1-No-Build 2026)	Opening Year (2026) Alt. B2	Difference (B2-No-Build 2026)	Opening Year (2026) Alt. B3	Difference (B3-No-Build 2026)	Opening Year (2026) Alt. B4	Difference (B4-No-Build 2026)
M11-14	61	56	-5	56	-5	56	-5	65	4
M11-15	62	57	-5	57	-5	57	-5	65	4
M11-16	62	57	-5	57	-5	57	-5	66	4
M11-17	61	56	-5	57	-4	56	-5	66	5
M11-18	63	58	-5	58	-5	58	-5	68	5
M11-19	60	55	-5	56	-4	55	-5	64	4
M11-20	60	55	-5	56	-4	55	-5	64	4
M11-22	59	54	-5	56	-3	54	-5	64	5
M11-23	58	53	-5	55	-3	53	-5	62	5
M11-24	54	49	-5	51	-3	49	-5	59	6
M11-25	53	48	-5	51	-2	48	-5	59	6
M11-26	52	47	-5	52	-1	47	-5	58	6
M11-27	58	53	-5	55	-3	53	-5	62	5
M11-28	57	52	-5	54	-3	52	-5	62	5
M11-29	56	51	-5	54	-2	51	-5	61	5
M11-30	54	49	-5	53	-1	49	-5	59	5
M11-31	51	46	-5	52	1	45	-5	56	5
M11-32	52	47	-5	53	1	47	-5	57	5
M11-33	51	46	-5	52	1	46	-5	56	5
M11-33	53	48	-5	54	0	48	-5	58	5
M11-34	52	47	-5	51	0	46	-5	57	5
M11-35	50	45	-5	51	0	45	-5	55	5
M11-36	50	45	-5	52	3	45	-5	55	5
M11-37	53	48	-5	53	0	48	-5	58	5
M11-38	49	44	-5	51	2	44	-5	54	5
M11-39	50	45	-5	53	3	45	-5	54	5
M11-40	51	46	-5	51	0	46	-5	56	5
M11-41	53	48	-5	51	-2	48	-5	58	5
M11-42	54	49	-5	53	0	49	-5	59	5
M11-43	52	46	-5	52	1	46	-5	57	5
M11-44	50	45	-5	52	1	45	-5	55	5
M11-45	49	43	-5	52	3	43	-5	53	5
M11-46	48	43	-5	51	4	42	-5	52	5
M11-47	51	46	-5	52	1	46	-5	56	5
M11-48	53	48	-5	53	0	48	-5	58	5
M11-49	54	49	-5	53	-1	49	-5	59	5
M11-50	54	49	-5	52	-2	49	-5	59	5
M11-51	54	49	-5	52	-2	49	-5	59	5
M11-52	51	45	-5	51	1	45	-5	55	4
M11-53	50	45	-5	51	2	45	-5	55	5
M11-54	53	48	-5	50	-3	48	-5	58	5
M11-55	52	46	-5	51	0	46	-5	56	5
M11-56	53	48	-5	52	-1	48	-5	57	5
M11-57	57	53	-5	54	-3	52	-5	62	5
M11-58	55	50	-5	53	-3	50	-5	60	4
M11-59	54	49	-5	52	-2	49	-5	59	5
M11-60	53	48	-5	52	-2	48	-5	58	5
M11-61	55	50	-5	53	-3	50	-5	60	4
M11-62	57	52	-5	53	-3	52	-5	61	4
M11-63	55	51	-5	51	-5	51	-5	60	5
M11-64	49	44	-5	49	1	43	-5	53	4
M11-65	50	45	-5	51	0	45	-5	55	4
M11-66	48	43	-5	50	2	43	-5	53	4
M11-67	48	43	-5	50	2	43	-5	53	4
M11-68	48	43	-5	50	2	42	-5	52	5
M11-69	47	42	-5	50	3	42	-5	52	5
M11-70	48	43	-5	51	3	43	-5	52	4
M11-71	47	42	-5	53	5	42	-5	52	4
M11-72	48	43	-5	53	5	43	-5	53	4
M11-73	48	43	-5	54	5	43	-5	53	5
M11-74	48	43	-5	52	5	42	-5	52	5
M11-75	48	43	-5	54	6	43	-5	53	5
M11-76	47	42	-5	53	6	42	-5	52	5
M11-77	47	41	-5	53	6	41	-5	51	5
M11-78	47	42	-5	53	7	41	-5	51	4
M11-79	47	41	-5	53	7	41	-5	51	5
M11-80	47	42	-5	54	7	42	-5	52	5
M11-81	47	42	-5	53	6	42	-5	52	5
M11-82	47	42	-5	52	6	41	-5	51	5
M11-83	46	41	-5	53	6	41	-5	51	4
M11-84	46	41	-5	54	7	41	-5	51	4
M11-85	46	41	-5	54	8	41	-5	51	5
M11-86	47	42	-5	54	7	42	-5	52	5
M11-87	48	43	-5	54	7	43	-5	52	5
M11-88	47	42	-5	53	6	42	-5	51	4
M11-89	46	40	-5	53	8	40	-5	50	4
M11-90	47	42	-5	55	8	42	-5	52	5
M11-91	47	42	-5	56	9	42	-5	51	5

Receptor Site	Opening Year No-Build (2026)	Opening Year (2026) Alt. B1	Difference (B1-No-Build 2026)	Opening Year (2026) Alt. B2	Difference (B2-No-Build 2026)	Opening Year (2026) Alt. B3	Difference (B3-No-Build 2026)	Opening Year (2026) Alt. B4	Difference (B4-No-Build 2026)
M11-92	47	42	-5	55	8	42	-5	52	5
M11-93	46	41	-5	55	9	41	-5	51	5
M11-94	46	40	-5	54	9	40	-5	50	4
M11-95	45	40	-5	56	10	40	-5	50	4
M11-96	46	41	-5	56	10	40	-5	50	4
M11-97	46	41	-5	56	10	41	-5	50	5
M11-98	46	41	-5	56	10	41	-5	51	5
M11-99	47	41	-5	56	10	41	-5	51	5
M11-100	47	42	-5	56	10	41	-5	51	5
M11-101	45	40	-5	55	10	40	-5	49	4
M11-102	47	42	-5	57	11	42	-5	51	5
M11-103	47	42	-5	57	11	41	-5	51	5
M11-104	46	41	-5	57	11	41	-5	51	5
M11-105	47	42	-5	57	11	42	-5	51	5
M11-106	45	40	-5	58	13	39	-5	49	4
M11-106	46	41	-5	57	11	41	-5	51	5
M11-107	46	41	-5	57	11	40	-5	50	4
M11-108	45	40	-5	57	11	40	-5	50	4
M11-109	44	39	-5	57	13	39	-5	48	4
M11-110	45	39	-5	57	13	39	-5	49	4
M11-111	45	39	-5	57	12	39	-5	49	4
M11-112	45	40	-5	58	13	40	-5	49	4
M11-113	45	40	-5	58	13	40	-5	50	4
M11-114	47	42	-5	59	12	42	-5	51	5
M11-115	47	42	-5	59	12	42	-5	51	5
M11-116	46	41	-5	59	13	41	-5	51	4
M11-117	45	39	-5	59	14	39	-5	49	4
M11-118	45	40	-5	59	14	40	-5	49	4
M11-119	44	39	-5	59	16	38	-5	48	4
M11-120	44	39	-5	60	16	39	-5	48	4
M11-121	44	39	-5	60	16	39	-5	48	4
M11-122	44	39	-5	60	16	39	-5	48	4
M11-123	45	39	-5	60	16	39	-5	49	4
M11-124	44	39	-5	60	16	39	-5	48	4
M11-125	43	38	-5	61	18	38	-5	47	4
M11-126	44	39	-5	62	18	39	-5	48	4
M11-127	44	39	-5	62	18	39	-5	48	4
M11-128	44	39	-5	62	18	39	-5	49	4
M11-129	44	39	-5	62	18	39	-5	48	4
M11-130	44	39	-5	62	18	39	-5	48	4
M11-131	44	39	-5	62	18	39	-5	48	4
M11-132	44	39	-5	61	16	39	-5	49	4
M11-133	44	38	-5	63	20	38	-5	48	4
M11-134	44	39	-5	64	20	39	-5	48	4
M11-135	44	39	-5	64	20	39	-5	48	4
M11-136	44	39	-5	63	20	39	-5	48	4
M11-137	43	38	-5	63	20	38	-5	47	4
M11-138	42	37	-5	63	20	37	-5	46	4
M11-139	42	37	-5	65	23	37	-5	46	4
M11-140	44	39	-5	66	22	39	-5	48	4
M11-141	43	38	-5	66	22	38	-5	47	4
M11-142	44	39	-5	66	22	39	-5	48	4
M11-143	44	39	-5	65	22	39	-5	48	4
M11-144	43	38	-5	69	26	38	-5	47	4
M11-145	44	39	-5	69	25	39	-5	48	4
M11-146	43	38	-5	69	26	38	-5	47	4
M11-147	43	38	-5	69	26	38	-5	47	4
M11-148	42	37	-5	69	27	37	-5	46	4
M11-149	44	39	-5	60	16	39	-5	49	4
M11-150	45	40	-5	62	17	40	-5	49	4
M12-01	71	66	-5	65	-6	66	-5	61	-11
M12-02	71	66	-5	65	-6	66	-5	59	-12
M12-03	64	59	-5	58	-6	59	-5	60	-4
M12-04	68	63	-5	62	-6	63	-5	59	-9
M12-05	71	66	-5	65	-6	66	-5	58	-12
M12-06	63	58	-5	57	-6	58	-5	58	-5
M12-07	63	59	-5	58	-6	59	-5	58	-6
M12-08	71	67	-5	66	-6	66	-5	57	-15
M12-09	62	57	-5	56	-6	57	-5	57	-5
M12-10	70	65	-5	64	-6	65	-5	58	-12
M12-11	72	67	-5	67	-6	67	-5	58	-15
M12-13	72	67	-5	66	-6	67	-5	58	-14
M12-14	70	65	-5	64	-6	65	-5	57	-13
M12-15	71	66	-5	65	-6	66	-5	57	-14
M12-16	71	66	-5	65	-6	66	-5	58	-13
M12-17	70	66	-5	65	-6	66	-5	57	-13
M12-18	58	53	-5	52	-6	53	-5	59	1
M12-19	58	53	-5	52	-6	53	-5	58	1

Receptor Site	Opening Year No-Build (2026)	Opening Year (2026) Alt. B1	Difference (B1-No-Build 2026)	Opening Year (2026) Alt. B2	Difference (B2-No-Build 2026)	Opening Year (2026) Alt. B3	Difference (B3-No-Build 2026)	Opening Year (2026) Alt. B4	Difference (B4-No-Build 2026)
M12-20	62	58	-5	57	-6	57	-5	65	2
M13-01	71	66	-5	65	-6	66	-5	62	-8
M13-02	71	66	-5	65	-6	66	-5	61	-10
M13-03	72	67	-5	66	-6	67	-5	61	-12
M13-04	72	68	-5	67	-6	68	-5	60	-12
M13-05	73	68	-5	67	-6	68	-5	59	-14
M13-06	71	67	-5	66	-6	66	-5	58	-13
M13-07	72	67	-5	66	-6	67	-5	58	-14
M14-01	61	57	-5	56	-6	56	-5	66	4
M14-02	61	56	-5	55	-6	56	-5	63	3
M14-03	64	59	-5	58	-6	59	-5	66	2
M14-04	69	64	-5	63	-6	64	-5	70	1
M14-05	64	59	-5	58	-6	59	-5	66	2
M14-06	71	67	-5	66	-6	67	-5	72	1
M14-07	68	63	-5	62	-6	63	-5	70	2
M14-08	67	62	-5	61	-6	62	-5	69	2
M14-09	66	62	-5	60	-6	61	-5	70	3
M14-10	63	58	-5	57	-6	58	-5	67	4
M14-11	61	56	-5	55	-6	56	-5	64	4
M14-12	59	54	-5	53	-6	54	-5	62	3
M14-13	59	54	-5	53	-6	54	-5	62	3
M14-14	59	55	-5	53	-6	54	-5	62	3
M14-15	57	52	-5	51	-6	52	-5	61	4
M14-16	59	54	-5	53	-6	54	-5	61	3
M14-17	56	51	-5	51	-6	51	-5	60	3
M14-18	57	52	-5	51	-6	52	-5	60	3
M14-19	58	53	-5	52	-6	53	-5	61	3
M14-20	56	51	-5	51	-5	51	-5	59	3
M14-21	57	52	-5	51	-5	52	-5	60	3
M14-22	56	52	-5	51	-6	51	-5	60	4
M14-23	56	51	-5	51	-6	51	-5	60	4
M14-24	53	48	-5	49	-5	48	-5	57	4
M14-25	52	47	-5	47	-5	46	-5	55	4
M14-26	51	46	-5	46	-5	46	-5	54	3
M14-27	51	46	-5	46	-4	46	-5	54	4
M14-28	51	46	-5	48	-4	46	-5	55	4
M14-29	51	46	-5	47	-4	46	-5	55	4
M14-30	51	46	-5	47	-4	46	-5	55	4
M14-31	51	47	-5	47	-4	46	-5	56	4
M14-32	52	47	-5	47	-4	47	-5	56	4
M14-33	52	47	-5	48	-5	47	-5	57	4
M14-35	49	44	-5	45	-4	44	-5	53	4
M14-36	49	44	-5	45	-4	44	-5	53	4
M14-37	50	45	-5	46	-4	45	-5	55	4
M14-38	51	46	-5	47	-5	46	-5	56	4
M14-39	52	47	-5	47	-5	47	-5	56	4
M14-40	52	47	-5	47	-5	47	-5	56	4
M14-41	53	48	-5	48	-5	48	-5	57	4
M14-42	54	49	-5	49	-5	49	-5	59	5
M14-43	55	50	-5	50	-6	50	-5	59	4
M14-44	56	51	-5	50	-6	51	-5	60	4
M14-45	54	49	-5	48	-6	49	-5	59	5
M14-46	56	52	-5	51	-6	52	-5	61	5
M14-47	70	65	-5	64	-6	65	-5	66	-4
M15-01	59	55	-5	54	-6	54	-5	64	4
M15-02	64	59	-5	58	-6	59	-5	68	4
M15-03	68	64	-5	63	-6	64	-5	69	0
M15-04	69	64	-5	63	-6	64	-5	68	-1
M15-05	70	66	-5	65	-6	65	-5	69	-2
M16-01	70	68	-2	69	-1	69	-1	71	1
M16-02	61	58	-4	61	-1	61	-1	62	1
M16-03	67	65	-2	66	-1	67	-1	68	1
M16-04	64	62	-3	63	-1	64	-1	65	1
M16-05	70	68	-2	69	-1	69	-1	70	1
M16-06	63	59	-3	62	-1	62	-1	63	0
M16-07	59	56	-3	58	-1	58	-1	59	0
M16-08	66	64	-2	66	-1	66	0	67	1
M16-09	66	64	-2	66	-1	66	0	67	1
M16-10	63	60	-2	62	-1	62	-1	63	0
M16-11	57	55	-2	56	-1	56	-1	56	-1
M16-12	59	58	-2	59	0	59	0	59	0
M16-13	61	59	-2	60	-1	61	-1	61	0
M16-14	61	59	-2	60	-1	60	-1	60	0
M16-15	67	65	-2	66	-1	67	-1	68	0
M16-16	66	64	-2	65	-1	66	-1	66	0
M16-17	58	56	-2	57	-1	57	-1	57	-1
M16-18	55	56	0	56	1	56	1	54	-1
M17-01	69	67	-2	68	-1	69	-1	70	1

Receptor Site	Opening Year No-Build (2026)	Opening Year (2026) Alt. B1	Difference (B1-No-Build 2026)	Opening Year (2026) Alt. B2	Difference (B2-No-Build 2026)	Opening Year (2026) Alt. B3	Difference (B3-No-Build 2026)	Opening Year (2026) Alt. B4	Difference (B4-No-Build 2026)
M17-02	69	67	-2	68	-1	68	-1	69	1
M17-03	65	62	-2	64	-1	64	-1	65	1
M17-04	66	64	-2	65	-1	66	0	67	1
M17-05	64	62	-2	63	-1	64	-1	65	0
M17-06	65	63	-2	64	-1	64	-1	65	0
M17-07	68	66	-2	67	-1	68	0	69	1
M17-08	67	65	-1	67	0	67	0	67	0
M17-09	58	67	9	67	9	67	10	58	0
M17-10	62	60	-2	61	-1	61	-1	62	0
M17-11	62	58	-3	61	-1	61	-1	62	0
M17-12	57	55	-3	57	-1	57	-1	58	1
M17-13	56	53	-3	55	-1	55	-1	56	0
M17-14	58	55	-3	56	-2	56	-1	57	0
M17-15	60	58	-2	59	-1	59	0	60	0
M17-16	58	56	-2	57	-1	58	-1	58	0
M17-17	58	57	-1	58	0	58	0	58	0
M17-18	58	56	-2	58	0	58	0	58	0
M17-19	54	52	-2	53	-1	53	0	54	0
M17-20	56	56	-1	57	0	57	1	57	0
M17-21	57	56	-1	57	0	57	1	56	0
M17-22	53	54	1	55	2	55	2	53	-1
M17-23	55	55	0	56	1	56	1	54	0
M17-24	54	54	0	55	1	55	1	54	0
M17-25	50	52	2	52	2	52	2	50	0
M17-26	51	54	3	54	3	54	4	50	-1
M17-27	48	54	5	53	5	54	6	48	0
M17-28	49	53	5	53	4	53	5	48	-1
M17-29	49	52	3	52	3	52	3	49	0
M17-30	46	49	4	49	3	49	3	46	0
M17-31	45	52	6	51	6	51	6	45	0
M17-32	43	50	7	49	6	49	6	43	0
M17-33	45	53	9	52	8	54	9	45	0
M17-34	43	61	18	58	15	62	19	43	0
M17-35	44	60	16	59	14	61	17	44	0
M17-36	44	56	12	55	11	57	13	44	0
M17-37	45	54	10	53	9	54	10	45	0
M17-38	42	51	10	50	9	51	9	42	0
M17-39	41	57	16	55	14	57	16	41	0
M17-40	42	64	21	59	17	64	22	42	0
M17-41	42	61	19	58	16	61	19	42	0
M17-42	42	59	18	55	14	59	17	42	0
M17-43	42	53	11	51	10	52	10	42	0
M17-44	41	50	10	49	8	49	9	41	0
M17-45	42	52	10	51	9	52	10	42	0
M17-46	43	57	14	53	11	56	13	43	0
M17-47	43	57	15	53	10	56	13	43	0
M17-48	38	52	14	50	12	50	12	38	0
M18-01	68	67	-1	68	1	68	1	68	1
M18-02	71	69	-2	70	-1	71	0	72	1
M18-03	70	68	-2	70	-1	70	0	71	1
M18-04	71	68	-2	70	0	70	0	71	1
M18-05	70	68	-2	70	0	70	0	71	1
M18-06	69	67	-2	69	-1	69	0	70	1
M18-07	70	67	-2	69	-1	69	0	70	1
M18-08	70	67	-2	69	-1	69	0	71	1
M18-09	69	67	-2	68	-1	69	0	70	1
M18-10	70	67	-2	69	-1	69	0	70	1
M18-11	69	67	-2	69	0	69	0	70	1
M18-12	68	66	-2	68	-1	68	0	69	1
M18-13	70	68	-2	69	-1	70	0	71	1
M18-14	67	64	-2	66	-1	66	-1	67	0
M18-15	59	57	-2	57	-2	58	-2	59	-1
M18-16	63	61	-2	62	-1	62	-1	63	0
M18-17	61	59	-2	60	-1	60	-1	61	0
M18-18	62	60	-2	61	-1	61	-1	62	0
M18-19	63	60	-2	61	-1	62	-1	63	0
M18-20	62	59	-3	60	-2	60	-2	61	-1
M18-21	61	57	-3	58	-3	58	-3	59	-1
M18-22	61	60	-2	61	-1	61	0	61	0
M18-23	62	60	-2	62	-1	62	-1	63	0
M18-24	61	59	-2	60	-1	60	-1	62	0
M18-25	65	62	-2	64	-1	64	-1	65	0
M18-26	63	61	-3	62	-2	62	-2	63	-1
M18-27	64	62	-2	63	-2	63	-1	64	0
M18-28	65	63	-2	64	-1	64	-1	65	0
M18-29	67	65	-2	66	-1	66	-1	67	0
M18-30	62	60	-2	61	-1	61	0	62	1
M18-31	58	60	2	60	2	60	2	57	-1
M18-32	58	64	6	65	7	65	7	57	-1
M18-33	55	59	4	59	4	59	4	54	-1

Receptor Site	Opening Year No-Build (2026)	Opening Year (2026) Alt. B1	Difference (B1-No-Build 2026)	Opening Year (2026) Alt. B2	Difference (B2-No-Build 2026)	Opening Year (2026) Alt. B3	Difference (B3-No-Build 2026)	Opening Year (2026) Alt. B4	Difference (B4-No-Build 2026)
M18-34	51	58	7	57	7	57	6	50	-1
M18-35	52	60	7	60	8	60	8	51	-1
M18-36	49	61	11	61	12	61	11	49	-1
M18-37	51	65	15	67	17	66	15	50	-1
M18-38	48	68	21	72	24	69	22	47	-1
M18-39	48	67	20	71	23	68	20	47	-1
M18-40	48	65	17	67	19	66	18	47	-1
M18-41	48	63	15	66	18	64	16	47	-1
M18-42	48	61	13	63	15	62	14	47	-1
M18-43	47	58	11	60	13	59	12	46	-1
M18-44	45	59	14	62	17	60	15	44	-1
M18-45	44	57	13	60	16	58	14	43	0
M18-46	44	55	12	56	13	55	12	43	0
M18-47	48	58	10	59	11	58	10	47	-1
M18-47	55	53	-2	52	-3	52	-3	53	-2
M18-48	60	58	-2	59	-1	59	-1	60	0
M18-49	59	57	-2	58	-1	59	-1	60	0
M18-50	57	55	-2	56	-1	56	-1	57	0
M18-51	56	54	-2	54	-2	55	-1	56	0
M18-52	56	53	-3	54	-2	54	-2	55	-1
M18-53	56	55	-1	55	-2	55	-2	56	-1
M18-54	57	56	-2	56	-2	56	-2	57	0
M18-55	55	53	-2	52	-3	52	-3	53	-2
M18-56	53	53	0	51	-2	51	-2	52	-1
M18-57	54	54	1	51	-2	51	-2	52	-1
M18-58	53	53	0	51	-2	51	-2	52	-1
M18-59	53	53	0	51	-2	52	-2	53	-1
M18-60	55	55	0	53	-2	53	-2	54	-1
M18-61	55	54	-1	52	-2	53	-2	54	-1
M18-62	55	52	-2	52	-2	53	-2	54	-1
M18-63	55	55	0	52	-2	53	-2	54	-1
M18-64	52	52	0	50	-2	50	-2	51	-1
M18-65	50	53	3	48	-2	48	-2	49	-1
M18-66	55	56	1	52	-3	52	-3	53	-2
M18-67	49	54	5	47	-2	47	-2	48	-1
M18-68	55	56	2	52	-3	52	-2	53	-1
M18-69	52	55	3	50	-2	51	-2	51	-1
M18-70	51	55	4	50	-2	50	-2	50	-1
M18-71	56	56	1	55	-1	55	-1	56	0
M18-72	46	56	11	44	-1	45	-1	45	-1
M18-73	46	57	12	44	-1	45	-1	45	-1
M18-74	46	57	12	44	-2	44	-2	45	-1
M18-75	45	58	13	44	-1	44	-1	45	0
M18-76	38	52	14	55	17	53	14	39	0
M18-77	38	56	19	48	11	47	10	38	0
M19-01	71	69	-2	70	-1	70	0	71	1
M19-02	70	68	-2	69	-1	70	0	71	1
M19-03	70	68	-2	69	-1	69	0	70	1
M19-04	70	68	-2	69	-1	70	0	71	1
M19-05	71	69	-2	70	-1	70	-1	72	1
M19-06	71	69	-2	70	0	71	0	72	1
M19-07	70	68	-2	69	-1	70	0	71	1
M19-08	70	68	-2	69	-1	70	-1	71	1
M19-09	71	69	-2	70	-1	70	0	72	1
M19-10	71	69	-2	70	-1	70	0	71	1
M19-11	66	64	-2	65	-1	65	-1	66	1
M19-12	66	64	-2	66	-1	66	-1	67	1
M19-13	65	63	-2	64	-1	65	-1	66	0
M19-14	67	64	-2	66	-1	66	-1	67	1
M19-15	65	63	-2	64	-1	64	-1	65	0
M19-16	57	55	-2	56	-1	56	-1	57	0
M19-17	61	59	-2	61	-1	61	-1	62	0
M19-18	63	61	-2	62	-1	62	-1	63	0
M19-19	55	54	-1	54	-1	55	-1	54	-1
M19-20	62	59	-3	61	-2	61	-1	62	0
M19-21	60	58	-3	59	-2	59	-1	60	0
M19-22	63	61	-2	62	-1	62	-1	63	0
M19-23	60	57	-3	57	-3	57	-2	59	-1
M19-24	63	60	-2	62	-1	62	-1	63	0
M19-25	61	58	-3	59	-2	60	-1	61	0
M19-26	59	56	-3	57	-2	58	-2	59	-1
M19-27	58	56	-2	57	-1	57	-1	58	0
M19-28	60	57	-2	59	-1	59	-1	60	0
M19-29	56	53	-3	54	-2	54	-2	55	-1
M19-30	61	59	-2	60	-1	61	-1	62	0
M19-31	61	59	-2	60	-1	60	-1	61	0
M19-32	58	55	-2	56	-2	56	-1	57	0
M19-33	54	52	-1	52	-1	53	-1	52	-1
M19-34	52	51	-1	51	-1	52	0	51	-1
M19-35	52	52	0	52	0	53	1	51	-1
M19-36	49	52	2	53	3	52	3	49	-1
M19-36	50	51	1	51	2	51	2	49	-1
M19-37	47	50	3	51	4	51	3	47	0
M19-38	46	48	3	50	4	49	3	45	0
M19-39	48	50	2	50	3	50	3	47	-1
M19-40	51	51	-1	51	0	51	0	50	-1
M19-41	56	53	-3	54	-2	54	-2	55	-1

Receptor Site	Opening Year No-Build (2026)	Opening Year (2026) Alt. B1	Difference (B1-No-Build 2026)	Opening Year (2026) Alt. B2	Difference (B2-No-Build 2026)	Opening Year (2026) Alt. B3	Difference (B3-No-Build 2026)	Opening Year (2026) Alt. B4	Difference (B4-No-Build 2026)
M19-42	54	52	-2	53	-2	53	-1	54	-1
M19-43	59	57	-2	58	-1	59	-1	60	0
M19-44	56	54	-2	55	-2	55	-1	56	0
M19-45	55	53	-3	53	-2	53	-2	54	-1
M19-46	55	53	-2	54	-2	54	-2	55	-1
M19-47	55	52	-2	53	-2	53	-2	54	-1
M19-48	54	52	-2	52	-2	53	-2	54	-1
M19-49	56	54	-3	54	-2	54	-2	55	-1
M19-50	53	50	-2	51	-2	51	-1	52	-1
M19-51	55	53	-3	53	-2	53	-2	54	-1
M19-52	54	52	-2	53	-2	53	-2	54	-1
M19-53	54	51	-2	52	-2	52	-2	53	-1
M19-54	51	49	-2	50	-2	50	-2	50	-1
M19-55	51	49	-2	49	-2	50	-1	50	-1
M19-56	53	50	-2	51	-2	51	-2	52	-1
M19-57	53	51	-2	52	-1	52	-1	52	-1
M19-58	52	50	-2	50	-2	50	-1	51	-1
M19-59	51	50	-1	51	-1	51	-1	51	-1
M19-60	52	52	0	53	1	53	1	52	0
M19-61	46	49	3	49	3	49	3	46	0
M20-01	68	66	-2	67	-1	68	-1	69	1
M20-02	65	63	-2	64	-1	65	-1	66	0
M20-03	63	60	-3	61	-2	61	-2	62	-1
M20-04	54	51	-3	52	-3	52	-3	53	-1

	Noise Impact of 68 dBA or greater

Attachment E

Predicted Noise Levels: 2074

Attachment E - Predicted Noise Levels 2074

Receptor Site	Opening Year No-Build (2026)	Horizon Year No-Build (2074)	Difference (No Build 2074-No-Build 2026)	Horizon Year (2074) Alt. B1	Difference (B1-No-Build 2026)	Horizon Year (2074) Alt. B2	Difference (B2-No-Build 2026)	Horizon Year (2074) Alt. B3	Difference (B3-No-Build 2026)	Horizon Year (2074) Alt. B4	Difference (B4-No-Build 2026)
M01-01	48	50	2	55	7	55	7	55	7	54	6
M01-02	46	48	2	55	9	55	9	55	9	53	8
M01-03	45	47	2	55	10	54	9	54	10	53	8
M01-04	44	46	2	55	11	54	11	54	11	53	9
M01-05	45	47	2	56	11	56	11	56	11	54	9
M01-06	46	48	2	57	11	57	11	57	11	56	10
M01-07	43	45	2	56	13	56	13	56	13	54	12
M01-08	42	45	3	56	13	55	13	55	13	54	12
M01-09	42	45	2	55	13	55	13	55	13	53	11
M01-10	43	45	2	55	12	55	12	55	12	53	10
M01-11	43	46	2	54	11	54	11	54	11	53	9
M01-12	44	46	2	55	10	54	10	54	10	53	8
M01-13	44	47	2	54	10	54	10	54	10	53	8
M01-14	46	48	2	55	9	55	8	55	8	53	7
M01-15	47	50	2	55	8	55	7	55	8	54	6
M01-16	48	50	2	54	7	54	6	54	6	53	5
M01-17	46	48	2	52	6	52	6	52	6	51	5
M01-18	47	49	2	54	7	54	7	54	7	52	6
M01-19	45	47	2	53	8	52	8	52	8	51	6
M01-20	42	44	2	52	10	52	10	52	10	50	8
M01-21	42	44	2	53	11	53	11	53	11	51	9
M01-22	42	44	2	54	12	53	12	53	12	51	10
M01-23	41	44	3	54	13	54	13	54	13	52	11
M01-24	41	44	3	55	14	55	13	55	13	53	12
M01-25	42	44	3	55	13	55	13	55	13	53	12
M01-26	40	43	3	54	14	54	14	54	14	53	12
M01-27	40	43	3	54	14	54	13	54	13	52	12
M01-28	40	43	3	54	13	53	13	53	13	52	12
M01-29	42	44	3	55	13	54	13	54	13	52	11
M01-30	41	44	3	54	13	54	13	54	13	52	11
M01-31	41	44	3	54	12	53	12	53	12	51	10
M01-32	42	44	2	53	11	53	11	53	11	51	9
M01-33	40	42	2	51	11	51	11	51	11	49	9
M01-34	43	45	2	53	10	53	10	53	10	51	8
M01-35	46	48	2	52	7	52	6	52	6	51	5
M01-36	42	44	2	51	9	51	9	51	9	49	7
M01-37	42	44	2	53	11	52	11	52	11	50	8
M01-38	42	44	2	53	11	53	11	53	11	51	9
M01-39	42	44	3	54	13	54	12	54	12	52	10
M01-40	41	44	3	54	13	54	13	54	13	52	11
M01-41	40	43	3	53	13	53	13	53	13	52	12
M01-42	40	44	3	53	12	53	12	53	12	51	11
M01-43	40	43	3	53	13	52	12	52	12	51	11
M01-44	41	44	3	54	13	54	12	54	12	52	10
M01-45	42	44	3	54	12	53	12	53	12	51	10
M01-46	42	44	2	53	11	53	11	53	11	51	9
M01-47	42	44	2	51	9	50	9	50	9	49	7
M01-48	42	44	2	50	8	50	8	50	8	48	6
M01-49	42	44	2	51	9	50	8	50	8	49	7
M01-50	42	44	2	51	9	50	8	50	8	49	7
M01-51	41	44	3	52	11	52	11	52	11	50	9
M01-52	41	44	3	54	12	53	12	53	12	51	10
M01-53	40	43	3	52	12	52	12	52	12	51	11
M01-54	40	43	3	52	12	52	12	52	12	51	10
M01-55	40	43	3	52	12	52	12	52	12	50	10
M01-56	41	44	3	53	12	53	12	53	12	51	10
M01-57	41	44	3	52	11	52	10	52	10	50	9
M01-58	42	44	2	50	8	50	8	50	8	48	6
M01-59	42	44	2	49	8	49	8	49	8	48	6
M01-60	41	43	3	50	9	50	9	50	9	48	8
M01-61	41	44	3	53	12	52	12	52	12	51	10
M01-62	40	43	3	51	12	51	12	51	12	50	11
M01-63	39	42	4	51	12	51	12	51	12	50	11
M01-64	39	43	3	51	12	51	11	51	11	50	10
M01-65	39	43	3	51	11	50	11	50	11	49	10
M01-66	41	44	3	52	11	52	11	52	11	50	9
M01-67	41	44	2	49	8	49	8	49	8	47	6
M01-68	42	44	2	50	8	49	7	49	7	48	6
M01-69	42	44	2	49	7	49	7	49	7	48	6
M01-70	42	44	2	50	8	50	8	50	8	48	6
M01-71	41	43	2	49	8	49	8	49	8	47	7
M01-72	41	43	2	49	9	49	8	49	8	47	7
M01-74	41	44	3	50	9	50	9	50	9	49	8
M01-75	41	44	3	51	10	51	10	51	10	50	9
M01-76	40	43	3	50	10	50	10	50	10	49	9
M01-77	39	42	3	50	11	50	11	50	11	49	10
M02-01	45	47	2	55	9	54	9	54	9	53	8
M02-02	46	48	2	55	9	54	8	54	8	53	7
M02-03	52	54	2	61	9	61	9	61	9	60	8
M02-04	50	52	2	60	10	60	10	60	10	59	9
M02-05	48	50	2	62	15	62	14	62	14	61	13
M02-05	46	48	2	57	11	57	10	57	11	55	9
M02-06	49	51	2	60	11	60	11	60	11	59	10
M02-07	51	53	2	62	10	61	10	61	10	60	9
M02-08	44	46	2	57	13	57	13	57	13	55	12
M02-09	50	52	2	62	12	62	12	62	12	61	11
M02-10	43	46	3	58	15	58	15	58	15	57	14
M02-11	46	48	2	61	15	61	15	61	15	59	13
M02-12	44	47	3	60	16	60	16	60	16	58	15
M02-13	44	46	3	61	17	60	17	60	17	59	16
M02-14	44	46	3	62	18	61	18	61	18	60	16
M02-15	45	48	3	64	19	63	18	63	19	62	17
M02-16	43	46	3	64	21	63	20	64	21	62	19
M02-17	43	46	3	65	22	65	22	65	22	64	21
M02-18	43	46	3	67	24	67	24	67	24	66	23
M02-19	43	46	3	69	26	68	25	68	25	67	24
M02-20	44	47	3	67	23	66	22	66	22	65	21
M02-21	45	48	3	66	20	65	20	65	20	64	19
M02-22	45	48	3	64	19	64	19	64	19	63	18

Attachment E - Predicted Noise Levels 2074

Receptor Site	Opening Year No-Build (2026)	Horizon Year No-Build (2074)	Difference (No Build 2074-No-Build 2026)	Horizon Year (2074) Alt. B1	Difference (B1-No-Build 2026)	Horizon Year (2074) Alt. B2	Difference (B2-No-Build 2026)	Horizon Year (2074) Alt. B3	Difference (B3-No-Build 2026)	Horizon Year (2074) Alt. B4	Difference (B4-No-Build 2026)
M02-23	45	47	3	63	18	63	18	63	18	62	17
M02-24	47	49	2	64	17	63	17	63	17	62	15
M02-25	46	48	2	62	16	62	16	62	16	61	15
M02-26	48	50	2	63	15	62	15	62	15	61	14
M02-27	47	49	2	61	14	61	14	61	14	60	13
M02-28	46	48	2	59	13	58	13	58	13	57	11
M02-29	47	49	2	59	12	59	12	59	12	57	11
M02-30	47	49	2	59	12	58	11	59	12	57	10
M02-31	50	52	2	60	11	60	10	60	11	59	9
M02-32	49	51	2	59	10	59	10	59	10	58	9
M02-33	49	51	2	58	10	58	9	58	9	57	8
M02-34	51	52	2	59	9	59	9	59	9	58	8
M02-35	46	48	2	56	9	55	9	55	9	54	8
M02-36	48	50	2	57	10	57	9	57	9	56	8
M02-37	48	50	2	58	9	57	9	57	9	56	8
M02-38	46	48	2	60	13	59	13	59	13	58	12
M02-39	46	48	2	61	15	60	15	61	15	59	13
M02-40	44	47	3	68	24	68	23	68	23	67	22
M02-41	45	48	3	68	23	68	22	68	22	67	21
M02-42	46	48	2	67	21	67	21	67	21	66	20
M02-43	50	51	2	67	17	66	17	66	17	65	16
M02-44	46	48	2	65	19	65	19	65	19	64	18
M02-45	46	48	2	64	18	64	18	64	18	63	17
M02-46	52	53	2	65	13	65	13	65	13	64	12
M02-47	50	52	2	64	14	63	14	64	14	63	13
M02-48	49	51	2	63	14	63	14	63	14	62	13
M02-49	46	49	2	60	14	60	14	60	14	59	13
M02-50	47	49	2	60	13	59	12	60	13	58	11
M02-51	48	50	2	59	12	59	12	59	12	58	11
M02-52	50	52	2	61	11	60	10	61	11	59	9
M02-53	50	52	2	60	10	60	10	60	10	58	9
M02-54	50	52	2	59	10	59	9	59	9	58	8
M02-55	50	51	2	58	9	58	9	58	9	57	8
M02-56	49	51	2	58	9	58	9	58	9	57	8
M02-57	50	52	2	58	9	58	8	58	9	57	7
M02-58	50	52	2	59	9	58	9	58	9	57	8
M02-59	50	52	2	59	9	59	9	59	9	58	8
M02-60	49	51	2	59	10	59	10	59	10	58	9
M02-61	49	51	2	60	11	59	11	59	11	58	10
M02-62	48	50	2	60	12	59	11	60	11	58	10
M02-63	48	50	2	60	12	60	12	60	12	59	11
M02-64	47	49	2	60	13	60	13	60	13	59	12
M02-66	47	49	2	63	15	62	15	62	15	61	14
M02-67	47	49	2	63	16	63	16	63	16	62	15
M02-68	47	49	2	64	17	64	17	64	17	63	16
M02-69	46	49	2	65	19	65	19	65	19	64	18
M02-70	46	48	2	66	20	66	20	66	20	65	19
M02-71	46	48	2	68	22	67	22	67	22	66	21
M02-72	44	47	3	69	25	69	25	69	25	68	24
M02-73	49	51	2	66	17	65	17	66	17	65	16
M02-74	49	51	2	65	15	65	15	65	15	64	14
M02-75	48	50	2	63	16	63	16	63	16	62	15
M02-76	50	52	2	64	14	64	13	64	13	63	12
M02-77	47	50	2	61	13	60	13	61	13	59	12
M02-78	48	50	2	61	12	60	12	61	12	59	11
M02-79	49	51	2	60	12	60	11	60	11	59	10
M02-80	49	51	2	60	11	60	11	60	11	59	10
M02-81	49	51	2	59	10	59	10	59	10	58	9
M02-82	49	51	2	58	9	58	9	58	9	57	8
M02-83	50	52	2	58	8	58	8	58	8	57	7
M02-84	50	52	2	58	8	58	8	58	8	57	7
M02-85	52	54	2	59	7	59	7	59	7	58	6
M02-86	52	53	2	59	8	59	7	59	7	58	6
M02-87	51	53	2	59	9	59	8	59	8	58	7
M02-88	51	52	2	60	10	60	9	60	9	59	8
M02-89	50	52	2	60	11	60	11	60	11	59	10
M02-90	49	51	2	61	12	61	12	61	12	60	11
M02-91	47	50	2	61	14	61	13	61	14	60	12
M02-92	50	51	2	64	15	64	15	64	15	63	14
M02-93	51	53	2	66	14	65	14	65	14	64	13
M02-94	52	54	2	67	15	66	15	67	15	65	14
M02-95	46	48	2	66	20	66	19	66	19	65	19
M02-96	45	48	2	71	26	71	26	71	26	70	25
M02-97	45	48	2	73	28	73	28	73	28	72	27
M02-98	44	46	2	71	27	71	27	71	27	70	27
M02-99	47	49	2	66	19	66	19	66	19	65	18
M02-100	51	53	2	67	15	66	15	67	15	65	14
M02-101	48	50	2	65	16	64	16	64	16	63	15
M02-102	51	53	2	65	14	65	14	65	14	64	13
M02-103	48	50	2	62	13	61	13	61	13	60	12
M02-104	49	51	2	61	12	61	12	61	12	60	11
M02-105	50	52	2	60	10	60	10	60	10	59	9
M02-105	52	54	2	59	6	58	6	58	6	57	5
M02-106	50	52	2	61	11	60	10	60	10	59	9
M02-107	50	52	2	62	12	61	12	61	12	60	11
M02-108	49	51	2	62	13	62	13	62	13	61	12
M02-109	49	51	2	62	13	62	13	62	13	61	12
M02-110	50	51	2	65	15	65	15	65	15	64	14
M02-111	47	49	2	67	20	67	20	67	20	66	19
M02-112	48	50	2	67	20	67	19	67	20	66	19
M02-113	48	50	2	69	21	69	21	69	21	68	20
M02-114	49	51	2	67	19	67	19	67	19	66	18
M02-115	49	51	2	65	16	65	16	65	16	64	15
M02-116	50	51	2	70	21	70	20	70	21	69	19
M02-117	50	52	2	69	19	69	19	69	19	68	18
M02-118	50	52	2	65	16	65	15	65	15	64	14
M02-119	51	53	2	64	13	63	12	64	12	62	11
M02-120	55	57	2	65	10	65	10	65	10	64	9
M02-121	58	60	2	67	8	66	8	66	8	66	7

Attachment E - Predicted Noise Levels 2074

Receptor Site	Opening Year No-Build (2026)	Horizon Year No-Build (2074)	Difference (No Build 2074-No-Build 2026)	Horizon Year (2074) Alt. B1	Difference (B1-No-Build 2026)	Horizon Year (2074) Alt. B2	Difference (B2-No-Build 2026)	Horizon Year (2074) Alt. B3	Difference (B3-No-Build 2026)	Horizon Year (2074) Alt. B4	Difference (B4-No-Build 2026)
M02-122	52	54	2	60	8	60	8	60	8	59	7
M02-123	55	57	2	62	6	61	6	61	6	60	5
M02-124	56	58	2	62	5	61	5	62	5	61	4
M02-125	59	60	2	63	5	63	5	63	5	62	4
M02-126	58	60	2	63	5	63	5	63	5	62	4
M02-127	62	64	2	66	4	65	3	66	4	65	3
M02-128	61	63	2	65	3	64	3	65	3	64	3
M02-129	63	64	1	Acquired	--	Acquired	--	Acquired	--	Acquired	--
M02-130	53	55	2	57	5	57	4	57	4	56	3
M02-131	53	55	2	57	4	57	4	57	4	56	3
M03-01	50	51	2	66	17	66	17	66	17	65	15
M03-02	49	51	2	57	8	57	8	57	8	56	7
M03-03	48	51	3	56	7	56	7	55	7	54	6
M03-04	50	53	3	56	6	56	6	56	6	55	5
M03-05	50	53	3	56	6	56	5	55	5	54	4
M03-06	52	54	2	56	4	56	4	56	4	55	3
M03-07	52	55	3	56	4	55	3	55	3	55	3
M03-08	56	58	2	58	2	58	2	58	2	57	1
M03-09	58	59	2	59	2	59	2	59	2	59	1
M03-10	56	57	2	58	2	58	2	58	2	57	1
M03-11	53	55	2	57	4	57	4	57	4	56	3
M03-12	51	53	2	57	6	57	6	57	6	56	5
M03-13	50	52	2	57	7	57	7	57	7	56	6
M03-14	49	51	3	58	9	58	9	58	9	56	8
M03-15	48	50	3	58	10	58	10	58	10	56	9
M03-16	48	50	2	61	13	61	13	61	13	59	11
M03-17	52	53	2	64	12	64	12	64	12	63	11
M03-18	47	50	3	56	9	56	9	56	9	55	8
M03-19	50	52	2	57	7	57	7	57	7	56	6
M03-20	50	53	2	57	6	56	6	56	6	55	5
M03-21	51	53	2	57	6	56	5	56	5	55	4
M03-22	57	59	2	59	2	59	2	59	1	58	1
M03-23	57	59	2	59	2	59	2	59	2	58	1
M03-24	55	57	2	59	3	59	3	58	3	58	2
M03-25	55	56	2	58	4	58	4	58	3	57	3
M03-26	54	56	2	58	4	58	4	58	4	57	3
M03-27	53	55	2	58	5	58	5	58	5	57	4
M03-28	52	54	2	58	6	58	6	58	6	57	5
M03-29	50	53	2	57	7	57	7	57	7	56	6
M03-30	49	52	3	57	8	57	8	57	8	56	6
M03-31	55	58	2	57	2	57	2	57	2	56	1
M03-32	56	58	2	58	2	58	2	58	2	57	1
M03-33	55	57	2	58	2	57	2	57	2	57	2
M03-34	55	57	2	58	3	58	3	58	3	57	2
M03-35	54	56	2	57	4	57	3	57	3	56	3
M03-36	53	55	2	57	4	57	4	57	4	56	3
M03-37	51	54	2	56	5	56	5	56	5	55	4
M03-38	52	54	2	57	5	57	5	57	5	56	4
M03-39	51	53	2	57	6	57	6	57	6	56	5
M03-40	49	51	3	56	7	56	7	56	7	55	6
M03-41	49	52	3	57	8	57	8	57	8	56	7
M03-42	48	51	3	57	9	57	9	57	9	56	8
M03-43	48	50	3	57	10	57	10	57	10	56	8
M03-44	47	50	3	58	11	58	11	58	11	57	10
M03-45	47	50	3	60	13	60	12	60	13	58	11
M03-46	45	48	3	60	15	60	15	60	15	59	13
M03-47	46	49	3	62	16	62	16	62	16	61	15
M03-48	45	48	3	64	19	64	19	64	19	63	17
M03-49	45	48	3	66	21	66	21	66	21	64	19
M03-50	45	47	3	67	23	67	22	67	22	65	21
M03-51	46	49	3	70	24	69	23	70	23	68	22
M03-52	46	49	2	71	24	71	24	71	24	69	23
M03-53	50	51	2	70	20	70	20	70	20	68	19
M03-54	53	54	2	67	15	67	14	67	14	66	13
M03-55	52	54	2	66	13	65	13	66	13	64	12
M03-56	53	55	2	65	12	64	11	64	12	63	10
M03-57	53	55	2	64	11	64	10	64	10	63	9
M03-58	54	55	2	63	10	63	9	63	9	62	8
M03-59	54	55	2	63	9	62	9	63	9	61	8
M03-60	54	56	2	62	8	62	8	62	8	61	7
M03-61	54	56	2	62	7	61	7	62	7	60	6
M03-62	55	56	2	61	7	61	6	61	6	60	6
M03-63	55	56	2	61	6	61	6	61	6	60	5
M03-64	55	57	2	61	6	61	5	61	5	60	5
M03-65	55	57	2	61	5	60	5	60	5	59	4
M03-66	53	55	2	56	4	56	4	56	4	55	3
M03-67	53	55	2	56	3	56	3	56	3	55	2
M03-68	54	56	2	56	3	56	2	56	2	55	2
M03-69	54	56	2	56	2	56	2	55	2	55	1
M03-70	54	56	2	56	2	56	2	56	1	55	1
M03-71	55	57	2	56	1	56	1	56	1	56	1
M03-72	55	57	2	56	1	56	1	56	1	55	1
M03-73	53	55	2	54	1	54	1	54	1	54	1
M03-74	53	55	2	55	2	55	2	55	2	54	1
M03-75	52	54	2	55	3	55	3	55	3	54	2
M03-76	51	54	2	55	4	55	4	55	4	54	3
M03-77	50	53	2	56	6	56	6	56	6	55	5
M03-78	48	51	3	56	8	56	7	56	7	55	6
M03-79	49	51	3	57	9	57	8	57	8	56	7
M03-80	49	51	3	58	9	58	9	58	9	57	8
M03-81	48	51	3	58	10	58	10	58	10	57	9
M03-82	48	50	3	59	11	59	11	59	11	57	10
M03-83	45	47	3	58	14	58	13	58	13	57	12
M03-84	47	49	3	61	14	61	14	61	14	60	13
M03-85	47	49	3	62	16	62	15	62	15	61	14
M03-86	47	49	3	65	18	65	18	65	18	64	17
M03-87	46	49	3	67	21	67	21	67	21	66	19
M03-88	53	54	2	67	14	66	14	66	14	65	13
M03-89	49	51	2	66	17	66	16	66	16	64	15
M03-90	51	53	2	65	14	65	13	65	13	64	12

Attachment E - Predicted Noise Levels 2074

Receptor Site	Opening Year No-Build (2026)	Horizon Year No-Build (2074)	Difference (No Build 2074-No-Build 2026)	Horizon Year (2074) Alt. B1	Difference (B1-No-Build 2026)	Horizon Year (2074) Alt. B2	Difference (B2-No-Build 2026)	Horizon Year (2074) Alt. B3	Difference (B3-No-Build 2026)	Horizon Year (2074) Alt. B4	Difference (B4-No-Build 2026)
M03-91	53	55	2	64	11	64	11	64	11	63	9
M03-92	52	54	2	63	11	63	11	63	11	62	10
M03-93	53	55	2	63	9	62	9	62	9	61	8
M03-94	54	55	2	62	9	62	8	62	8	61	7
M03-95	54	56	2	62	8	61	7	62	7	60	6
M03-96	54	56	2	61	7	61	7	61	7	60	6
M03-97	55	57	2	61	6	61	6	61	6	60	5
M03-98	55	57	2	61	6	61	5	61	5	60	4
M03-99	56	57	2	61	5	60	5	60	5	59	4
M03-100	56	58	2	60	4	60	4	60	4	59	3
M03-101	54	56	2	57	4	57	3	57	3	56	3
M03-102	55	56	2	57	3	57	3	57	3	57	2
M03-103	55	57	2	58	2	58	2	57	2	57	1
M03-104	56	57	2	58	2	58	2	57	2	57	1
M03-105	56	58	2	57	1	57	1	57	1	57	1
M03-106	54	56	2	56	3	56	2	56	2	56	2
M03-107	53	55	2	59	5	58	5	58	5	58	4
M03-108	54	56	2	60	6	60	6	60	6	59	5
M03-109	55	57	2	61	6	61	6	61	6	60	5
M03-110	54	55	2	61	7	61	7	61	7	60	6
M03-111	54	55	2	62	8	62	8	62	8	61	7
M03-112	47	50	2	63	15	62	15	62	15	61	14
M03-113	47	49	2	71	24	71	24	71	24	69	22
M03-114	51	53	2	71	20	70	19	70	19	69	18
M03-115	53	55	2	66	12	65	12	65	12	64	11
M03-116	55	57	2	62	7	62	7	62	7	61	6
M03-117	51	53	2	57	6	57	6	57	6	56	5
M03-118	51	53	2	56	5	56	5	56	5	55	4
M03-119	53	55	2	57	4	56	4	56	4	56	3
M03-120	53	55	2	56	3	56	3	56	3	56	2
M03-121	54	56	2	56	3	56	2	56	2	55	2
M03-122	54	56	2	57	3	56	3	56	3	56	2
M03-123	53	55	2	57	3	56	3	56	3	56	2
M03-124	53	55	2	57	4	57	4	57	4	56	3
M03-125	52	54	2	57	5	57	5	57	5	56	4
M03-126	55	56	2	61	7	61	6	61	6	60	5
M03-127	52	54	2	59	7	59	7	59	7	58	6
M03-128	54	56	2	63	8	63	8	63	8	62	7
M03-129	50	52	2	63	13	62	13	62	13	61	11
M03-130	55	57	2	62	7	62	7	62	7	61	6
M03-131	52	54	2	57	5	57	5	57	5	56	4
M03-132	53	55	2	57	4	57	4	57	4	56	3
M03-133	53	55	2	56	3	56	3	56	3	56	2
M03-134	53	55	2	55	3	55	2	55	2	55	2
M03-135	53	55	2	57	4	57	4	57	4	56	3
M03-136	53	55	2	58	4	58	4	58	4	57	4
M03-137	53	55	2	59	6	59	6	59	6	58	5
M03-138	56	57	2	62	7	62	7	62	7	61	6
M03-139	54	55	2	58	4	58	4	58	4	57	3
M03-140	54	56	2	58	4	58	4	58	4	57	3
M03-141	54	56	2	58	4	58	4	58	4	57	3
M03-142	53	54	2	58	6	58	6	58	6	57	5
M03-143	52	54	2	60	8	59	8	60	8	59	7
M03-144	51	53	2	64	13	64	13	64	13	63	12
M03-145	54	56	2	61	7	61	7	61	7	60	6
M03-146	54	56	2	59	5	59	5	59	5	58	4
M03-147	58	60	2	62	4	62	4	62	4	61	3
M03-148	58	59	2	64	6	64	6	64	6	63	5
M03-149	61	63	2	66	5	66	5	66	5	65	4
M03-150	59	61	2	68	9	68	9	68	9	67	8
M03-151	56	58	2	66	10	66	10	66	10	65	9
M03-152	51	53	2	67	16	67	16	67	16	65	14
M03-153	53	55	2	68	15	68	15	68	15	67	14
M03-154	55	56	2	69	14	68	14	69	14	67	13
M03-155	56	57	2	69	13	68	13	69	13	67	11
M03-156	59	60	1	69	11	69	11	69	11	68	9
M03-157	63	64	1	71	8	71	8	71	8	70	7
M03-158	61	62	1	74	13	73	13	74	14	72	11
M03-159	57	59	2	73	15	72	15	72	15	71	14
M03-160	53	55	2	73	20	73	19	73	20	71	18
M03-161	51	53	2	72	21	72	21	72	21	71	20
M03-162	51	53	2	71	20	71	20	71	20	69	19
M04-01	42	45	4	55	13	55	13	55	13	53	12
M04-02	42	45	3	56	14	56	14	56	14	54	12
M04-03	42	45	3	56	14	55	14	55	14	54	12
M04-04	42	45	3	55	13	55	13	55	13	54	12
M04-05	42	45	3	55	13	55	13	55	13	54	12
M04-06	42	45	3	55	13	55	13	55	13	54	12
M04-07	42	45	3	55	13	55	13	55	13	54	12
M04-08	42	45	3	55	13	55	13	55	13	54	12
M04-09	42	45	3	55	14	55	14	55	13	54	12
M04-10	39	43	4	55	16	55	16	55	16	54	14
M04-11	39	43	4	55	16	55	16	55	16	53	14
M04-12	42	45	3	57	15	57	15	57	15	55	13
M04-13	42	45	3	56	14	56	14	56	14	54	12
M04-14	39	43	4	56	17	56	16	56	16	54	14
M04-15	42	46	4	56	14	56	14	56	13	54	12
M04-16	43	46	3	57	14	57	14	57	14	55	12
M04-17	43	46	3	57	14	57	14	56	14	54	12
M04-18	43	46	3	57	14	56	14	56	14	54	12
M04-19	43	46	3	57	14	56	14	56	14	54	12
M04-20	43	46	3	57	14	56	14	56	14	54	12
M04-21	43	46	3	56	14	56	14	56	14	54	12
M04-22	43	46	3	57	14	56	14	56	14	54	12
M04-23	43	46	3	56	14	56	14	56	14	54	12
M04-24	42	46	3	56	14	56	14	56	14	54	11
M04-25	42	45	3	57	15	57	15	56	14	55	13
M04-26	41	45	4	55	14	55	14	55	14	53	12
M04-27	40	44	4	54	14	54	14	54	14	52	12

Attachment E - Predicted Noise Levels 2074

Receptor Site	Opening Year No-Build (2026)	Horizon Year No-Build (2074)	Difference (No Build 2074-No-Build 2026)	Horizon Year (2074) Alt. B1	Difference (B1-No-Build 2026)	Horizon Year (2074) Alt. B2	Difference (B2-No-Build 2026)	Horizon Year (2074) Alt. B3	Difference (B3-No-Build 2026)	Horizon Year (2074) Alt. B4	Difference (B4-No-Build 2026)
M04-28	42	46	3	57	14	56	14	56	14	54	12
M04-29	42	46	3	56	14	56	14	56	13	54	11
M04-30	41	45	4	54	13	54	13	54	13	52	11
M04-31	42	46	3	56	13	56	13	56	13	53	11
M04-32	43	46	3	56	13	56	13	56	13	54	11
M04-33	43	46	3	56	13	56	13	55	13	53	11
M04-34	43	46	3	56	12	55	12	55	12	53	10
M04-35	43	46	3	56	13	55	13	55	12	53	10
M04-36	42	46	3	55	13	55	13	55	13	53	11
M04-37	42	46	3	55	13	55	13	55	13	53	11
M04-38	42	46	3	56	14	56	14	56	14	54	12
M04-39	42	45	4	56	14	56	14	56	14	54	12
M04-40	42	45	4	57	15	56	15	56	15	54	13
M04-41	39	43	4	55	16	55	16	55	16	53	14
M04-42	41	45	4	55	14	55	14	55	14	53	12
M04-43	42	45	3	55	13	55	13	55	13	53	11
M04-44	42	45	3	55	13	55	13	55	13	53	11
M04-45	42	46	3	55	13	55	13	55	13	53	11
M04-46	42	46	3	56	13	55	13	55	13	53	11
M04-47	43	46	3	56	13	56	13	56	13	54	11
M04-48	42	46	4	53	11	53	11	53	11	51	9
M04-49	44	47	3	56	12	55	11	55	11	53	9
M04-50	42	46	4	53	11	53	11	53	11	51	9
M04-51	43	47	3	53	10	53	9	53	9	51	8
M04-52	43	46	4	52	9	52	9	52	9	50	8
M05-01	40	44	4	57	18	57	18	57	17	56	16
M05-02	39	43	4	55	16	55	15	55	15	54	14
M05-03	38	42	4	60	21	60	21	60	21	59	21
M05-04	38	42	4	69	31	68	31	68	31	70	32
M05-05	37	41	4	62	26	62	25	62	26	63	27
M06-01	43	47	4	46	3	46	3	46	3	50	7
M06-02	43	47	4	47	3	46	3	46	3	53	9
M06-03	45	48	4	48	3	48	3	48	4	64	19
M06-04	45	49	3	49	3	49	3	49	3	73	27
M06-05	44	47	3	48	4	48	4	48	4	68	24
M06-06	43	47	4	48	5	48	5	48	5	63	20
M06-07	43	47	4	48	5	47	4	47	5	58	15
M06-08	44	48	4	49	5	49	5	49	5	57	13
M06-08	47	51	4	48	1	48	1	48	1	58	11
M06-09	43	47	4	48	5	48	4	48	5	55	12
M06-09	48	52	4	49	1	48	0	49	1	56	8
M06-10	43	47	4	48	5	47	4	48	5	54	11
M06-11	45	49	4	50	5	50	5	51	6	56	11
M06-12	43	47	4	47	5	47	4	48	5	54	11
M06-12	50	54	4	51	1	50	0	51	0	58	8
M06-13	44	48	4	48	4	48	4	48	4	54	10
M06-14	43	47	4	47	4	46	3	46	3	52	9
M06-15	43	47	4	46	4	46	3	46	3	51	8
M06-16	42	46	4	46	4	46	4	47	4	52	10
M06-17	43	47	4	47	5	47	4	48	5	54	11
M06-18	42	46	4	47	5	47	5	48	5	53	11
M06-19	42	46	4	47	5	46	4	47	5	52	11
M06-20	42	46	4	48	6	47	5	48	6	53	11
M06-21	42	46	4	47	6	47	5	48	6	52	10
M06-22	42	45	4	47	6	47	5	47	6	51	10
M06-23	40	44	4	46	6	46	6	46	6	50	9
M06-24	41	45	4	47	6	47	5	47	6	51	10
M06-25	42	46	4	48	5	47	5	48	6	53	11
M06-26	41	45	4	46	6	46	5	46	6	51	10
M06-27	41	45	4	46	5	46	5	46	5	52	10
M06-28	41	45	4	46	5	46	5	46	6	51	10
M06-29	43	46	4	48	6	48	5	49	6	54	12
M06-30	42	46	4	47	5	47	5	47	5	54	12
M06-31	42	46	4	48	6	47	5	48	6	55	13
M06-32	43	47	4	48	5	48	5	48	6	58	15
M06-33	44	47	3	49	5	49	5	49	5	63	19
M06-34	44	48	3	49	5	49	4	49	5	67	22
M06-35	44	47	3	49	5	49	5	50	5	71	27
M06-36	43	47	4	49	6	48	5	49	6	61	18
M06-37	42	46	4	48	6	48	6	48	6	56	14
M06-38	41	45	4	47	6	47	6	47	6	54	12
M06-39	41	45	4	47	6	47	6	48	7	53	12
M06-40	40	44	4	46	6	46	6	47	7	51	11
M06-41	36	41	5	45	9	44	8	44	8	48	12
M06-41	41	45	4	47	6	47	6	47	6	51	10
M06-42	39	43	4	46	7	46	6	46	7	51	12
M06-43	41	45	4	48	7	47	6	48	7	54	13
M06-44	41	45	4	48	6	47	6	48	7	55	13
M06-45	41	45	4	47	6	47	6	47	6	55	14
M06-46	42	46	4	48	6	48	6	49	6	58	16
M06-47	44	47	3	50	6	50	6	51	6	62	18
M06-48	43	47	3	49	5	48	5	49	6	63	19
M06-49	43	47	3	49	6	48	5	49	6	63	20
M06-50	42	46	4	48	6	47	6	48	6	67	25
M06-51	42	46	4	48	6	48	6	49	6	63	20
M06-52	42	46	4	48	7	48	6	49	7	58	16
M06-53	40	44	4	47	7	47	6	47	7	54	14
M06-54	40	44	4	48	7	47	7	48	8	53	12
M06-55	45	48	3	53	9	53	8	53	8	58	14
M06-56	41	44	4	49	8	49	8	49	9	55	14
M06-57	41	44	4	48	8	48	7	48	8	56	15
M06-58	41	45	4	48	7	48	7	48	7	57	16
M06-59	45	48	3	52	7	51	7	52	7	63	18
M06-60	44	47	3	49	5	49	5	49	6	72	28
M06-61	43	47	3	49	6	49	5	49	6	72	29
M06-62	44	47	3	50	6	50	6	50	7	67	23
M06-63	41	45	4	48	8	48	7	49	8	58	17
M06-64	37	41	4	47	10	47	10	47	10	52	15
M06-65	36	40	5	47	11	46	11	46	11	52	17

Attachment E - Predicted Noise Levels 2074

Receptor Site	Opening Year No-Build (2026)	Horizon Year No-Build (2074)	Difference (No Build 2074-No-Build 2026)	Horizon Year (2074) Alt. B1	Difference (B1-No-Build 2026)	Horizon Year (2074) Alt. B2	Difference (B2-No-Build 2026)	Horizon Year (2074) Alt. B3	Difference (B3-No-Build 2026)	Horizon Year (2074) Alt. B4	Difference (B4-No-Build 2026)
M06-66	41	45	4	49	7	48	7	49	7	63	21
M06-67	42	46	3	49	6	49	6	49	7	66	24
M06-68	43	46	3	49	7	49	6	50	7	67	24
M06-69	40	44	4	48	8	48	7	48	8	60	19
M06-70	39	43	4	48	9	48	9	48	9	57	19
M06-71	35	40	5	46	11	46	11	46	11	56	21
M06-72	40	44	4	48	8	48	8	48	8	60	20
M06-73	42	45	4	49	7	49	7	49	7	66	24
M06-74	42	45	4	48	7	48	6	48	7	72	30
M06-75	41	45	4	48	7	48	7	48	7	72	31
M06-76	40	44	4	48	8	48	7	48	8	66	26
M06-77	37	41	4	49	12	49	12	49	12	54	17
M06-78	37	41	4	49	12	49	12	50	12	54	17
M06-79	39	42	4	52	14	52	13	53	14	56	18
M06-80	39	43	4	50	11	50	11	51	12	60	21
M06-81	38	42	4	49	11	49	11	49	11	59	21
M06-82	38	42	4	48	10	48	10	48	10	59	21
M06-83	36	40	4	48	12	47	11	48	12	60	24
M06-84	40	43	4	49	9	48	9	49	9	62	23
M06-85	41	44	4	49	8	49	8	49	8	66	25
M06-86	41	45	3	49	8	49	8	50	9	68	27
M06-87	41	44	3	50	9	50	9	51	10	72	31
M06-88	40	43	4	49	9	48	9	49	10	66	27
M06-89	38	42	4	49	10	48	10	49	11	66	28
M06-90	40	43	4	50	10	49	10	50	11	71	31
M06-91	39	42	4	51	12	51	12	52	13	63	24
M06-92	39	42	3	53	13	52	13	53	14	58	19
M06-93	40	43	3	53	14	53	13	54	15	69	29
M06-94	38	41	4	52	15	52	15	54	16	66	28
M06-95	38	41	4	53	15	52	15	54	16	70	33
M06-96	35	39	4	54	20	54	19	55	21	65	30
M06-97	35	39	4	56	21	55	20	57	22	67	32
M06-98	35	39	4	66	31	65	31	65	31	62	28
M06-99	41	45	4	48	7	48	6	48	6	63	22
M07-01	47	50	4	48	2	48	1	48	1	71	24
M07-02	48	51	4	49	1	48	1	48	1	66	19
M07-03	48	52	4	49	1	48	0	48	0	63	15
M07-04	49	53	4	50	1	49	0	49	0	62	13
M07-05	49	52	4	49	1	48	0	49	0	61	13
M07-06	50	54	4	51	1	50	0	50	0	60	10
M07-07	51	55	4	51	0	51	0	51	0	60	8
M07-10	48	52	4	49	1	49	1	49	1	57	9
M07-11	48	52	4	49	1	48	0	48	1	59	11
M07-13	43	47	4	46	3	45	3	45	3	50	8
M07-14	46	50	4	49	2	48	2	49	2	53	7
M07-15	46	50	4	48	2	47	2	48	2	52	6
M07-16	45	49	4	47	2	47	1	47	1	51	6
M07-17	46	50	4	48	2	48	1	48	2	51	5
M07-18	45	50	4	46	1	46	0	46	0	48	3
M07-19	46	50	4	48	2	48	1	48	2	51	5
M07-20	46	51	4	48	1	47	1	47	1	50	3
M07-21	47	51	4	48	1	48	0	48	0	49	2
M07-22	48	52	4	49	1	48	0	48	0	50	2
M07-23	48	52	4	49	1	48	0	48	0	51	2
M07-24	49	53	4	50	1	49	0	49	0	51	2
M07-25	49	53	4	49	1	49	0	49	0	50	2
M07-26	50	53	4	50	0	49	0	50	0	51	2
M07-27	50	54	4	51	0	50	0	50	0	52	1
M07-28	51	55	4	51	0	51	0	51	0	53	1
M07-29	50	54	4	51	1	50	0	50	0	53	3
M07-30	49	53	4	50	1	49	0	49	0	53	4
M07-31	51	55	4	52	0	51	0	51	0	53	2
M07-32	52	56	4	52	0	52	0	52	0	53	1
M07-33	50	54	4	50	0	49	0	49	0	51	1
M07-34	51	55	4	52	0	51	0	51	0	52	1
M07-35	52	56	4	52	0	51	0	52	0	52	0
M07-36	53	56	4	53	0	52	0	52	0	53	1
M07-37	53	57	4	53	0	53	0	53	0	54	1
M07-38	54	58	4	54	0	53	0	54	0	54	1
M07-39	54	57	4	54	0	53	0	53	0	55	1
M07-40	56	59	4	56	0	55	-1	56	0	57	1
M07-41	52	56	4	52	0	52	0	52	0	54	2
M07-42	52	56	4	52	0	51	0	52	0	54	2
M07-43	55	59	4	55	0	55	0	55	0	57	2
M07-44	58	62	4	58	0	58	0	58	0	60	2
M07-45	62	65	4	62	0	61	-1	61	0	62	1
M07-46	61	65	4	61	0	61	0	61	0	62	0
M07-47	63	66	4	63	0	62	-1	62	0	63	0
M07-48	58	62	4	58	0	58	-1	58	0	58	0
M07-49	55	59	4	55	0	55	-1	55	0	56	0
M07-50	54	57	4	54	0	53	0	53	0	54	0
M07-51	54	58	4	54	0	54	-1	54	-1	55	0
M07-52	57	61	4	57	0	57	-1	57	0	57	0
M07-53	60	64	4	60	0	60	-1	60	0	60	0
M07-54	62	66	4	62	0	61	-1	62	0	62	0
M07-55	70	74	4	70	0	69	0	69	0	70	0
M07-56	68	72	4	68	0	67	-1	68	-1	68	0
M07-57	61	65	4	61	0	60	-1	61	0	61	0
M07-58	65	69	4	65	0	65	-1	65	-1	65	0
M07-59	70	73	3	70	0	69	-1	69	-1	69	-1
M07-60	69	72	3	69	0	68	-1	68	-1	69	0
M07-61	65	69	3	65	0	65	-1	65	0	65	0
M07-62	68	72	4	68	0	68	0	68	0	68	0
M07-63	69	72	3	69	0	68	-1	68	-1	68	0
M07-64	69	73	4	70	0	69	0	69	0	69	0
M07-65	68	72	4	68	0	68	0	68	0	68	0
M07-66	69	73	4	69	0	69	0	69	0	69	0
M07-67	68	72	3	68	0	68	-1	68	-1	68	0
M07-68	68	71	3	68	0	67	-1	68	-1	68	0

Attachment E - Predicted Noise Levels 2074

Receptor Site	Opening Year No-Build (2026)	Horizon Year No-Build (2074)	Difference (No Build 2074-No-Build 2026)	Horizon Year (2074) Alt. B1	Difference (B1-No-Build 2026)	Horizon Year (2074) Alt. B2	Difference (B2-No-Build 2026)	Horizon Year (2074) Alt. B3	Difference (B3-No-Build 2026)	Horizon Year (2074) Alt. B4	Difference (B4-No-Build 2026)
M07-68	66	69	4	66	0	65	-1	65	0	66	0
M07-69	70	73	4	69	0	69	-1	69	-1	69	0
M07-70	71	76	5	71	0	71	0	71	0	71	0
M07-71	71	76	5	71	0	71	0	71	0	71	0
M07-72	71	76	5	71	0	71	0	71	0	71	0
M07-73	62	66	4	62	0	61	0	62	0	63	1
M07-74	70	74	4	71	0	70	0	70	0	71	0
M07-75	67	71	4	67	0	67	-1	67	-1	67	0
M07-76	64	68	4	64	0	64	0	64	0	65	1
M07-77	65	68	4	65	0	64	-1	64	0	65	1
M07-78	62	66	4	63	0	62	0	62	0	64	2
M07-79	68	71	4	68	0	67	-1	67	-1	68	0
M07-80	69	72	4	69	0	68	-1	68	-1	69	0
M07-81	61	65	3	62	0	61	-1	61	0	65	3
M07-82	68	71	3	68	0	68	-1	68	-1	70	2
M07-83	67	70	3	67	0	66	-1	66	0	70	4
M07-84	67	70	3	67	0	66	-1	66	0	72	5
M07-85	69	72	3	69	0	68	-1	68	-1	72	4
M07-86	63	66	3	63	0	63	-1	63	0	69	6
M07-87	60	63	3	60	0	59	-1	59	-1	66	6
M08-01	69	71	2	68	-1	68	-1	68	-1	Acquired	--
M08-02	71	73	2	70	-1	70	-1	70	-1	Acquired	--
M08-03	71	73	2	70	-1	69	-1	70	-1	Acquired	--
M08-04	67	69	2	66	-1	66	-1	66	-1	70	3
M08-05	69	70	1	68	-1	68	-2	68	-1	73	4
M08-06	72	73	1	70	-1	70	-2	70	-2	Acquired	--
M08-07	71	72	1	70	-1	70	-2	70	-1	Acquired	--
M08-08	71	72	1	69	-1	69	-2	69	-1	Acquired	--
M08-09	71	72	1	70	-1	70	-2	70	-1	Acquired	--
M08-10	72	73	1	71	-1	70	-2	70	-1	Acquired	--
M08-11	71	73	2	70	-1	70	-1	70	-1	Acquired	--
M08-12	70	72	2	70	-1	69	-1	69	-1	Acquired	--
M08-13	69	71	2	68	-1	68	-1	68	-1	Acquired	--
M08-14	69	70	2	68	-1	67	-1	68	-1	Acquired	--
M08-15	68	70	2	68	-1	67	-1	67	-1	Acquired	--
M08-16	69	71	2	68	-1	68	-1	68	-1	Acquired	--
M08-17	70	72	2	69	-1	68	-1	69	-1	Acquired	--
M08-18	71	73	2	70	-1	70	-1	70	-1	Acquired	--
M08-19	67	69	2	66	-1	66	-1	66	-1	69	1
M08-20	62	64	2	61	-1	61	-1	61	-1	64	2
M08-21	62	64	2	62	-1	61	-1	61	-1	64	2
M08-22	60	62	2	59	-1	59	-1	59	-1	63	3
M08-23	61	63	2	60	-1	60	-1	60	-1	65	4
M08-24	62	64	2	61	-1	60	-1	61	-1	67	5
M08-25	62	63	2	61	-1	60	-1	61	-1	67	6
M08-26	63	64	2	62	-1	61	-1	62	-1	68	5
M08-27	61	63	2	60	-1	59	-1	60	-1	66	5
M08-28	62	64	2	61	-1	60	-1	61	-1	66	4
M08-29	64	66	2	63	-1	62	-1	63	-1	68	4
M08-30	63	64	2	62	-1	61	-1	62	-1	67	4
M08-31	58	60	2	57	-1	57	-1	57	-1	63	5
M08-32	58	60	2	57	-1	57	-1	57	-1	63	5
M08-33	58	60	2	58	-1	57	-1	57	-1	63	5
M08-34	57	60	2	57	-1	56	-1	56	-1	63	6
M08-35	57	59	2	56	-1	55	-1	56	-1	62	6
M08-36	60	62	2	59	-1	58	-1	59	-1	65	5
M08-37	57	59	2	56	-1	56	-1	56	-1	64	7
M08-38	59	61	2	58	-1	58	-1	58	-1	65	6
M08-39	56	58	2	55	-1	55	-1	55	-1	62	6
M08-40	58	60	2	58	-1	57	-1	57	-1	63	5
M08-41	58	60	2	58	-1	57	-1	57	-1	63	4
M08-42	55	57	2	54	-1	54	-1	54	-1	59	5
M08-43	54	56	2	53	-1	53	-1	53	-1	58	4
M08-44	53	56	2	53	0	53	-1	52	-1	58	4
M08-45	57	59	2	56	-1	56	-1	56	-1	60	3
M08-46	55	57	2	54	0	54	-1	54	-1	57	3
M08-47	53	55	2	52	-1	52	-1	52	-1	57	4
M08-48	52	54	3	51	0	51	-1	51	-1	57	5
M08-49	52	54	3	51	0	51	-1	51	-1	57	5
M08-50	52	54	2	52	0	51	-1	51	-1	58	6
M08-51	57	59	2	56	-1	56	-1	56	-1	62	5
M08-52	55	58	2	55	-1	54	-1	55	-1	61	5
M08-53	55	57	2	54	0	54	-1	54	-1	60	5
M08-54	53	56	3	53	0	52	-1	52	-1	59	6
M08-55	53	56	2	53	0	52	-1	53	-1	59	6
M08-56	55	57	2	55	-1	54	-1	54	-1	60	5
M08-57	51	54	3	51	0	51	-1	50	-1	57	6
M08-58	50	53	3	50	0	49	-1	49	-1	56	6
M08-59	49	52	3	49	0	48	0	48	0	55	7
M08-60	51	54	3	51	0	51	-1	50	-1	56	5
M08-61	51	54	3	51	0	51	-1	51	-1	56	5
M08-62	48	50	3	49	1	49	1	47	-1	53	5
M08-63	50	53	3	50	-1	49	-1	49	-1	56	6
M08-64	47	51	3	49	1	48	1	47	0	53	6
M08-65	54	56	2	53	0	53	-1	53	-1	59	5
M08-66	54	57	2	54	0	53	-1	53	-1	59	5
M08-67	54	56	2	53	0	53	-1	53	-1	59	5
M08-68	52	55	3	52	0	51	0	51	-1	57	5
M08-69	52	55	3	52	0	52	0	52	-1	58	5
M08-70	53	55	2	53	0	52	0	52	-1	58	6
M08-71	49	51	3	50	1	50	1	48	0	55	6
M08-72	46	49	3	48	2	47	1	46	0	51	6
M08-73	46	49	3	47	1	47	1	46	0	52	6
M08-74	47	50	3	47	1	47	0	47	0	53	6
M08-75	50	53	3	50	0	50	0	50	0	56	6
M08-76	51	53	3	51	0	51	0	50	0	56	6
M08-77	49	52	3	50	1	50	0	49	0	55	6
M08-78	50	53	3	51	0	50	0	50	0	56	5
M08-79	50	53	3	50	1	50	0	49	0	55	6
M08-80	50	53	3	50	1	50	0	49	0	55	5

Attachment E - Predicted Noise Levels 2074

Receptor Site	Opening Year No-Build (2026)	Horizon Year No-Build (2074)	Difference (No Build 2074-No-Build 2026)	Horizon Year (2074) Alt. B1	Difference (B1-No-Build 2026)	Horizon Year (2074) Alt. B2	Difference (B2-No-Build 2026)	Horizon Year (2074) Alt. B3	Difference (B3-No-Build 2026)	Horizon Year (2074) Alt. B4	Difference (B4-No-Build 2026)
M08-81	59	60	2	58	-1	57	-2	57	-1	65	6
M08-82	57	59	2	56	-1	55	-1	56	-1	63	6
M08-83	55	57	2	54	-1	53	-1	54	-1	61	6
M08-84	53	55	2	52	-1	52	-1	52	-1	59	6
M08-85	48	52	3	50	1	49	1	49	1	70	22
M08-86	48	51	3	50	1	49	1	49	1	69	21
M08-87	45	48	4	48	3	47	3	47	3	69	25
M08-88	45	48	3	48	4	48	3	48	3	70	25
M08-89	45	49	4	47	2	47	2	47	2	64	19
M08-90	44	47	4	47	4	47	3	47	3	65	21
M08-91	45	48	3	49	4	49	4	49	4	67	22
M08-92	42	46	4	46	4	46	4	46	4	66	24
M08-93	43	47	3	48	5	48	4	48	4	65	22
M08-94	45	48	3	50	4	49	4	50	5	65	19
M08-95	45	48	3	49	4	49	3	49	4	63	18
M08-96	48	51	3	52	4	51	3	52	4	63	15
M08-97	44	48	4	47	3	47	3	47	3	62	18
M08-98	45	48	4	48	3	47	2	47	2	61	17
M08-99	46	49	3	48	2	48	2	48	2	62	16
M08-100	46	50	3	48	2	48	2	48	2	63	17
M08-101	47	50	3	49	2	48	1	48	1	63	16
M08-102	48	51	3	50	2	49	1	49	1	62	14
M08-103	46	49	3	48	2	48	2	48	2	61	15
M08-104	44	48	4	48	4	48	3	47	3	61	17
M08-105	49	52	3	53	4	52	3	53	4	63	14
M08-106	48	50	3	52	5	52	4	52	5	64	17
M08-107	48	51	3	53	5	53	4	53	5	63	15
M08-108	48	51	3	53	5	53	4	53	5	63	14
M08-109	48	50	3	51	4	51	3	52	4	62	14
M08-110	45	48	3	48	3	48	3	48	3	60	15
M08-111	46	49	3	49	3	48	3	48	3	60	14
M08-112	46	49	3	49	3	48	2	48	2	60	14
M08-113	45	49	4	47	2	47	2	47	2	58	13
M08-114	46	50	4	48	1	47	1	47	1	59	12
M08-115	49	52	3	50	1	49	1	49	1	61	12
M08-116	46	50	4	48	2	48	2	47	1	58	12
M08-117	47	50	3	49	2	49	2	48	2	58	12
M08-118	46	49	3	49	3	49	2	49	2	59	12
M08-119	46	49	3	49	3	49	2	49	2	59	13
M08-120	46	49	3	49	3	49	3	49	3	60	14
M08-121	44	47	3	48	5	48	4	48	4	60	16
M08-122	46	49	3	50	4	50	4	50	4	60	14
M08-123	50	52	3	53	4	53	3	53	4	61	12
M08-124	46	49	3	49	3	49	3	48	3	59	13
M08-125	48	50	3	50	2	50	2	50	2	60	12
M08-126	46	49	3	48	2	48	2	48	2	58	12
M08-127	45	48	4	47	2	46	2	46	1	56	12
M08-128	52	55	3	54	2	54	1	54	2	62	10
M08-129	49	52	3	50	1	49	1	49	1	60	11
M08-130	48	52	4	49	1	49	1	49	0	59	11
M08-131	49	52	3	50	1	49	1	49	0	58	10
M08-132	48	51	3	49	1	49	1	49	1	57	9
M08-133	48	51	3	49	1	49	1	49	1	58	10
M08-134	46	50	3	49	2	48	2	48	2	56	10
M08-135	46	49	3	49	3	48	2	48	2	57	11
M08-136	46	49	3	49	3	48	3	48	3	58	12
M08-137	49	51	3	53	4	53	4	53	4	61	12
M08-138	45	49	3	49	3	48	3	48	3	57	12
M08-139	46	49	3	49	3	49	2	49	3	58	11
M08-140	50	53	3	53	3	53	2	53	3	61	10
M08-141	47	50	3	49	2	48	2	48	1	56	9
M08-142	45	49	3	47	2	47	2	46	1	54	9
M08-143	49	52	3	49	1	49	0	49	0	57	8
M08-144	49	52	3	50	1	49	1	49	0	58	9
M08-145	50	53	3	51	1	50	0	50	0	58	9
M08-146	49	53	4	50	1	49	0	49	0	57	8
M08-147	51	54	4	51	0	51	0	50	0	60	9
M08-148	47	50	3	49	2	49	2	48	2	56	9
M08-149	46	50	3	49	2	48	2	48	2	56	9
M08-150	46	49	3	48	3	48	2	48	2	56	10
M08-151	45	49	3	48	3	48	3	48	2	56	11
M08-152	46	49	3	49	3	48	3	48	2	55	10
M08-153	46	49	3	49	3	48	2	48	2	56	9
M08-154	46	49	3	48	3	48	2	47	2	55	9
M08-155	46	50	3	49	2	48	2	48	1	55	8
M08-156	47	49	3	49	2	49	2	48	2	55	9
M08-157	46	49	3	49	3	48	2	48	2	55	10
M08-158	46	49	3	49	3	49	3	48	2	55	10
M08-159	45	48	3	49	4	48	3	48	3	56	10
M08-160	45	48	3	49	3	48	3	48	3	55	10
M08-161	46	49	3	49	3	49	3	49	3	55	9
M08-162	46	49	3	49	3	49	3	48	2	56	10
M08-163	47	50	3	49	2	49	2	48	2	55	8
M08-164	46	49	3	48	3	48	2	47	1	54	8
M08-165	46	49	3	48	2	48	2	47	1	54	8
M08-166	47	50	3	49	2	49	2	49	2	55	8
M08-167	46	49	3	49	3	49	3	49	2	55	9
M08-168	46	49	3	49	3	49	2	49	2	55	9
M08-169	45	48	3	49	3	48	3	48	3	55	9
M08-170	46	48	3	49	3	49	3	48	3	54	9
M08-171	46	49	3	49	3	49	2	48	2	55	9
M08-172	46	49	3	49	3	49	2	49	2	55	9
M08-173	47	50	3	49	2	49	2	49	2	55	8
M08-174	46	50	3	49	2	48	2	48	2	54	8
M08-175	46	50	4	49	2	48	2	48	1	54	8
M08-176	47	50	3	49	2	49	2	49	2	55	8
M08-177	46	49	3	49	3	49	2	49	2	55	9
M08-178	46	49	3	49	3	49	2	48	2	54	8
M08-179	46	48	3	49	4	49	3	48	3	54	9

Attachment E - Predicted Noise Levels 2074

Receptor Site	Opening Year No-Build (2026)	Horizon Year No-Build (2074)	Difference (No Build 2074-No-Build 2026)	Horizon Year (2074) Alt. B1	Difference (B1-No-Build 2026)	Horizon Year (2074) Alt. B2	Difference (B2-No-Build 2026)	Horizon Year (2074) Alt. B3	Difference (B3-No-Build 2026)	Horizon Year (2074) Alt. B4	Difference (B4-No-Build 2026)
M08-180	45	48	3	49	4	49	3	48	3	54	9
M08-181	46	49	3	49	3	49	3	48	2	54	8
M08-182	46	49	3	49	3	49	2	48	2	55	8
M08-183	47	50	3	49	2	49	2	49	1	55	8
M08-184	47	50	3	49	2	48	2	48	2	54	8
M08-185	46	50	3	48	2	48	2	48	1	54	8
M08-186	46	50	4	48	2	48	2	48	2	54	8
M08-187	46	49	4	48	2	48	2	47	2	54	8
M08-188	46	49	4	48	3	48	2	48	2	54	9
M08-189	45	49	4	48	3	48	3	48	3	54	9
M08-190	45	49	4	48	3	48	3	48	3	54	9
M08-191	45	48	4	48	3	48	3	48	3	54	10
M08-192	45	48	3	49	4	48	4	48	4	57	12
M08-193	44	47	3	49	5	49	5	49	5	58	14
M08-194	43	46	3	48	5	48	5	48	5	61	18
M08-195	46	49	3	53	7	53	7	53	7	68	22
M08-196	43	46	3	49	7	49	7	50	7	60	18
M08-197	43	46	3	49	6	49	6	49	6	58	14
M08-198	44	47	3	49	5	48	5	48	5	55	11
M08-199	44	46	3	54	10	53	10	54	10	62	18
M08-200	38	42	4	51	13	51	12	52	13	69	31
M08-201	38	42	4	52	13	51	13	53	14	68	29
M08-202	41	44	3	51	10	51	10	52	11	59	18
M08-203	43	46	3	51	8	51	8	52	9	55	12
M08-204	42	45	3	49	7	49	7	49	7	54	12
M08-205	41	45	3	49	8	49	8	49	8	55	14
M08-206	41	44	3	50	9	50	9	51	10	57	16
M08-207	40	44	3	50	9	50	9	50	10	58	17
M08-208	35	39	4	53	18	53	18	54	19	Acquired	--
M08-209	34	38	4	59	25	59	24	60	26	63	29
M08-210	65	66	1	64	-1	64	-1	64	-1	70	5
M08-211	67	69	2	66	-1	66	-1	66	-1	73	6
M08-212	67	68	1	66	-1	66	-2	66	-1	72	5
M08-213	48	51	3	49	1	49	1	49	1	63	15
M08-214	47	50	3	48	2	48	1	47	1	62	16
M09-01	67	68	1	66	-1	66	-1	66	-1	70	3
M09-02	72	74	2	72	-1	71	-1	72	-1	Acquired	--
M09-03	73	74	1	72	-1	71	-1	71	-1	Acquired	--
M09-04	73	74	1	72	-1	71	-1	72	-1	Acquired	--
M09-05	70	71	1	69	-1	68	-1	69	-1	70	0
M09-06	70	71	1	69	-1	69	-1	69	-1	69	-1
M09-07	72	74	2	71	-1	71	-1	71	-1	70	-2
M09-08	70	72	2	70	-1	69	-1	70	-1	70	0
M10-01	68	69	2	67	-1	67	-1	67	-1	Acquired	--
M10-02	72	73	2	71	-1	71	-1	71	-1	Acquired	--
M10-03	64	65	2	63	-1	63	-1	63	-1	67	4
M10-04	69	70	1	68	-1	67	-1	67	-1	69	0
M10-05	68	69	1	67	-1	67	-1	67	-1	69	1
M10-06	70	71	1	69	-1	69	-1	69	-1	69	-1
M10-07	72	73	1	71	-1	71	-1	71	-1	70	-2
M10-08	72	74	1	72	0	72	-1	72	-1	71	-2
M10-09	72	73	1	72	-1	71	-1	71	-1	71	-1
M11-01	68	69	1	67	-1	66	-1	66	-1	Acquired	--
M11-02	68	69	1	67	-1	67	-1	66	-1	Acquired	--
M11-03	69	71	2	68	-1	68	-1	68	-1	Acquired	--
M11-04	69	71	2	68	-1	68	-1	68	-1	Acquired	--
M11-05	66	68	2	65	-1	65	-1	65	-1	71	5
M11-06	67	69	2	67	-1	66	-1	66	-1	Acquired	--
M11-07	70	72	2	69	-1	69	-1	69	-1	Acquired	--
M11-08	71	73	2	70	-1	70	-1	70	-1	Acquired	--
M11-09	51	54	3	50	-1	51	0	50	-1	58	7
M11-10	57	59	2	56	-1	57	0	56	-1	63	6
M11-11	55	57	2	54	-1	55	0	54	-1	61	6
M11-12	58	59	2	57	-1	57	0	56	-1	63	6
M11-13	61	62	2	60	-1	60	-1	60	-1	65	5
M11-14	61	63	2	60	-1	60	-1	60	-1	65	4
M11-15	62	63	2	61	-1	61	-1	61	-1	65	4
M11-16	62	63	2	61	-1	61	0	60	-1	66	4
M11-17	61	63	2	60	-1	61	0	60	-1	66	5
M11-18	63	64	1	62	-1	62	-1	62	-1	68	5
M11-19	60	61	2	59	-1	59	0	58	-1	64	5
M11-20	60	61	2	59	-1	60	0	59	-1	64	4
M11-22	59	61	2	58	-1	60	0	58	-1	64	4
M11-23	58	59	2	57	-1	58	0	57	-1	62	5
M11-24	54	56	3	53	-1	55	1	52	-1	60	6
M11-25	53	56	3	52	-1	54	1	52	-1	59	6
M11-26	52	55	2	51	-1	55	2	51	-1	58	6
M11-27	58	59	2	57	-1	58	1	56	-1	62	5
M11-28	57	59	2	56	-1	57	1	56	-1	62	5
M11-29	56	58	2	55	-1	57	1	55	-1	61	5
M11-30	54	56	2	53	-1	56	2	52	-1	59	5
M11-31	51	53	3	50	-1	55	4	49	-1	57	6
M11-32	52	54	2	51	-1	56	4	51	-1	57	6
M11-33	51	54	2	50	-1	55	3	50	-1	57	5
M11-33	53	55	2	52	-1	56	3	52	-1	58	5
M11-34	52	54	2	50	-1	54	3	50	-1	57	6
M11-35	50	53	3	49	-1	54	3	49	-1	56	6
M11-36	50	52	3	49	-1	55	5	48	-1	55	6
M11-37	53	55	2	52	-1	56	3	52	-1	58	5
M11-38	49	52	3	48	-1	54	5	48	-1	55	6
M11-39	50	52	2	48	-1	55	5	48	-1	55	5
M11-40	51	53	3	50	-1	53	3	49	-1	56	6
M11-41	53	55	3	52	-1	54	1	51	-1	58	5
M11-42	54	56	2	53	-1	56	2	52	-1	59	5
M11-43	52	54	2	50	-1	55	3	50	-1	57	5
M11-44	50	53	3	49	-1	54	4	49	-1	56	5
M11-45	49	51	3	47	-1	54	6	47	-1	54	5
M11-46	48	51	3	46	-1	54	6	46	-1	53	6
M11-47	51	53	3	49	-1	55	4	49	-1	56	5
M11-48	53	55	2	52	-1	56	3	51	-1	58	5

Attachment E - Predicted Noise Levels 2074

Receptor Site	Opening Year No-Build (2026)	Horizon Year No-Build (2074)	Difference (No Build 2074-No-Build 2026)	Horizon Year (2074) Alt. B1	Difference (B1-No-Build 2026)	Horizon Year (2074) Alt. B2	Difference (B2-No-Build 2026)	Horizon Year (2074) Alt. B3	Difference (B3-No-Build 2026)	Horizon Year (2074) Alt. B4	Difference (B4-No-Build 2026)
M11-49	54	56	2	53	-1	56	2	52	-1	59	5
M11-50	54	56	2	53	-1	55	2	52	-1	59	5
M11-51	54	56	2	53	-1	55	1	53	-1	59	5
M11-52	51	53	2	49	-1	54	3	49	-1	55	5
M11-53	50	52	3	49	-1	54	4	48	-2	55	6
M11-54	53	55	2	51	-1	53	1	51	-1	58	5
M11-55	52	54	3	50	-1	54	3	50	-1	57	5
M11-56	53	55	2	52	-1	55	2	51	-2	58	5
M11-57	57	59	2	56	-1	58	0	56	-1	62	5
M11-58	55	57	2	54	-1	56	1	54	-1	60	5
M11-59	54	56	2	53	-1	55	1	53	-1	59	5
M11-60	53	56	2	52	-1	55	2	52	-1	59	5
M11-61	55	57	2	54	-1	56	1	54	-1	60	5
M11-62	57	59	2	56	-1	57	0	55	-1	61	4
M11-63	55	58	2	54	-1	55	-1	54	-1	60	5
M11-64	49	52	3	47	-1	52	4	47	-1	54	6
M11-65	50	53	3	49	-1	54	3	49	-1	56	5
M11-66	48	51	3	47	-1	53	4	47	-1	54	6
M11-67	48	51	3	47	-1	53	5	47	-1	54	6
M11-68	48	51	3	47	-1	52	5	46	-1	54	6
M11-69	47	51	3	46	-1	53	6	46	-2	53	6
M11-70	48	51	3	47	-1	53	5	47	-1	54	6
M11-71	47	50	3	46	-1	55	8	46	-1	53	5
M11-72	48	51	3	47	-1	55	7	47	-1	54	5
M11-73	48	51	3	47	-1	56	7	47	-1	54	5
M11-74	48	51	3	47	-1	55	7	46	-1	53	6
M11-75	48	51	3	47	-1	56	8	47	-1	54	6
M11-76	47	50	3	46	-1	56	8	46	-1	53	6
M11-77	47	50	3	45	-1	55	9	45	-1	52	6
M11-78	47	50	3	45	-1	55	9	45	-1	52	6
M11-79	47	50	3	45	-1	55	9	45	-1	52	6
M11-80	47	50	3	46	-1	56	9	46	-1	53	6
M11-81	47	50	3	46	-1	55	8	46	-1	53	6
M11-82	47	50	3	46	-1	55	8	45	-1	52	6
M11-83	46	50	3	45	-1	55	9	45	-1	52	6
M11-84	46	50	3	45	-1	56	9	45	-1	52	6
M11-85	46	50	3	45	-1	56	10	45	-1	52	6
M11-86	47	50	3	46	-1	56	9	46	-1	53	6
M11-87	48	51	3	47	-1	56	9	46	-1	53	6
M11-88	47	50	3	46	-1	55	8	45	-1	53	6
M11-89	46	49	4	45	-1	56	10	44	-2	51	6
M11-90	47	50	3	46	-1	57	10	46	-1	53	5
M11-91	47	50	3	46	-1	58	11	46	-1	52	6
M11-92	47	50	3	46	-1	57	10	46	-1	53	6
M11-93	46	49	3	45	-1	57	11	45	-1	52	6
M11-94	46	49	3	44	-1	56	11	44	-1	51	6
M11-95	45	49	3	44	-1	58	12	44	-1	51	6
M11-96	46	49	3	45	-1	58	12	44	-1	51	6
M11-97	46	49	3	45	-1	58	12	45	-1	51	6
M11-98	46	49	3	45	-1	58	12	45	-1	52	6
M11-99	47	49	3	45	-1	58	12	45	-1	52	6
M11-100	47	49	3	46	-1	58	12	45	-1	52	6
M11-101	45	49	4	44	-1	57	12	44	-1	51	6
M11-102	47	49	3	46	-1	59	13	45	-1	52	5
M11-103	47	49	3	45	-1	59	13	45	-1	52	5
M11-104	46	49	3	45	-1	59	13	45	-1	52	5
M11-105	47	49	3	46	-1	59	13	45	-1	52	5
M11-106	45	48	4	44	-1	60	15	43	-1	50	6
M11-106	46	49	3	45	-1	59	13	45	-1	51	5
M11-107	46	49	3	45	-1	59	13	44	-1	51	6
M11-108	45	49	3	44	-1	59	13	44	-1	51	6
M11-109	44	48	4	43	-1	59	15	43	-1	50	6
M11-110	45	48	3	43	-1	59	15	43	-1	50	6
M11-111	45	48	3	43	-1	59	14	43	-1	50	6
M11-112	45	48	3	44	-1	60	15	44	-1	51	5
M11-113	45	48	3	44	-1	60	15	44	-1	51	5
M11-114	47	49	2	46	-1	61	14	46	-1	52	5
M11-115	47	49	3	46	-1	61	14	45	-1	52	5
M11-116	46	49	3	45	-1	61	15	45	-1	51	5
M11-117	45	48	3	43	-1	61	16	43	-1	50	5
M11-118	45	48	3	44	-1	61	16	43	-1	50	5
M11-119	44	47	4	43	-1	61	17	42	-1	49	6
M11-120	44	47	3	43	-1	62	18	43	-1	50	6
M11-121	44	48	3	43	-1	62	18	43	-1	50	5
M11-122	44	48	3	43	-1	62	18	43	-1	50	5
M11-123	45	48	3	43	-1	62	18	43	-1	50	5
M11-124	44	48	3	43	-1	62	17	43	-1	50	6
M11-125	43	47	4	42	-1	63	20	42	-1	49	6
M11-126	44	47	3	43	-1	64	20	43	-1	49	5
M11-127	44	47	3	43	-1	64	20	43	-1	50	5
M11-128	44	48	3	43	-1	64	19	43	-1	50	5
M11-129	44	47	3	43	-1	64	20	43	-1	50	5
M11-130	44	47	3	43	-1	63	20	43	-1	49	6
M11-131	44	47	3	43	-1	64	19	43	-1	50	5
M11-132	44	48	3	43	-1	63	18	43	-1	50	5
M11-133	44	47	3	42	-1	65	22	42	-1	49	5
M11-134	44	47	3	43	-1	66	22	43	-1	49	5
M11-135	44	47	3	43	-1	66	22	43	-1	49	5
M11-136	44	47	3	43	-1	65	22	43	-1	49	5
M11-137	43	47	3	42	-1	65	22	42	-1	49	6
M11-138	42	46	4	41	-1	65	22	41	-1	48	6
M11-139	42	46	4	41	-1	67	25	41	-1	48	6
M11-140	44	47	3	43	-1	68	24	43	-1	49	5
M11-141	43	47	3	42	-1	68	24	42	-1	49	5
M11-142	44	47	3	43	-1	68	24	43	-1	49	5
M11-143	44	47	3	43	-1	67	24	42	-1	49	5
M11-144	43	46	3	42	-1	71	28	42	-1	49	5
M11-145	44	47	3	43	-1	71	27	42	-1	49	5
M11-146	43	46	3	42	-1	71	28	42	-1	48	5

Attachment E - Predicted Noise Levels 2074

Receptor Site	Opening Year No-Build (2026)	Horizon Year No-Build (2074)	Difference (No Build 2074-No-Build 2026)	Horizon Year (2074) Alt. B1	Difference (B1-No-Build 2026)	Horizon Year (2074) Alt. B2	Difference (B2-No-Build 2026)	Horizon Year (2074) Alt. B3	Difference (B3-No-Build 2026)	Horizon Year (2074) Alt. B4	Difference (B4-No-Build 2026)
M11-147	43	46	3	42	-1	71	28	42	-1	48	5
M11-148	42	46	4	41	-1	71	29	41	-1	48	5
M11-149	44	48	3	43	-1	62	18	43	-1	50	5
M11-150	45	48	3	44	-1	64	19	43	-1	50	5
M12-01	71	73	2	70	-1	70	-2	70	-1	61	-10
M12-02	71	72	2	70	-1	70	-1	70	-1	60	-11
M12-03	64	66	2	63	-1	63	-1	63	-1	60	-4
M12-04	68	69	2	67	-1	66	-1	66	-1	59	-9
M12-05	71	72	2	69	-1	69	-1	69	-1	58	-12
M12-06	63	65	2	62	-1	62	-1	62	-1	58	-5
M12-07	63	65	2	63	-1	62	-1	62	-1	58	-6
M12-08	71	73	2	70	-1	70	-2	70	-1	57	-14
M12-09	62	64	2	61	-1	60	-1	61	-1	58	-4
M12-10	70	71	1	69	-1	68	-1	69	-1	58	-12
M12-11	72	74	2	71	-1	71	-2	71	-1	58	-15
M12-13	72	74	2	71	-1	71	-2	71	-1	58	-14
M12-14	70	71	2	69	-1	68	-1	68	-1	57	-12
M12-15	71	73	2	70	-1	70	-1	70	-1	57	-14
M12-16	71	72	2	70	-1	69	-2	69	-1	58	-13
M12-17	70	72	2	69	-1	69	-1	69	-1	58	-13
M12-18	58	60	3	57	-1	57	-1	57	-1	59	2
M12-19	58	60	3	57	-1	56	-1	56	-1	59	1
M12-20	62	64	2	62	-1	61	-1	61	-1	65	3
M13-01	71	72	1	70	-1	70	-1	70	-1	63	-8
M13-02	71	72	1	70	-1	70	-1	70	-1	61	-9
M13-03	72	73	1	71	-1	71	-1	71	-1	61	-11
M13-04	72	74	1	72	-1	72	-1	72	-1	60	-12
M13-05	73	74	2	72	-1	72	-1	72	-1	59	-14
M13-06	71	73	1	71	-1	71	-1	71	-1	58	-13
M13-07	72	73	2	71	-1	71	-1	71	-1	58	-14
M14-01	61	63	2	60	-1	60	-1	60	-1	66	4
M14-02	61	62	2	60	-1	59	-2	60	-1	63	3
M14-03	64	66	2	63	-1	63	-2	63	-1	66	2
M14-04	69	70	1	68	-1	68	-2	68	-1	70	1
M14-05	64	65	2	63	-1	63	-1	63	-1	66	2
M14-06	71	73	2	70	-1	70	-1	70	-1	72	1
M14-07	68	69	2	67	-1	66	-1	67	-1	69	2
M14-08	67	69	2	66	-1	66	-1	66	-1	69	2
M14-09	66	68	2	65	-1	65	-1	65	-1	69	3
M14-10	63	65	2	62	-1	62	-1	62	-1	67	4
M14-11	61	63	2	60	-1	60	-1	60	-1	64	3
M14-12	59	61	2	58	-1	58	-1	58	-1	62	3
M14-13	59	61	2	58	-1	58	-1	58	-1	62	3
M14-14	59	61	2	58	-1	58	-1	58	-1	62	3
M14-15	57	59	2	56	-1	56	-1	56	-1	61	4
M14-16	59	60	2	57	-1	57	-1	57	-1	62	3
M14-17	56	59	2	55	-1	55	-1	55	-1	60	4
M14-18	57	59	2	56	-1	56	-1	56	-1	60	3
M14-19	58	59	2	57	-1	57	-1	57	-1	61	3
M14-20	56	58	2	55	-1	55	-1	55	-1	59	3
M14-21	57	59	2	56	-1	56	-1	56	-1	60	3
M14-22	56	58	2	55	-1	55	-1	55	-1	60	4
M14-23	56	58	2	55	-1	55	-1	55	-1	60	4
M14-24	53	56	2	52	-1	53	-1	52	-1	57	4
M14-25	52	54	3	51	-1	51	0	50	-1	56	4
M14-26	51	54	3	50	-1	51	0	50	-1	55	4
M14-27	51	54	3	50	-1	51	0	49	-1	55	4
M14-28	51	54	3	50	-1	51	0	50	-1	56	5
M14-29	51	54	3	50	-1	51	0	50	-1	55	5
M14-30	51	54	3	50	-1	51	0	50	-1	56	5
M14-31	51	54	3	50	-1	51	0	50	-1	56	5
M14-32	52	54	3	51	-1	51	0	50	-1	56	5
M14-33	52	55	3	51	-1	52	0	51	-1	57	5
M14-35	49	52	3	48	-1	49	0	48	-1	54	5
M14-36	49	52	3	48	-1	50	0	48	-1	54	5
M14-37	50	53	3	49	-1	50	0	49	-1	55	5
M14-38	51	54	3	50	-1	51	0	50	-1	56	5
M14-39	52	54	3	51	-1	51	0	50	-1	56	5
M14-40	52	54	3	51	-1	51	-1	51	-1	56	5
M14-41	53	55	3	52	-1	52	-1	52	-1	57	5
M14-42	54	56	2	53	-1	53	-1	53	-1	59	5
M14-43	55	57	2	54	-1	54	-1	54	-1	59	4
M14-44	56	58	2	55	-1	55	-1	55	-1	60	4
M14-45	54	56	3	53	-1	53	-1	53	-1	59	5
M14-46	56	59	2	56	-1	55	-1	55	-1	61	5
M14-47	70	71	2	69	-1	68	-1	69	-1	66	-4
M15-01	59	61	2	58	-1	58	-1	58	-1	64	4
M15-02	64	65	1	63	-1	63	-1	63	-1	67	3
M15-03	68	70	2	68	-1	67	-1	67	-1	68	0
M15-04	69	70	2	68	-1	68	-1	68	-1	68	-1
M15-05	70	72	2	70	-1	69	-1	69	-1	68	-2
M16-01	70	70	0	75	5	75	5	75	5	75	5
M16-02	61	61	0	65	4	64	3	66	4	66	5
M16-03	67	67	0	72	5	72	5	72	5	72	5
M16-04	64	64	0	69	5	68	4	69	5	69	5
M16-05	70	70	0	75	5	75	5	75	5	75	5
M16-06	63	62	0	67	4	66	3	67	4	67	5
M16-07	59	59	0	63	4	62	3	63	4	64	5
M16-08	66	66	0	71	5	71	5	71	5	71	5
M16-09	66	66	0	71	5	71	5	71	5	71	5
M16-10	63	62	0	67	5	67	4	67	5	67	4
M16-11	57	57	0	61	4	60	3	61	5	60	4
M16-12	59	59	0	64	5	64	5	64	5	64	4
M16-13	61	61	0	66	5	66	4	66	5	65	4
M16-14	61	60	0	65	5	65	4	65	5	65	4
M16-15	67	67	0	72	5	72	5	72	5	72	5
M16-16	66	66	0	71	5	71	4	71	5	71	5
M16-17	58	58	0	62	5	62	4	63	5	61	3
M16-18	55	55	0	61	6	60	5	61	6	59	4

Attachment E - Predicted Noise Levels 2074

Receptor Site	Opening Year No-Build (2026)	Horizon Year No-Build (2074)	Difference (No Build 2074-No-Build 2026)	Horizon Year (2074) Alt. B1	Difference (B1-No-Build 2026)	Horizon Year (2074) Alt. B2	Difference (B2-No-Build 2026)	Horizon Year (2074) Alt. B3	Difference (B3-No-Build 2026)	Horizon Year (2074) Alt. B4	Difference (B4-No-Build 2026)
M17-01	69	69	0	74	5	74	5	74	5	74	5
M17-02	69	69	0	74	5	74	5	74	5	74	5
M17-03	65	65	0	69	5	69	5	69	5	69	5
M17-04	66	66	0	71	5	71	5	71	5	71	5
M17-05	64	64	0	69	5	69	5	69	5	69	5
M17-06	65	65	0	70	5	69	4	70	5	70	4
M17-07	68	68	0	73	5	73	5	73	5	73	5
M17-08	67	67	0	72	5	72	5	72	5	72	5
M17-09	58	58	0	71	13	69	12	70	12	62	5
M17-10	62	62	0	67	5	66	4	67	5	66	4
M17-11	62	62	0	65	4	64	3	65	4	66	5
M17-12	57	57	0	62	4	61	4	61	4	62	5
M17-13	56	56	0	60	4	59	3	60	4	60	4
M17-14	58	57	0	62	4	61	3	62	4	62	4
M17-15	60	59	0	64	5	64	5	64	5	64	5
M17-16	58	58	0	63	5	62	4	63	5	62	4
M17-17	58	58	0	63	5	62	5	63	5	62	4
M17-18	58	58	0	63	5	62	5	63	5	62	5
M17-19	54	54	0	58	5	57	4	58	4	58	4
M17-20	56	56	0	62	5	61	5	62	5	61	4
M17-21	57	56	0	62	5	61	5	62	5	61	4
M17-22	53	53	0	59	6	59	5	59	6	57	4
M17-23	55	55	0	60	6	59	5	60	5	59	4
M17-24	54	54	0	60	6	59	5	60	5	58	4
M17-25	50	50	0	57	7	56	6	56	6	54	5
M17-26	51	51	0	58	7	57	6	57	7	55	4
M17-27	48	49	0	58	9	56	8	57	9	53	4
M17-28	49	49	0	57	8	56	7	56	8	53	4
M17-29	49	49	0	56	7	55	6	55	6	53	4
M17-30	46	46	0	54	8	53	7	53	7	50	4
M17-31	45	45	0	55	10	54	8	54	9	49	4
M17-32	43	44	0	54	11	52	9	53	9	48	5
M17-33	45	45	0	57	12	55	10	56	12	49	5
M17-34	43	43	0	64	21	60	17	63	21	48	5
M17-35	44	45	0	64	19	61	17	63	19	49	4
M17-36	44	44	0	59	15	57	14	59	15	49	5
M17-37	45	45	0	58	13	56	11	57	12	49	5
M17-38	42	42	0	55	13	53	11	53	12	46	5
M17-39	41	41	0	60	19	57	16	59	18	46	5
M17-40	42	43	0	67	25	61	19	66	24	47	5
M17-41	42	42	0	64	22	60	18	63	21	46	5
M17-42	42	42	0	63	21	57	16	61	19	46	5
M17-43	42	42	0	56	14	54	12	55	13	47	5
M17-44	41	41	0	54	14	52	11	52	12	45	5
M17-45	42	42	0	56	14	53	11	54	12	47	5
M17-46	43	43	0	60	17	56	13	58	15	47	5
M17-47	43	43	0	60	18	55	13	58	15	47	5
M17-48	38	39	1	55	17	52	14	52	14	43	5
M18-01	68	68	0	73	6	73	5	73	5	73	5
M18-02	71	71	0	76	5	76	5	76	5	76	5
M18-03	70	70	0	75	5	75	5	75	5	75	5
M18-04	71	71	0	75	5	75	5	76	5	76	5
M18-05	70	70	0	75	5	75	5	75	5	75	5
M18-06	69	69	0	74	5	74	5	74	5	74	5
M18-07	70	70	0	75	5	75	5	75	5	75	5
M18-08	70	70	0	75	5	75	5	75	5	75	5
M18-09	69	69	0	74	5	74	5	74	5	74	5
M18-10	70	70	0	74	5	74	5	75	5	75	5
M18-11	69	70	0	74	5	74	5	74	5	75	5
M18-12	68	68	0	73	5	73	5	73	5	73	5
M18-13	70	70	0	75	5	75	5	75	5	75	5
M18-14	67	67	0	71	5	71	5	71	5	71	5
M18-15	59	59	0	64	5	63	4	63	4	63	4
M18-16	63	63	0	68	5	67	5	67	5	68	5
M18-17	61	61	0	66	5	66	4	66	5	66	4
M18-18	62	62	0	67	5	67	4	67	5	67	5
M18-19	63	62	0	67	5	67	4	67	5	67	5
M18-20	62	62	0	66	4	65	3	66	4	66	3
M18-21	61	61	0	65	4	63	3	65	4	64	3
M18-22	61	61	0	66	5	66	5	66	5	66	5
M18-23	62	62	0	67	5	67	5	67	5	67	5
M18-24	61	61	0	66	5	66	4	66	5	66	5
M18-25	65	65	0	69	5	69	4	69	5	69	5
M18-26	63	63	0	68	4	67	4	68	4	67	4
M18-27	64	64	0	69	5	68	4	69	4	69	4
M18-28	65	65	0	70	5	69	4	70	4	69	4
M18-29	67	67	0	72	5	71	5	71	5	72	5
M18-30	62	62	0	67	5	67	5	67	5	67	5
M18-31	58	58	0	65	7	64	6	64	6	61	3
M18-32	58	58	0	68	10	67	9	67	9	61	3
M18-33	55	55	0	63	8	62	7	62	7	58	3
M18-34	51	51	0	61	11	60	9	60	9	54	4
M18-35	52	52	0	63	11	63	11	63	10	55	3
M18-36	49	50	0	64	15	63	14	63	13	53	4
M18-37	51	51	0	68	18	69	18	68	17	54	3
M18-38	48	48	0	71	24	74	26	71	23	51	4
M18-39	48	48	0	70	23	73	25	70	22	52	4
M18-40	48	48	0	69	21	69	21	68	20	52	4
M18-41	48	48	0	66	18	68	20	66	18	52	4
M18-42	48	48	0	64	17	65	17	64	16	51	4
M18-43	47	47	0	62	15	62	15	61	14	51	4
M18-44	45	45	0	63	18	64	19	62	18	49	4
M18-45	44	44	0	61	17	63	19	61	17	48	4
M18-46	44	44	0	59	15	59	15	58	14	48	4
M18-47	48	48	0	61	13	61	13	60	12	52	4
M18-47	55	55	0	59	4	58	3	59	4	58	3
M18-48	60	60	0	65	5	64	5	64	5	64	5
M18-49	59	59	0	64	5	64	5	64	5	64	5
M18-50	57	57	0	62	5	62	5	62	5	62	5
M18-51	56	56	0	61	5	60	4	60	4	60	4
M18-52	56	56	0	60	4	59	3	60	4	59	4
M18-53	56	56	0	61	5	60	4	61	4	60	4
M18-54	57	57	0	62	5	61	4	62	4	61	4

Attachment E - Predicted Noise Levels 2074

Receptor Site	Opening Year No-Build (2026)	Horizon Year No-Build (2074)	Difference (No Build 2074-No-Build 2026)	Horizon Year (2074) Alt. B1	Difference (B1-No-Build 2026)	Horizon Year (2074) Alt. B2	Difference (B2-No-Build 2026)	Horizon Year (2074) Alt. B3	Difference (B3-No-Build 2026)	Horizon Year (2074) Alt. B4	Difference (B4-No-Build 2026)
M18-55	55	55	0	59	5	58	3	59	4	58	3
M18-56	53	53	0	59	6	56	3	57	4	56	3
M18-57	54	54	0	59	6	57	3	58	4	57	3
M18-58	53	53	0	59	6	57	3	57	4	57	3
M18-59	53	53	0	59	5	57	4	58	4	57	4
M18-60	55	55	0	60	6	58	4	59	4	58	4
M18-61	55	55	0	60	5	58	4	59	4	58	4
M18-62	55	55	0	59	5	58	3	59	4	58	3
M18-63	55	55	0	60	6	58	4	59	4	58	4
M18-64	52	52	0	58	6	56	4	56	4	56	4
M18-65	50	50	0	57	8	54	4	54	5	54	4
M18-66	55	55	0	61	6	57	3	58	4	57	3
M18-67	49	49	0	58	9	53	4	53	5	53	4
M18-68	55	54	0	61	6	57	3	59	4	58	3
M18-69	52	52	0	60	8	56	4	57	4	56	4
M18-70	51	51	0	59	8	55	4	56	4	55	4
M18-71	56	55	0	62	6	60	5	60	5	60	5
M18-72	46	46	0	59	14	50	4	51	5	50	4
M18-73	46	46	0	60	15	50	4	51	5	50	4
M18-74	46	46	0	60	15	50	4	50	5	50	4
M18-75	45	46	0	61	16	50	5	51	5	50	4
M18-76	38	39	1	56	18	58	20	55	17	44	5
M18-77	38	38	1	59	21	52	14	51	13	43	5
M19-01	71	70	0	76	5	75	5	75	5	76	5
M19-02	70	70	0	75	5	75	5	75	5	75	5
M19-03	70	69	0	75	5	75	5	75	5	75	5
M19-04	70	70	0	75	5	75	5	75	5	75	5
M19-05	71	71	0	76	5	76	5	76	5	76	5
M19-06	71	70	-1	76	5	76	5	76	5	76	5
M19-07	70	69	-1	75	5	75	5	75	5	75	5
M19-08	70	70	0	75	5	75	5	75	5	75	5
M19-09	71	70	0	76	5	76	5	75	5	76	5
M19-10	71	70	0	76	5	76	5	75	5	76	5
M19-11	66	66	0	71	5	71	5	71	5	71	5
M19-12	66	66	0	71	5	71	5	71	5	71	5
M19-13	65	65	0	70	5	70	4	70	5	70	5
M19-14	67	66	0	72	5	71	5	71	5	72	5
M19-15	65	65	0	70	5	70	5	70	5	70	5
M19-16	57	57	0	62	5	61	5	61	5	61	5
M19-17	61	61	0	66	5	66	5	66	5	66	5
M19-18	63	63	0	68	5	67	4	68	5	67	5
M19-19	55	55	0	60	5	59	4	60	5	59	4
M19-20	62	62	0	67	4	66	4	67	4	66	4
M19-21	60	60	0	65	4	64	4	65	4	64	4
M19-22	63	63	0	68	5	67	4	68	5	67	5
M19-23	60	60	0	64	4	63	3	64	4	63	3
M19-24	63	63	0	67	5	67	4	67	5	67	4
M19-25	61	60	-1	65	5	65	4	66	5	65	4
M19-26	59	59	0	64	4	63	4	64	4	63	4
M19-27	58	58	0	63	5	62	4	63	5	63	4
M19-28	60	59	0	64	5	64	5	64	5	64	5
M19-29	56	56	0	60	4	59	4	60	4	59	4
M19-30	61	61	0	66	5	66	5	66	5	66	5
M19-31	61	60	0	65	5	65	5	65	5	65	5
M19-32	58	58	0	62	5	62	4	62	5	62	4
M19-33	54	54	0	58	5	57	4	58	5	57	3
M19-34	52	52	0	57	6	56	4	57	5	55	4
M19-35	52	52	0	58	6	57	5	58	6	56	3
M19-36	49	49	0	56	7	56	7	56	7	53	4
M19-36	50	50	0	56	7	55	6	56	6	53	4
M19-37	47	48	0	55	8	55	7	55	7	52	4
M19-38	46	46	0	53	8	53	8	53	7	50	4
M19-39	48	48	0	55	7	54	6	55	7	52	4
M19-40	51	51	0	57	5	56	5	57	5	55	4
M19-41	56	56	0	60	4	60	4	60	4	60	4
M19-42	54	54	0	59	5	58	4	59	5	58	4
M19-43	59	59	0	64	5	64	5	64	5	64	5
M19-44	56	56	0	61	5	60	4	61	5	61	4
M19-45	55	55	0	59	4	58	3	59	4	58	3
M19-46	55	55	0	60	5	59	4	60	4	59	4
M19-47	55	55	0	59	5	59	4	59	5	59	4
M19-48	54	54	0	59	5	58	4	59	5	58	4
M19-49	56	56	0	61	4	60	4	61	4	60	4
M19-50	53	53	0	57	5	57	4	57	5	56	4
M19-51	55	55	0	60	4	59	3	60	4	59	3
M19-52	54	54	0	59	5	58	4	59	4	58	4
M19-53	54	53	0	58	5	57	4	58	5	57	4
M19-54	51	51	0	56	5	55	4	56	5	55	4
M19-55	51	51	0	56	5	55	4	56	5	55	4
M19-56	53	53	0	57	5	56	4	57	5	56	4
M19-57	53	53	0	58	5	57	4	57	5	57	4
M19-58	52	52	0	56	5	55	4	56	5	55	4
M19-59	51	51	0	57	5	56	4	56	5	55	4
M19-60	52	52	0	58	6	57	5	58	6	56	4
M19-61	46	46	0	54	8	53	7	53	7	51	4
M20-01	68	68	0	73	5	73	5	73	5	73	5
M20-02	65	65	0	70	5	70	5	70	5	70	5
M20-03	63	63	0	67	4	66	3	67	4	66	4
M20-04	54	54	0	58	4	57	3	59	4	58	3

	Noise Impact of 68 dBA or greater

Attachment F

No-Build 2074 Magnitude of Change Mapping

N

WHISPERING WATERS WAY
BAYFIELD CRES
SOUTHWARD DR
WINDWARD RD
HOPEFIELD DR
RINA DR
MILTON DR
COLLEGE CL
RACKLEY BLVD
TRINITY WAY
ARLENE AVE
YELLOWSTONE ST
FAITH AVE
FLEET AVE
KIMBERLY ST
ELDON ST
CNE 01
LEONCE DR
HIRST RD
KEYSTONE ST
FARRELL RD
TREVOR CL
BRIGHTSIDE ST
VIVID WAY
VISION ST
BERMUDA WAY
MOONSTONE WAY
GREENLEAF DR
SPECTRUM DR
KIMERA WAY
SADDLEWOOD DR
CNE 02
ST-1
RILEY CIR
RODEO CL
CHARIOT DR
CANDLEWOOD DR
NATHAN MERREN DR
MOONBEAM DR
BARCADERE CT
HEMLOCK WAY
ELDERBERRY DR
DEVONSHIRE DR

M01-01 M01-02 M01-03 M01-04 M01-05 M01-06 M01-07 M01-08 M01-09 M01-10 M01-11 M01-12 M01-13 M01-14 M01-15 M01-16 M01-17 M01-18 M01-19 M01-20 M01-21 M01-22 M01-23 M01-24 M01-25 M01-26 M01-27 M01-28 M01-29 M01-31 M01-33 M01-34 M01-35 M01-36 M01-37 M01-38 M01-39 M01-40 M01-41 M01-42 M01-43 M01-44 M01-45 M01-46 M01-47 M01-48 M01-49 M01-50 M01-51 M01-52 M01-53 M01-54 M01-55 M01-56 M01-57 M01-58 M01-59 M01-60 M01-61 M01-62 M01-63 M01-64 M01-65 M01-66 M01-67 M01-68 M01-69 M01-70 M01-71 M01-72 M01-74 M01-75 M01-76 M01-77

M02-01 M02-02 M02-03 M02-04 M02-06 M02-07 M02-08 M02-09 M02-10 M02-11 M02-12 M02-13 M02-14 M02-15 M02-16 M02-17 M02-18 M02-19 M02-20 M02-21 M02-22 M02-23 M02-24 M02-25 M02-26 M02-28 M02-29 M02-30 M02-31 M02-32 M02-33 M02-34 M02-35 M02-36 M02-37 M02-39 M02-40 M02-41 M02-44 M02-45 M02-46 M02-47 M02-48 M02-49 M02-50 M02-51 M02-52 M02-53 M02-55 M02-56 M02-57 M02-58 M02-59 M02-60 M02-61 M02-62 M02-63 M02-64 M02-67 M02-68 M02-69 M02-70 M02-71 M02-72 M02-76 M02-77 M02-78 M02-79 M02-80 M02-82 M02-84 M02-85 M02-86 M02-87 M02-130 M02-131

Sources: Cayman data and ESRI

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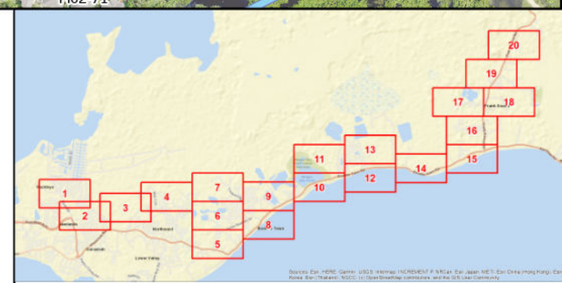
- Decrease < 3
- No change
- Increase < 3
- Increase >= 3 and < 5
- Increase >= 5 and < 10
- Increase >= 10

0 50 100 200
Meters



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- Increase < 3
- Increase >= 3 and < 5
- Increase >= 5 and < 10
- Increase >= 10

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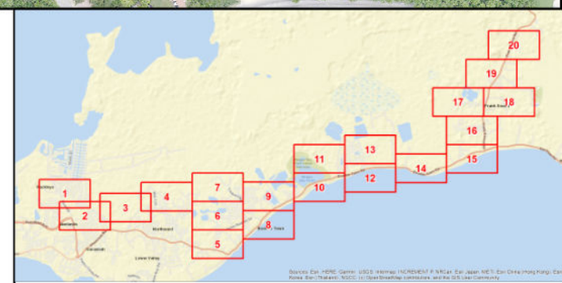
Meters



Sources: Esri, Maxar, Earthstar Geographics, and the GIS User Community



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- Increase >= 5 and < 10
- Increase >= 10

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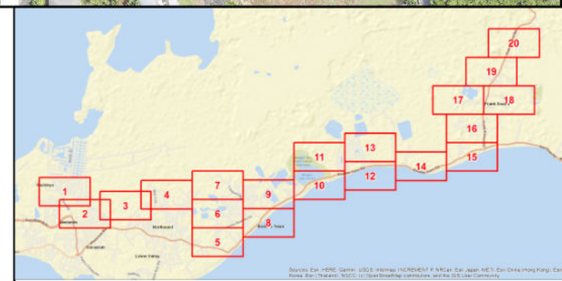
Meters



N

ST-2

CNE 04

CNE 05

M04-01
M04-02
M04-03
M04-04
M04-05
M04-06
M04-07
M04-08
M04-09
M04-10
M04-11
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M04-48
M04-49
M04-50
M04-51
M04-52
M05-01
M05-02

LIVINGSTON WAY
MINZETT DR
DOMINICA DR
WILLIT RD
ROYAL HEIGHTS DR
FIG TREE DR
GRENADA CL
MERRIMAC CRES
CANBERRA ST
AVALON ST
MENDIP CIR
ALLURE LINK
HUDSON DR
SHEFFIELD DR
PAULEACH RD
THATCH TREE LN
YELLOW DORCAS DR
NORTHWARD RD
REGINA AVE
GLASS AVE

Sources: Cayman data and ESRI

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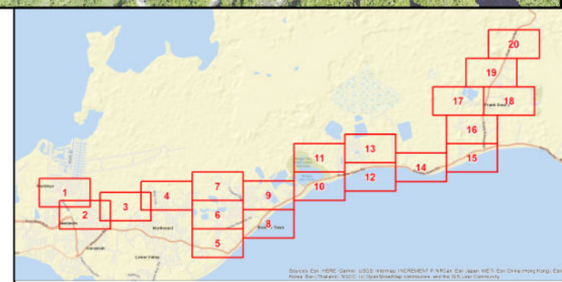
Meters





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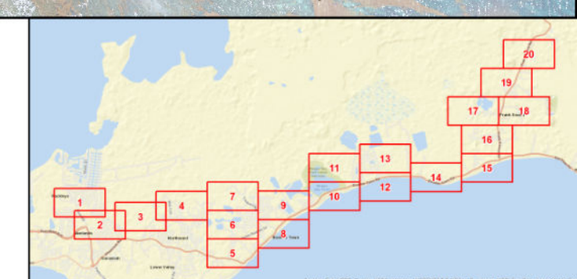
Meters



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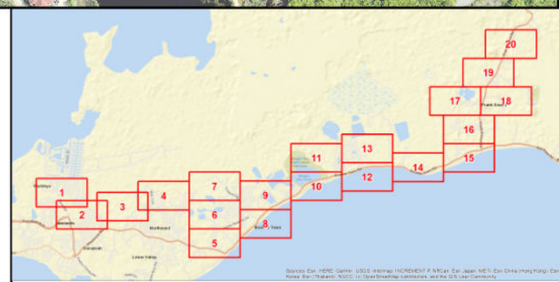

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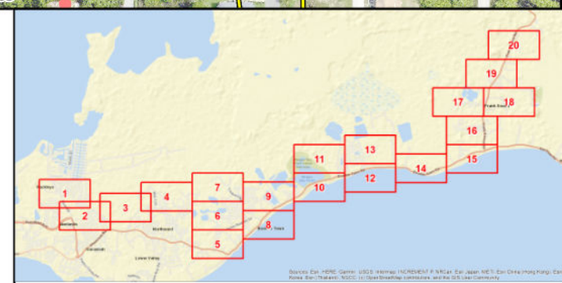



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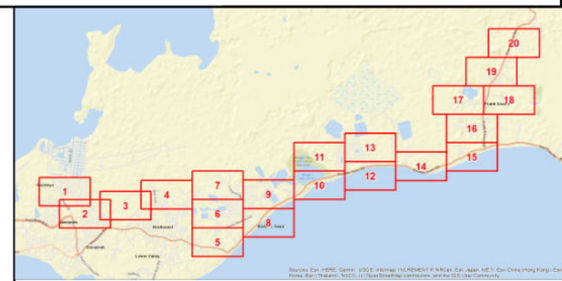
Meters





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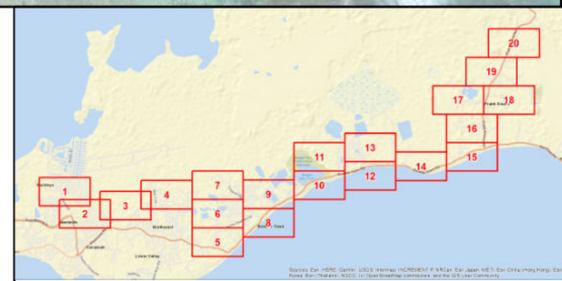
Meters





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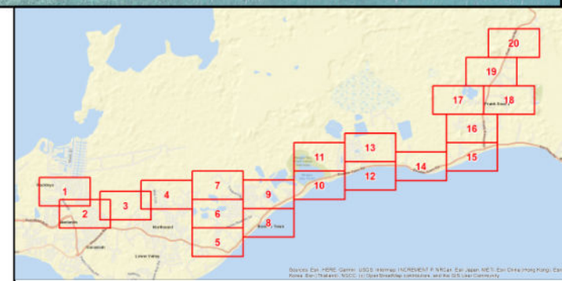
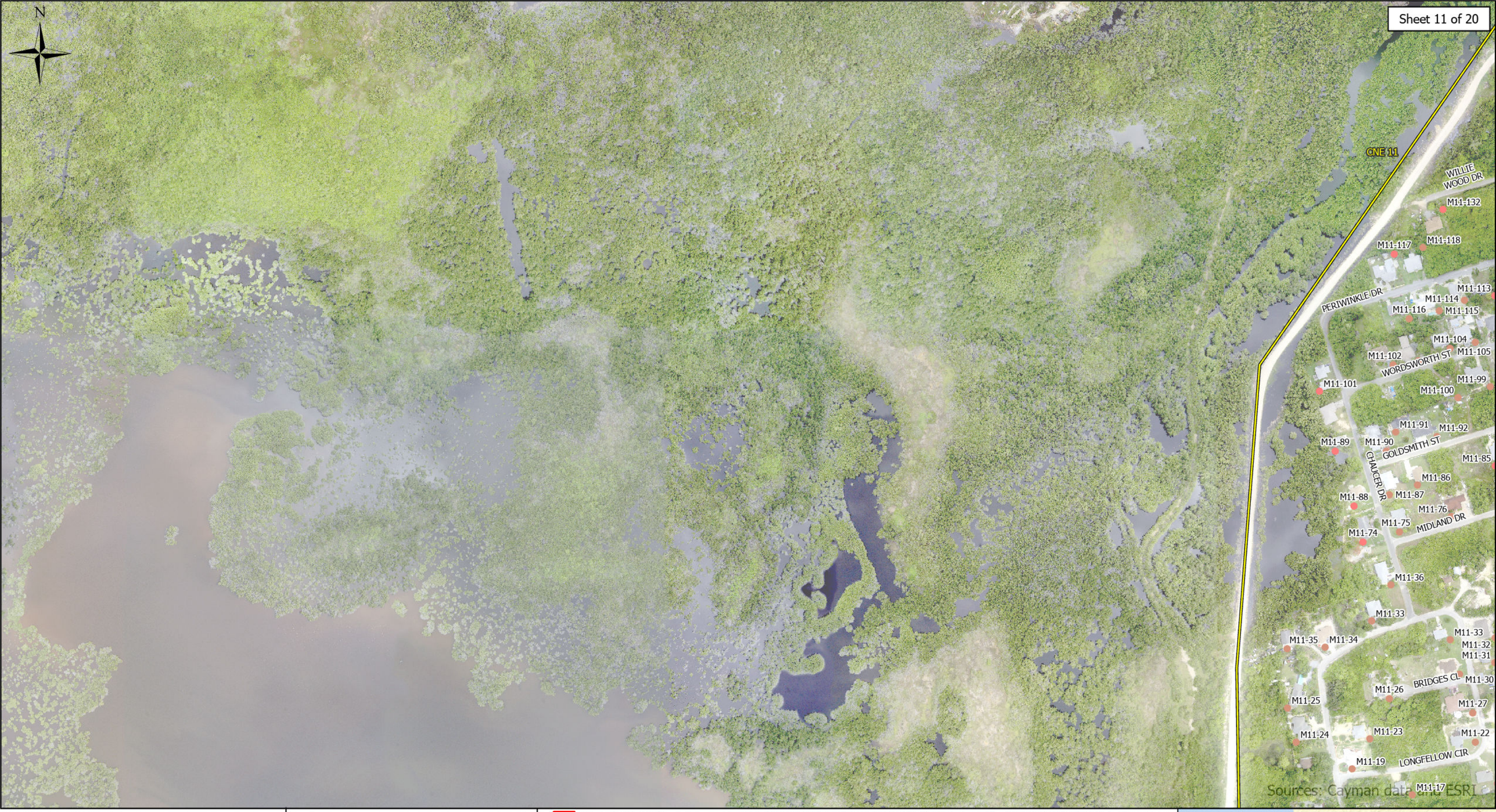
0 50 100 200
Meters





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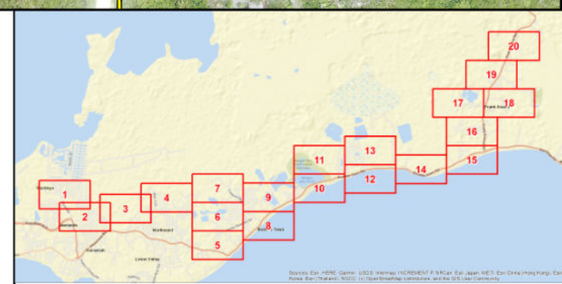
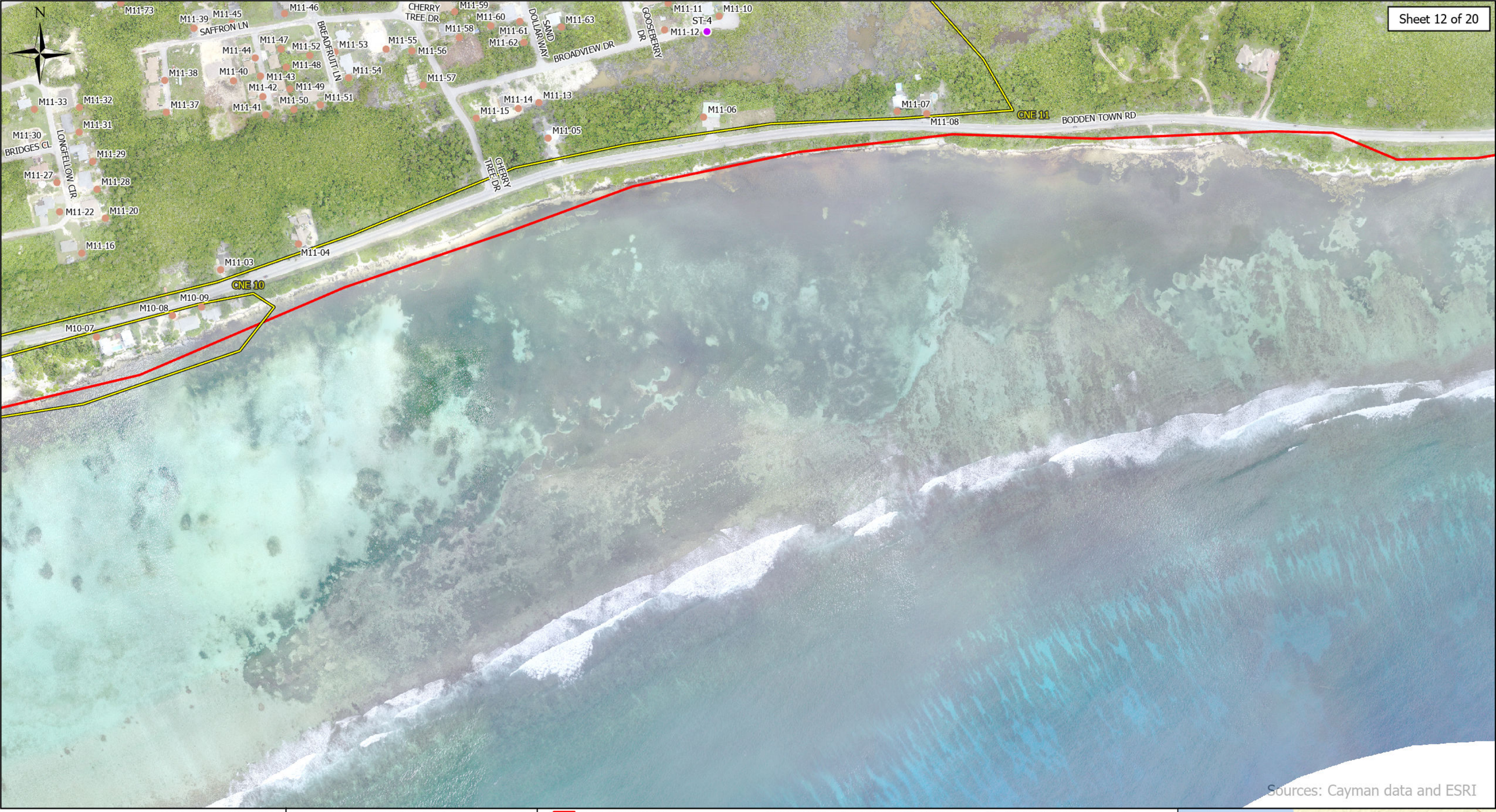
Meters





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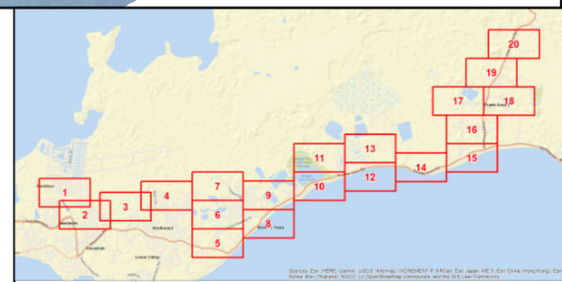



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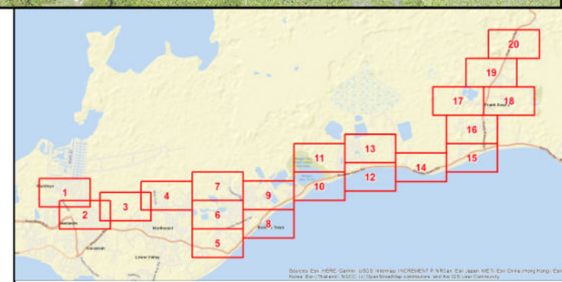



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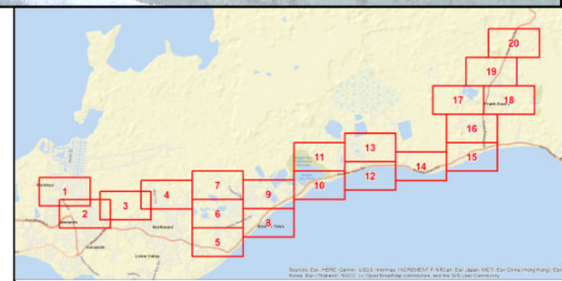



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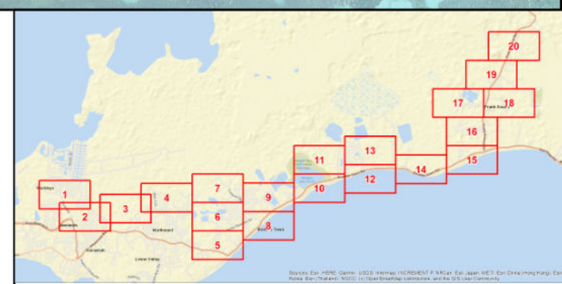



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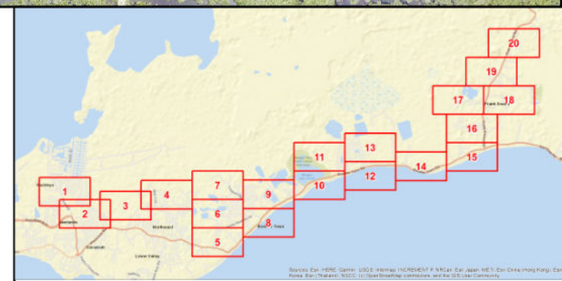



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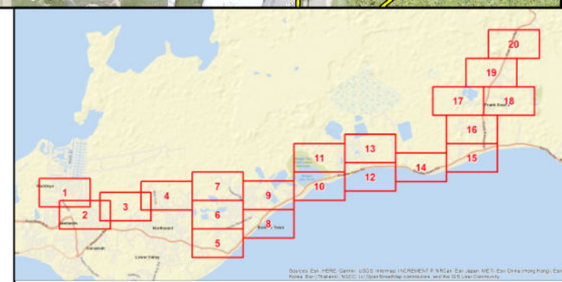



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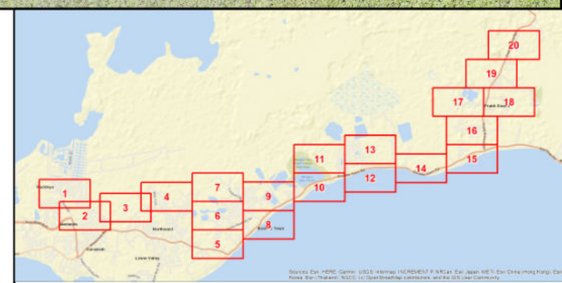
- Decrease < 3
- No change
- Increase < 3
- Increase >= 3 and < 5
- Increase >= 5 and < 10
- Increase >= 10

0 50 100 200
Meters





East-West Arterial Extension Alternative Assessment

Noise Impacts
No-Build Alternative
Horizon Year 2074

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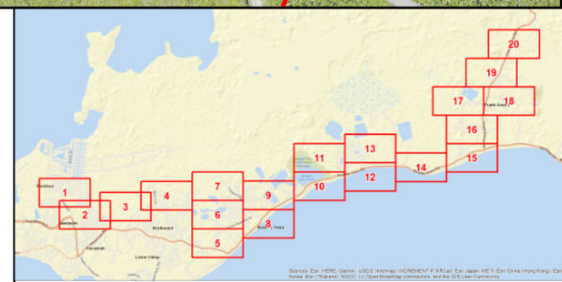
Meters





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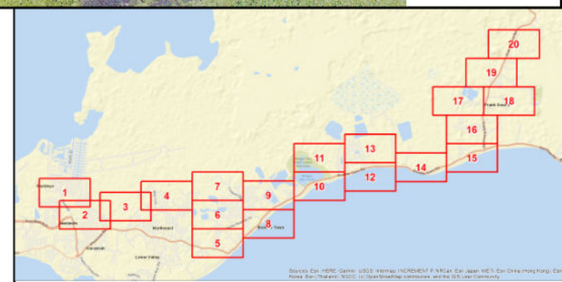
0 50 100 200
Meters



Attachment G

Alternative B1 2074 Magnitude of Change Mapping

N

WHISPERING WATERS WAY
BAYFIELD CRES
SOUTHWARD DR
WINDWARD RD
HOPEFIELD DR
RINA DR
MILTON DR
COLLEGE CL
RACKLEY BLVD
TRINITY WAY
ARLENE AVE
YELLOWSTONE ST
FAITH AVE
FLEET AVE
KIMBERLY ST
ELDON ST
CNE 01
LEONCE DR
HIRST RD
KEYSTONE ST
FARRELL RD
TREVOR CL
BRIGHTSIDE ST
VIVID WAY
VISION ST
BERMUDA WAY
MOONSTONE WAY
GREENLEAF DR
SPECTRUM DR
KIMERA WAY
SADDLEWOOD DR
CNE 02
ST-1
RILEY CIR
RODEO CL
CHARIOT DR
CANDLEWOOD DR
NATHAN MERREN DR
HEMLOCK WAY
MOONBEAM DR
BARCADERE CT
ELDERBERRY DR
DEVONSHIRE DR

M01-01 M01-02 M01-03 M01-04 M01-05 M01-06 M01-07 M01-08 M01-09 M01-10 M01-11 M01-12 M01-13 M01-14 M01-15 M01-16 M01-17 M01-18 M01-19 M01-20 M01-21 M01-22 M01-23 M01-24 M01-25 M01-26 M01-27 M01-28 M01-29 M01-31 M01-33 M01-34 M01-35 M01-36 M01-37 M01-38 M01-39 M01-40 M01-41 M01-42 M01-43 M01-44 M01-45 M01-46 M01-47 M01-48 M01-49 M01-50 M01-51 M01-52 M01-53 M01-54 M01-55 M01-56 M01-57 M01-58 M01-59 M01-60 M01-61 M01-62 M01-63 M01-64 M01-65 M01-66 M01-67 M01-68 M01-69 M01-70 M01-71 M01-72 M01-74 M01-75 M01-76 M01-77

M02-01 M02-02 M02-03 M02-04 M02-05 M02-06 M02-07 M02-08 M02-09 M02-10 M02-11 M02-12 M02-13 M02-14 M02-15 M02-16 M02-17 M02-18 M02-19 M02-20 M02-21 M02-22 M02-23 M02-24 M02-25 M02-26 M02-27 M02-28 M02-29 M02-30 M02-31 M02-32 M02-33 M02-34 M02-35 M02-36 M02-37 M02-40 M02-41 M02-44 M02-45 M02-46 M02-47 M02-48 M02-49 M02-51 M02-52 M02-53 M02-55 M02-56 M02-57 M02-58 M02-59 M02-60 M02-61 M02-62 M02-63 M02-64 M02-66 M02-67 M02-68 M02-69 M02-70 M02-71 M02-72 M02-76 M02-77 M02-78 M02-79 M02-80 M02-82 M02-84 M02-85 M02-86 M02-87 M02-130 M02-131

Sources: Garmin, and ESRI

East-West Arterial Extension Alternative Assessment

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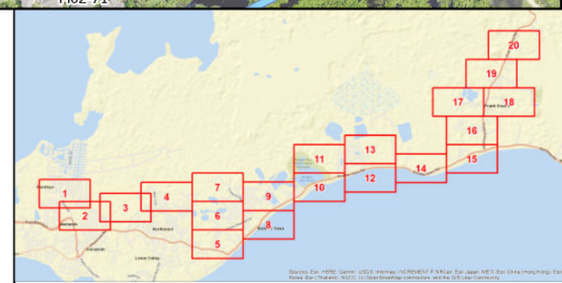
Meters



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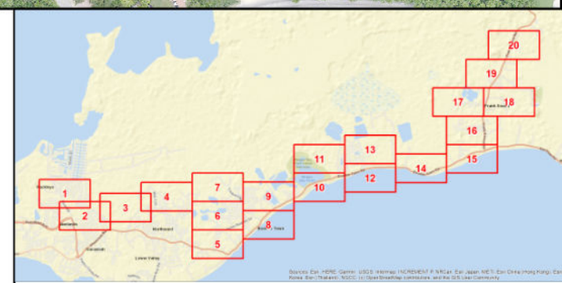
0 50 100 200
Meters



Sources: Esri, Maxar, Earthstar Geographics, and the GIS User Community



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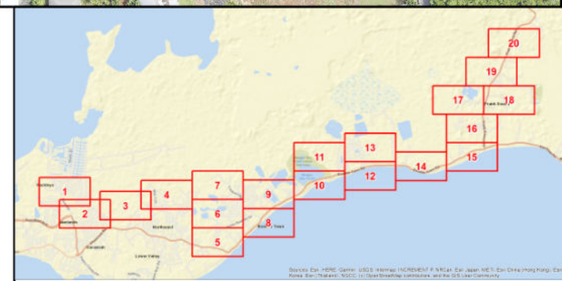
0 50 100 200
Meters



N

ST-2

CNE 04

CNE 05

M04-01
M04-02
M04-03
M04-04
M04-05
M04-06
M04-07
M04-08
M04-09
M04-10
M04-11
M04-12
M04-13
M04-14
M04-15
M04-16
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M04-46
M04-47
M04-48
M04-49
M04-50
M04-51
M04-52
M05-01
M05-02

LIVINGSTON WAY
MINZETT DR
DOMINICA DR
WILLIT RD
ROYAL HEIGHTS DR
FIG TREE DR
GRENADA CL
MERRIMAC CRES
CANBERRA ST
AVALON ST
MENDIP CIR
ALLURE LINK
HUDSON DR
SHEFFIELD DR
PAULEACH RD
THATCH TREE LN
YELLOW DORCAS DR
NORTHWARD RD
REGINA AVE
GLASS AVE

Sources: Cayman data and ESRI

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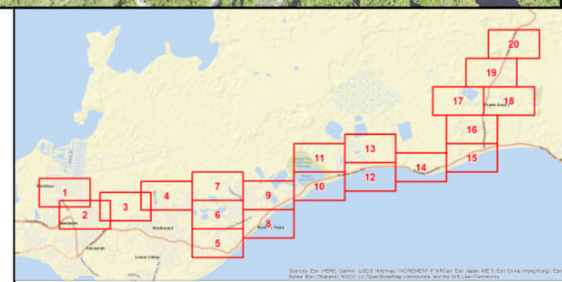
0 50 100 200
Meters





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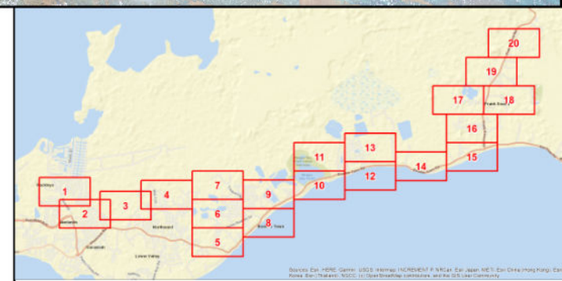
0 50 100 200
Meters





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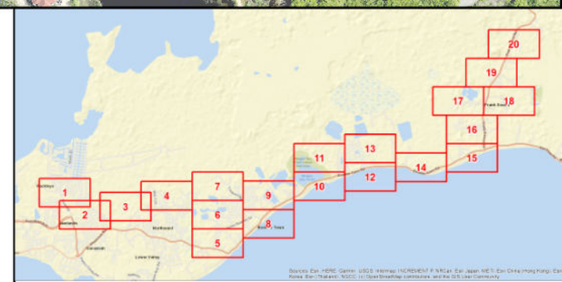
0 50 100 200
Meters



N

M06-98
LT-1
M08-209
CNE 05
M05-04
M05-05
M06-97
CNE 08
M08-208
M06-96
CNE 06
M05-03
M08-201
FIRESTONE DR
RASPBERRY DR
IGUANA DR
PROMENADE RD
CHESTERWOOD DR
M08-207
M08-206
HARVEY STEPHENSON DR
M06-95
M06-94
M08-202
NEWTON CT
M08-200
M06-93
M08-199
GLAMIS LINK
M06-92
QUEBEC LINK
NOTTINGHAM DR
SHERBORNE DR
M06-91
TIVERTON DR
BROADLANDS DR
M08-196
HAMPTON DR
NORTHWARD RD
M06-90
M06-89
M06-87
M06-88
VERNEICE BODDEN DR
CALABASH DR
PASSION CIR
M06-80
M06-81
M06-86
M06-79
CINNAMON LINK
M08-195
M06-83
M06-84
M06-85

Source: Cayman Lands and ESRI

East-West Arterial Extension
Alternative Assessment

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0 50 100 200
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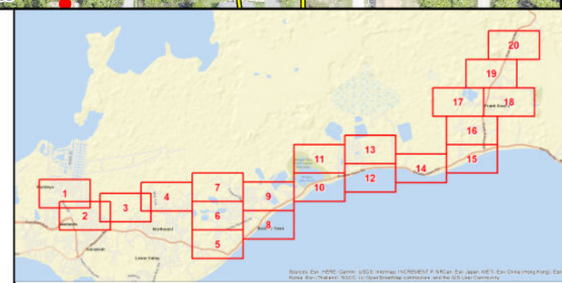



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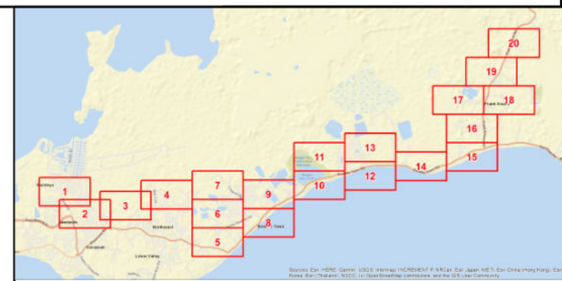

N

CNE 08

CNE 09

SHERBORNE DR
GLAMIS LINK
DALMAIN DR
HAMPTON DR
TONBRIDGE DR
ABBOTSFORD DR
BELFORD DR
YEATS ST
HARDY ST
NASHE ST
FROST ST
SITWELL RD
LAKE DESTINY DR
WILDE ST
LAKEVIEW DR
PARTRIDGE CL
TENNYSON ST
KIPLING ST
DICKENS ST
CARRINGTON LN
CLARIES AVE
ENTERPRISE WAY
BRONTE WAY
WOODS CL
BODDEN TOWN RD

M08-206 M08-205 M08-204 M08-203 M08-196 M08-197 M08-198 M08-193 M08-194 M08-192 M08-191 M08-190 M08-189 M08-180 M08-179 M08-169 M08-170 M08-188 M08-187 M08-160 M08-178 M08-181 M08-159 M08-171 M08-182 M08-168 M08-177 M08-186 M08-185 M08-161 M08-172 M08-158 M08-167 M08-183 M08-152 M08-162 M08-176 M08-157 M08-173 M08-184 M08-163 M08-166 M08-175 M08-156 M08-174 M08-153 M08-165 M08-164 M08-137 M08-122 M08-151 M08-154 M08-121 M08-138 M08-150 M08-155 M08-136 M08-108 M08-123 M08-139 M08-149 M08-107 M08-135 M08-148 M08-120 M08-140 M08-106 M08-124 M08-94 M08-109 M08-119 M08-134 M08-141 M08-125 M08-105 M08-110 M08-142 M08-118 M08-126 M08-95 M08-104 M08-111 M08-117 M08-127 M08-133 M08-143 M08-93 M08-96 M08-112 M08-116 M08-128 M08-132 M08-144

M08-84 M08-83 M08-82 M08-81 M08-212 M08-06 M08-05 M08-08 M08-07 M09-05 M09-04 M09-03

M08-211 M08-11 M09-08 M08-210 M09-07 M08-10 M08-09 M09-06

M08-61 M08-73 M08-60 M08-74 M08-48 M08-72 M08-59 M08-78 M08-77 M08-62 M08-58 M08-49 M08-80 M08-79 M08-76 M08-71 M08-63 M08-75 M08-40 M08-57 M08-70 M08-64 M08-68 M08-69 M08-50 M08-39 M08-65 M08-67 M08-66 M08-56 M08-38 M08-55 M08-37 M08-24 M08-53 M08-54 M08-51 M08-52 M08-35 M08-25 M08-36 M08-15 M08-16 M08-33 M08-34 M08-26 M08-32 M08-27 M08-31 M08-28 M08-14 M08-30 M08-29 M08-13 M08-12

Sources: Cayman data and ESRI

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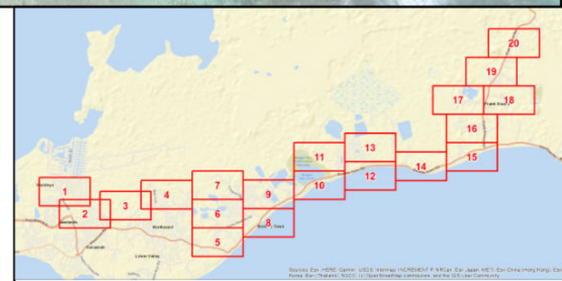



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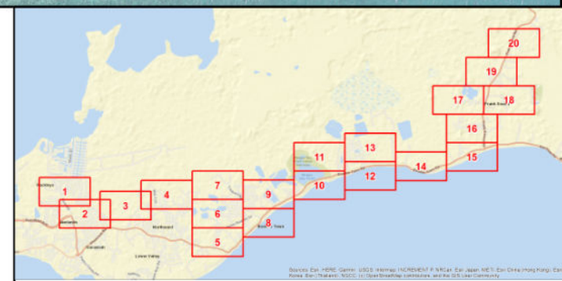

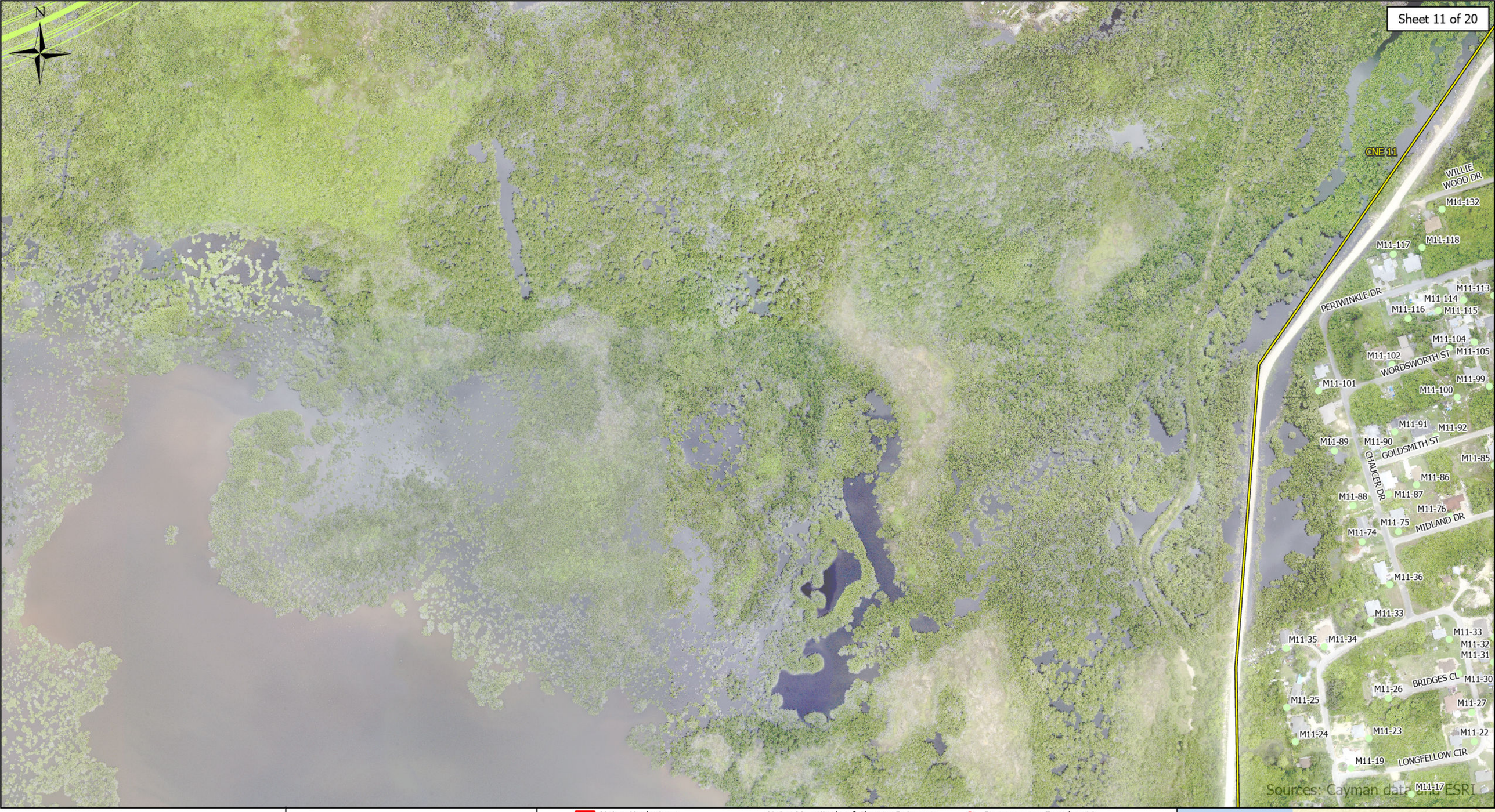

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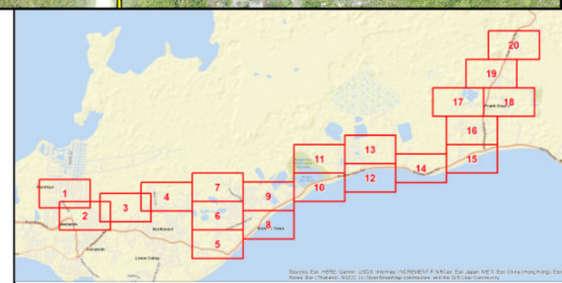

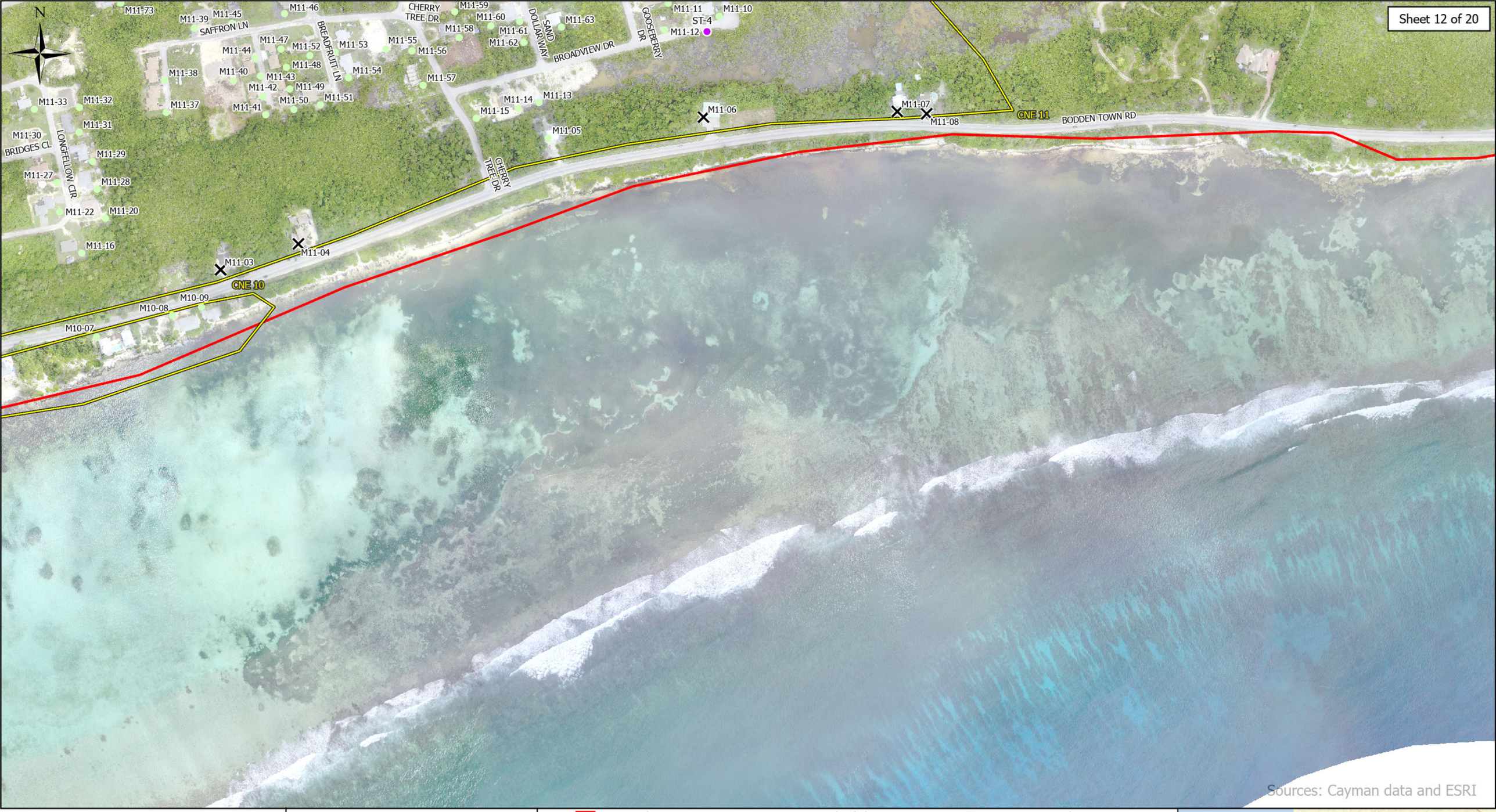

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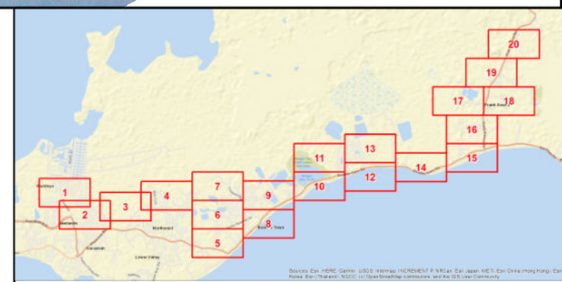



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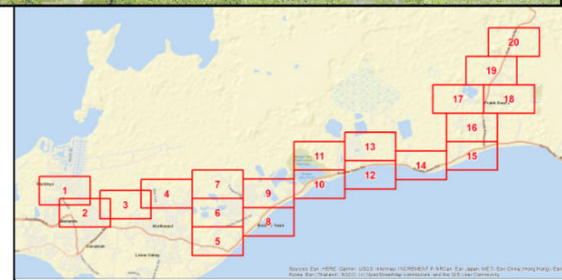
0 50 100 200
Meters





East-West Arterial Extension Alternative Assessment

Noise Impacts
Alternative B1
Horizon Year 2074

NRA NATIONAL ROADS AUTHORITY

Date Created: 1/26/2024

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- Decrease < 3
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- Increase < 3
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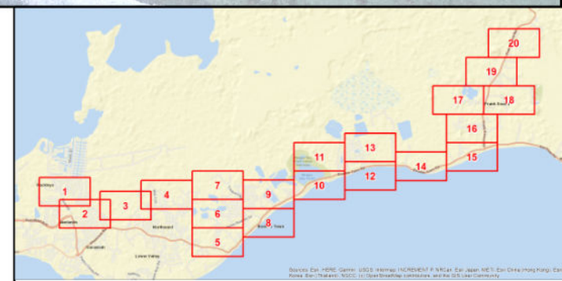
- Increase >= 5 and < 10
- Increase >= 10

0 50 100 200
Meters





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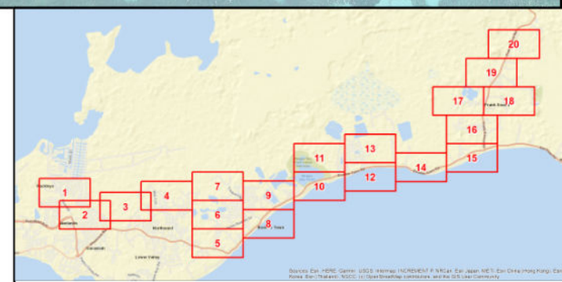
0 50 100 200
Meters





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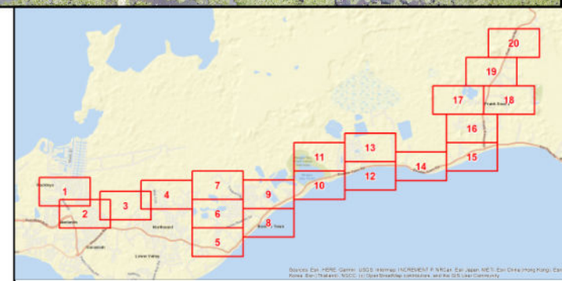
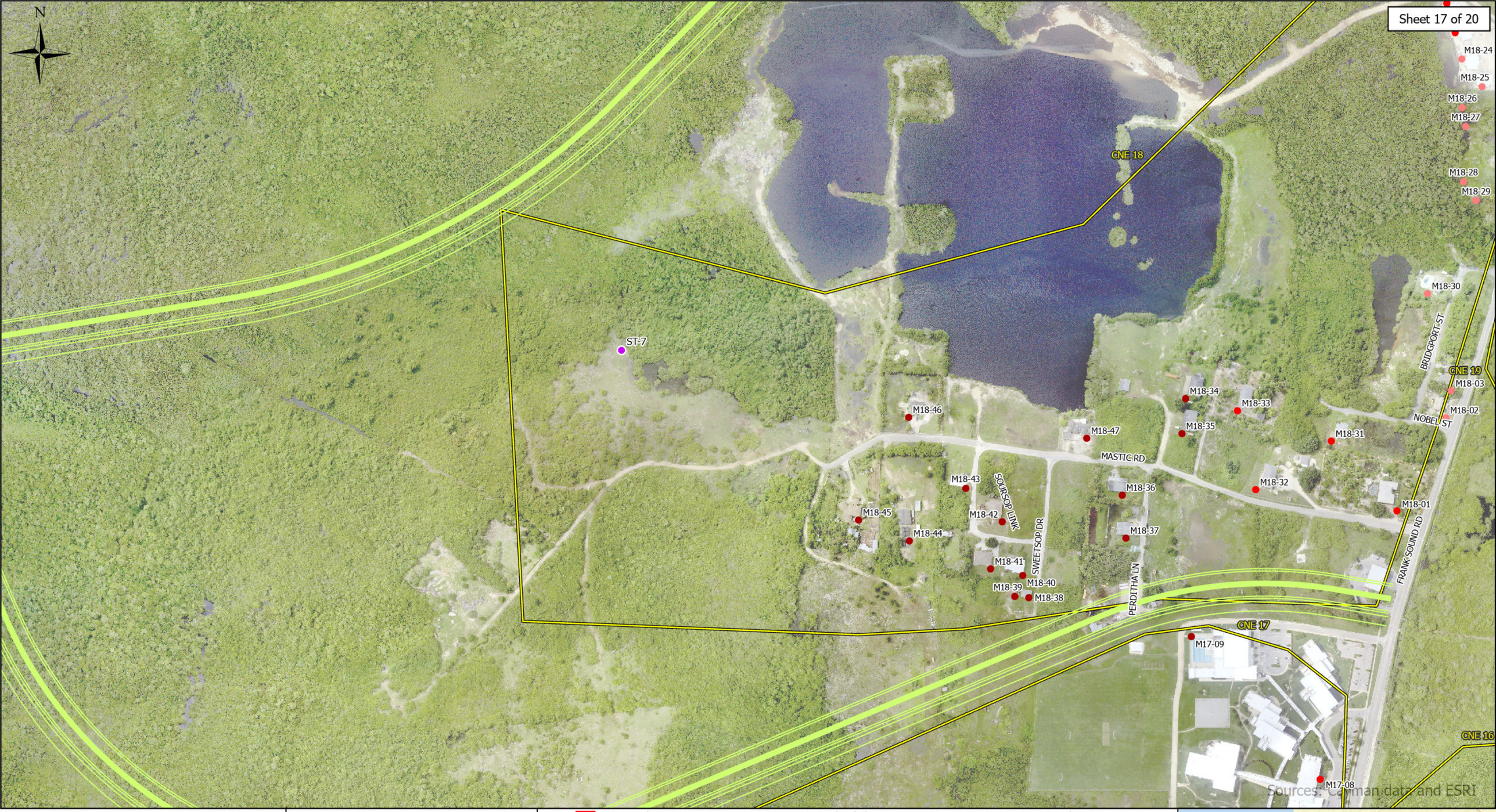
0 50 100 200
Meters





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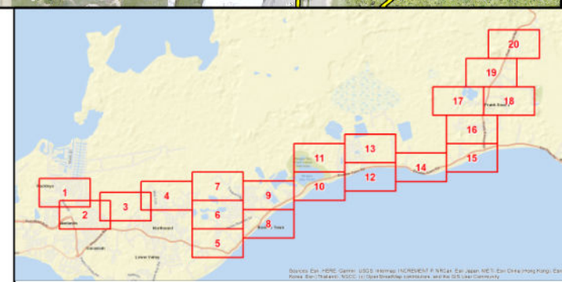
0 50 100 200
Meters





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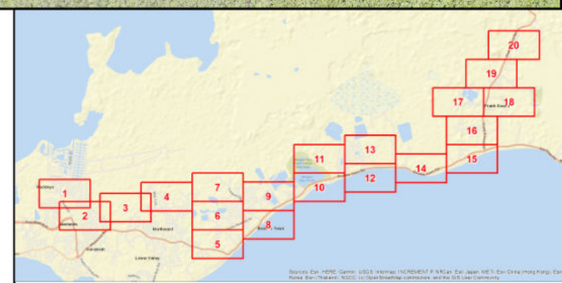
0 50 100 200
Meters



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M18-75
M18-74
M18-73
ST-6
M18-65
M18-64
CNE 18
M18-63
M18-72
M18-66
M18-60
M18-61
SERENITY LN
M18-67
M18-59
M18-68
M18-69
M18-58
M18-70
M18-57
M18-52
M18-71
M18-56
M18-53
M18-51
M18-15
M18-12
M18-14
M19-10
M19-11
M18-13
M19-09
M19-25
ROSSINI ST
M18-11
CNE 19
M18-54
M18-50
M18-16
M19-08
MERCATOR ST
M18-17
M18-10
M19-07
M18-55
M18-49
M18-09
M19-26
SERENITY LN
M18-48
M18-18
M19-06
BOTANIC RD
M18-47
M19-05
M18-19
M18-08
M19-12
M19-24
M19-27
M18-21
M18-20
M18-07
M19-28
M19-44
EAGLE ST
M19-43
M19-45
M18-06
M19-13
M19-23
GRANT ST
M19-29
M19-14
M19-22
M19-04
M19-30
M19-46
M19-54
UNION ST
M19-47
M19-15
M19-21
M19-42
M19-20
M19-31
M19-55
CONSTANTINE ST
M19-41
M19-48
M19-53
M19-32
M19-49
M18-22
FRANK SOUND RD

Sources: Cayman data and ESRI

East-West Arterial Extension Alternative Assessment

Noise Impacts
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- Decrease < 3
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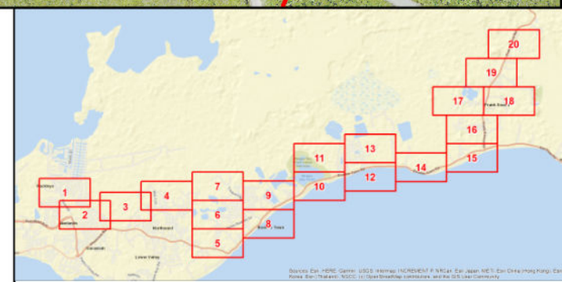
- Increase >= 3 and < 5
- Increase >= 5 and < 10
- Increase >= 10

0 50 100 200
Meters





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- No change
- Increase < 3
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- Increase >= 5 and < 10
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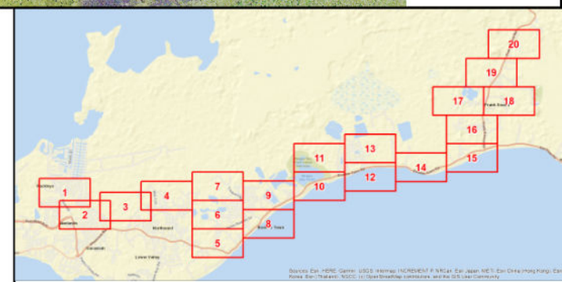
0 50 100 200
Meters



Attachment H

Alternative B2 2074 Magnitude of Change Mapping

N

WHISPERING WATERS WAY
BAYFIELD CRES
SOUTHWARD DR
WINDWARD RD
HOPEFIELD DR
RINA DR
MILTON DR
COLLEGE CL
RACKLEY BLVD
TRINITY WAY
ARLENE AVE
YELLOWSTONE ST
FAITH AVE
FLEET AVE
KIMBERLY ST
ELDON ST
CNE 01
LEONCE DR
HIRST RD
KEYSTONE ST
FARRELL RD
TREVOR CL
BRIGHTSIDE ST
VIVID WAY
VISION ST
BERMUDA WAY
MOONSTONE WAY
RILEY CIR
RODEO CL
CHARIOT DR
CANDLEWOOD DR
NATHAN MERREN DR
HEMLOCK WAY
MOONBEAM DR
BARCADERE CT
ELDERBERRY DR
DEVONSHIRE DR
GREENLEAF DR
SPECTRUM DR
SADDLEWOOD DR
KIMERA WAY
CNE 02
ST-1

M01-01 M01-02 M01-03 M01-04 M01-05 M01-06 M01-07 M01-08 M01-09 M01-10 M01-11 M01-12 M01-13 M01-14 M01-15 M01-16 M01-17 M01-18 M01-19 M01-20 M01-21 M01-22 M01-23 M01-24 M01-25 M01-26 M01-27 M01-28 M01-29 M01-31 M01-33 M01-34 M01-35 M01-36 M01-37 M01-38 M01-39 M01-40 M01-41 M01-42 M01-43 M01-44 M01-45 M01-46 M01-47 M01-48 M01-49 M01-50 M01-51 M01-52 M01-53 M01-54 M01-55 M01-56 M01-57 M01-58 M01-59 M01-60 M01-61 M01-62 M01-63 M01-64 M01-65 M01-66 M01-67 M01-68 M01-69 M01-70 M01-71 M01-72 M01-74 M01-75 M01-76 M01-77

M02-01 M02-02 M02-03 M02-04 M02-05 M02-06 M02-07 M02-08 M02-09 M02-10 M02-11 M02-12 M02-13 M02-14 M02-15 M02-16 M02-17 M02-18 M02-19 M02-20 M02-21 M02-22 M02-23 M02-24 M02-25 M02-26 M02-27 M02-28 M02-29 M02-30 M02-31 M02-32 M02-33 M02-34 M02-35 M02-36 M02-37 M02-39 M02-40 M02-41 M02-44 M02-45 M02-46 M02-47 M02-48 M02-49 M02-50 M02-51 M02-52 M02-53 M02-55 M02-56 M02-57 M02-58 M02-59 M02-60 M02-61 M02-62 M02-63 M02-64 M02-66 M02-67 M02-68 M02-69 M02-70 M02-71 M02-72 M02-77 M02-78 M02-79 M02-80 M02-82 M02-84 M02-85 M02-86 M02-87 M02-130 M02-131

Sources: Esri, HERE, Garmin, and ESRI

East-West Arterial Extension Alternative Assessment

Noise Impacts
Alternative B2
Horizon Year 2074

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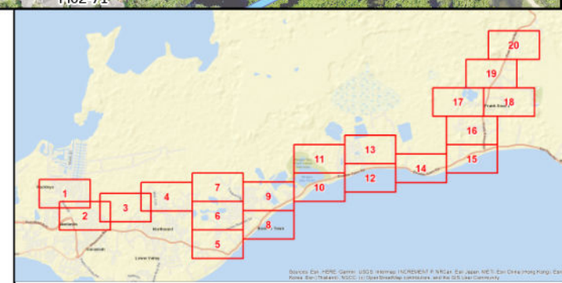
- Increase >= 10

0 50 100 200
Meters



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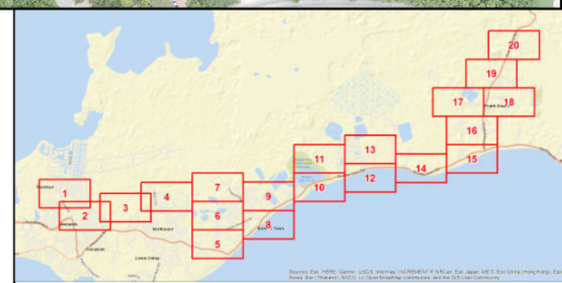
0 50 100 200
Meters



Sources: Esri, Maxar, Earthstar Geographics, and the GIS User Community



East-West Arterial Extension Alternative Assessment

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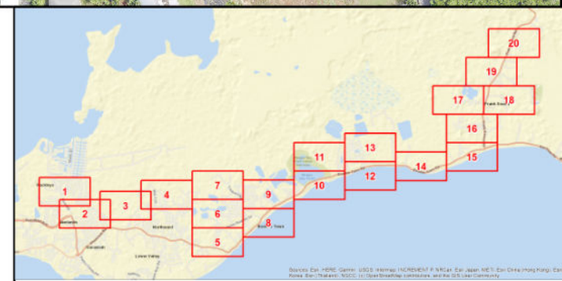
0 50 100 200
Meters



N

ST-2

CNE 04

CNE 05

M04-01
M04-02
M04-03
M04-04
M04-05
M04-06
M04-07
M04-08
M04-09
M04-10
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M04-49
M04-50
M04-51
M04-52
M05-01
M05-02

LIVINGSTON WAY
MINZETT DR
DOMINICA DR
WILLIT RD
ROYAL HEIGHTS DR
FIG TREE DR
GRENADA CL
MERRIMAC CRES
CANBERRA ST
AVALON ST
MENDIP CIR
ALLURE LINK
HUDSON DR
SHEFFIELD DR
PAULEACH RD
THATCH TREE LN
YELLOW DORCAS DR
NORTHWARD RD
REGINA AVE
GLASS AVE

Sources: Cayman data and ESRI

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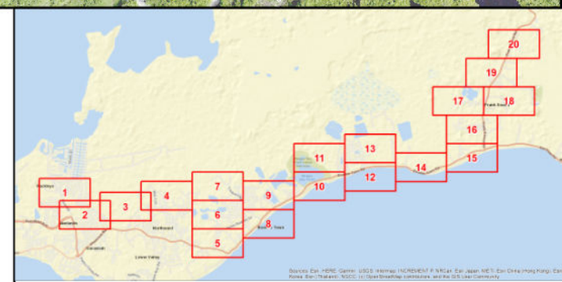



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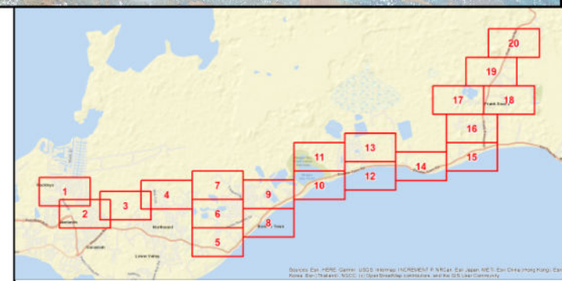

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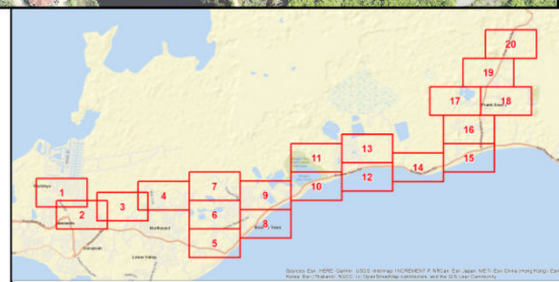

Sources: Cayman data and NRA



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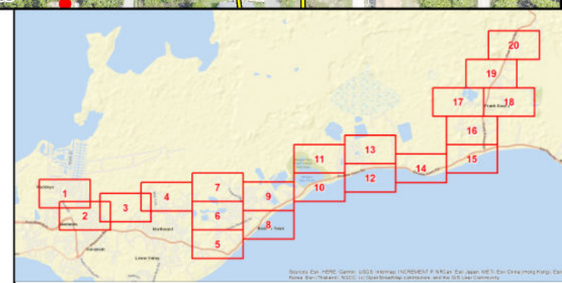



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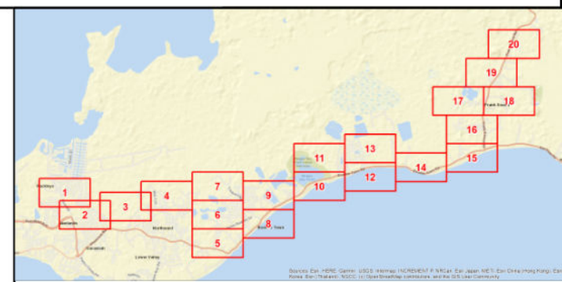



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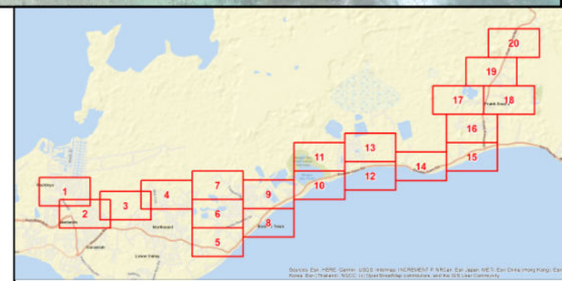



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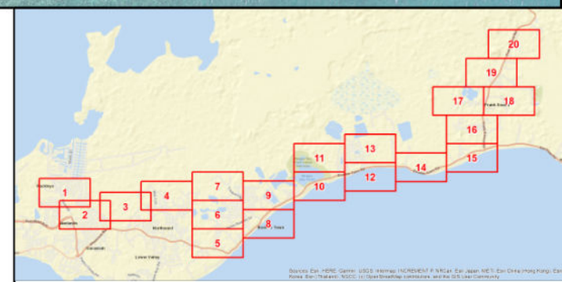
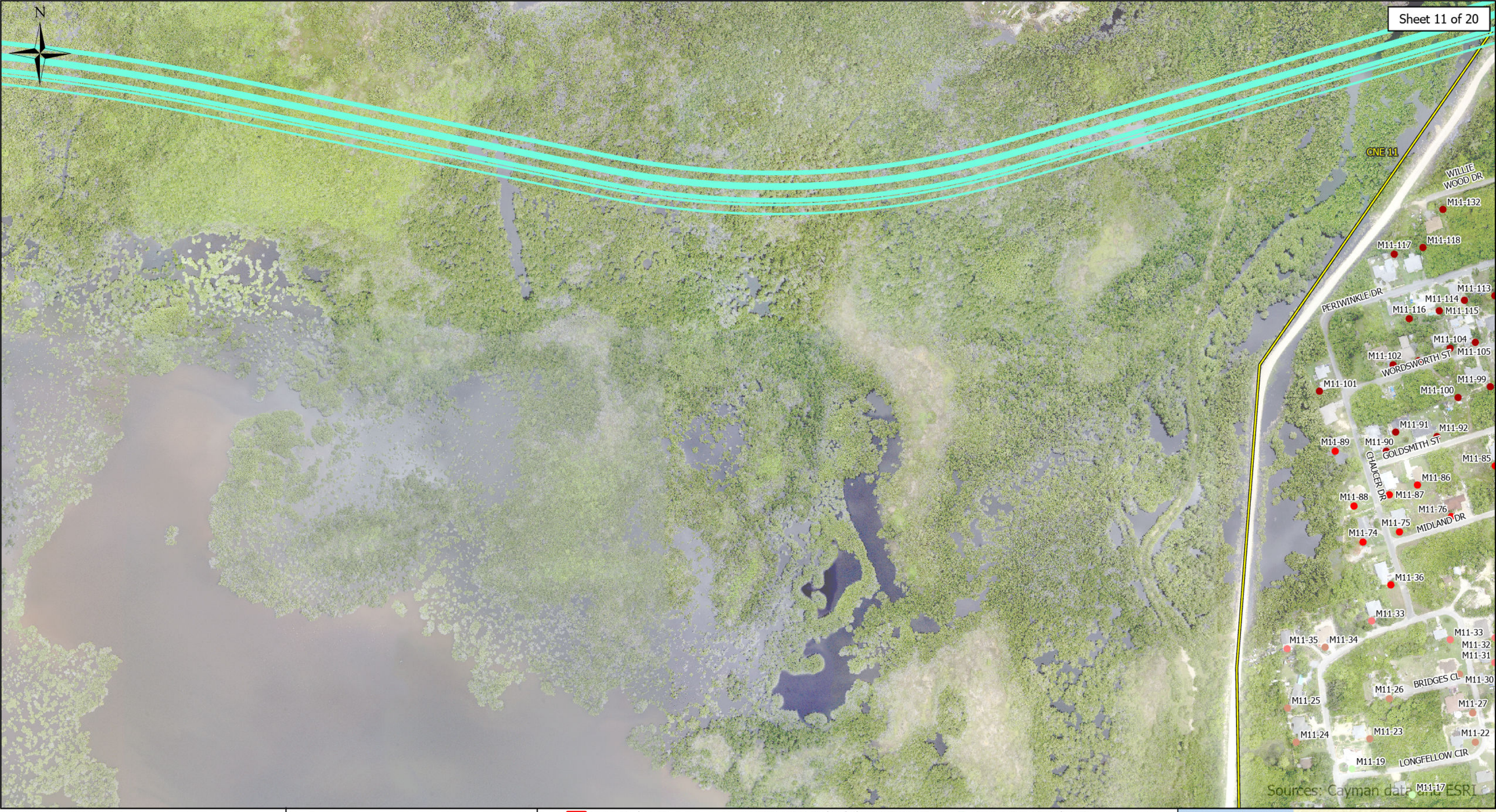
Meters





East-West Arterial Extension Alternative Assessment

Noise Impacts
Alternative B2
Horizon Year 2074

NRA NATIONAL ROADS AUTHORITY

Date Created: 1/26/2024

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- Section 1 Alignment
- Alternative B2 Prop Edge of Travel
- Acquisition

Noise Measurement Location
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- Short-Term

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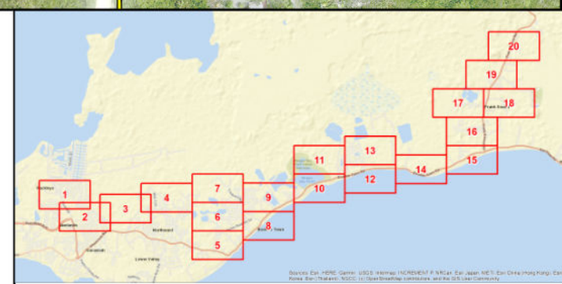
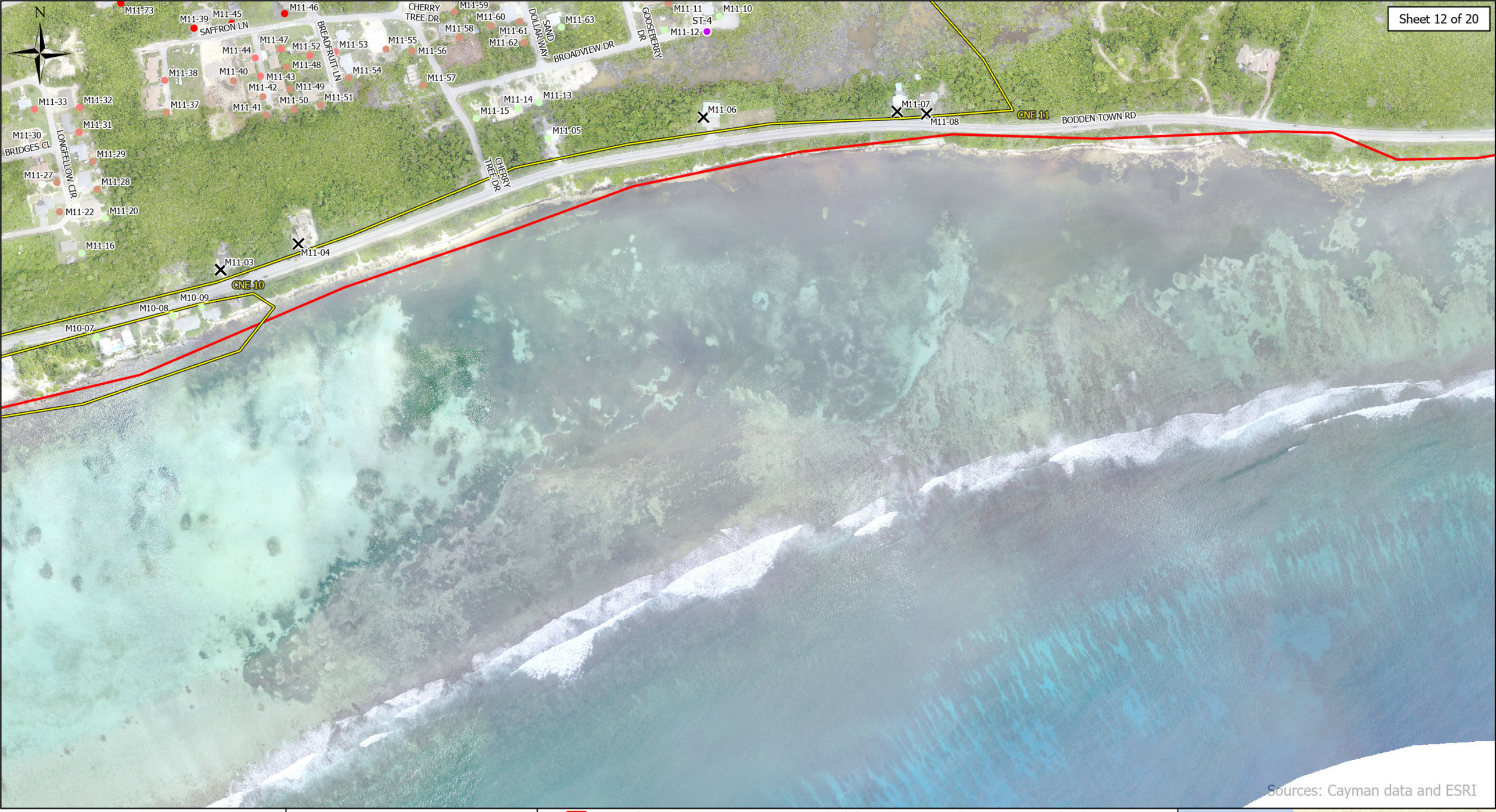
- Decrease >= 3 and < 5
- Decrease < 3
- No change
- Increase < 3
- Increase >= 3 and < 5
- Increase >= 5 and < 10
- Increase >= 10

0 50 100 200
Meters





Sources: Cayman data and ESRI

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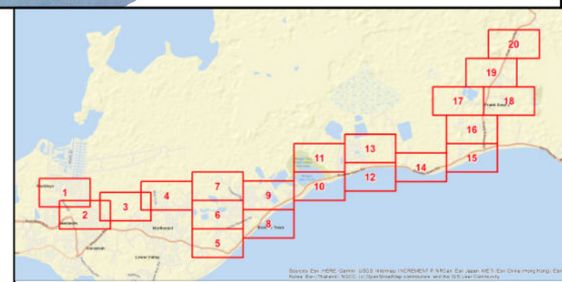
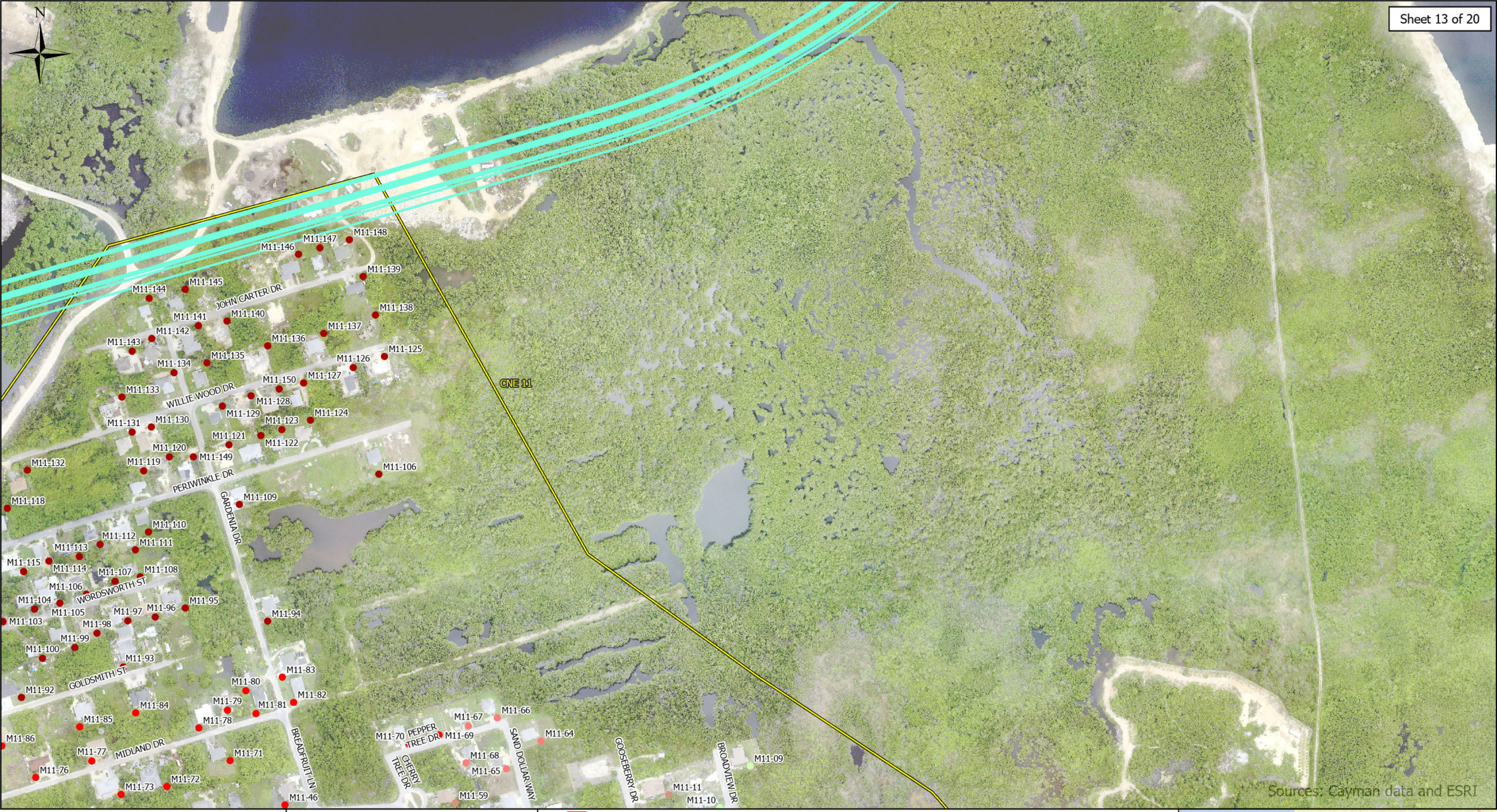
0 50 100 200
Meters





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- Increase >= 5 and < 10
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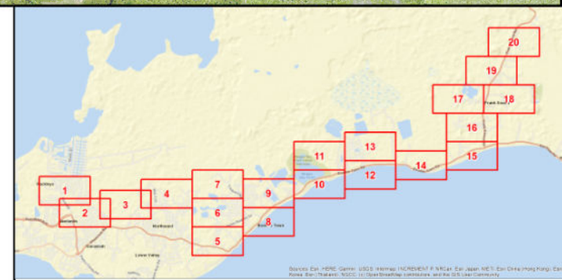
0 50 100 200
Meters





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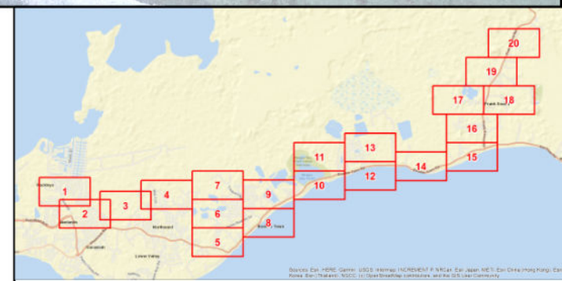
- Increase >= 3 and < 5
- Increase >= 5 and < 10
- Increase >= 10

0 50 100 200
Meters





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- Increase >= 3 and < 5
- Increase >= 5 and < 10
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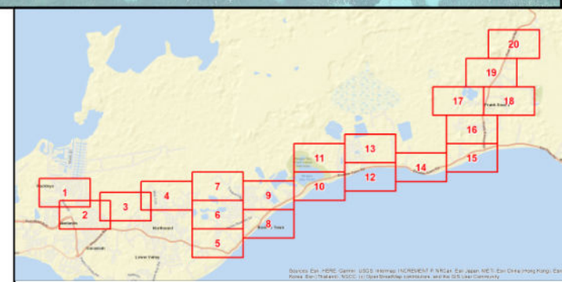
0 50 100 200
Meters





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- Increase >= 5 and < 10
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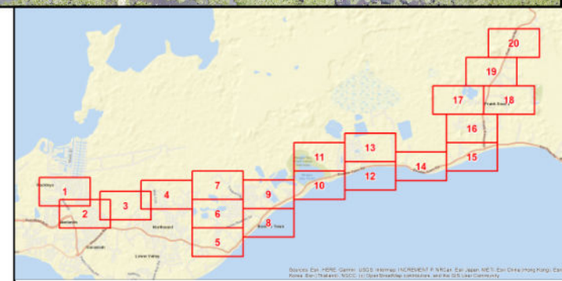
0 50 100 200
Meters



N

CNE 18
CNE 19
CNE 17
CNE 16

ST-7

M18-24
M18-25
M18-26
M18-27
M18-28
M18-29
M18-30
M18-01
M18-02
M18-03
M18-31
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M18-40
M18-41
M18-42
M18-43
M18-44
M18-45
M18-46
M18-47
M17-08
M17-09

BRIDGPORT ST
NOBEL ST
MASTIC RD
SOURSOP LINK
SWEETSOP DR
PERDITHA LN
FRANK SOUND RD

Sources: Cayman data and ESRI

East-West Arterial Extension Alternative Assessment

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- Increase >= 5 and < 10
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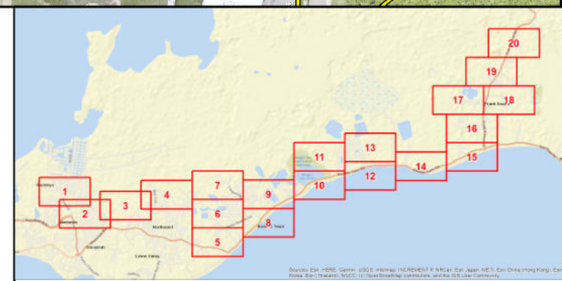
0 50 100 200
Meters





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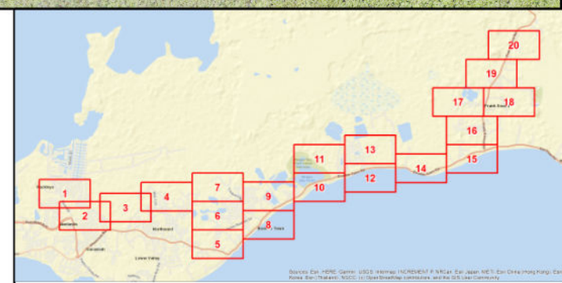
- Decrease < 3
- No change
- Increase < 3
- Increase >= 3 and < 5
- Increase >= 5 and < 10
- Increase >= 10

0 50 100 200
Meters





East-West Arterial Extension Alternative Assessment

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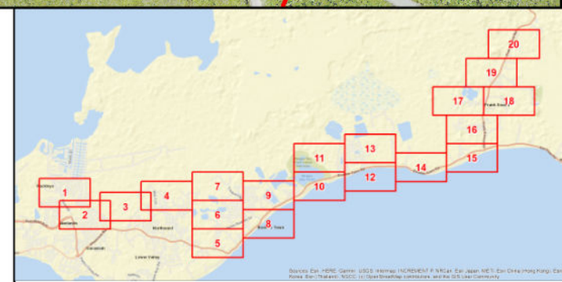
- Increase >= 5 and < 10
- Increase >= 10

0 50 100 200
Meters





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- Increase >= 5 and < 10
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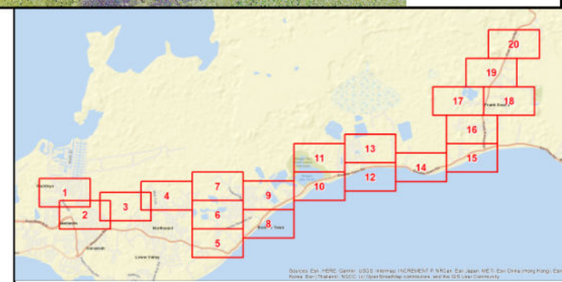
0 50 100 200
Meters



Attachment I

Alternative B3 2074 Magnitude of Change Mapping

N

WHISPERING WATERS WAY
BAYFIELD CRES
SOUTHWARD DR
WINDWARD RD
HOPEFIELD DR
RINA DR
MILTON DR
COLLEGE CL
RACKLEY BLVD
TRINITY WAY
ARLENE AVE
YELLOWSTONE ST
FAITH AVE
FLEET AVE
KIMBERLY ST
ELDON ST
CNE 01
LEONCE DR
HIRST RD
KEYSTONE ST
FARRELL RD
TREVOR CL
BRIGHTSIDE ST
VIVID WAY
VISION ST
BERMUDA WAY
MOONSTONE WAY
RILEY CIR
RODEO CL
CHARIOT DR
CANDLEWOOD DR
NATHAN MERREN DR
HEMLOCK WAY
MOONBEAM DR
BARCADERE CT
ELDERBERRY DR
DEVONSHIRE DR
GREENLEAF DR
SPECTRUM DR
SADDLEWOOD DR
KIMERA WAY
CNE 02
ST-1

M01-01 M01-02 M01-03 M01-04 M01-05 M01-06 M01-07 M01-08 M01-09 M01-10 M01-11 M01-12 M01-13 M01-14 M01-15 M01-16 M01-17 M01-18 M01-19 M01-20 M01-21 M01-22 M01-23 M01-24 M01-25 M01-26 M01-27 M01-28 M01-29 M01-31 M01-33 M01-34 M01-35 M01-36 M01-37 M01-38 M01-39 M01-40 M01-41 M01-42 M01-43 M01-44 M01-45 M01-46 M01-47 M01-48 M01-49 M01-50 M01-51 M01-52 M01-53 M01-54 M01-55 M01-56 M01-57 M01-58 M01-59 M01-60 M01-61 M01-62 M01-63 M01-64 M01-65 M01-66 M01-67 M01-68 M01-69 M01-70 M01-71 M01-72 M01-74 M01-75 M01-76 M01-77

M02-01 M02-02 M02-03 M02-04 M02-05 M02-06 M02-07 M02-08 M02-09 M02-10 M02-11 M02-12 M02-13 M02-14 M02-15 M02-16 M02-17 M02-18 M02-19 M02-20 M02-21 M02-22 M02-23 M02-24 M02-25 M02-26 M02-28 M02-29 M02-30 M02-31 M02-32 M02-33 M02-34 M02-35 M02-36 M02-37 M02-39 M02-40 M02-41 M02-44 M02-45 M02-46 M02-47 M02-48 M02-49 M02-50 M02-51 M02-52 M02-53 M02-55 M02-56 M02-57 M02-58 M02-59 M02-60 M02-61 M02-62 M02-63 M02-64 M02-66 M02-67 M02-68 M02-69 M02-70 M02-71 M02-72 M02-77 M02-78 M02-79 M02-80 M02-82 M02-84 M02-85 M02-86 M02-87 M02-130 M02-131

Sources: Esri, HERE, Garmin, and ESRI

East-West Arterial Extension Alternative Assessment

Noise Impacts
Alternative B3
Horizon Year 2074

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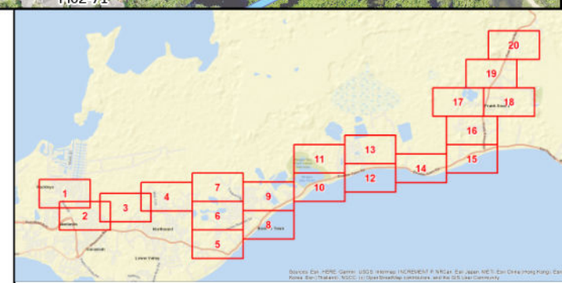
- Increase >= 3 and < 5
- Increase >= 5 and < 10
- Increase >= 10

0 50 100 200
Meters



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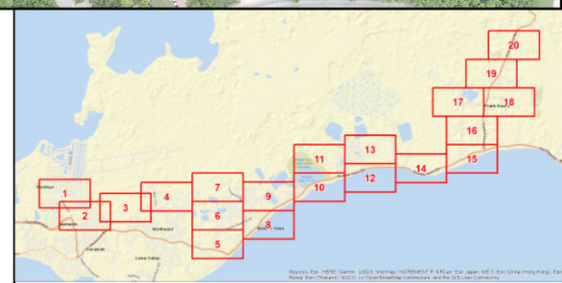
- Increase >= 5 and < 10
- Increase >= 10

0 50 100 200
Meters



Sources: Esri, Maxar, Earthstar Geographics, and the GIS User Community



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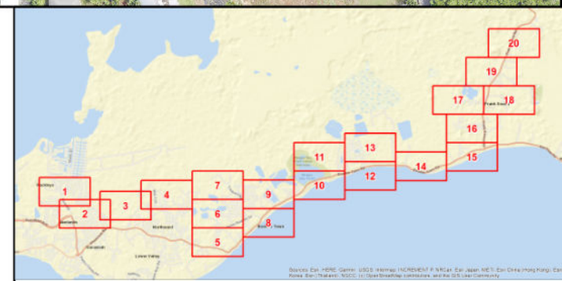
0 50 100 200
Meters



N

ST-2

CNE 04

CNE 05

M04-01
M04-02
M04-03
M04-04
M04-05
M04-06
M04-07
M04-08
M04-09
M04-10
M04-11
M04-12
M04-13
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M04-46
M04-47
M04-48
M04-49
M04-50
M04-51
M04-52
M05-01
M05-02

LIVINGSTON WAY
MINZETT DR
DOMINICA DR
WILLIT RD
ROYAL HEIGHTS DR
FIG TREE DR
GRENADA CL
MERRIMAC CRES
CANBERRA ST
AVALON ST
MENDIP CIR
ALLURE LINK
HUDSON DR
SHEFFIELD DR
PAULEACH RD
THATCH TREE LN
YELLOW DORCAS DR
NORTHWARD RD
REGINA AVE
GLASS AVE

Sources: Cayman data and ESRI

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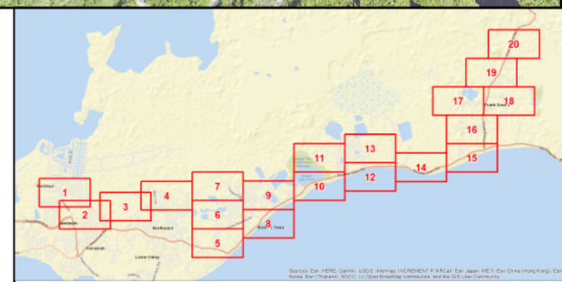
0 50 100 200
Meters





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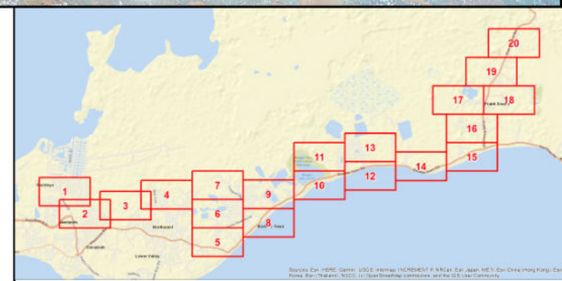
0 50 100 200
Meters



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0 50 100 200
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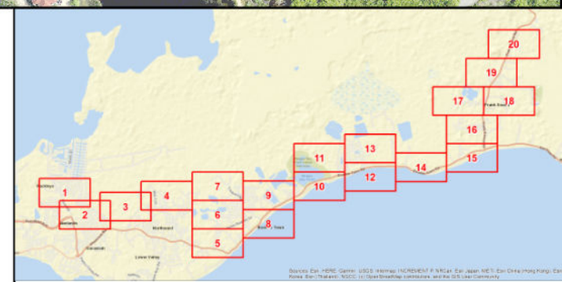

Sources: Cayman data and ESRI

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M06-98
LT-1
M08-209
CNE 05
M05-04
M05-05
M06-97
CNE 08
M08-208
M06-96
CNE 06
M05-03
M08-201
FIRESTONE DR
RASPBERRY DR
IGUANA DR
PROMENADE RD
CHESTERWOOD DR
M08-207
M08-206
HARVEY STEPHENSON DR
M06-95
M06-94
M08-202
NEWTON CT
M08-200
M06-93
M08-199
GLAMIS LINK
NOTTINGHAM DR
SHERBORNE DR
M06-92
M06-91
TIVERTON DR
BROADLANDS DR
QUEBEC LINK
M08-196
HAMPTON DR
NORTHWARD RD
M06-90
M06-89
M06-87
M06-88
VERNEICE BODDEN DR
CALABASH DR
M06-80
PASSION CIR
M06-79
M06-81
M06-86
CINNAMON LINK
M08-195
M06-83
M06-84
M06-85

Source: Cayman Lands and ESRI

East-West Arterial Extension Alternative Assessment

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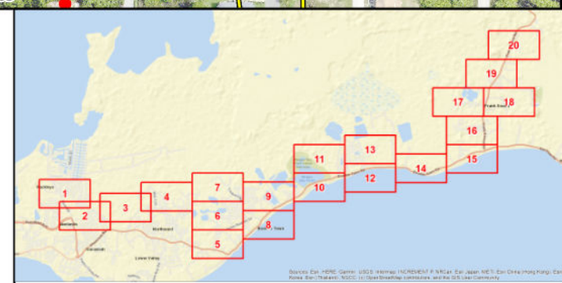
- Decrease >= 10
- Decrease >= 5 and < 10
- Decrease >= 3 and < 5
- Decrease < 3
- No change
- Increase < 3
- Increase >= 3 and < 5
- Increase >= 5 and < 10
- Increase >= 10

0 50 100 200
Meters





Sources: Cayman data and ESRI

East-West Arterial Extension Alternative Assessment

Noise Impacts
Alternative B3
Horizon Year 2074

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- Decrease < 3
- No change
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- Increase >= 3 and < 5
- Increase >= 5 and < 10
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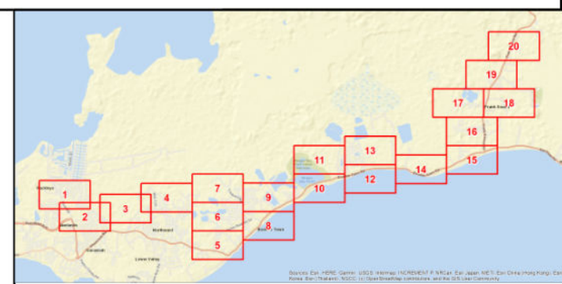
0 50 100 200
Meters



N

CNE 08

CNE 09

SHERBORNE DR
GLAMIS LINK
DALMAIN DR
HAMPTON DR
TONBRIDGE DR
ABBOTSFORD DR
FROST ST
SITWELL RD
NASHE ST
HARDY ST
BELFORD DR
YEATS ST
WILDE ST
LAKE DESTINY DR
LAKEVIEW DR
PARTRIDGE CL
TENNYSON ST
KIPLING ST
DICKENS ST
CARRINGTON LN
CLARIES AVE
ENTERPRISE WAY
BRONTE WAY
WOODS CL
BODDEN TOWN RD

M08-206 M08-205 M08-204 M08-203 M08-196 M08-197 M08-198 M08-193 M08-194 M08-192 M08-191 M08-190 M08-189 M08-180 M08-179 M08-188 M08-187 M08-169 M08-170 M08-181 M08-178 M08-160 M08-159 M08-171 M08-182 M08-168 M08-186 M08-185 M08-177 M08-161 M08-172 M08-158 M08-167 M08-183 M08-152 M08-162 M08-176 M08-157 M08-173 M08-184 M08-163 M08-166 M08-175 M08-156 M08-174 M08-153 M08-165 M08-164 M08-151 M08-154 M08-122 M08-137 M08-121 M08-138 M08-150 M08-155 M08-136 M08-108 M08-123 M08-149 M08-139 M08-107 M08-135 M08-148 M08-106 M08-120 M08-140 M08-124 M08-94 M08-119 M08-134 M08-109 M08-125 M08-141 M08-105 M08-110 M08-142 M08-118 M08-126 M08-95 M08-104 M08-111 M08-117 M08-127 M08-133 M08-143 M08-93 M08-96 M08-112 M08-116 M08-128 M08-132 M08-144

M08-84 M08-83 M08-82 M08-81 M08-212 M08-06 M08-05 M08-07 M08-08 M09-05 M09-04 M09-03

M08-211 M08-11 M09-08 M08-210 M09-07 M08-10 M08-09 M09-06

M08-61 M08-73 M08-60 M08-74 M08-48 M08-72 M08-59 M08-78 M08-77 M08-62 M08-58 M08-49 M08-79 M08-76 M08-63 M08-80 M08-71 M08-75 M08-57 M08-40 M08-70 M08-64 M08-68 M08-69 M08-50 M08-39 M08-65 M08-67 M08-66 M08-56 M08-38 M08-55 M08-37 M08-24 M08-53 M08-54 M08-51 M08-52 M08-35 M08-25 M08-36 M08-33 M08-34 M08-15 M08-16 M08-26 M08-32 M08-31 M08-27 M08-28 M08-14 M08-30 M08-29 M08-13 M08-12

Sources: Cayman data and ESRI

East-West Arterial Extension Alternative Assessment

Noise Impacts
Alternative B3
Horizon Year 2074

NRA NATIONAL ROADS AUTHORITY

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Noise Study Area
Common Noise Environment (CNE)
Section 1 Alignment
Alternative B3 Prop Edge of Travel
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Noise Measurement Location
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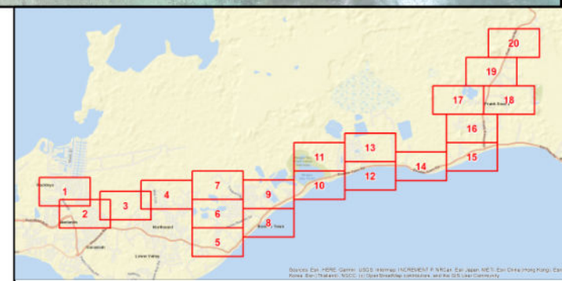
- Decrease < 3
- No change
- Increase < 3
- Increase >= 3 and < 5
- Increase >= 5 and < 10
- Increase >= 10

0 50 100 200
Meters



N

CNE 11
CNE 10
CNE 08

M11-18
M11-01
M11-02
LONGFELLOW CIR
M10-06
M10-05
M10-04
M10-02
M10-01
M10-03
BODDEN TOWN RD

M08-46
M08-45
CLARIES AVE
M08-47
M08-44
M08-20
M08-61
M08-43
M08-21
M08-48
BROOKE DR
M08-60
M08-42
M08-22
M08-49
M08-41
M08-23
M08-40
M08-19
ENTERPRISE WAY
M08-39
BRONTE WAY
M08-24
M08-38
M08-18
M08-17
M08-16
M08-15

Sources: Cayman data and ESRI

East-West Arterial Extension Alternative Assessment

Noise Impacts
Alternative B3
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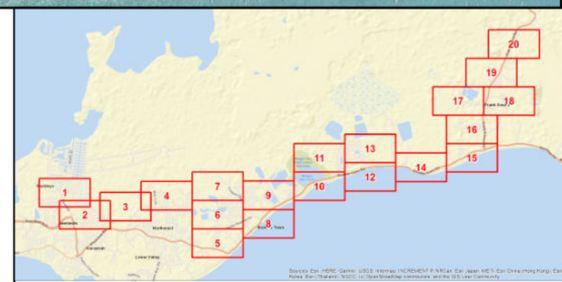
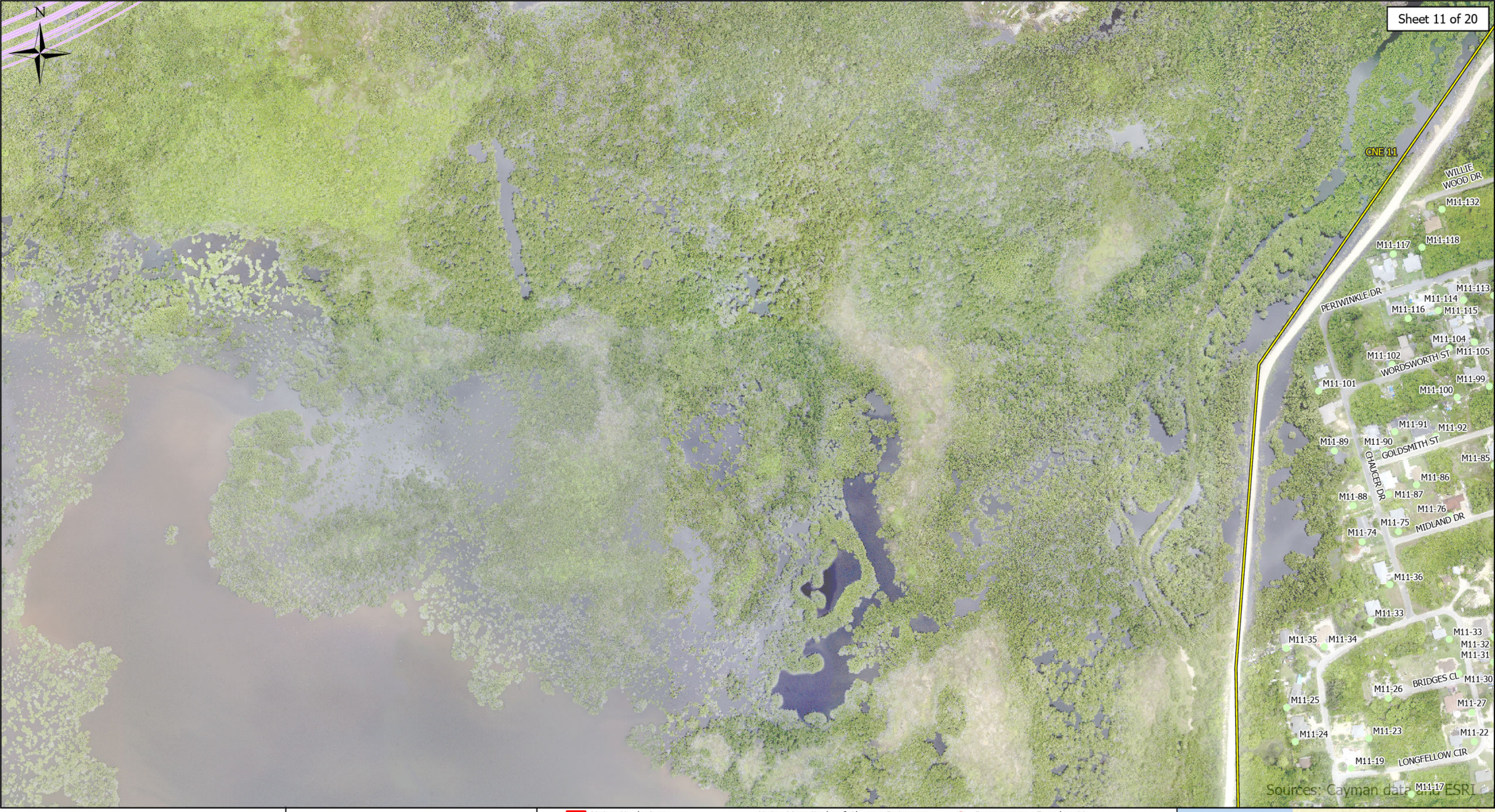
- Increase < 3
- Increase >= 3 and < 5
- Increase >= 5 and < 10
- Increase >= 10

0 50 100 200
Meters





East-West Arterial Extension Alternative Assessment

Noise Impacts
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- Increase >= 5 and < 10
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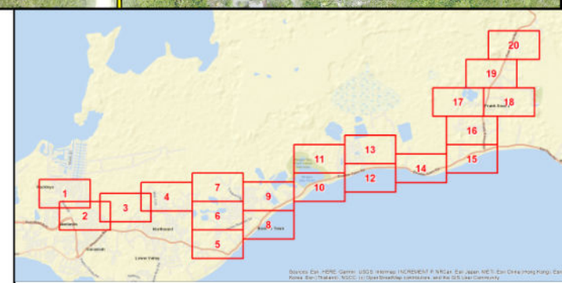
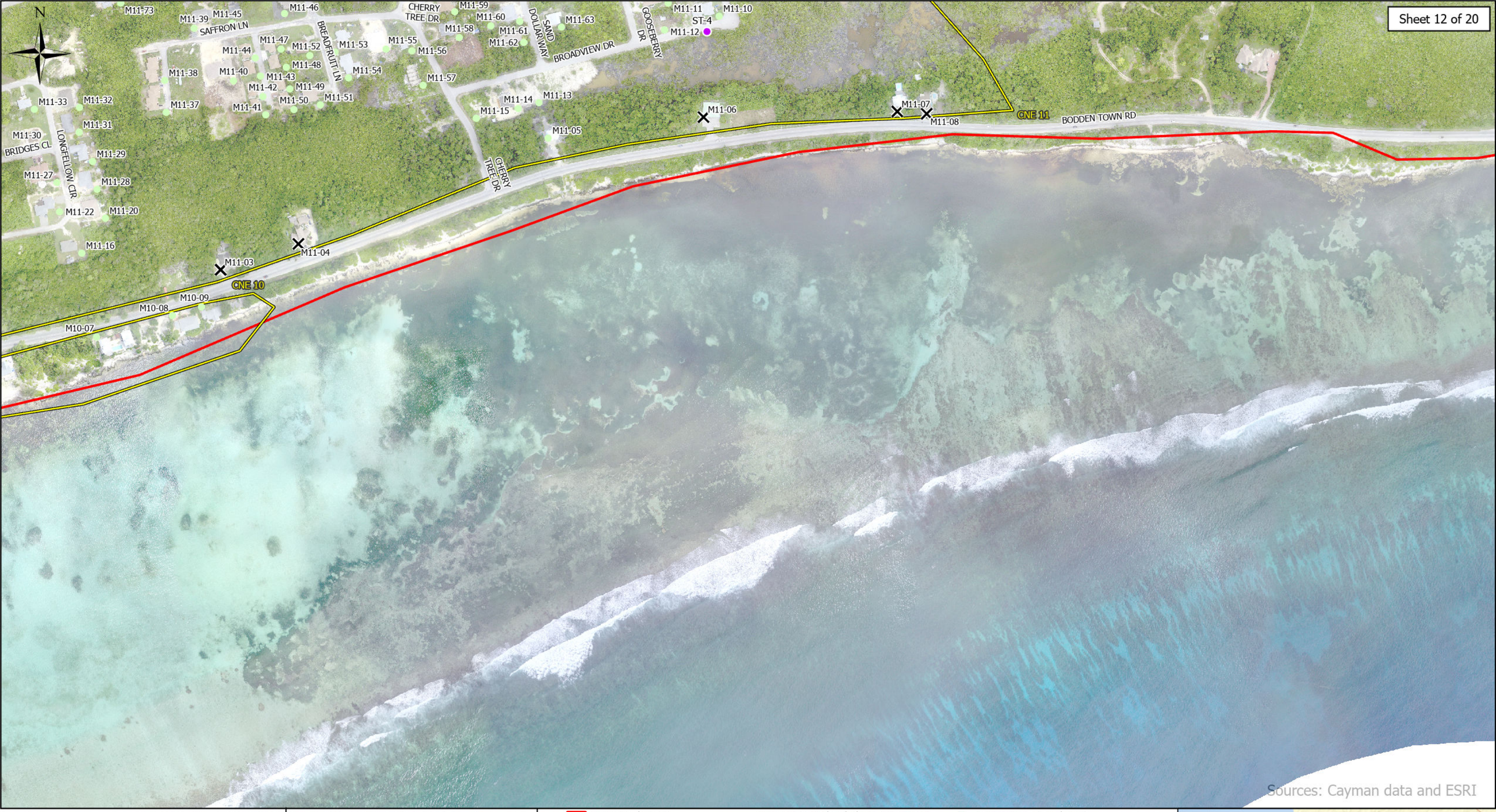
0 50 100 200
Meters





East-West Arterial Extension Alternative Assessment

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Alternative B3
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- Decrease < 3
- No change
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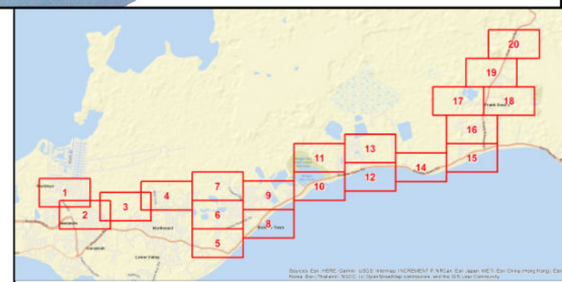
- Increase >= 3 and < 5
- Increase >= 5 and < 10
- Increase >= 10

0 50 100 200
Meters





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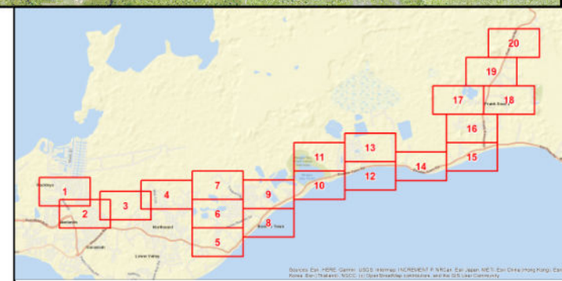
- Decrease < 3
- No change
- Increase < 3
- Increase >= 3 and < 5
- Increase >= 5 and < 10
- Increase >= 10

0 50 100 200
Meters





East-West Arterial Extension Alternative Assessment

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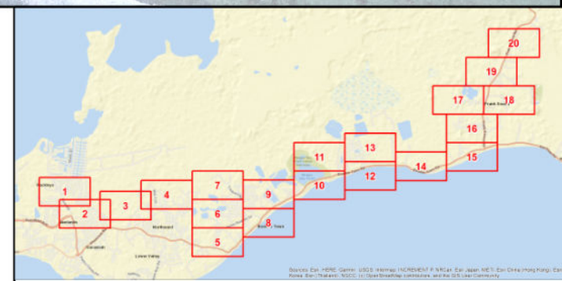
- Increase < 3
- Increase >= 3 and < 5
- Increase >= 5 and < 10
- Increase >= 10

0 50 100 200
Meters





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- No change
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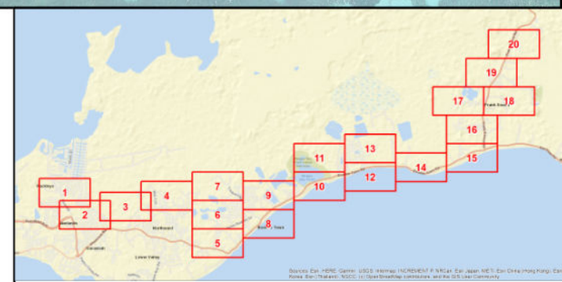
- Increase >= 5 and < 10
- Increase >= 10

0 50 100 200
Meters





East-West Arterial Extension Alternative Assessment

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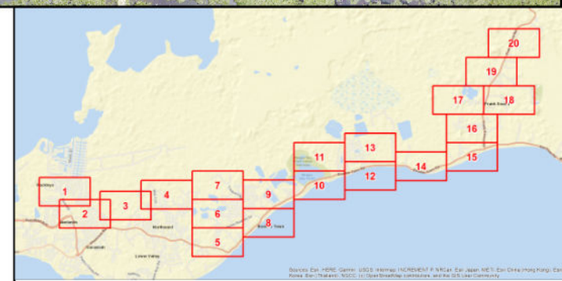
0 50 100 200
Meters



N

CNE 18
CNE 19
CNE 17
CNE 16

M18-24
M18-25
M18-26
M18-27
M18-28
M18-29
M18-30
M18-03
M18-02
M18-01
M18-34
M18-33
M18-35
M18-31
M18-32
M18-36
M18-37
M18-77
M18-77
ST-7
M18-46
M18-47
M18-76
M18-76
M18-43
M18-45
M18-44
M18-42
M18-41
M18-39
M18-40
M18-38
M17-09
M17-08

BRIDGPORT ST
NOBEL ST
MASTIC RD
SOURSOP LINK
SWEETSOP DR
PERDITHA LN
FRANK SOUND RD

Sources: Cayman data and ESRI

East-West Arterial Extension Alternative Assessment

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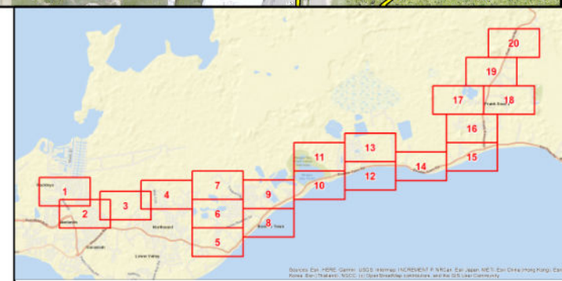
- Increase >= 3 and < 5
- Increase >= 5 and < 10
- Increase >= 10

0 50 100 200
Meters





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- Decrease < 3
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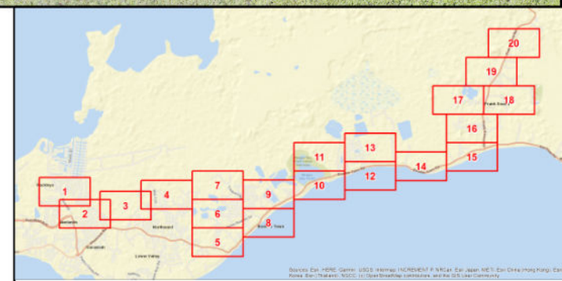
- Increase < 3
- Increase >= 3 and < 5
- Increase >= 5 and < 10
- Increase >= 10

0 50 100 200
Meters





East-West Arterial Extension Alternative Assessment

Noise Impacts
Alternative B3
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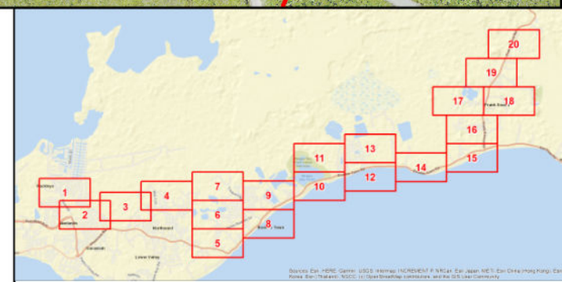
- Decrease < 3
- No change
- Increase < 3
- Increase >= 3 and < 5
- Increase >= 5 and < 10
- Increase >= 10

0 50 100 200
Meters





East-West Arterial Extension Alternative Assessment

Noise Impacts
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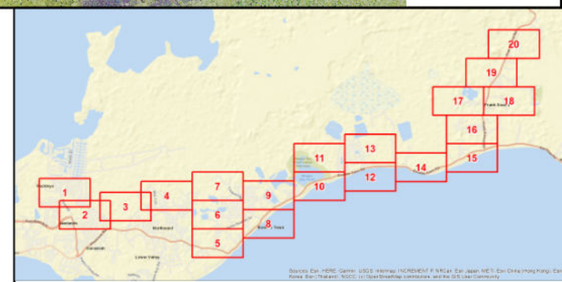
- Decrease < 3
- No change
- Increase < 3
- Increase >= 3 and < 5
- Increase >= 5 and < 10
- Increase >= 10

0 50 100 200
Meters



Attachment J

Alternative B4 2074 Magnitude of Change Mapping

N

WHISPERING WATERS WAY
BAYFIELD CRES
SOUTHWARD DR
WINDWARD RD
HOPEFIELD DR
RINA DR
MILTON DR
COLLEGE CL
RACKLEY BLVD
TRINITY WAY
ARLENE AVE
YELLOWSTONE ST
FAITH AVE
FLEET AVE
KIMBERLY ST
ELDON ST
CNE 01
LEONCE DR
HIRST RD
KEYSTONE ST
FARRELL RD
TREVOR CL
BRIGHTSIDE ST
VIVID WAY
VISION ST
BERMUDA WAY
MOONSTONE WAY
RILEY CIR
RODEO CL
CHARIOT DR
CANDLEWOOD DR
NATHAN MERREN DR
MOONBEAM DR
BARCADERE CT
HEMLOCK WAY
ELDERBERRY DR
DEVONSHIRE DR
GREENLEAF DR
SPECTRUM DR
SADDLEWOOD DR
KIMERA WAY
CNE 02
ST-1

M01-01 M01-02 M01-03 M01-04 M01-05 M01-06 M01-07 M01-08 M01-09 M01-10 M01-11 M01-12 M01-13 M01-14 M01-15 M01-16 M01-17 M01-18 M01-19 M01-20 M01-21 M01-22 M01-23 M01-24 M01-25 M01-26 M01-27 M01-28 M01-29 M01-31 M01-33 M01-34 M01-35 M01-36 M01-37 M01-38 M01-39 M01-40 M01-41 M01-42 M01-43 M01-44 M01-45 M01-46 M01-47 M01-48 M01-49 M01-50 M01-51 M01-52 M01-53 M01-54 M01-55 M01-56 M01-57 M01-58 M01-59 M01-60 M01-61 M01-62 M01-63 M01-64 M01-65 M01-66 M01-67 M01-68 M01-69 M01-70 M01-71 M01-72 M01-74 M01-75 M01-76 M01-77

M02-01 M02-02 M02-03 M02-04 M02-05 M02-06 M02-07 M02-08 M02-09 M02-10 M02-11 M02-12 M02-13 M02-14 M02-15 M02-16 M02-17 M02-18 M02-19 M02-20 M02-21 M02-22 M02-23 M02-24 M02-25 M02-26 M02-27 M02-28 M02-29 M02-30 M02-31 M02-32 M02-33 M02-34 M02-35 M02-36 M02-37 M02-40 M02-41 M02-44 M02-45 M02-46 M02-47 M02-48 M02-49 M02-50 M02-51 M02-52 M02-53 M02-55 M02-56 M02-57 M02-58 M02-59 M02-60 M02-61 M02-62 M02-63 M02-64 M02-66 M02-67 M02-68 M02-69 M02-70 M02-71 M02-72 M02-77 M02-78 M02-79 M02-80 M02-82 M02-84 M02-85 M02-86 M02-87 M02-130 M02-131

Sources: Cayman data and ESRI

East-West Arterial Extension Alternative Assessment

Noise Impacts
Alternative B4
Horizon Year 2074

NRA NATIONAL ROADS AUTHORITY

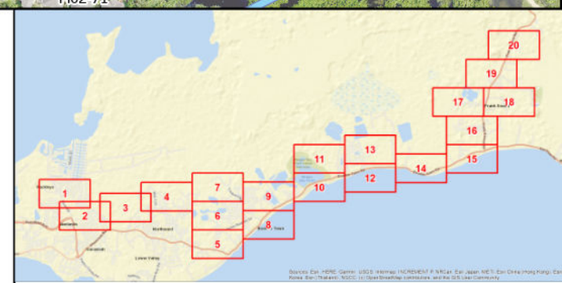
Date Created: 1/26/2024

- Noise Study Area
- Common Noise Environment (CNE)
- Section 1 Alignment
- Alternative B4 Prop Edge of Travel
- Acquisition

Noise Measurement Location
- Long-Term
- Short-Term

Noise Magnitude of Change Between 2026 NB and 2074 Build
- Decrease >= 10
- Decrease >= 5 and < 10
- Decrease >= 3 and < 5
- Decrease < 3
- No change
- Increase < 3
- Increase >= 3 and < 5
- Increase >= 5 and < 10
- Increase >= 10

0 50 100 200
Meters



East-West Arterial Extension Alternative Assessment

Noise Impacts
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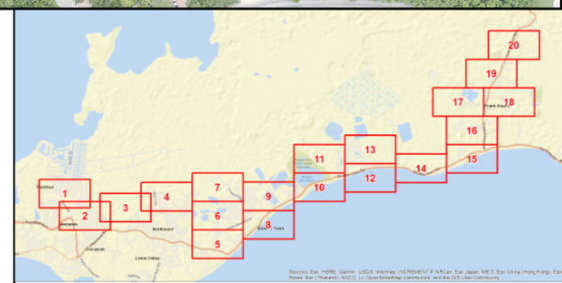
- Acquisition

Noise Measurement Location
- Long-Term
- Short-Term

Noise Magnitude of Change Between 2026 NB and 2074 Build
- Decrease >= 10
- Decrease >= 5 and < 10
- Decrease >= 3 and < 5
- Decrease < 3
- No change
- Increase < 3
- Increase >= 3 and < 5
- Increase >= 5 and < 10
- Increase >= 10

0 50 100 200
Meters



Sources: Esri, Maxar, Earthstar Geographics, and the GIS User Community



East-West Arterial Extension Alternative Assessment

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Noise Measurement Location

- Long-Term
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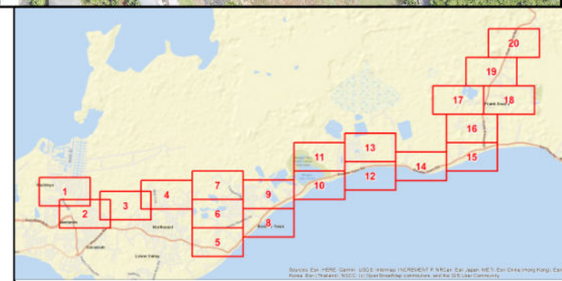
Noise Magnitude of Change Between 2026 NB and 2074 Build

- Decrease >= 10
- Decrease >= 5 and < 10
- Decrease >= 3 and < 5
- Decrease < 3
- No change
- Increase < 3
- Increase >= 3 and < 5
- Increase >= 5 and < 10
- Increase >= 10

0 50 100 200
Meters



N

ST-2

CNE 04

CNE 05

M04-01
M04-02
M04-03
M04-04
M04-05
M04-06
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M04-08
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M04-45
M04-46
M04-47
M04-48
M04-49
M04-50
M04-51
M04-52
M05-01
M05-02

LIVINGSTON WAY
MINZETT DR
DOMINICA DR
WILLIT RD
ROYAL HEIGHTS DR
FIG TREE DR
GRENADA CL
MERRIMAC CRES
CANBERRA ST
AVALON ST
MENDIP CIR
ALLURE LINK
HUDSON DR
SHEFFIELD DR
PAULEACH RD
THATCH TREE LN
YELLOW DORCAS DR
NORTHWARD RD
REGINA AVE
GLASS AVE

Sources: Cayman data and ESRI

East-West Arterial Extension Alternative Assessment

Noise Impacts
Alternative B4
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- Increase >= 5 and < 10
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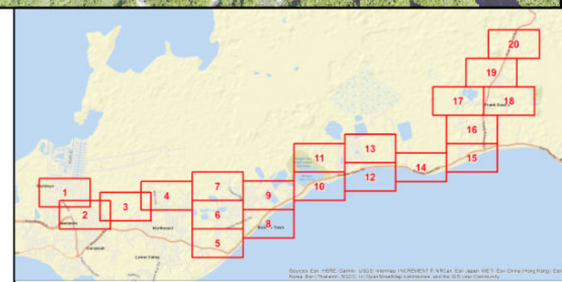
0 50 100 200
Meters





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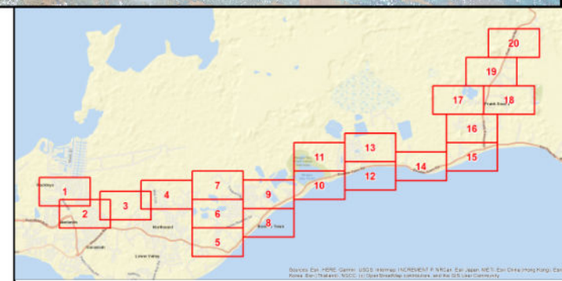
0 50 100 200
Meters



Sheet 6 of 20

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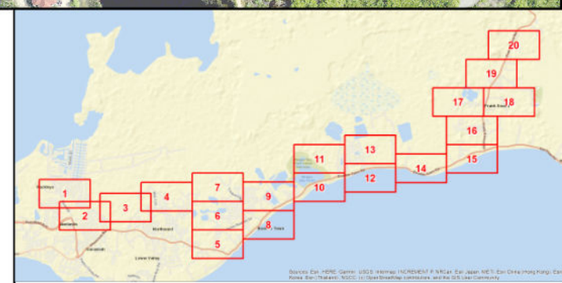
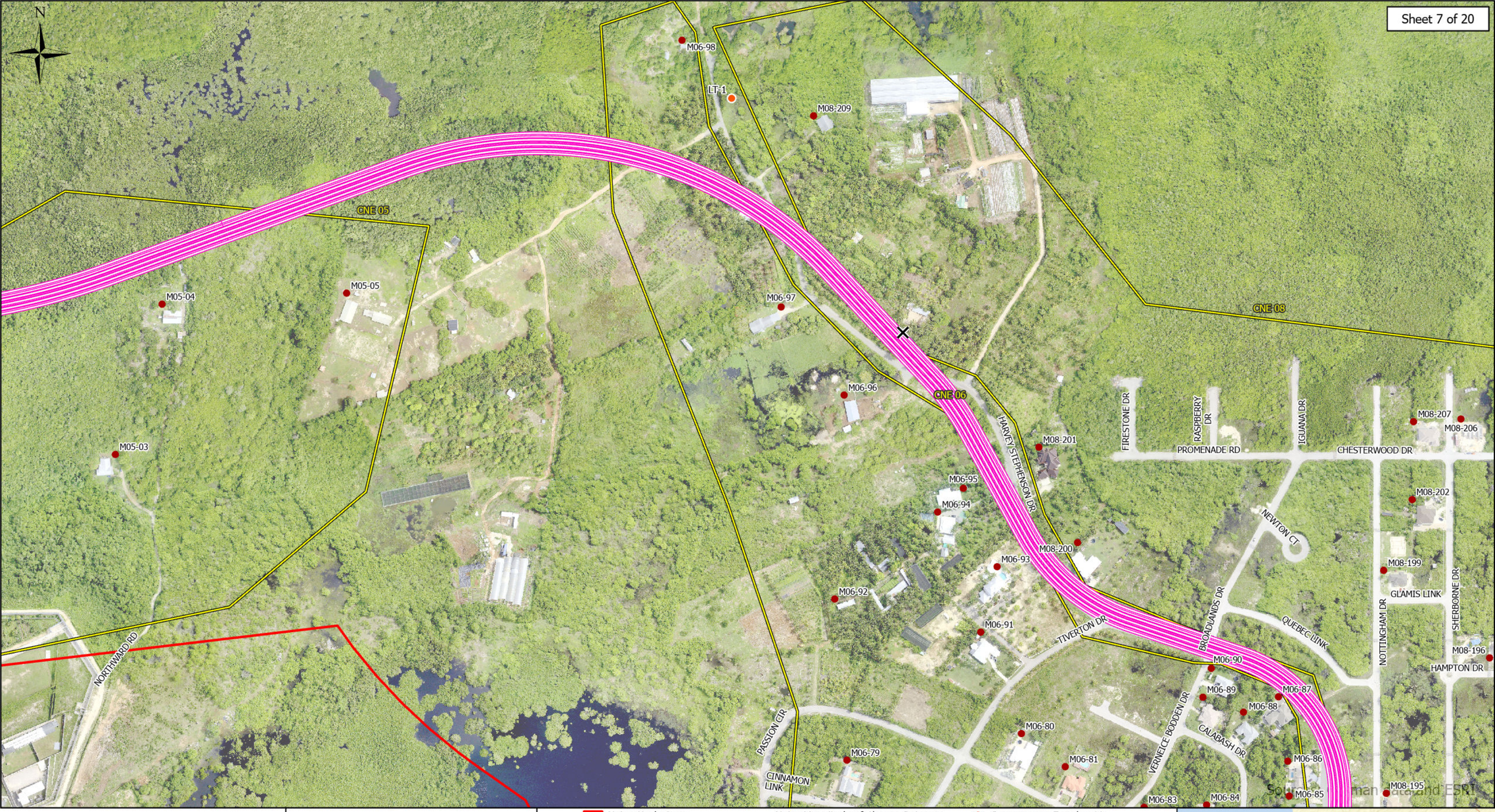
Meters



Sources: Cayman data and ESRI



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- Increase >= 5 and < 10
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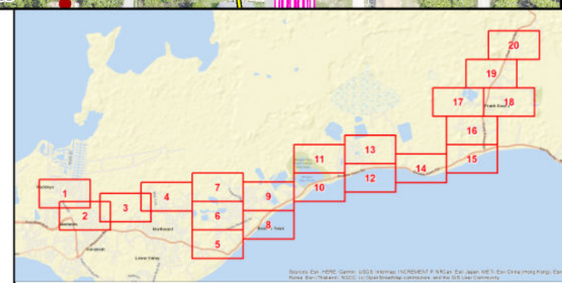
0 50 100 200
Meters





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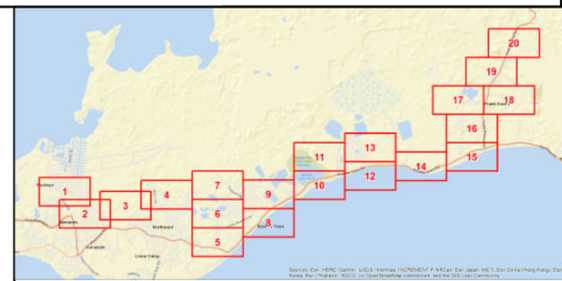
- Increase >= 10

0 50 100 200
Meters



N

CNE 08

CNE 09

SHERBORNE DR
GLAMIS LINK
DALMAIN DR
HAMPTON DR
TONBRIDGE DR
ABBOTSFORD DR
LAKE DESTINY DR
FROST ST
STIWELL RD
NASHE ST
WILDE ST
BELFORD DR
HARDY ST
YEATS ST
TENNYSON ST
CARRINGTON LN
CLARIES AVE
DICKENS ST
ENTERPRISE WAY
BRONTE WAY
WOODS CL
KIPLING ST
BODDEN TOWN RD
LAKEVIEW DR
PARTRIDGE CL

M08-206 M08-205 M08-204 M08-203 M08-196 M08-197 M08-198 M08-193 M08-194 M08-192 M08-191 M08-190 M08-189 M08-180 M08-179 M08-169 M08-170 M08-188 M08-187 M08-160 M08-178 M08-181 M08-159 M08-171 M08-182 M08-168 M08-177 M08-186 M08-185 M08-161 M08-172 M08-158 M08-167 M08-183 M08-152 M08-162 M08-176 M08-157 M08-173 M08-184 M08-163 M08-166 M08-175 M08-156 M08-174 M08-153 M08-165 M08-164 M08-151 M08-154 M08-122 M08-137 M08-121 M08-138 M08-150 M08-155 M08-136 M08-108 M08-123 M08-149 M08-139 M08-107 M08-135 M08-148 M08-106 M08-120 M08-140 M08-124 M08-094 M08-109 M08-119 M08-134 M08-141 M08-105 M08-110 M08-125 M08-118 M08-126 M08-142 M08-095 M08-104 M08-111 M08-117 M08-127 M08-133 M08-143 M08-093 M08-096 M08-112 M08-116 M08-128 M08-132 M08-144

M08-84 M08-83 M08-82 M08-81 M08-211 M08-210 M09-08 M09-07 M09-06 M08-212 M08-05 M09-05

M08-61 M08-73 M08-60 M08-48 M08-74 M08-72 M08-59 M08-78 M08-77 M08-62 M08-58 M08-49 M08-80 M08-79 M08-76 M08-71 M08-63 M08-75 M08-57 M08-40 M08-70 M08-64 M08-68 M08-69 M08-50 M08-39 M08-65 M08-67 M08-66 M08-56 M08-38 M08-53 M08-54 M08-55 M08-37 M08-24 M08-51 M08-52 M08-35 M08-25 M08-33 M08-34 M08-36 M08-26 M08-32 M08-27 M08-31 M08-28 M08-30 M08-29

Sources: Cayman data and ESRI

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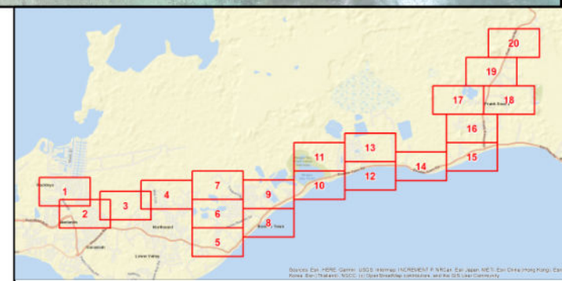
0 50 100 200
Meters





East-West Arterial Extension Alternative Assessment

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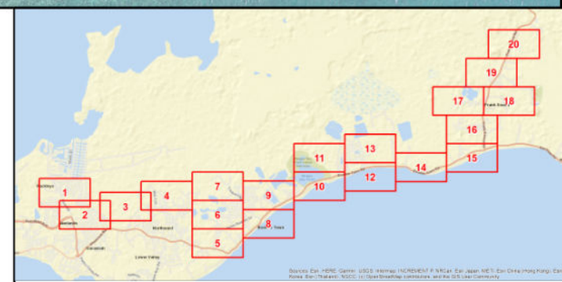
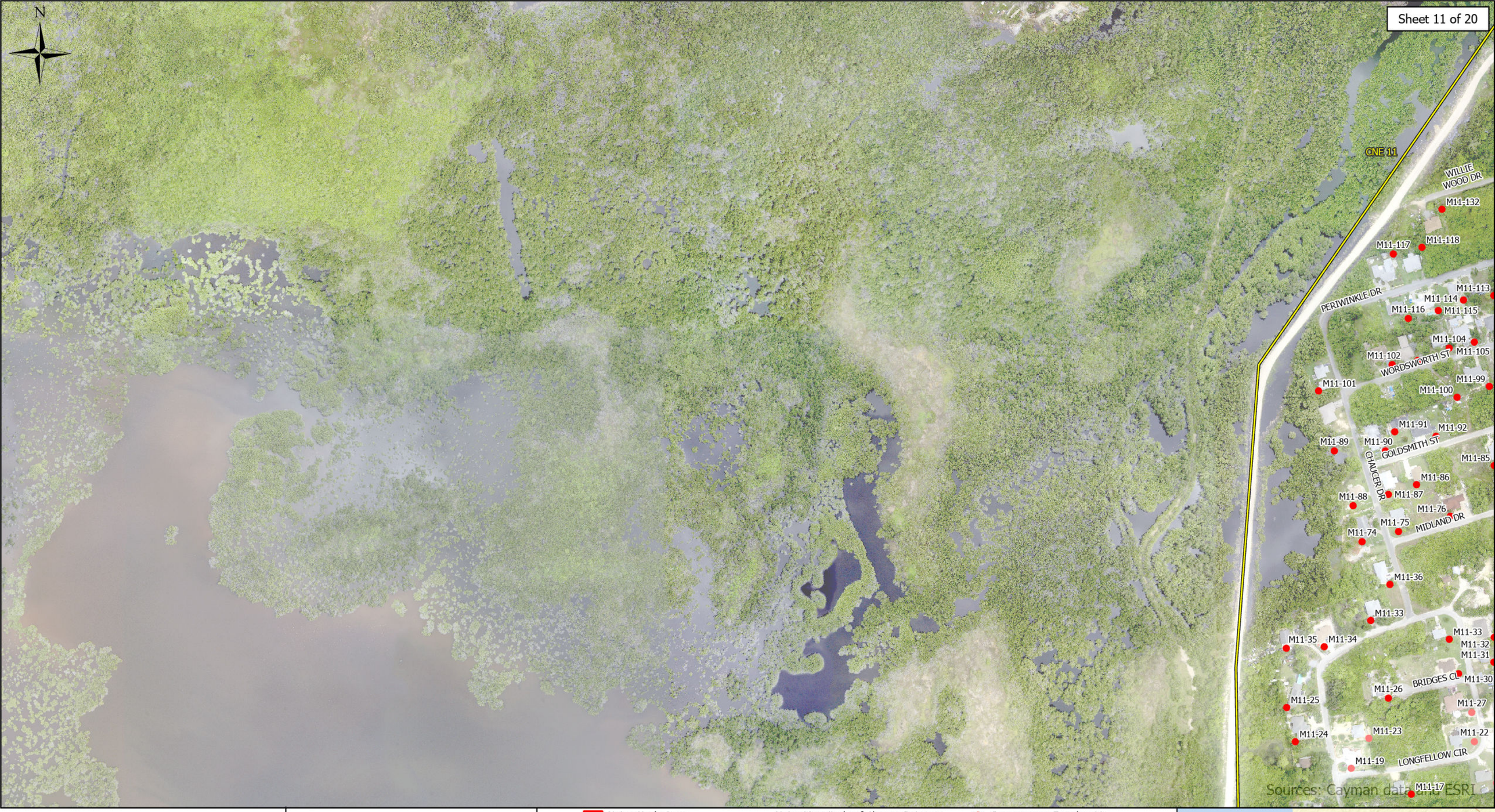
0 50 100 200
Meters





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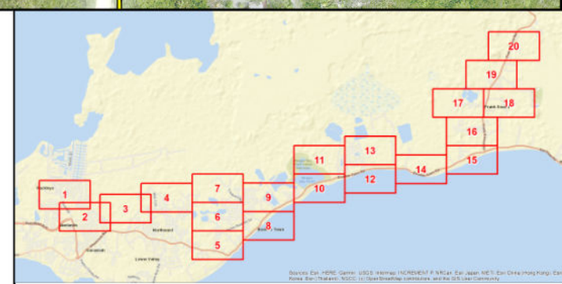
- Increase < 3
- Increase >= 3 and < 5
- Increase >= 5 and < 10
- Increase >= 10

0 50 100 200
Meters





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- Increase >= 5 and < 10
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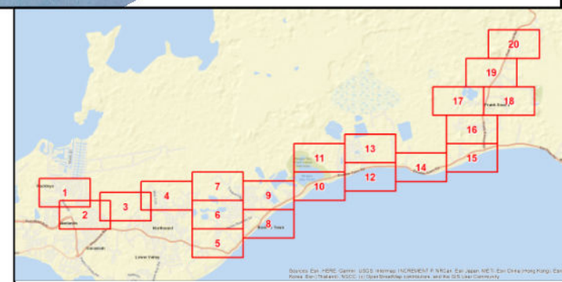
0 50 100 200
Meters





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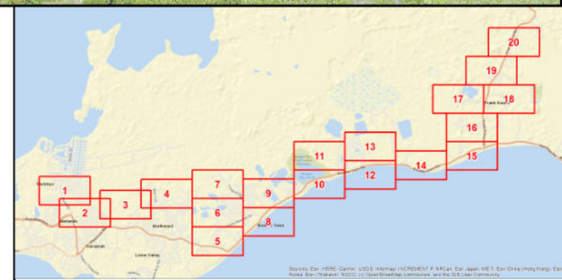
0 50 100 200
Meters



N

CNE 14

M14-47

CNE 12

M12-20

M13-01

M12-01

M12-03

M13-02

M13-03

M12-02

M12-04

M13-04

M12-06

M12-07

M12-05

M13-05

M12-08

M12-09

M12-10

M12-11

M12-13

M12-14

M12-18

M12-19

CLIFF HILL LN

BODDEN TOWN RD

M12-17

M12-16

M12-15

M13-07

M13-06

CNE 13

SCHOOL HOUSE LN

Sources: Cayman data and ESRI

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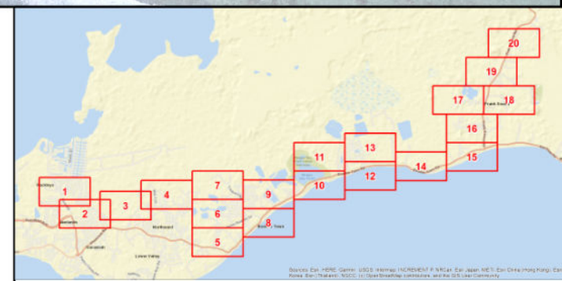
0 50 100 200
Meters





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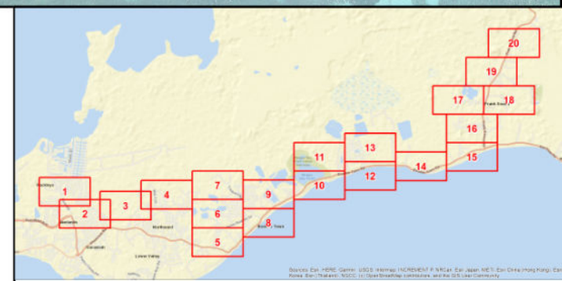
0 50 100 200
Meters





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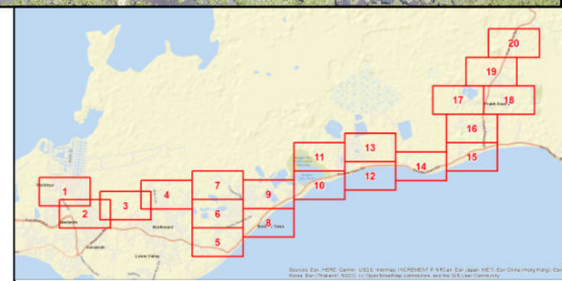
- Increase >= 10

0 50 100 200
Meters





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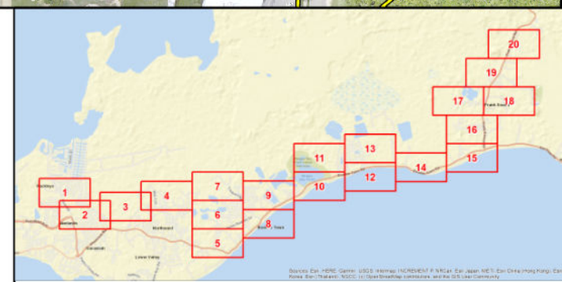



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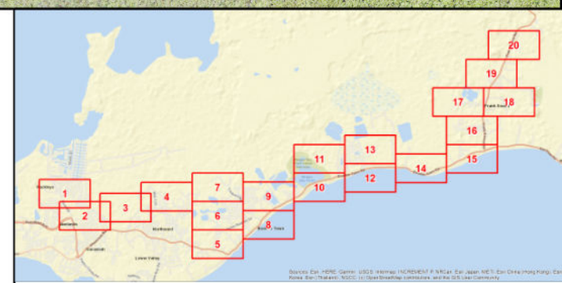
0 50 100 200
Meters





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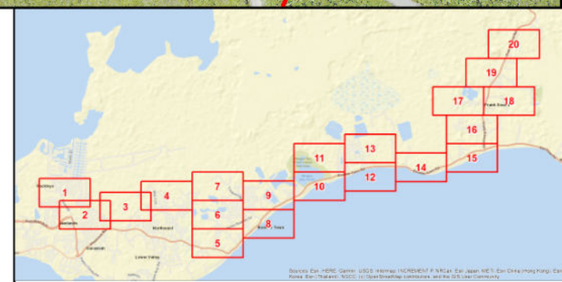
0 50 100 200
Meters





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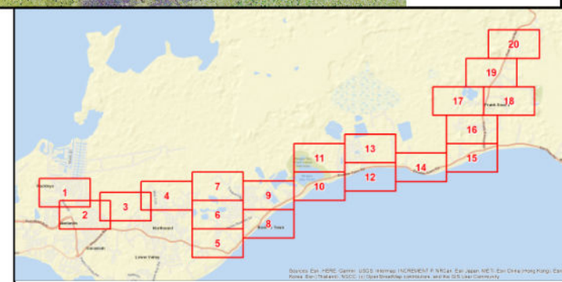
0 50 100 200
Meters



Attachment K

No-Build 2074 SOAEL Impact Mapping

N

0 100 200 400 Meters

WHISPERING WATERS WAY
BAYFIELD CRES
HOPEFIELD DR
SOUTHWARD DR
WINDWARD RD
RINA DR
MILTON DR
COLLEGE CL
RACKLEY BLVD
TRINITY WAY
ARLENE AVE
YELLOWSTONE ST
FAITH AVE
FLEET AVE
KIMBERLY ST
ELDON ST
LEONCE DR
HIRST RD
KEYSTONE ST
FARRELL RD
RILEY CIR
RODEO CL
CHARIOT DR
CANDLEWOOD DR
NATHAN MERREN DR
HEMLOCK WAY
MOONBEAM DR
BARCADERE CT
ELDERBERRY DR
DEVONSHIRE DR
TREVOR CL
GREENLEAF DR
SPECTRUM DR
BRIGHTSIDE ST
VISION ST
VIVID WAY
BERMUDA WAY
MOONSTONE WAY
SADDLEWOOD DR
KIMERA WAY

CNE 01
CNE 02

M01-01 M01-02 M01-03 M01-04 M01-05 M01-06 M01-07 M01-08 M01-09 M01-10 M01-11 M01-12 M01-13 M01-14 M01-15 M01-16 M01-17 M01-18 M01-19 M01-20 M01-21 M01-23 M01-25 M01-26 M01-27 M01-28 M01-31 M01-32 M01-33 M01-34 M01-35 M01-36 M01-37 M01-38 M01-40 M01-41 M01-42 M01-43 M01-44 M01-45 M01-46 M01-47 M01-48 M01-49 M01-50 M01-51 M01-52 M01-53 M01-54 M01-55 M01-56 M01-57 M01-58 M01-59 M01-60 M01-61 M01-62 M01-63 M01-64 M01-65 M01-66 M01-67 M01-68 M01-69 M01-70 M01-71 M01-72 M01-74 M01-75 M01-76 M01-77

M02-01 M02-02 M02-03 M02-04 M02-05 M02-06 M02-07 M02-08 M02-09 M02-10 M02-11 M02-12 M02-14 M02-15 M02-16 M02-17 M02-18 M02-19 M02-20 M02-21 M02-22 M02-24 M02-25 M02-27 M02-28 M02-30 M02-31 M02-32 M02-33 M02-34 M02-35 M02-36 M02-37 M02-38 M02-39 M02-40 M02-41 M02-43 M02-44 M02-46 M02-47 M02-48 M02-50 M02-51 M02-52 M02-53 M02-54 M02-55 M02-56 M02-57 M02-58 M02-59 M02-60 M02-61 M02-62 M02-63 M02-64 M02-66 M02-67 M02-69 M02-70 M02-71 M02-72 M02-77 M02-78 M02-80 M02-81 M02-84 M02-85 M02-86 M02-87 M02-130 M02-131

ST-1

Sources: Esri, Maxar, Earthstar Geographics, and the GIS User Community

East-West Arterial Extension Alternative Assessment

Noise Impacts
No-Build Alternative
Horizon Year 2074

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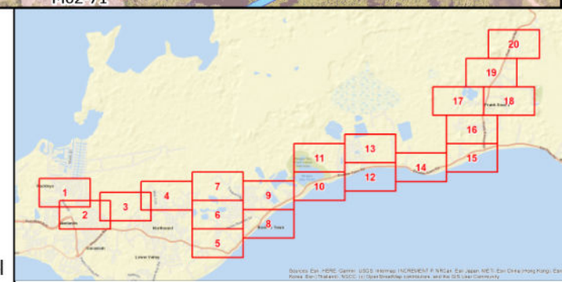
- Section 1 Alignment

Noise Measurement Location
- Long-Term
- Short-Term

Receptor
- Acquisition
- Above SOAEL
- Below SOAEL

SOAEL - Significant Observed Adverse Effect Level





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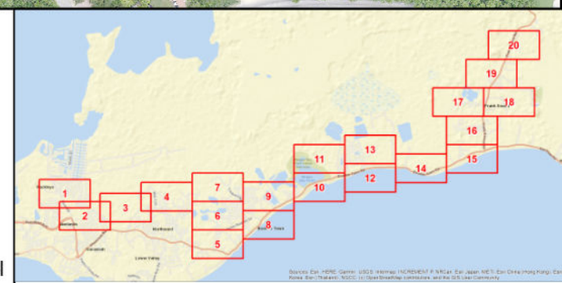

N

0 100 200 400 Meters

Sheet 3 of 20

CNE 04

M04-15

M04-51

M04-52

WILL T RD

CNE 03

AVALON ST

CANBERRA ST

ALLURE LINK

DISCOVER DR

HOPEWELL DR

BRISBANE ST

WILL T RD

INDIGO DR

Sources: Cayman data and ESRI

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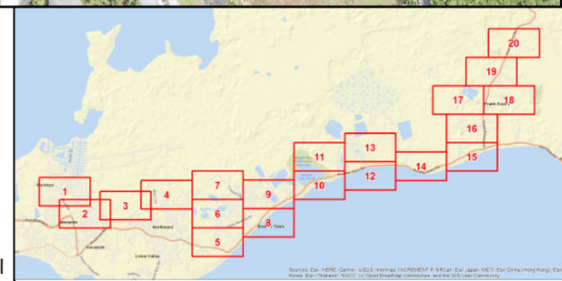

N

0 100 200 400 Meters

ST-2

CNE 04

CNE 05

M04-01 M04-02 M04-03 M04-04 M04-05 M04-06 M04-08 M04-09 M04-10 M04-11 M04-12 M04-13 M04-14 M04-15 M04-16 M04-18 M04-19 M04-22 M04-23 M04-24 M04-25 M04-26 M04-27 M04-28 M04-29 M04-30 M04-31 M04-32 M04-33 M04-34 M04-35 M04-36 M04-37 M04-38 M04-39 M04-40 M04-41 M04-42 M04-43 M04-44 M04-45 M04-46 M04-47 M04-48 M04-49 M04-50 M04-51 M04-52

M05-01 M05-02

LIVINGSTON WAY MINZETT DR DOMINICA DR WILLARD RD ROYAL HEIGHTS DR FIG TREE DR GRENADA CL MERRIMAC CRES MENDIP CIR ALLURE LINK HUDSON DR CANBERRA ST AVALON ST SHEFFIELD DR PAULEACH RD THATCH TREE LN YELLOW DORCAS DR NORTHWARD RD REGINA AVE GLASS AVE

Sources: Cayman data and ESRI

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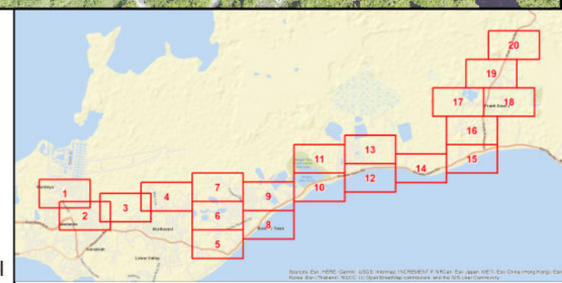



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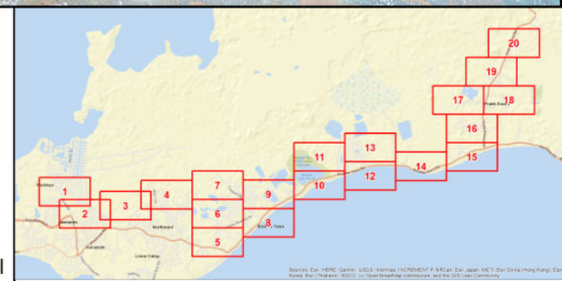

N

0 100 200 400 Meters

NORTHWARD RD

PASSION CIR

CINNAMON LINK

TIVERTON DR

M06-78

M06-77

M06-83

M06-84

M06-85

M06-82

RED ROBIN DR

ABBOTSFORD DR

NOTTINGHAM

SHERBO

M06-76

M06-75

M06-72

M06-73

M06-70

M06-71

M06-74

IRONWOOD DR

M06-69

M06-68

M06-66

M06-67

M06-65

M06-64

M06-63

M06-62

M06-61

CALABASH DR

DUNBAR DR

M06-59

M06-99

M06-60

M06-55

M06-56

M06-57

M06-58

M06-50

VERNEICE BODDEN DR

VALENCIA DR

HARVEY STEPHENSON DR

M06-51

M06-52

M06-53

CARAMBOLA ST

M06-54

M06-49

M06-47

M06-48

M06-42

M06-43

M06-45

M06-46

M06-35

NEEMTREE CL

FARLEY DR

M06-44

M06-41

M06-37

M06-36

M06-34

RUTGERS DR

M06-39

M06-38

M06-33

BOMBAY ST

BOYSBERRY DR

M06-40

M06-26

M06-28

M06-31

M06-32

M06-05

M06-04

M06-41

M06-29

M06-30

M06-06

M06-27

NONI DR

M06-07

M06-24

M06-25

M06-03

M06-23

M06-19

M06-21

M06-20

M06-09

M06-08

M06-22

M06-18

M06-11

M06-10

BLOOMBURY AVE

M06-12

M06-17

M06-13

M06-16

M06-15

M06-14

M06-02

M06-01

M07-13

M07-14

M07-15

M07-16

M07-01

CNE 06

CNE 08

CNE 07

ANTON BODDEN DR

ENA CL

GRIFFIN ST

M06-08

M07-10

M06-09

M06-12

PINEAPPLE WAY

PERSIAN WAY

LEROY FREDERICK DR

M08-107

M08-106

M08-94

YEATS ST

M08-95

M08-93

M08-92

STIWELL RD

M08-91

M08-90

M08-88

M08-87

M06-04

NEEMTREE CL

DEWSBURY AVE

CHRISTIANA FORBES DR

HOPE SPRING CRES

SILVER HILL DR

Sources: Cayman data and ESRI

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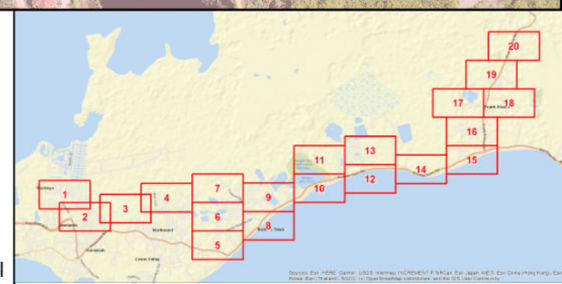

N

0 100 200 400 Meters

M06-98
LT-1
M08-209
CNE 05
M05-04
M05-05
M06-97
CNE 08
M08-208
M06-96
CNE 06
M05-03
M08-201
M06-95
M06-94
M08-200
M06-93
M06-92
M06-91
M06-90
M06-89
M06-88
M06-87
M06-80
M06-81
M06-79
M06-86
M06-83
M06-84
M06-85
M08-207
M08-206
M08-202
M08-199
M08-196
M08-195
FIRESTONE DR
RASPBERRY DR
IGUANA DR
PROMENADE RD
CHESTERWOOD DR
HARVEY STEPHENSON DR
NEWTON CT
GLAMIS LINK
NOTTINGHAM DR
SHERBORNE DR
HAMPTON DR
QUEBEC LINK
BROADLANDS DR
TIVERTON DR
VERNEICE BODDEN DR
CALABASH DR
PASSION CIR
CINNAMON LINK
NORTHWARD RD

Source: Cayman Land Info, ESRI

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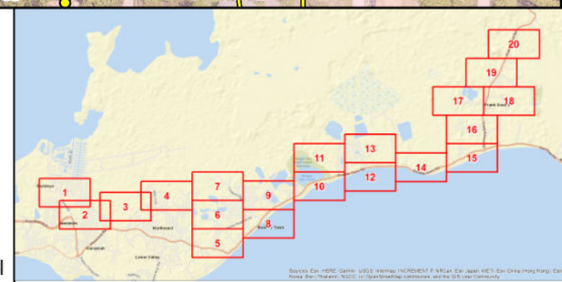

N

0 100 200 400 Meters

M08-90 M08-97 M08-98 M08-99 M08-101 M08-102 M08-103 M08-112 M08-113 M08-114 M08-116 M08-128 M08-129 M08-130 M08-131 M08-132 M08-144 M08-145 M08-146 M08-147 M08-100 M08-214 M08-213 M08-89 M08-87 M08-86 M08-85 M08-01 M08-02 M08-03 M08-04 M09-01 M09-02 M09-03

SITWELL RD YEATS ST WILDE ST HARDY ST BELFORD DR NEEMTREE CL HARVEY STEPHENSON DR ANTON BODDEN DR LAKE DESTINY DR PARTRIDGE CL

CNE 06 CNE 07 CNE 08 CNE 09

M07-01 M07-02 M07-03 M07-04 M07-05 M07-06 M07-07 M07-10 M06-08 M07-11 M06-09 M06-12 M07-87 M07-86 M07-84 M07-85 M07-81 M07-83 M07-82 M07-78 M07-80 M07-77 M07-79 M07-76 M07-75 M07-73 M07-74 M07-72 M07-70 M07-71 M07-69 M07-68 M07-43 M07-44 M07-45 M07-42 M07-46 M07-67 M07-66 M07-63 M07-65 M07-64 M07-62 M07-60 M07-59

GRIFFIN ST PINEAPPLE WAY LEROY FREDERICK DR PERSIAN WAY GUN SQUARE RD DRAGONFLY CL BODDEN TOWN RD

Sources: Cayman data and ESRI

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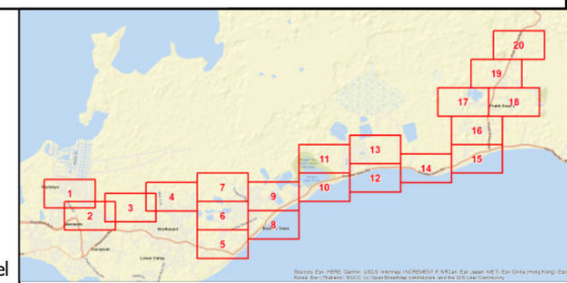

N

0 100 200 400 Meters

CNE 08

CNE 09

SHERBORNE DR
GLAMIS LINK
DALMAIN DR
HAMPTON DR
TONBRIDGE DR
ABBOTSFORD DR
LAKE DESTINY DR
FROST ST
SITWELL RD
NASHE ST
WILDE ST
YEATS ST
BELFORD DR
HARDY ST
TENNYSON ST
DICKENS ST
CARRINGTON LN
CLARIES AVE
ENTERPRISE WAY
KIPLING ST
BRONTE WAY
WOODS CL
BODDEN TOWN RD
LAKEVIEW DR
PARTRIDGE CL

M08-206 M08-204 M08-205 M08-203 M08-196 M08-197 M08-198 M08-193 M08-192 M08-194 M08-191 M08-180 M08-190 M08-179 M08-189 M08-169 M08-170 M08-181 M08-188 M08-160 M08-178 M08-182 M08-187 M08-159 M08-168 M08-177 M08-186 M08-161 M08-185 M08-158 M08-167 M08-152 M08-162 M08-176 M08-157 M08-173 M08-184 M08-156 M08-165 M08-175 M08-153 M08-174 M08-164 M08-122 M08-137 M08-151 M08-154 M08-121 M08-138 M08-155 M08-136 M08-150 M08-123 M08-149 M08-108 M08-139 M08-148 M08-107 M08-135 M08-120 M08-140 M08-106 M08-124 M08-119 M08-134 M08-141 M08-94 M08-109 M08-125 M08-105 M08-110 M08-118 M08-126 M08-142 M08-95 M08-104 M08-111 M08-117 M08-127 M08-133 M08-143 M08-93 M08-96 M08-112 M08-116 M08-128 M08-132 M08-144

M08-84 M08-83 M08-82 M08-81 M08-212 M08-07 M08-08 M08-06 M08-05 M09-05 M09-04 M09-03

M08-211 M08-11 M08-210 M09-08 M09-07 M08-10 M08-09 M09-06

M08-61 M08-73 M08-60 M08-48 M08-74 M08-72 M08-59 M08-78 M08-77 M08-62 M08-58 M08-49 M08-80 M08-79 M08-76 M08-71 M08-63 M08-75 M08-57 M08-70 M08-64 M08-68 M08-69 M08-50 M08-65 M08-39 M08-67 M08-66 M08-56 M08-38 M08-55 M08-37 M08-24 M08-53 M08-54 M08-51 M08-35 M08-25 M08-52 M08-36 M08-15 M08-16 M08-33 M08-34 M08-26 M08-32 M08-31 M08-27 M08-14 M08-28 M08-30 M08-29 M08-13 M08-12

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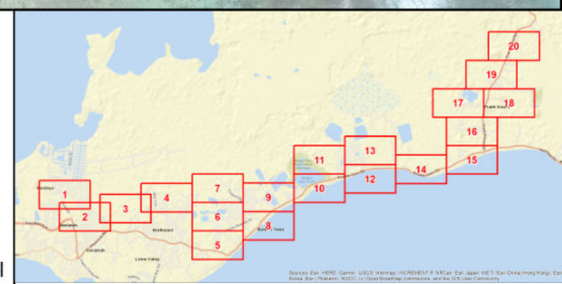

N

0 100 200 400 Meters

BODDEN TOWN RD

CNE 11

CNE 10

CNE 08

M11-18

M11-01

M11-02

LONGFELLOW CIR

M10-06

M10-05

M10-04

M10-02

M10-01

M10-03

M08-46

M08-45

CLARIES AVE

M08-47

M08-44

M08-20

M08-61

M08-43

M08-21

M08-60

M08-48

M08-42

BROOKE DR

M08-22

M08-49

M08-41

M08-23

M08-19

M08-40

ENTERPRISE WAY

M08-39

M08-38

M08-24

BRONTE WAY

M08-18

M08-17

M08-16

M08-15

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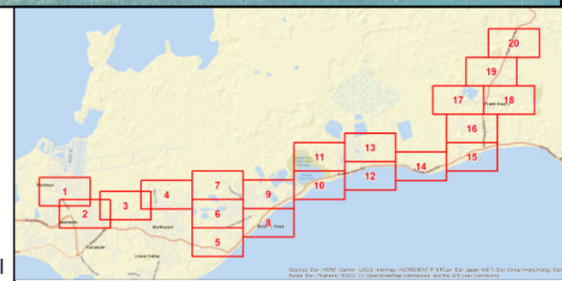

N

0 100 200 400 Meters

CNE 11

WILLIE WOOD DR

M11-132

M11-117 M11-118

PERIWINKLE DR

M11-113 M11-115 M11-116 M11-114

M11-104 M11-105 M11-102

WORDSWORTH ST

M11-101 M11-99 M11-100

M11-91 M11-92 M11-89

GOLDSMITH ST

CHAUCER DR

M11-90 M11-85 M11-86 M11-88 M11-87 M11-76

MIDLAND DR

M11-74 M11-75

M11-36

M11-33

M11-32 M11-35 M11-34 M11-33 M11-31 M11-30

BRIDGES CL

M11-26 M11-25 M11-27 M11-24 M11-23 M11-22

LONGFELLOW CIR

M11-19 M11-17

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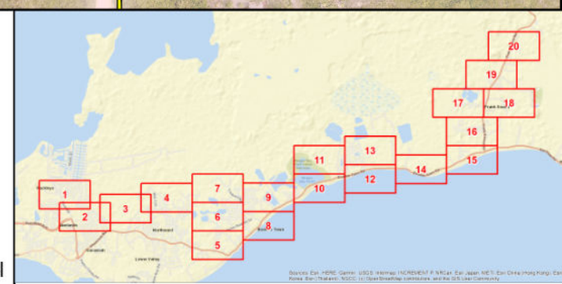

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0 100 200 400 Meters

M11-73 M11-39 SAFFRON LN M11-45 M11-46 M11-47 BREADFRUIT LN M11-53 M11-55 M11-56 M11-44 M11-48 M11-38 M11-40 M11-43 M11-54 M11-57 M11-42 M11-49 M11-33 M11-32 M11-37 M11-41 M11-50 M11-51 M11-31 M11-30 BRIDGES CL LONGFELLOW CIR M11-29 M11-27 M11-28 M11-22 M11-20 M11-16 M11-03 M11-04 CNE 10 M10-09 M10-08 M10-07

CHERRY TREE DR M11-59 M11-61 M11-58 M11-60 M11-62 SAND DOLLAR WAY M11-63 BROADVIEW DR GOOSEBERRY DR M11-11 M11-10 M11-12 ST-4

M11-15 M11-14 M11-13 M11-05 M11-06 M11-07 M11-08 CNE 11 BODDEN TOWN RD

CHERRY TREE DR

Sources: Cayman data and ESRI

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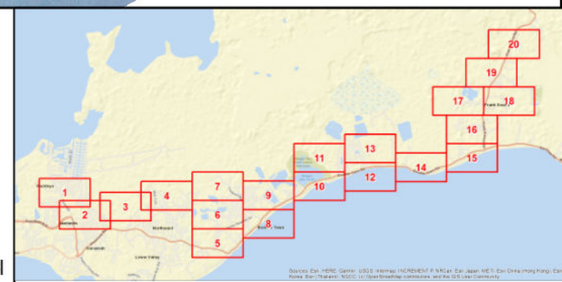

N

0 100 200 400 Meters

M11-146 M11-147 M11-148 M11-139 M11-144 M11-145 JOHN CARTER DR M11-138 M11-141 M11-140 M11-142 M11-137 M11-143 M11-136 M11-125 M11-135 M11-126 M11-134 M11-127 M11-150 M11-133 WILLIE WOOD DR M11-128 M11-129 M11-124 M11-131 M11-130 M11-123 M11-121 M11-122 M11-120 M11-149 M11-132 M11-119 M11-106 PERIWINKLE DR M11-118 GARDENIA DR M11-109 M11-110 M11-112 M11-111 M11-113 M11-114 M11-115 M11-107 M11-108 M11-106 WORDSWORTH ST M11-104 M11-95 M11-105 M11-97 M11-96 M11-94 M11-103 M11-98 M11-100 M11-99 M11-93 GOLDSMITH ST M11-83 M11-92 M11-80 M11-82 M11-84 M11-79 M11-81 M11-85 M11-78 M11-86 M11-77 MIDLAND DR M11-71 M11-76 M11-73 M11-72 M11-46 BREADFRUIT LN M11-67 M11-66 M11-70 PEPPER TREE DR M11-69 M11-64 CHERRY TREE DR M11-68 SAND DOLLAR WAY M11-65 M11-59 GOOSEBERRY DR M11-11 M11-10 BROADVIEW DR M11-09 CNE 11

Sources: Cayman data and ESRI

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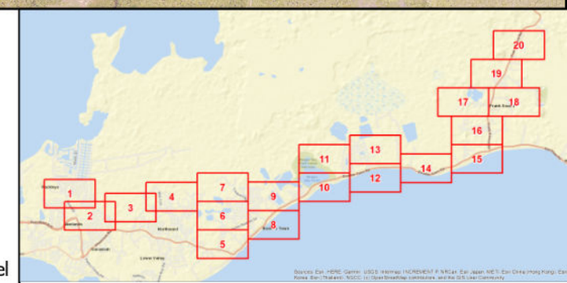
- Long-Term
- Short-Term

Receptor
- Acquisition
- Above SOAEL
- Below SOAEL

SOAEL - Significant Observed Adverse Effect Level





East-West Arterial Extension Alternative Assessment

Noise Impacts
No-Build Alternative
Horizon Year 2074

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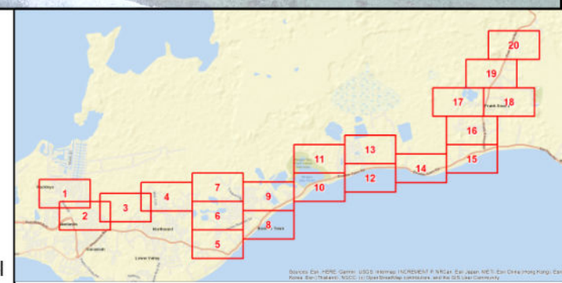

N

0 100 200 400 Meters

CNE 14

CNE 15

M14-35 M14-36 EIFFEL DR M14-37 M14-38 M14-28 M14-30 M14-39 M14-40 M14-43 M14-46 M14-31 M14-41 M14-42 M14-44 M14-45 M14-27 M14-29 M14-32 M14-33 M14-23 M14-11 M14-26 M14-25 M14-24 M14-10 NOEL DR BRACKEN CL M14-22 M14-09 M14-20 M14-21 M14-19 M14-18 FRENCHMANS DR LA CONTE DR M14-12 M14-13 M14-17 M14-16 M14-15 M14-14 M14-08 M14-07 BODDEN TOWN RD M14-02 M14-05 M14-03 M14-06 M14-01 M14-04 M14-47 M15-02 M15-01

M15-05 M15-04 M15-03

FRANK SOUND RD

SEA VIEW RD

Sources: Cayman data and ESRI

East-West Arterial Extension Alternative Assessment

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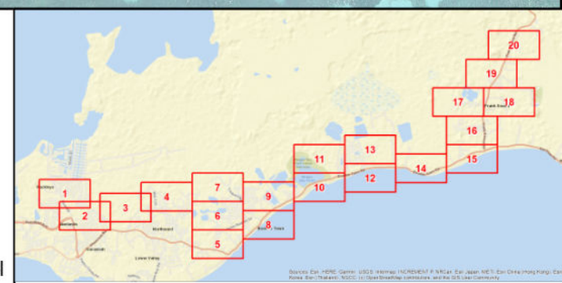



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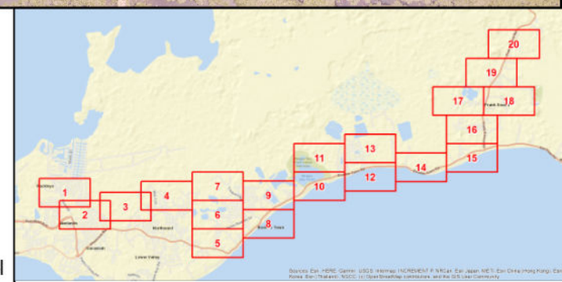

N

0 100 200 400 Meters

CNE 18

CNE 19

CNE 17

CNE 16

ST-7

M18-24
M18-25
M18-26
M18-27
M18-28
M18-29
M18-30
M18-31
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M18-33
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M18-02
M18-03
M18-46
M18-47
M18-43
M18-45
M18-42
M18-44
M18-41
M18-39
M18-40
M18-38
M17-09
M17-08

BRIDGPORT ST
NOBEL ST
MASTIC RD
SOURSOP LINK
SWEETSOP DR
PERDITHA LN
FRANK SOUND RD

Sources: Cayman data and ESRI

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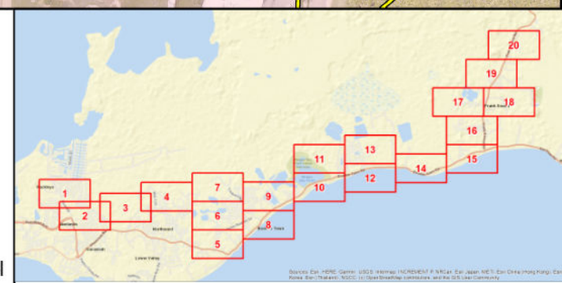

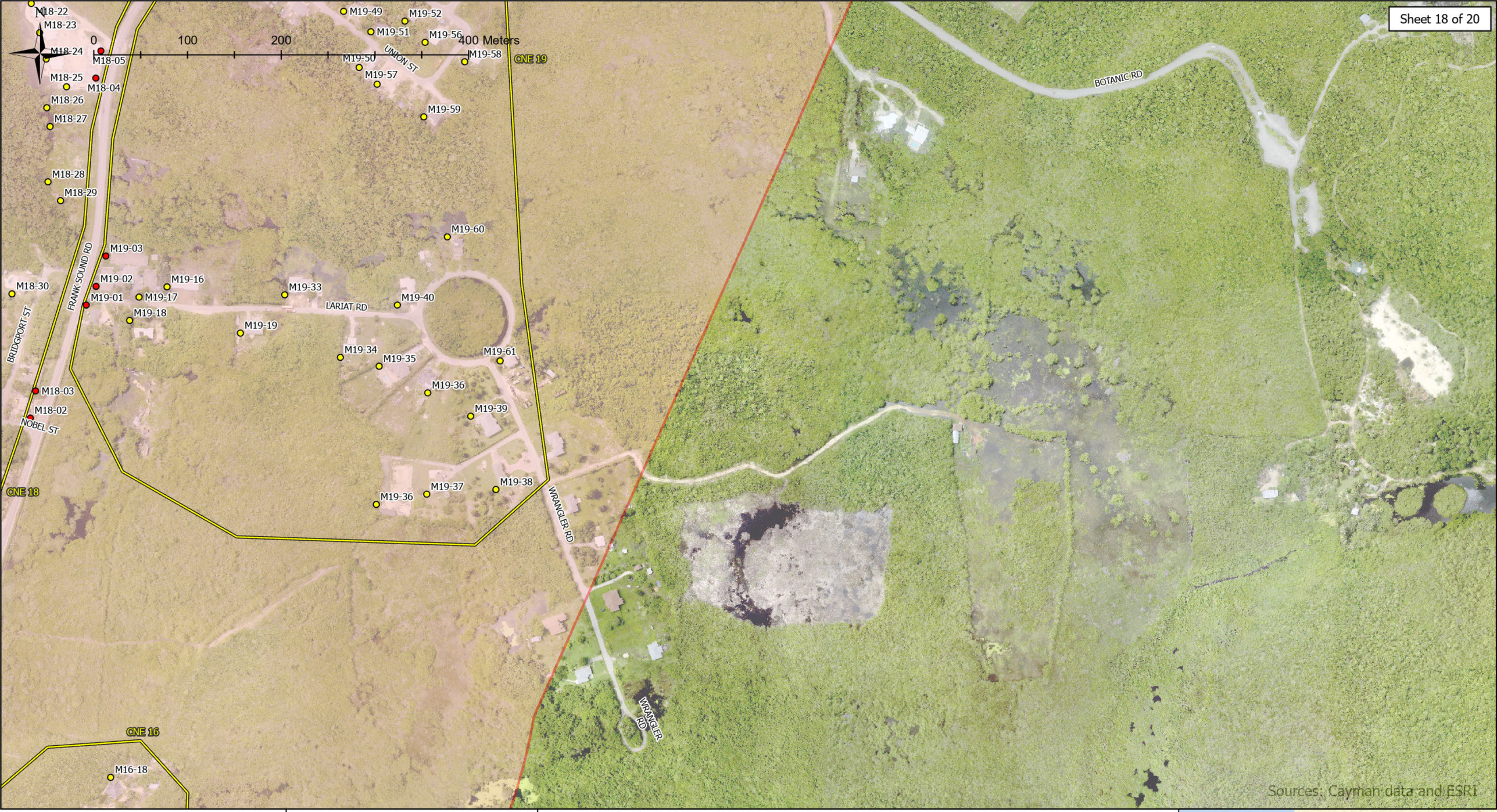

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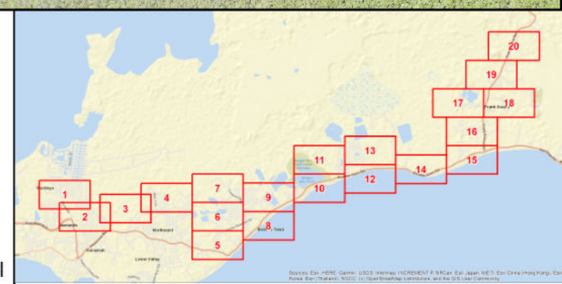

N

0 100 200 400 Meters

M18-75 M18-74 M18-73 ST-6 M18-65 M18-64 CNE 18 M18-63 SERENITY LN M18-72 M18-66 M18-61 M18-60 FRANK SOUND RD M18-67 M18-59 SERENITY LN M18-68 M18-69 M18-58 M18-70 M18-14 M19-10 M19-11 M18-57 M18-52 M18-13 M18-71 M18-56 ROSSINI ST M18-53 M18-51 M18-12 M19-09 M19-25 M18-15 M18-11 CNE 19 M18-54 M18-50 M18-16 M19-08 MERCATOR ST M18-17 M18-10 M18-55 M19-07 M18-49 M18-09 M19-26 SERENITY LN M18-48 M18-18 M19-06 BOTANIC RD M18-47 M18-19 M18-08 M19-05 M19-12 M19-24 M19-27 M18-21 M18-07 M19-28 M19-44 M18-20 GRANT ST EAGLE ST M19-23 M19-45 M18-06 M19-13 M19-29 M19-43 UNION ST M19-14 M19-22 M19-04 M19-30 M19-46 M19-54 M19-15 M19-21 M19-47 M19-42 M19-20 M19-31 M19-55 CONSTANTINE ST M19-41 M19-48 M19-53 M19-32 M18-22 M19-49

Sources: Cayman data and ESRI

East-West Arterial Extension Alternative Assessment

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Below SOAEL

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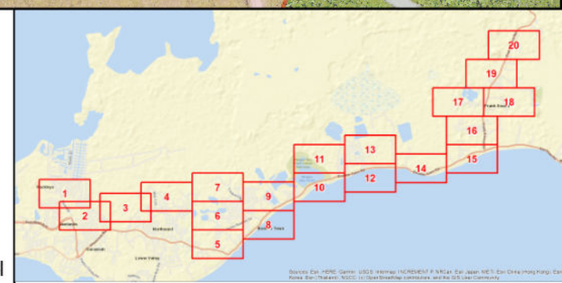

N

0 100 200 400 Meters

FRANK SOUND RD

IDLEWOOD LN

QUIET WAY

DRUMMOND WAY

CNE 20

M20-01

M20-02

M20-03

M20-04

Sources: Cayman data and ESRI

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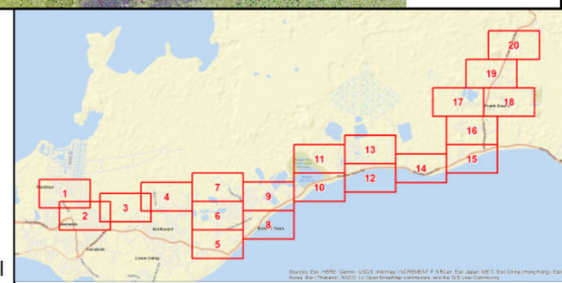

Attachment L

Alternative B1 2074 SOAEL Impact Mapping

N

0 100 200 400 Meters

WHISPERING WATERS WAY
BAYFIELD CRES
HOPEFIELD DR
SOUTHWARD DR
WINDWARD RD
RINA DR
MILTON DR
COLLEGE CL
RACKLEY BLVD
TRINITY WAY
ARLENE AVE
YELLOWSTONE ST
FAITH AVE
FLEET AVE
KIMBERLY ST
ELDON ST
LEONCE DR
HIRST RD
KEYSTONE ST
FARRELL RD
VISION ST
BRIGHTSIDE ST
VIVID WAY
TREVOR CL
BERMUDA WAY
MOONSTONE WAY
GREENLEAF DR
SPECTRUM DR
SADDLEWOOD DR
KIMERA WAY
RILEY CIR
RODEO CL
CHARIOT DR
CANDLEWOOD DR
NATHAN MERREN DR
HEMLOCK WAY
MOONBEAM DR
BARCADERE CT
ELDERBERRY DR
DEVONSHIRE DR

CNE 01
CNE 02

M01-01 M01-02 M01-03 M01-04 M01-05 M01-06 M01-07 M01-08 M01-09 M01-10 M01-11 M01-12 M01-13 M01-14 M01-15 M01-16 M01-17 M01-18 M01-19 M01-20 M01-21 M01-23 M01-25 M01-26 M01-27 M01-28 M01-31 M01-32 M01-33 M01-34 M01-35 M01-36 M01-37 M01-38 M01-40 M01-41 M01-42 M01-43 M01-44 M01-45 M01-46 M01-47 M01-48 M01-49 M01-50 M01-51 M01-52 M01-53 M01-54 M01-55 M01-56 M01-57 M01-58 M01-59 M01-60 M01-61 M01-62 M01-63 M01-64 M01-65 M01-66 M01-67 M01-68 M01-69 M01-70 M01-71 M01-72 M01-74 M01-75 M01-76 M01-77

M02-01 M02-02 M02-03 M02-04 M02-05 M02-06 M02-07 M02-08 M02-09 M02-10 M02-11 M02-12 M02-14 M02-15 M02-16 M02-17 M02-18 M02-19 M02-20 M02-21 M02-22 M02-24 M02-25 M02-27 M02-28 M02-30 M02-31 M02-32 M02-33 M02-34 M02-35 M02-36 M02-37 M02-38 M02-39 M02-40 M02-41 M02-43 M02-44 M02-46 M02-47 M02-48 M02-50 M02-51 M02-52 M02-53 M02-54 M02-55 M02-56 M02-57 M02-58 M02-59 M02-60 M02-61 M02-62 M02-63 M02-64 M02-66 M02-67 M02-69 M02-70 M02-71 M02-72 M02-77 M02-78 M02-80 M02-81 M02-84 M02-85 M02-86 M02-87 M02-130 M02-131

ST-1

Sources: Esri, Maxar, Earthstar Geographics, and the GIS User Community

East-West Arterial Extension Alternative Assessment

Noise Impacts
Alternative B1
Horizon Year 2074

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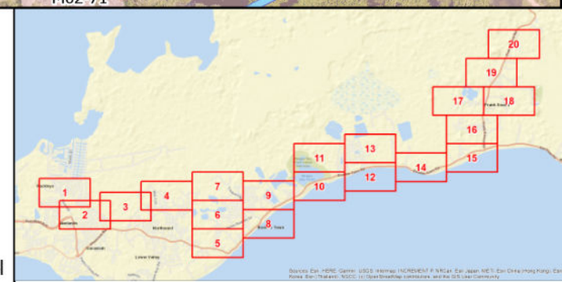



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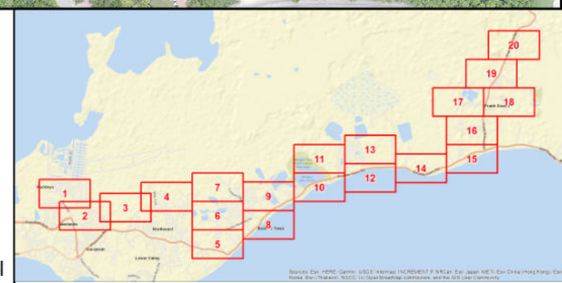

N

0 100 200 400 Meters

Sheet 3 of 20

CNE 04

M04-15

M04-51

M04-52

WILL T RD

CNE 03

AVALON ST

CANBERRA ST

ALLURE LINK

DISCOVER DR

HOPEWELL DR

BRISBANE ST

WILL T RD

INDIGO DR

Sources: Cayman data and ESRI

East-West Arterial Extension Alternative Assessment

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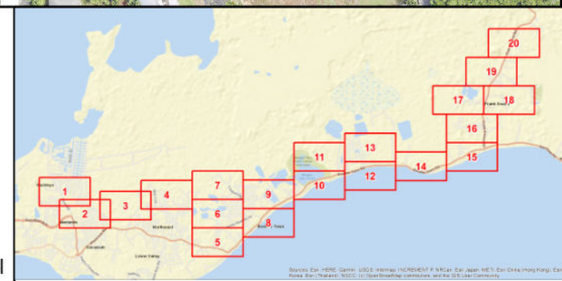

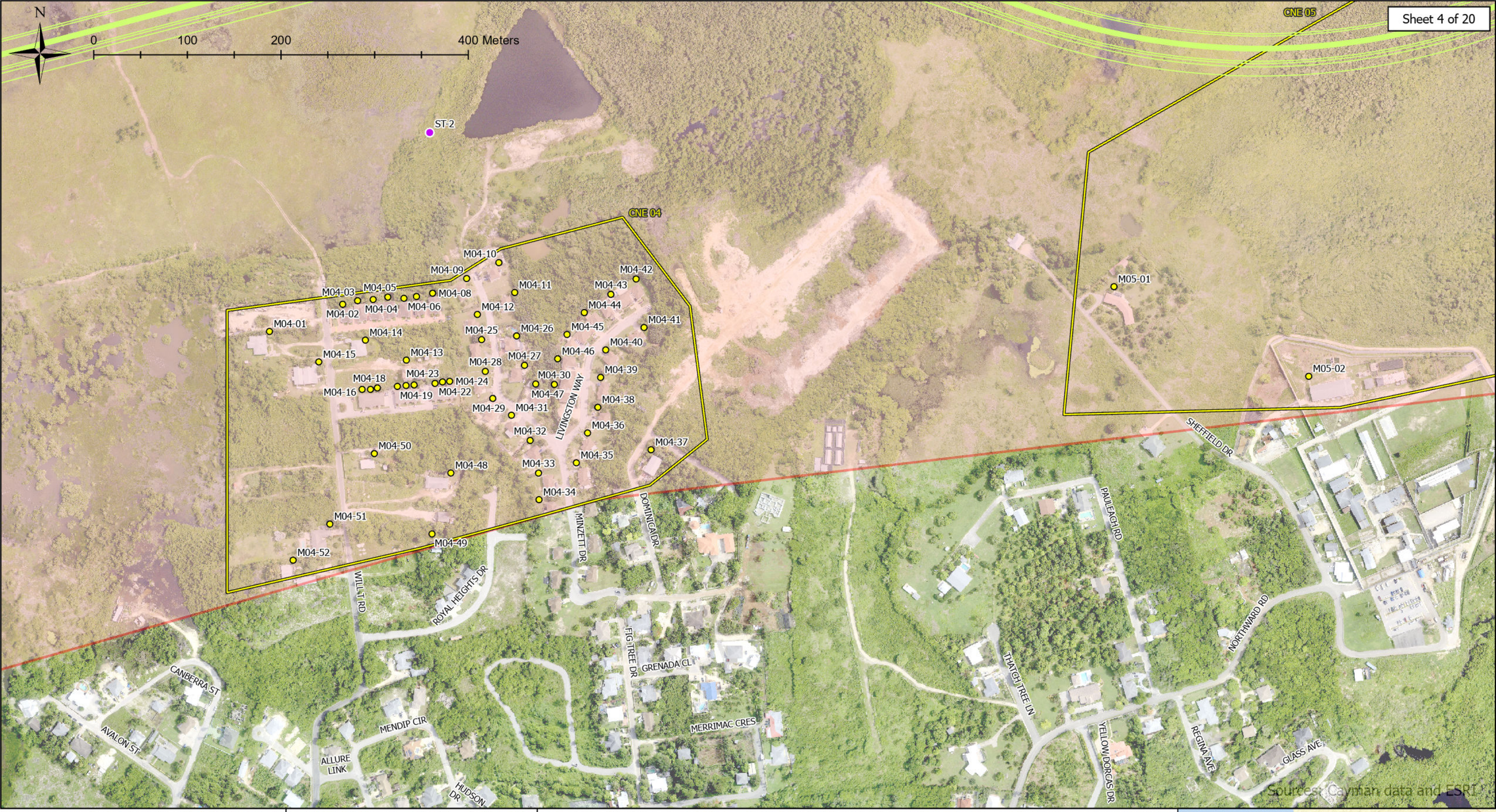

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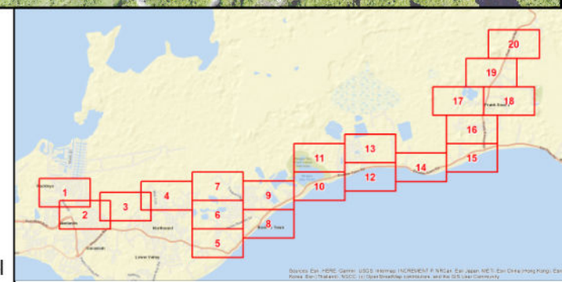

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N

0 100 200 400 Meters

CHRISTIANA FORBES DR
ENA CL
LUSTROUS CT
FRANKLIN CL
ANTON BODDEN DR
BRIGHT CT
ATWOOD CL
HAWKES BILL CL
EASY ST
CONDOR RD
CARLTON RD
CURLEW DR
KRIS ANDERSON WAY
MIDALL RD
ABIU CL
BONNET CL
CUMBER AVE
MONUMENT RD
BODDEN TOWN RD
GUAVA DR
SHAMROCK RD
HAWKING MOORE DR
MIMOSA LN
HILLCREST DR
HILLSIDE CT
SPICE DR
MANSE RD
GUN SQUARE RD
DAFFODIL ST
NETTY LEVY CT
MAGBIE CL
CNE 07

M07-17
M07-19
M07-18
M07-23
M07-30
M07-29
M07-31
M07-44
M07-24
M07-42
M07-43
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M07-34
M07-56
M07-51
M07-52
M07-53
M07-54
M07-55

LT-2

Sources: Cayman data and ESRI

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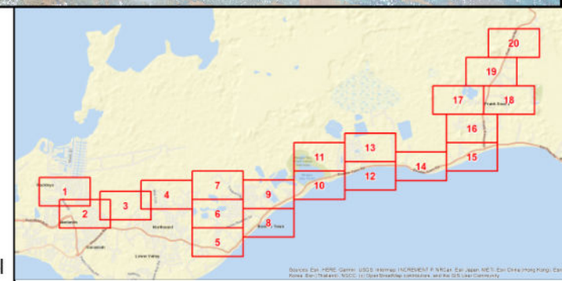

N

0 100 200 400 Meters

NORTHWARD RD

PASSION CIR

CINNAMON LINK

TIVERTON DR

M06-78

M06-77

M06-83

M06-84

M06-85

M06-82

RED ROBIN DR

ABBOTSFORD DR

NOTTINGHAM

SHERBO

M06-76

M06-75

M06-72

M06-73

M06-70

M06-71

M06-74

IRONWOOD DR

M06-69

M06-68

M06-66

M06-67

M06-65

M06-64

M06-63

M06-62

M06-61

CALABASH DR

DUNBAR DR

HARVEY STEPHENSON DR

YEATS ST

STIWELL RD

M08-107

M08-106

M08-94

M08-95

M08-93

M08-92

M08-91

M06-59

M06-99

M06-60

M06-50

M06-51

M06-55

M06-56

M06-57

M06-58

VERNEICE BODDEN DR

VALENCIA DR

M06-52

M06-53

CARAMBOLA ST

M06-54

M06-49

M06-47

M06-48

M06-35

NEEMTREE CL

M08-90

M08-88

M08-87

CNE 06

CNE 08

M06-42

M06-43

M06-45

M06-46

M06-44

M06-41

M06-37

M06-36

M06-34

FARLEY DR

RUTGERS DR

M06-39

M06-38

M06-40

BOMBAY ST

M06-33

BOYSBERRY DR

M06-04

M06-05

M06-06

M06-03

M06-26

M06-28

M06-31

M06-32

M06-41

M06-29

M06-30

M06-27

NONI DR

M06-07

M06-24

M06-25

M06-23

M06-19

M06-08

M06-21

M06-20

M06-09

M06-22

M06-18

M06-11

M06-10

BLOOMBURY AVE

M06-12

M06-17

M07-01

M06-13

CNE 07

M06-16

M06-15

M06-14

M06-02

ANTON BODDEN DR

M06-08

PINEAPPLE WAY

GRIFFIN ST

M07-10

M06-09

M06-12

PERSIAN WAY

LEROY FREDERICK DR

ENA CL

M07-14

M06-01

M07-13

M07-15

M07-16

DEWSBURY AVE

CHRISTIANA FORBES DR

HOPE SPRING CRES

SILVER HILL DR

Sources: Cayman data and ESRI

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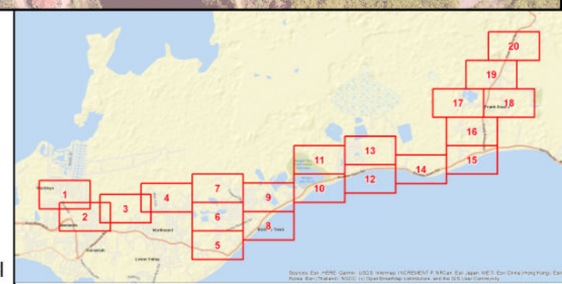

N

0 100 200 400 Meters

M06-98
LT-1
M08-209
CNE 05
M05-04
M05-05
M06-97
CNE 08
M08-208
M06-96
CNE 06
M05-03
M08-201
M06-95
M06-94
M08-200
M06-93
M06-92
M06-91
M06-90
M06-89
M06-88
M06-87
M06-80
M06-81
M06-79
M06-86
M06-83
M06-84
M06-85
M08-207
M08-206
M08-202
M08-199
M08-196
M08-195
FIRESTONE DR
RASPBERRY DR
PROMENADE RD
IGUANA DR
CHESTERWOOD DR
HARVEY STEPHENSON DR
NEWTON CT
GLAMIS LINK
NOTTINGHAM DR
SHERBORNE DR
HAMPTON DR
QUEBEC LINK
BROADLANDS DR
TIVERTON DR
VERNEICE BODDEN DR
CALABASH DR
PASSION CIR
CINNAMON LINK
NORTHWARD RD

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

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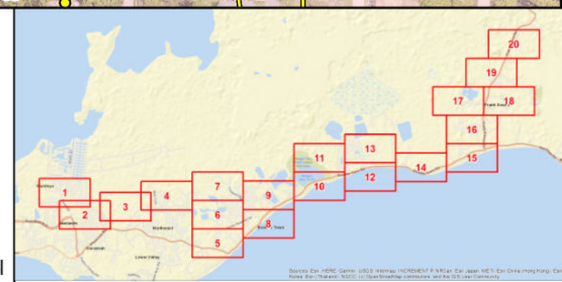



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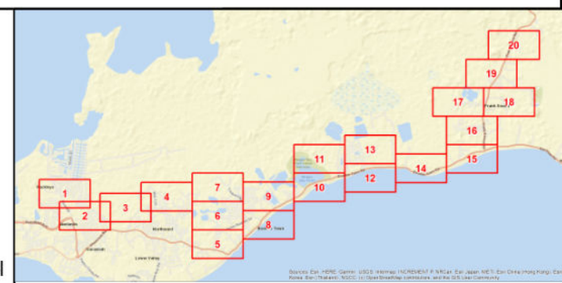

N

0 100 200 400 Meters

CNE 08

CNE 09

SHERBORNE DR
GLAMIS LINK
DALMAIN DR
HAMPTON DR
TONBRIDGE DR
ABBOTSFORD DR
LAKE DESTINY DR
SITWELL RD
FROST ST
NASHE ST
WILDE ST
HARDY ST
YEATS ST
BELFORD DR
TENNYSON ST
DICKENS ST
CARRINGTON LN
CLARIES AVE
ENTERPRISE WAY
KIPLING ST
BRONTE WAY
WOODS CL
BODDEN TOWN RD
LAKEVIEW DR
PARTRIDGE CL

M08-206 M08-204 M08-205 M08-203 M08-196 M08-197 M08-198 M08-193 M08-194 M08-192 M08-179 M08-180 M08-191 M08-190 M08-189 M08-169 M08-170 M08-181 M08-188 M08-160 M08-178 M08-182 M08-187 M08-159 M08-168 M08-177 M08-186 M08-161 M08-185 M08-158 M08-167 M08-152 M08-162 M08-176 M08-157 M08-173 M08-184 M08-156 M08-165 M08-175 M08-153 M08-174 M08-164 M08-122 M08-137 M08-151 M08-154 M08-121 M08-138 M08-155 M08-136 M08-150 M08-123 M08-149 M08-108 M08-139 M08-148 M08-107 M08-135 M08-120 M08-140 M08-106 M08-124 M08-119 M08-134 M08-141 M08-94 M08-109 M08-125 M08-105 M08-110 M08-118 M08-126 M08-142 M08-95 M08-104 M08-111 M08-117 M08-127 M08-133 M08-143 M08-93 M08-96 M08-112 M08-116 M08-128 M08-132 M08-144

M08-84 M08-83 M08-82 M08-81 M08-212 M08-07 M08-08 M08-06 M08-05 M09-05 M09-04 M09-03

M08-211 M08-11 M08-210 M09-08 M09-07 M08-10 M08-09 M09-06

M08-61 M08-73 M08-60 M08-48 M08-74 M08-72 M08-59 M08-78 M08-77 M08-62 M08-58 M08-49 M08-80 M08-79 M08-76 M08-71 M08-63 M08-75 M08-57 M08-70 M08-64 M08-68 M08-69 M08-50 M08-65 M08-39 M08-67 M08-66 M08-56 M08-38 M08-55 M08-37 M08-24 M08-53 M08-54 M08-51 M08-52 M08-35 M08-25 M08-36 M08-15 M08-16 M08-33 M08-34 M08-26 M08-32 M08-31 M08-27 M08-14 M08-28 M08-30 M08-29 M08-13 M08-12

Sources: Cayman data and ESRI

East-West Arterial Extension Alternative Assessment

Noise Impacts
Alternative B1
Horizon Year 2074

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Noise Measurement Location
- Long-Term
- Short-Term

Receptor
- Acquisition
- Above SOAEL
- Below SOAEL

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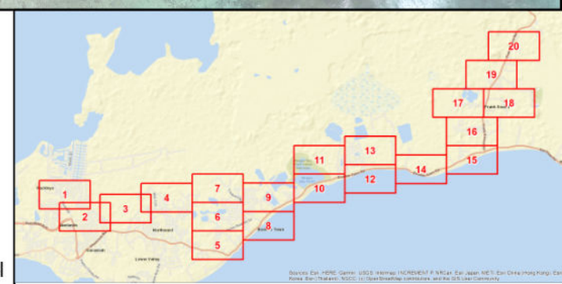

N

0 100 200 400 Meters

BODDEN TOWN RD

CNE 11

M11-18

LONGFELLOW CIR

M11-01

M11-02

M10-06

CNE 10

M10-04

M10-05

M10-02

M10-01

M10-03

CNE 08

CLARIES AVE

M08-46

M08-45

M08-47

M08-44

M08-20

M08-61

M08-43

M08-21

M08-60

M08-48

M08-42

BROOKE DR

M08-22

M08-49

M08-41

M08-23

M08-19

M08-40

ENTERPRISE WAY

M08-39

M08-38

M08-24

BRONTE WAY

M08-18

M08-17

M08-16

M08-15

Sources: Cayman data and ESRI

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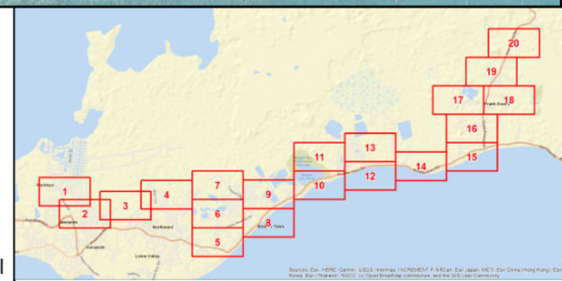

N

0 100 200 400 Meters

CNE 11

WILLIE WOOD DR

M11-132

M11-117 M11-118

PERIWINKLE DR

M11-113 M11-115 M11-116 M11-114

M11-104 M11-105 M11-102

WORDSWORTH ST

M11-101 M11-99 M11-100

M11-91 M11-92 M11-89

GOLDSMITH ST

CHAUCER DR

M11-90 M11-85 M11-86 M11-88 M11-87 M11-76

MIDLAND DR

M11-74 M11-75 M11-36 M11-33 M11-32 M11-35 M11-34 M11-33 M11-31 M11-30

BRIDGES CL

M11-26 M11-25 M11-27 M11-24 M11-23 M11-22

LONGFELLOW CIR

M11-19 M11-17

Sources: Cayman data, ESRI

East-West Arterial Extension Alternative Assessment

Noise Impacts
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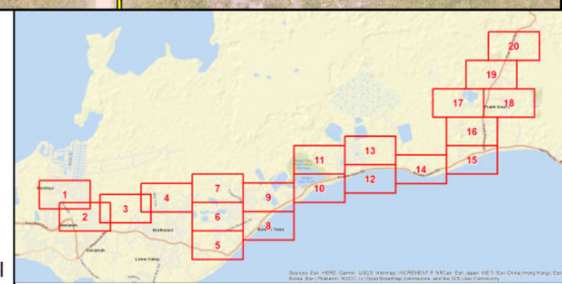

N

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M11-73 M11-39 SAFFRON LN M11-45 M11-46 M11-44 M11-47 BREADFRUIT LN M11-48 M11-53 M11-55 M11-56 M11-38 M11-40 M11-43 M11-54 M11-57 M11-42 M11-49 M11-50 M11-51 M11-37 M11-41 M11-33 M11-32 M11-31 M11-30 BRIDGES CL LONGFELLOW CIR M11-29 M11-27 M11-28 M11-22 M11-20 M11-16 M11-03 M11-04 CHERRY TREE DR M11-59 M11-61 M11-58 M11-60 M11-62 M11-63 SAND DOLLAR WAY BROADVIEW DR GOOSEBERRY DR M11-11 M11-10 M11-12 ST-4 M11-15 M11-14 M11-13 M11-05 M11-06 M11-07 M11-08 CNE 11 BODDEN TOWN RD CNE 10 M10-09 M10-08 M10-07

Sources: Cayman data and ESRI

East-West Arterial Extension Alternative Assessment

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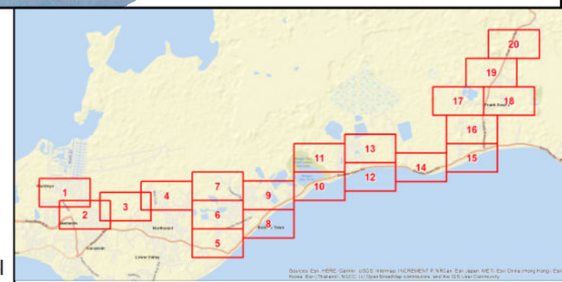

N

0 100 200 400 Meters

CNE 11

JOHN CARTER DR
WILLIE WOOD DR
PERIWINKLE DR
GARDENIA DR
WORDSWORTH ST
GOLDSMITH ST
BREADFRUIT LN
MIDLAND DR
PEPPER TREE DR
CHERRY TREE DR
SAND DOLLAR WAY
GOOSEBERRY DR
BROADVIEW DR

M11-146 M11-147 M11-148 M11-139 M11-144 M11-145 M11-141 M11-140 M11-138 M11-142 M11-137 M11-143 M11-136 M11-125 M11-135 M11-126 M11-134 M11-127 M11-150 M11-133 M11-128 M11-129 M11-124 M11-131 M11-130 M11-123 M11-121 M11-122 M11-120 M11-149 M11-132 M11-119 M11-106 M11-118 M11-109 M11-110 M11-112 M11-111 M11-113 M11-114 M11-115 M11-107 M11-108 M11-106 M11-104 M11-95 M11-105 M11-97 M11-96 M11-103 M11-98 M11-94 M11-100 M11-99 M11-93 M11-92 M11-83 M11-80 M11-82 M11-84 M11-79 M11-81 M11-85 M11-78 M11-86 M11-77 M11-71 M11-76 M11-73 M11-72 M11-46 M11-67 M11-66 M11-70 M11-69 M11-64 M11-68 M11-65 M11-59 M11-09 M11-11 M11-10

Sources: Cayman data and ESRI

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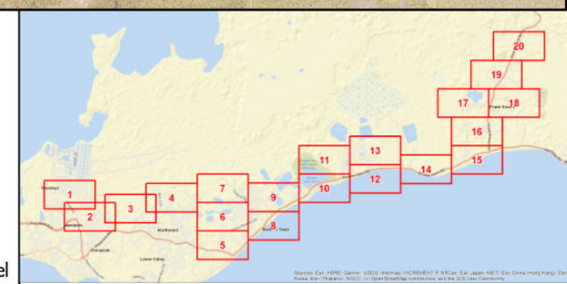

N

0 100 200 400 Meters

M12-20
M13-01
M12-01
M12-03
M13-02
M13-03
M12-02
M12-04
M13-04
M12-06
M12-07
M12-09
M12-05
M13-05
M12-08
M12-10
M12-11
M12-13
M12-14
M12-15
M13-06
M13-07
M12-16
M12-17
M12-18
M12-19
M14-47

CNE 12
CNE 13
CNE 14

CLIFF HILL LN
BODDEN TOWN RD
SCHOOL HOUSE LN

Sources: Cayman data and ESRI

East-West Arterial Extension Alternative Assessment

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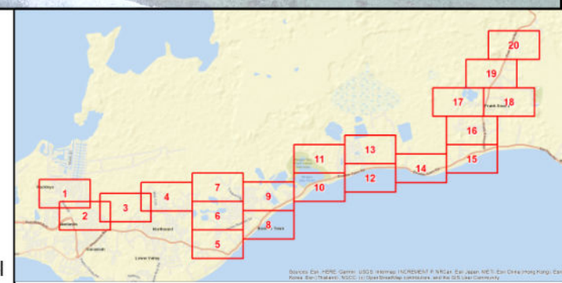

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0 100 200 400 Meters

CNE 14

CNE 15

M14-35 M14-36 EIFFEL DR M14-37 M14-38 M14-28 M14-30 M14-39 M14-40 M14-43 M14-46 M14-31 M14-32 M14-41 M14-42 M14-44 M14-45 M14-27 M14-29 M14-33 M14-23 M14-11 M14-26 M14-25 M14-10 M14-24 NOEL DR BRACKEN CL M14-22 M14-09 M14-20 M14-21 M14-19 M14-18 FRENCHMANS DR LA CONTE DR M14-12 M14-13 M14-08 M14-17 M14-16 M14-15 M14-14 M14-07 BODDEN TOWN RD M14-02 M14-05 M14-03 M14-06 M14-01 M14-04 M14-47 M15-02 M15-01

M15-05 M15-04 M15-03

FRANK SOUND RD

SEA VIEW RD

Sources: Cayman data and ESRI

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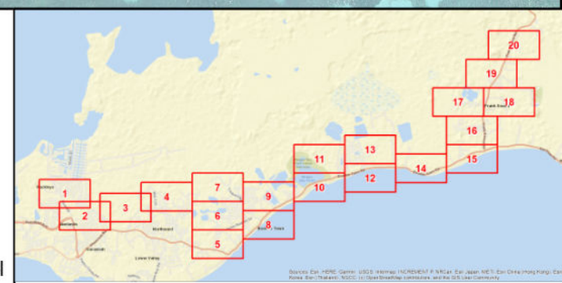



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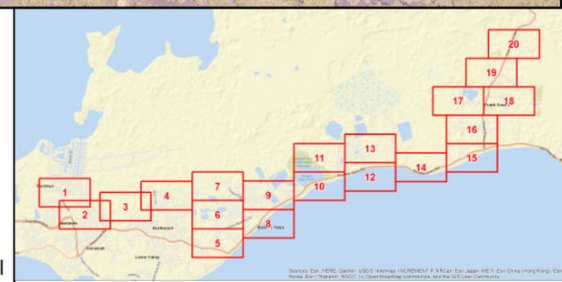

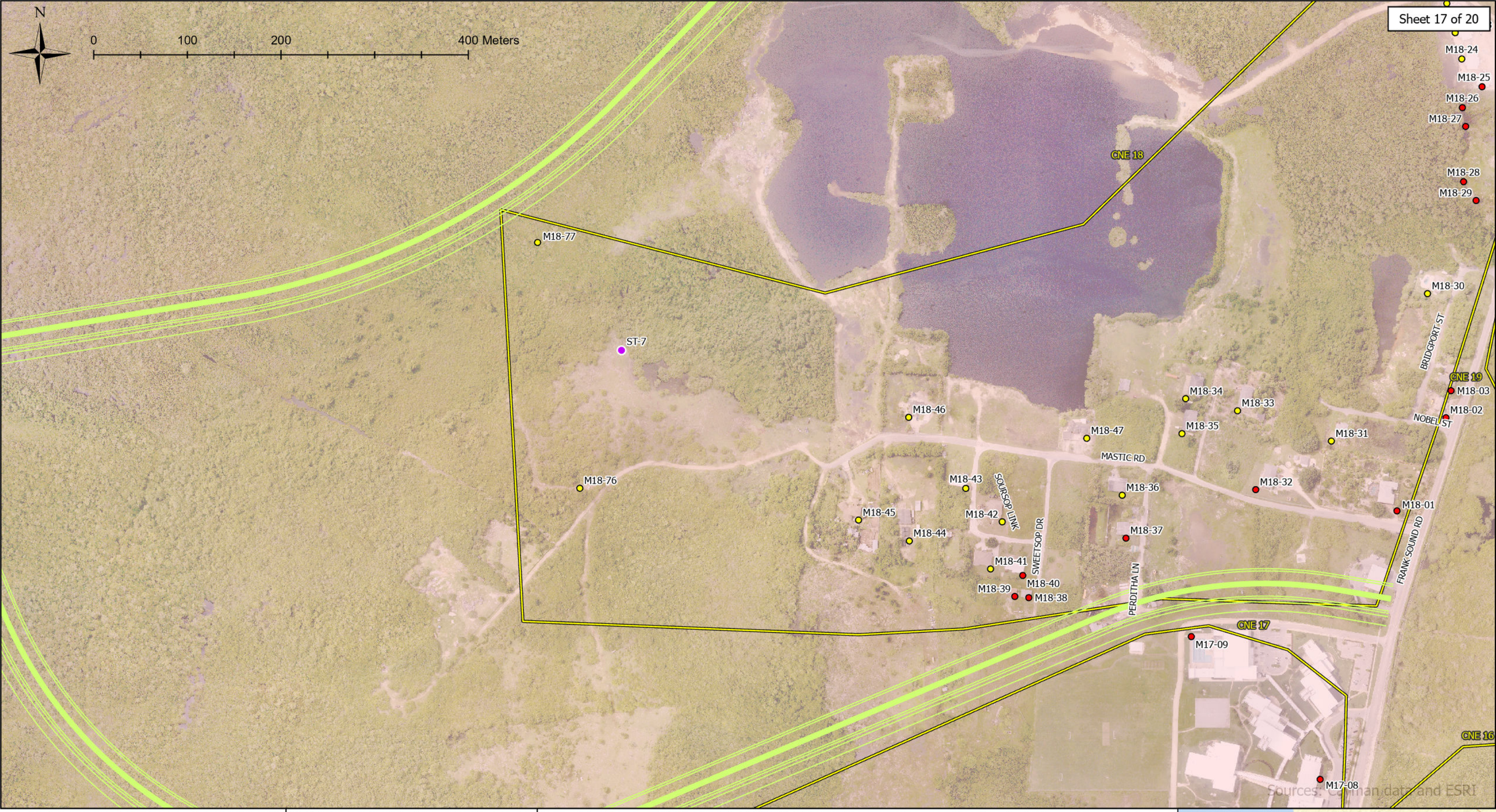

East-West Arterial Extension Alternative Assessment

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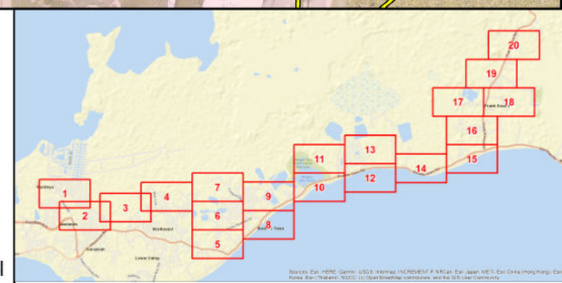

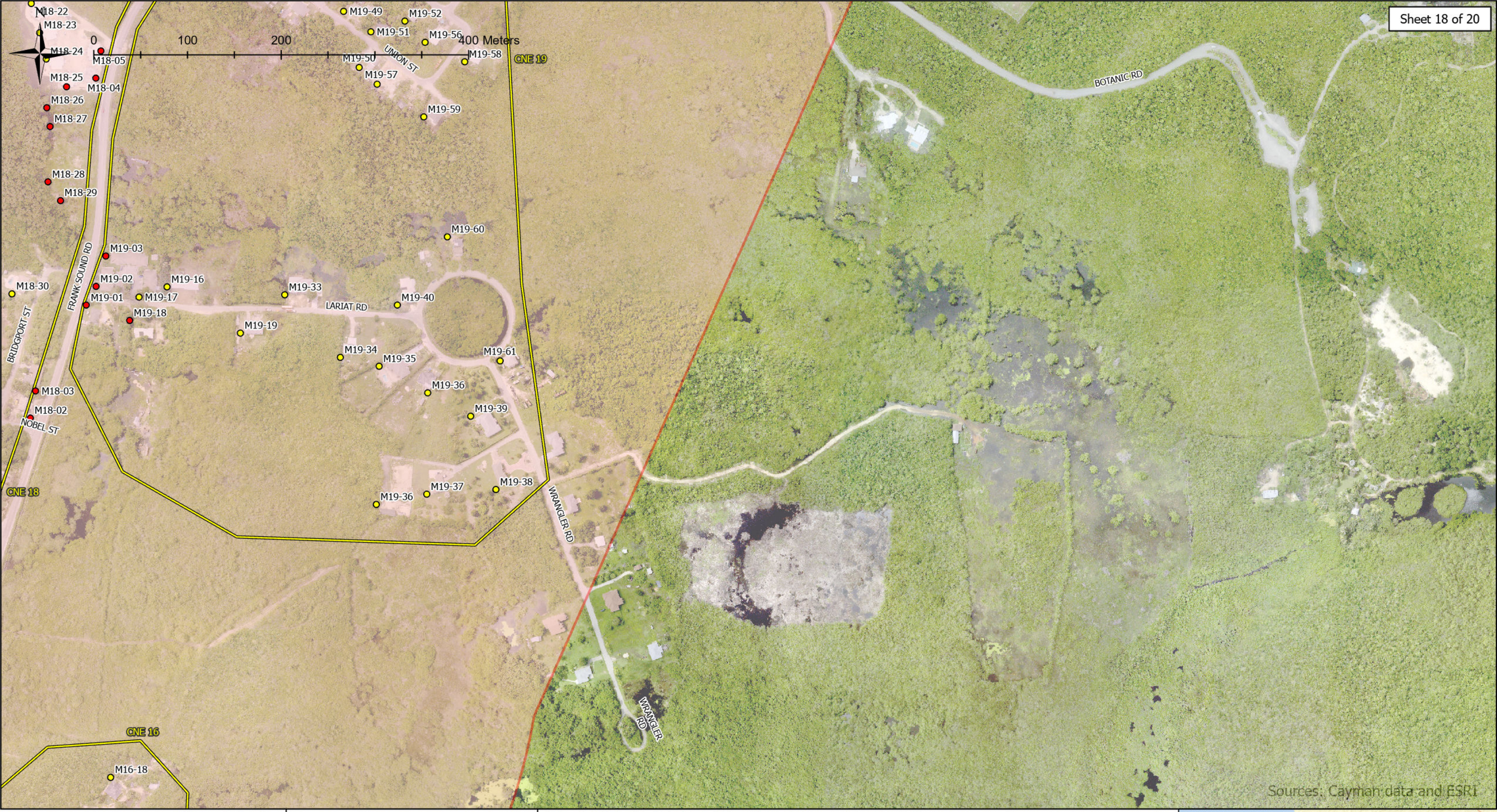

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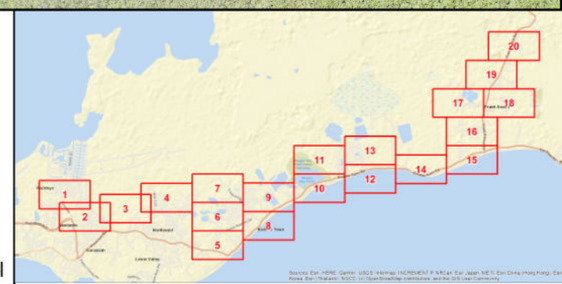

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N

0 100 200 400 Meters

M18-75 M18-74 M18-73 ST-6 M18-65 M18-64 CNE 18 M18-63 M18-72 M18-66 M18-61 M18-60 M18-67 M18-59 M18-68 M18-69 M18-58 M18-70 M18-57 M18-52 M18-71 M18-56 M18-53 M18-51 M18-15 M18-12 M18-14 M19-10 M19-11 M18-13 M19-09 M19-25 M18-50 M18-16 M18-11 M19-08 M18-54 M18-17 M18-10 M19-07 M18-55 M18-49 M18-09 M19-26 M18-48 M18-18 M19-06 M18-47 M18-19 M19-05 M18-08 M19-12 M19-24 M19-27 M18-21 M18-20 M18-07 M19-28 M19-44 M18-06 M19-13 M19-23 M19-45 M19-29 M19-43 M19-14 M19-22 M19-04 M19-30 M19-46 M19-54 M19-15 M19-21 M19-47 M19-20 M19-31 M19-42 M19-55 M19-32 M19-41 M19-48 M19-53 M19-49 M18-22

ROSSINI ST SERENITY LN SERENITY LN SERENITY LIN GRANT ST EAGLE ST UNION ST MERCATOR ST CONSTANTINE ST FRANK SOUND RD BOTANIC RD CNE 19

Sources: Cayman data and ESRI

East-West Arterial Extension Alternative Assessment

Noise Impacts
Alternative B1
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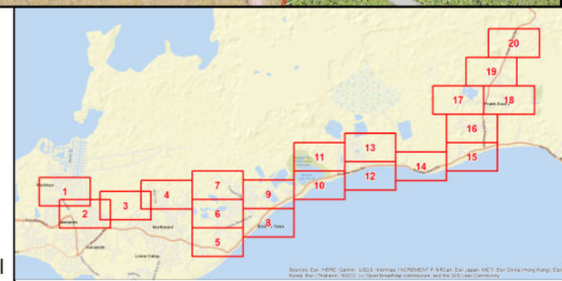

N

0 100 200 400 Meters

FRANK SOUND RD

IDLEWOOD LN

QUIET WAY

CNE 20

M20-02

M20-03

DRUMMOND WAY

M20-04

M20-01

Sources: Cayman data and ESRI

East-West Arterial Extension Alternative Assessment

Noise Impacts
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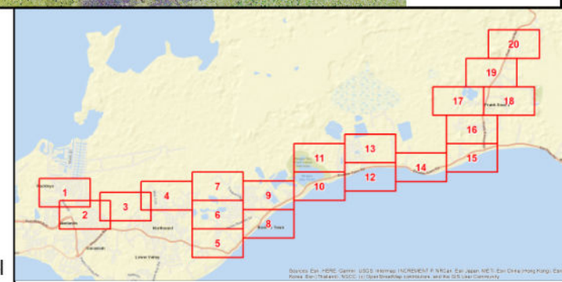

Attachment M

Alternative B2 2074 SOAEL Impact Mapping

N

0 100 200 400 Meters

WHISPERING WATERS WAY
BAYFIELD CRES
HOPEFIELD DR
SOUTHWARD DR
WINDWARD RD
RINA DR
MILTON DR
COLLEGE CL
RACKLEY BLVD
TRINITY WAY
ARLENE AVE
YELLOWSTONE ST
FAITH AVE
FLEET AVE
KIMBERLY ST
ELDON ST
LEONCE DR
HIRST RD
KEYSTONE ST
FARRELL RD
RILEY CIR
RODEO CL
CHARIOT DR
CANDLEWOOD DR
NATHAN MERREN DR
HEMLOCK WAY
MOONBEAM DR
BARCADERE CT
ELDERBERRY DR
DEVONSHIRE DR
TREVOR CL
BRIGHTSIDE ST
VISION ST
VIVID WAY
BERMUDA WAY
MOONSTONE WAY
GREENLEAF DR
SPECTRUM DR
SADDLEWOOD DR
KIMERA WAY

CNE 01
CNE 02

M01-01 M01-02 M01-03 M01-04 M01-05 M01-06 M01-07 M01-08 M01-09 M01-10 M01-11 M01-12 M01-13 M01-14 M01-15 M01-16 M01-17 M01-18 M01-19 M01-20 M01-21 M01-23 M01-25 M01-26 M01-27 M01-28 M01-31 M01-32 M01-33 M01-34 M01-35 M01-36 M01-37 M01-38 M01-40 M01-41 M01-42 M01-43 M01-44 M01-45 M01-46 M01-47 M01-48 M01-49 M01-50 M01-51 M01-52 M01-53 M01-54 M01-55 M01-56 M01-57 M01-58 M01-59 M01-60 M01-61 M01-62 M01-63 M01-64 M01-65 M01-66 M01-67 M01-68 M01-69 M01-70 M01-71 M01-72 M01-74 M01-75 M01-76 M01-77

M02-01 M02-02 M02-03 M02-04 M02-05 M02-06 M02-07 M02-08 M02-09 M02-10 M02-11 M02-12 M02-14 M02-15 M02-16 M02-17 M02-18 M02-19 M02-20 M02-21 M02-22 M02-24 M02-25 M02-27 M02-28 M02-30 M02-31 M02-32 M02-33 M02-34 M02-35 M02-36 M02-37 M02-38 M02-39 M02-40 M02-41 M02-43 M02-44 M02-46 M02-47 M02-48 M02-50 M02-51 M02-52 M02-53 M02-54 M02-55 M02-56 M02-57 M02-58 M02-59 M02-60 M02-61 M02-62 M02-63 M02-64 M02-66 M02-67 M02-69 M02-70 M02-71 M02-72 M02-77 M02-78 M02-80 M02-81 M02-84 M02-85 M02-86 M02-87 M02-130 M02-131

ST-1

Sources: Esri, Maxar, Earthstar Geographics, and the GIS User Community

East-West Arterial Extension Alternative Assessment

Noise Impacts
Alternative B2
Horizon Year 2074

NRA NATIONAL ROADS AUTHORITY

Date Created: 1/16/2024

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Noise Measurement Location
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Receptor
- Acquisition
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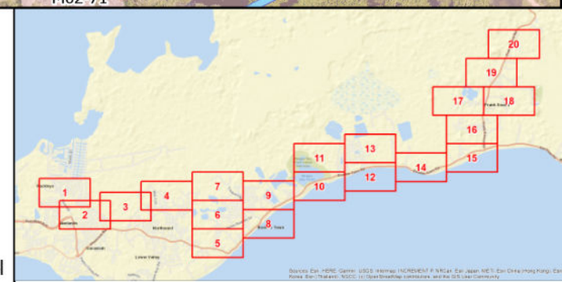
SOAEL - Significant Observed Adverse Effect Level





East-West Arterial Extension Alternative Assessment

Noise Impacts
Alternative B2
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Receptor
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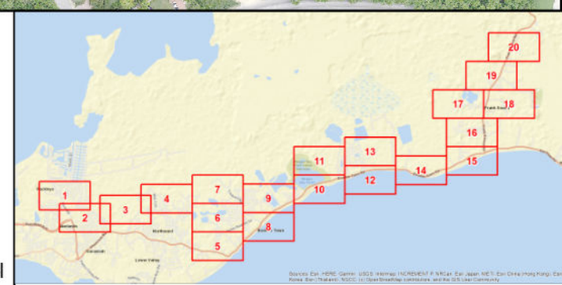
- Below SOAEL

SOAEL - Significant Observed Adverse Effect Level



N

0 100 200 400 Meters

Sheet 3 of 20

CNE 04

M04-15

M04-51

M04-52

WILL T RD

CNE 03

AVALON ST

CANBERRA ST

ALLURE LINK

BRISBANE ST

DISCOVER DR

HOPEWELL DR

INDIGO DR

Sources: Cayman data and ESRI

East-West Arterial Extension Alternative Assessment

Noise Impacts
Alternative B2
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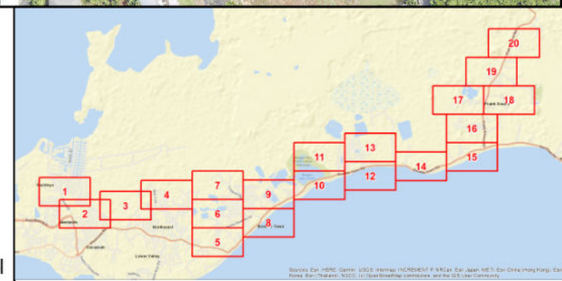

N

0 100 200 400 Meters

ST-2

CNE 04

CNE 05

M04-01 M04-02 M04-03 M04-04 M04-05 M04-06 M04-08 M04-09 M04-10 M04-11 M04-12 M04-13 M04-14 M04-15 M04-16 M04-18 M04-19 M04-22 M04-23 M04-24 M04-25 M04-26 M04-27 M04-28 M04-29 M04-30 M04-31 M04-32 M04-33 M04-34 M04-35 M04-36 M04-37 M04-38 M04-39 M04-40 M04-41 M04-42 M04-43 M04-44 M04-45 M04-46 M04-47 M04-48 M04-49 M04-50 M04-51 M04-52

M05-01 M05-02

LIVINGSTON WAY

SHEFFIELD DR

PAULEACH RD

DOMINICA DR

MINZETT DR

WILLS TRD

ROYAL HEIGHTS DR

FIG TREE DR

GRENADA CL

THATCH TREE LN

NORTHWARD RD

YELLOW DORCAS DR

REGINA AVE

GLASS AVE

MERRIMAC CRES

CANBERRA ST

AVALON ST

MENDIP CIR

ALLURE LINK

HUDSON DR

Sources: Cayman data and ESRI

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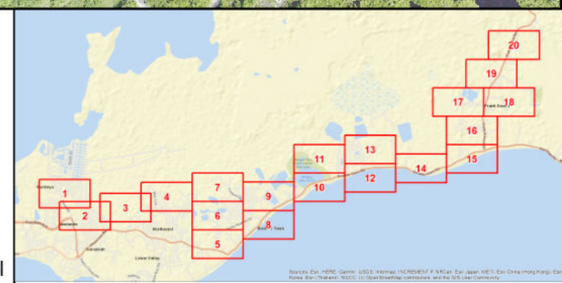



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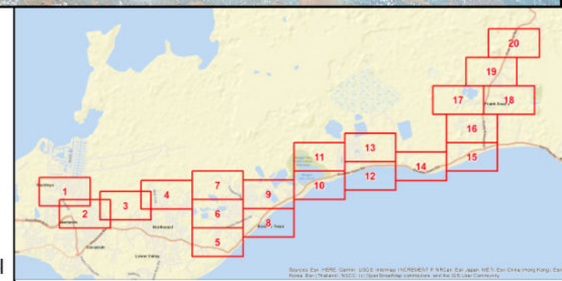



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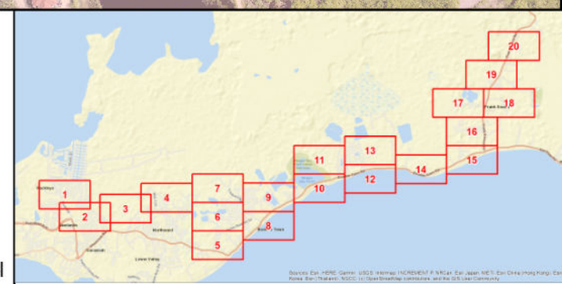

N

0 100 200 400 Meters

M06-98
LT-1
M08-209
CNE 05
M05-04
M05-05
M06-97
CNE 08
M08-208
M06-96
CNE 06
M05-03
M08-201
HARVEY STEPHENSON DR
FIRESTONE DR
RASPBERRY DR
PROMENADE RD
IGUANA DR
CHESTERWOOD DR
M08-207
M08-206
M06-95
M06-94
M08-202
NEWTON CT
M08-200
M06-93
M08-199
GLAMIS LINK
M06-92
NOTTINGHAM DR
SHERBORNE DR
M06-91
TIVERTON DR
BROADLANDS DR
QUEBEC LINK
M08-196
HAMPTON DR
M06-90
M06-89
M06-88
M06-87
NORTHWARD RD
M06-80
VERNEICE BODDEN DR
CALABASH DR
PASSION CIR
M06-79
M06-81
M06-86
CINNAMON LINK
M06-83
M06-84
M06-85
M08-195
Source: Cayman Land Info, ESRI

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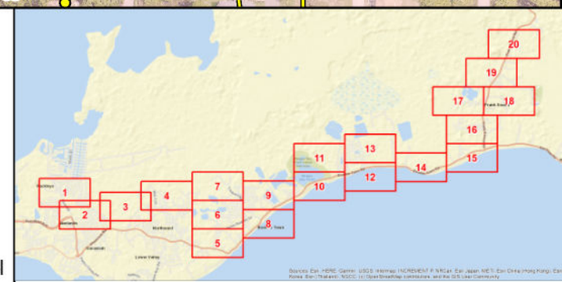

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0 100 200 400 Meters

M08-90 M08-97 M08-98 M08-99 M08-103 M08-112 M08-113 M08-114 M08-116 M08-128 M08-129 M08-130 M08-131 M08-132 M08-144 M08-145 M08-146 M08-147 M08-101 M08-102 M08-100 M08-214 M08-213 M08-89 M08-87 M08-86 M08-85 M08-01 M08-02 M08-03 M08-04 M09-01 M09-02 M09-03

YEATS ST WILDE ST HARDY ST SITWELL RD BELFORD DR NEEMTREE CL HARVEY STEPHENSON DR ANTON BODDEN DR LAKE DESTINY DR PARTRIDGE CL

CNE 06 CNE 07 CNE 08 CNE 09

M07-01 M07-02 M07-03 M07-04 M07-05 M07-06 M07-07 M07-10 M06-08 M07-11 M06-09 M06-12 M07-87 M07-86 M07-84 M07-85 M07-81 M07-83 M07-82 M07-78 M07-80 M07-77 M07-79 M07-76 M07-75 M07-73 M07-74 M07-72 M07-70 M07-71 M07-69 M07-68 M07-43 M07-44 M07-45 M07-42 M07-46 M07-67 M07-66 M07-63 M07-65 M07-64 M07-62 M07-60 M07-59

GRIFFIN ST PINEAPPLE WAY LEROY FREDERICK DR PERSIAN WAY DRAGONFLY CL BODDEN TOWN RD GUN SQUARE RD

Sources: Cayman data and ESRI

East-West Arterial Extension Alternative Assessment

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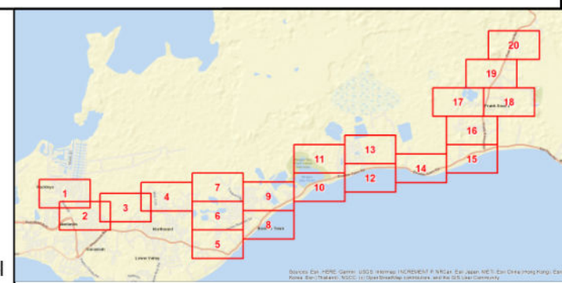

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0 100 200 400 Meters

SHERBORNE DR
GLAMIS LINK
DALMAIN DR
HAMPTON DR
TONBRIDGE DR
ABBOTSFORD DR
SITWELL RD
FROST ST
NASHE ST
WILDE ST
HARDY ST
YEATS ST
BELFORD DR
LAKE DESTINY DR
LAKEVIEW DR
PARTRIDGE CL
TENNYSON ST
DICKENS ST
KIPLING ST
CARRINGTON LN
CLARIES AVE
ENTERPRISE WAY
BRONTE WAY
WOODS CL
BODDEN TOWN RD

CNE 08
CNE 09

M08-206 M08-204 M08-205 M08-203 M08-196 M08-197 M08-198 M08-193 M08-194 M08-192 M08-191 M08-180 M08-190 M08-179 M08-189 M08-169 M08-170 M08-181 M08-188 M08-160 M08-178 M08-182 M08-187 M08-159 M08-168 M08-177 M08-186 M08-161 M08-185 M08-158 M08-167 M08-152 M08-162 M08-176 M08-157 M08-173 M08-184 M08-156 M08-165 M08-175 M08-153 M08-174 M08-164 M08-122 M08-137 M08-151 M08-154 M08-121 M08-138 M08-155 M08-136 M08-150 M08-108 M08-123 M08-149 M08-107 M08-139 M08-135 M08-148 M08-120 M08-140 M08-106 M08-124 M08-119 M08-134 M08-141 M08-94 M08-109 M08-125 M08-105 M08-110 M08-118 M08-126 M08-142 M08-95 M08-104 M08-111 M08-127 M08-117 M08-133 M08-143 M08-93 M08-96 M08-112 M08-116 M08-128 M08-132 M08-144

M08-84 M08-83 M08-82 M08-81 M08-212 M08-07 M08-08 M08-06 M08-05 M09-05 M09-04 M09-03

M08-211 M08-11 M08-210 M09-08 M09-07 M08-10 M08-09 M09-06

M08-61 M08-73 M08-60 M08-48 M08-74 M08-72 M08-59 M08-78 M08-77 M08-62 M08-58 M08-49 M08-80 M08-79 M08-76 M08-71 M08-63 M08-75 M08-57 M08-70 M08-64 M08-68 M08-69 M08-50 M08-65 M08-39 M08-67 M08-66 M08-56 M08-38 M08-55 M08-37 M08-24 M08-53 M08-54 M08-51 M08-52 M08-35 M08-25 M08-36 M08-15 M08-16 M08-33 M08-34 M08-26 M08-32 M08-31 M08-27 M08-14 M08-28 M08-30 M08-29 M08-13 M08-12

Sources: Cayman data and ESRI

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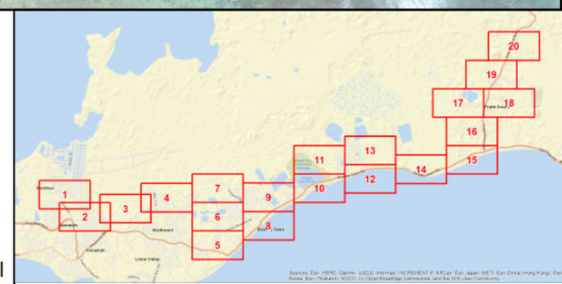

N

0 100 200 400 Meters

BODDEN TOWN RD

CNE 11

CNE 10

CNE 08

M11-18

M11-01

M11-02

LONGFELLOW CIR

M10-06

M10-04

M10-05

M10-02

M10-01

M10-03

CLARIES AVE

M08-46

M08-45

M08-47

M08-44

M08-20

M08-61

M08-43

M08-21

M08-60

M08-48

M08-42

BROOKE DR

M08-22

M08-49

M08-41

M08-23

M08-19

M08-40

ENTERPRISE WAY

M08-39

M08-38

M08-24

BRONTE WAY

M08-18

M08-17

M08-16

M08-15

Sources: Cayman data and ESRI

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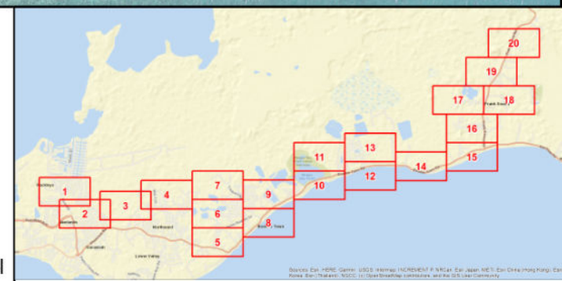

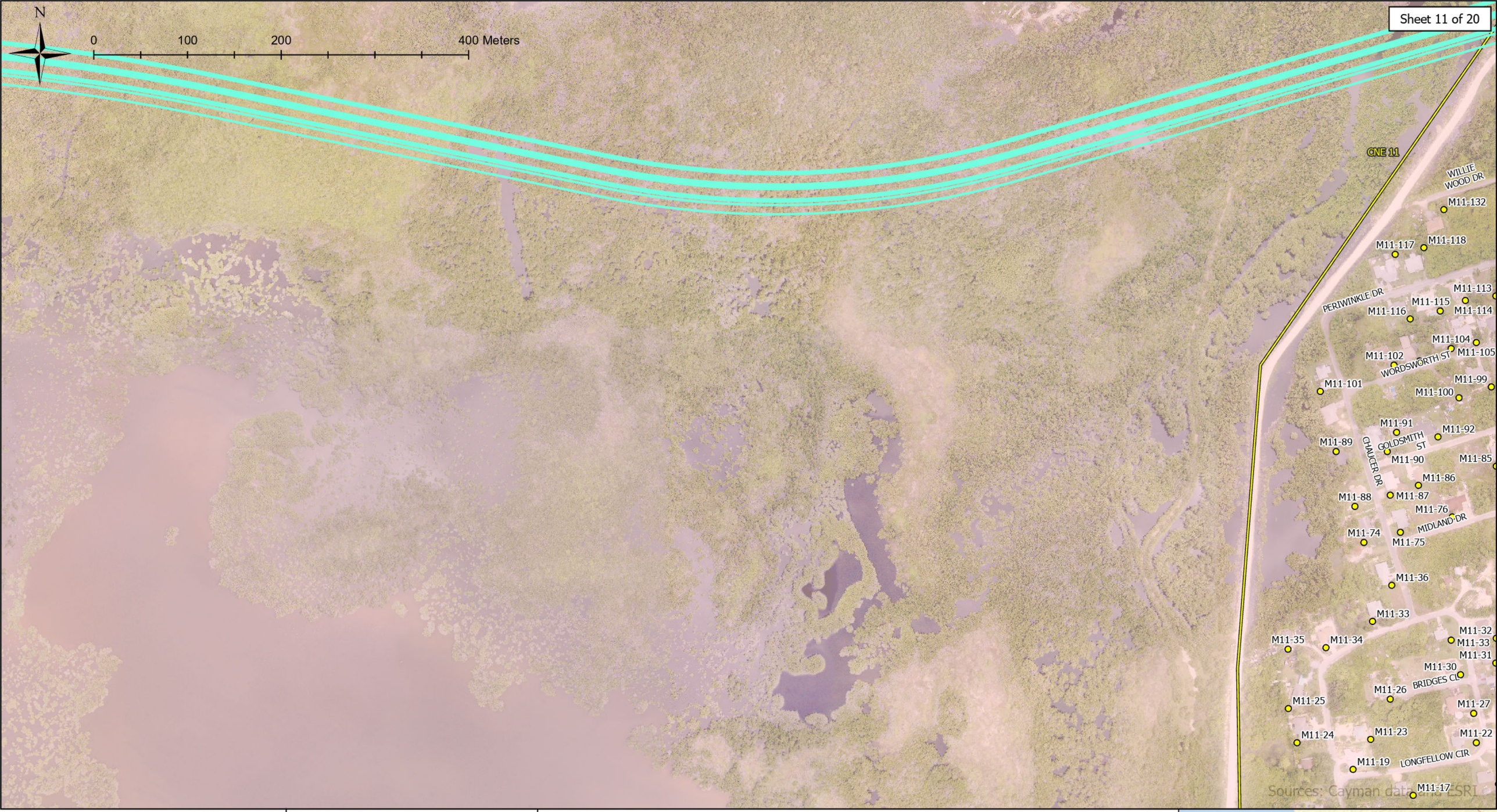

East-West Arterial Extension Alternative Assessment

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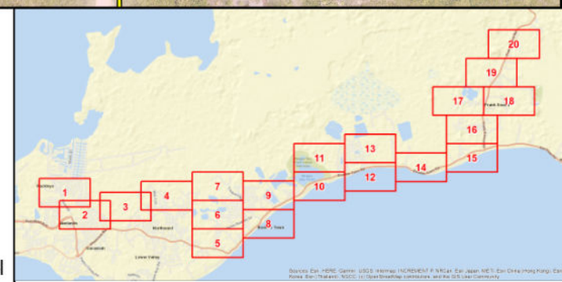

N

0 100 200 400 Meters

M11-73 M11-39 SAFFRON LN M11-45 M11-46 M11-47 BREADFRUIT LN M11-53 M11-55 M11-56 M11-44 M11-48 M11-54 M11-57 M11-38 M11-40 M11-43 M11-42 M11-49 M11-50 M11-51 M11-41 M11-37 M11-33 M11-32 M11-31 M11-30 BRIDGES CL LONGFELLOW CIR M11-29 M11-27 M11-28 M11-22 M11-20 M11-16 M11-03 M11-04 CHERRY TREE DR M11-59 M11-61 M11-58 M11-60 M11-62 M11-63 SAND DOLLAR WAY BROADVIEW DR GOOSEBERRY DR M11-11 M11-10 M11-12 ST-4 M11-15 M11-14 M11-13 M11-05 M11-06 M11-07 M11-08 CNE 11 BODDEN TOWN RD CNE 10 M10-09 M10-08 M10-07

Sources: Cayman data and ESRI

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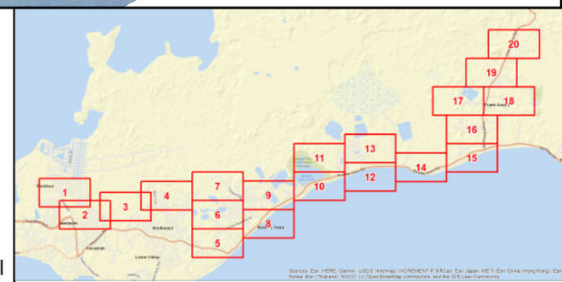

N

0 100 200 400 Meters

M11-146 M11-147 M11-148 M11-139 M11-144 M11-145 JOHN CARTER DR M11-138 M11-141 M11-140 M11-142 M11-137 M11-143 M11-136 M11-125 M11-135 M11-126 M11-134 M11-127 M11-150 M11-133 WILLIE WOOD DR M11-128 M11-129 M11-124 M11-131 M11-130 M11-123 M11-121 M11-122 M11-120 M11-149 M11-132 M11-119 M11-106 PERIWINKLE DR M11-118 GARDENIA DR M11-109 M11-110 M11-112 M11-111 M11-113 M11-114 M11-115 M11-107 M11-108 M11-106 WORDSWORTH ST M11-104 M11-95 M11-105 M11-97 M11-96 M11-103 M11-98 M11-94 M11-100 M11-99 M11-93 GOLDSMITH ST M11-92 M11-80 M11-83 M11-82 M11-84 M11-79 M11-81 M11-85 M11-78 M11-86 M11-77 MIDLAND DR M11-71 M11-76 M11-73 M11-72 M11-46 BREADFRUIT LN M11-70 PEPPER TREE DR M11-69 M11-67 M11-66 M11-64 CHERRY TREE DR M11-68 M11-65 M11-59 SAND DOLLAR WAY GOOSEBERRY DR M11-11 M11-10 BROADVIEW DR M11-09 CNE 11

Sources: Cayman data and ESRI

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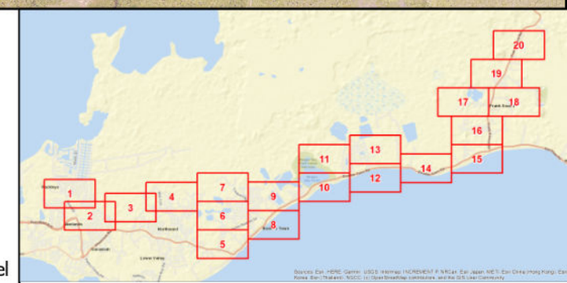

N

0 100 200 400 Meters

CNE 14

M14-47

CNE 12

M12-20

M13-01

M12-01

M12-03

M13-02

M13-03

M12-02

M12-04

M13-04

M12-06

M12-07

M12-09

M12-05

M13-05

M12-08

M12-10

M12-11

M12-13

M12-14

M12-15

M12-16

M12-17

M12-18

M12-19

CLIFF HILL LN

BODDEN TOWN RD

M13-07

M13-06

CNE 13

SCHOOL HOUSE LN

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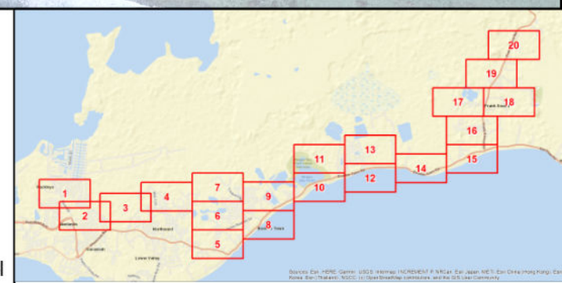

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CNE 14

CNE 15

M14-35 M14-36 EIFFEL DR M14-37 M14-38 M14-28 M14-30 M14-39 M14-40 M14-43 M14-46 M14-31 M14-32 M14-41 M14-42 M14-44 M14-45 M14-27 M14-29 M14-33 M14-11 M14-26 M14-25 M14-23 M14-10 M14-24 NOEL DR BRACKEN CL M14-22 M14-09 M14-20 M14-21 M14-19 M14-18 FRENCHMANS DR LA CONTE DR M14-12 M14-13 M14-17 M14-16 M14-15 M14-14 M14-08 M14-07 BODDEN TOWN RD M14-02 M14-05 M14-03 M14-06 M14-01 M14-04 M14-47 M15-02 M15-01 M15-03 M15-04 M15-05 FRANK SOUND RD SEA VIEW RD

Sources: Cayman data and ESRI

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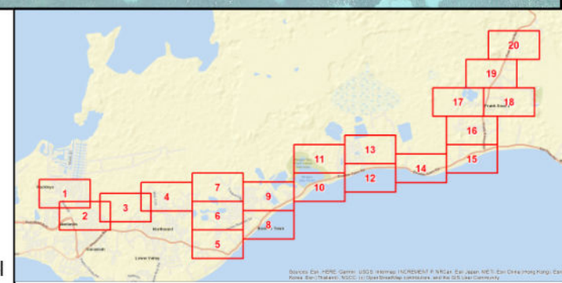



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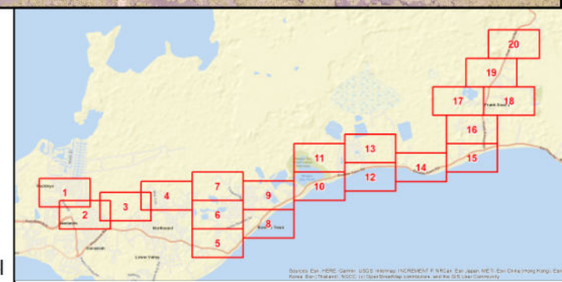

N

0 100 200 400 Meters

CNE 18

CNE 19

CNE 17

CNE 16

M18-24
M18-25
M18-26
M18-27
M18-28
M18-29
M18-30
M18-31
M18-32
M18-01
M18-02
M18-03
M18-34
M18-33
M18-35
M18-47
M18-46
M18-77
ST-7
M18-76
M18-43
M18-42
M18-45
M18-44
M18-36
M18-37
M18-41
M18-39
M18-40
M18-38
M17-09
M17-08

BRIDGPORT ST
NOBEL ST
MASTIC RD
SOURSOP LINK
SWEETSOP DR
PERDITHA LN
FRANK SOUND RD

Sources: Cayman data and ESRI

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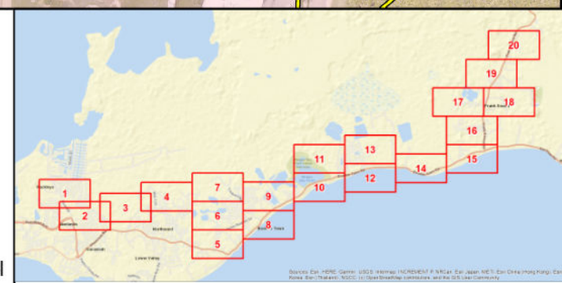
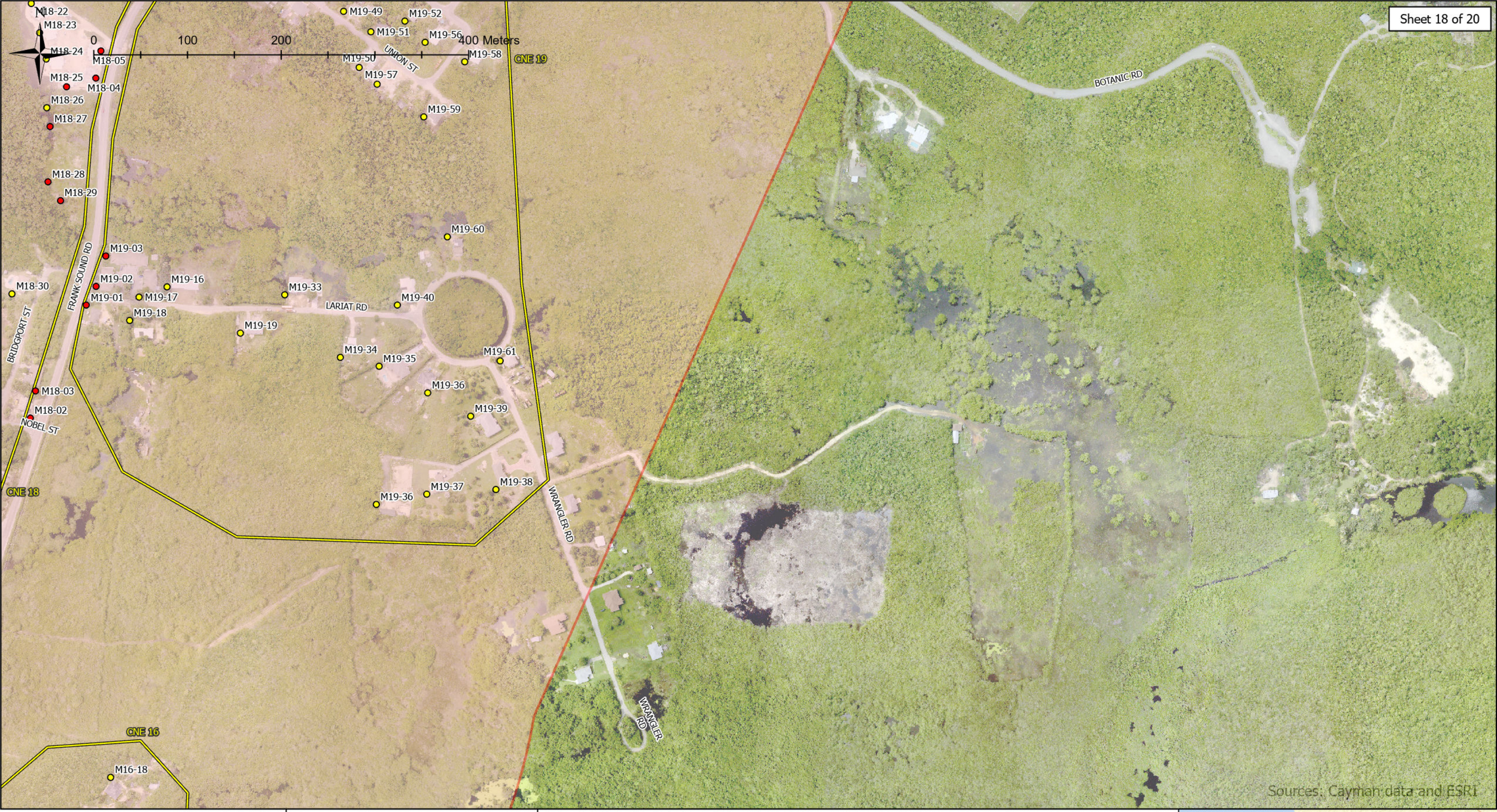
SOAEL - Significant Observed Adverse Effect Level





East-West Arterial Extension
Alternative Assessment

Noise Impacts
Alternative B2
Horizon Year 2074

NATIONAL ROADS AUTHORITY

Date Created: 1/16/2024

- Noise Study Area
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Noise Measurement Location
- Long-Term
- Short-Term

Receptor
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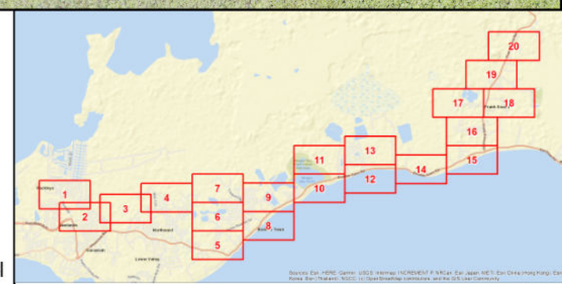

N

0 100 200 400 Meters

M18-75 M18-74 M18-73 ST-6 M18-65 M18-64 CNE 18 M18-63 M18-72 M18-66 M18-61 M18-60 M18-67 M18-59 M18-68 M18-69 M18-58 M18-70 M18-57 M18-52 M18-71 M18-56 M18-53 M18-51 M18-15 M18-54 M18-50 M18-16 M18-17 M18-10 M18-55 M18-49 M18-09 M18-48 M18-18 M18-19 M18-08 M18-47 M18-21 M18-20 M18-07 M18-06 M18-22 M18-14 M18-13 M18-12 M18-11 CNE 19 M19-11 M19-10 M19-09 M19-25 M19-08 M19-07 M19-26 M19-06 M19-05 M19-12 M19-24 M19-27 M19-28 M19-44 M19-23 M19-45 M19-13 M19-29 M19-43 M19-14 M19-22 M19-04 M19-30 M19-46 M19-54 M19-47 M19-15 M19-21 M19-42 M19-20 M19-31 M19-55 M19-32 M19-41 M19-48 M19-53 M19-49

SERENITY LN ROSSINI ST SERENITY LN SERENITY LN FRANK SOUND RD MERCATOR ST BOTANIC RD GRANT ST EAGLE ST UNION ST CONSTANTINE ST

Sources: Cayman data and ESRI

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Noise Impacts
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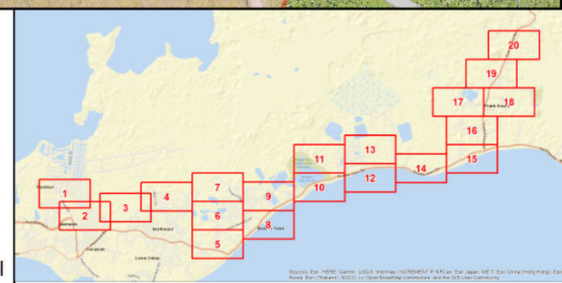



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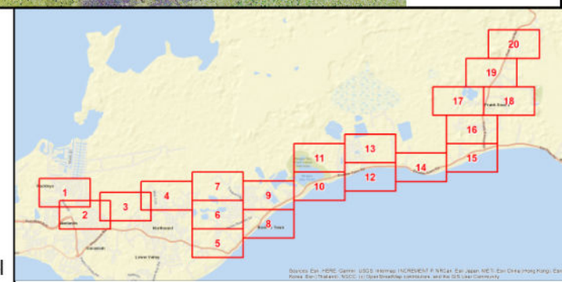

Attachment N

Alternative B3 2074 SOAEL Impact Mapping

N

0 100 200 400 Meters

WHISPERING WATERS WAY
BAYFIELD CRES
HOPEFIELD DR
SOUTHWARD DR
WINDWARD RD
RINA DR
MILTON DR
COLLEGE CL
RACKLEY BLVD
TRINITY WAY
ARLENE AVE
YELLOWSTONE ST
FAITH AVE
FLEET AVE
KIMBERLY ST
ELDON ST
LEONCE DR
HIRST RD
KEYSTONE ST
FARRELL RD
CNE 01
M01-77
M01-74
M01-75
M01-76
M01-71
M01-72
M01-70
M01-69
M01-68
M01-67
M01-66
M01-65
M01-64
M01-59
M01-60
M01-63
M01-58
M01-57
M01-61
M01-62
M01-56
M01-50
M01-51
M01-55
VISION ST
M01-49
M01-54
M01-48
M01-52
BRIGHTSIDE ST
M01-46
M01-44
M01-53
VIVID WAY
M01-47
M01-45
M01-43
M01-37
M01-38
M01-40
M01-42
M01-35
M01-36
M01-41
TREVOR CL
M01-17
M01-33
M01-32
BERMUDA WAY
M01-18
M01-19
M01-31
M01-28
M01-16
M01-34
M01-20
M01-21
M01-23
M01-27
M01-15
M01-14
M01-13
MOONSTONE WAY
M01-10
M01-26
M01-01
M01-12
M01-25
M01-02
M01-09
M01-08
M01-03
M01-04
M01-05
M01-06
M01-07
M02-01
M02-02
M02-04
M02-06
M02-08
M02-10
M02-35
M02-03
M02-05
M02-12
GREENLEAF DR
M02-07
M02-09
M02-14
M02-36
M02-34
M02-32
M02-30
M02-11
M02-16
M02-28
M02-27
M02-15
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M02-17
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M02-52
M02-51
M02-22
M02-55
M02-53
M02-48
M02-46
M02-20
M02-19
M02-57
M02-58
SPECTRUM DR
M02-60
M02-50
M02-40
CNE 02
M02-130
M02-84
M02-59
M02-62
M02-47
M02-43
M02-41
M02-61
M02-44
M02-05
M02-66
KIMERA WAY
SADDLEWOOD DR
M02-81
M02-63
M02-64
M02-67
M02-70
ST-1
M02-80
M02-69
M02-72
M02-85
M02-86
M02-87
M02-78
M02-77
M02-71
M02-131
RILEY CIR
RODEO CL
CHARIOT DR
CANDLEWOOD DR
NATHAN MERREN DR
HEMLOCK WAY
MOONBEAM DR
BARCADERE CT
ELDERBERRY DR
DEVONSHIRE DR

Sources: Esri, Maxar, and ESRI

East-West Arterial Extension Alternative Assessment

Noise Impacts
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Noise Measurement Location
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Receptor
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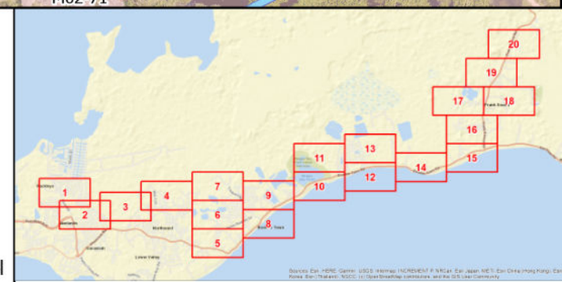
SOAEL - Significant Observed Adverse Effect Level





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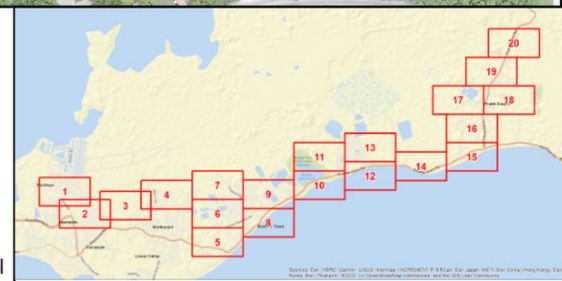

N

0 100 200 400 Meters

Sheet 3 of 20

CNE 04

M04-15

M04-51

M04-52

WILL T RD

CNE 03

AVALON ST

CANBERRA ST

ALLURE LINK

BRISBANE ST

DISCOVER DR

HOPEWELL DR

INDIGO DR

Sources: Cayman data and ESRI

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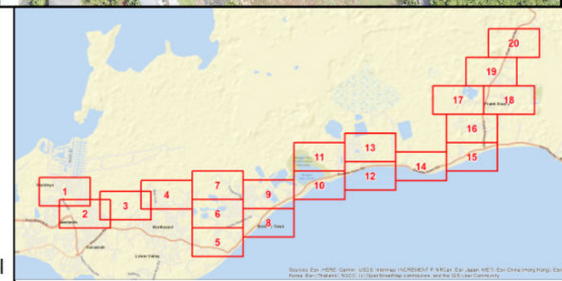

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N

0 100 200 400 Meters

ST-2

CNE 04

CNE 05

M04-01 M04-02 M04-03 M04-04 M04-05 M04-06 M04-08 M04-09 M04-10 M04-11 M04-12 M04-13 M04-14 M04-15 M04-16 M04-18 M04-19 M04-22 M04-23 M04-24 M04-25 M04-26 M04-27 M04-28 M04-29 M04-30 M04-31 M04-32 M04-33 M04-34 M04-35 M04-36 M04-37 M04-38 M04-39 M04-40 M04-41 M04-42 M04-43 M04-44 M04-45 M04-46 M04-47 M04-48 M04-49 M04-50 M04-51 M04-52

M05-01 M05-02

LIVINGSTON WAY

SHEFFIELD DR

PAULEACH RD

DOMINICA DR

MINZETT DR

WILLS TRD

ROYAL HEIGHTS DR

FIG TREE DR

GRENADA CL

THATCH TREE LN

NORTHWARD RD

YELLOW DORCAS DR

REGINA AVE

GLASS AVE

MERRIMAC CRES

HUDSON DR

ALLURE LINK

MENDIP CIR

AVALON ST

CANBERRA ST

Sources: Cayman data and ESRI

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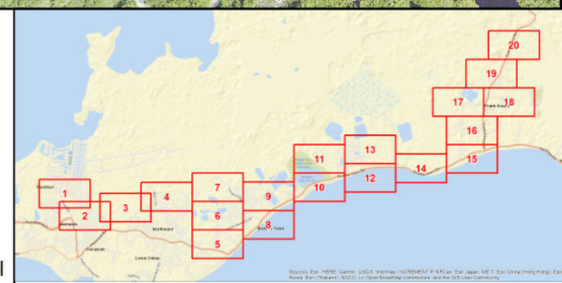



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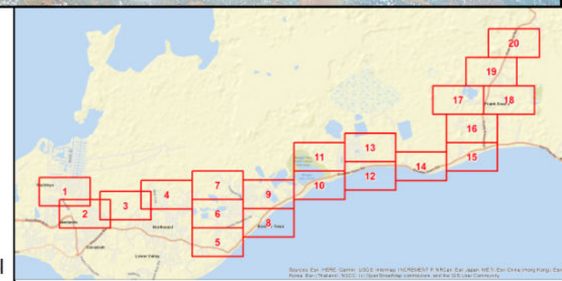

N

0 100 200 400 Meters

NORTHWARD RD

PASSION CIR

CINNAMON LINK

TIVERTON DR

M06-78

M06-77

M06-83

M06-84

M06-85

M06-82

RED ROBIN DR

ABBOTSFORD DR

NOTTINGHAM

SHERBO

M06-76

M06-75

M06-72

M06-73

M06-70

M06-71

M06-74

IRONWOOD DR

M06-69

M06-68

M06-66

M06-67

M06-65

M06-64

M06-63

M06-62

M06-61

CALABASH DR

DUNBAR DR

M06-59

M06-99

M06-55

M06-56

M06-57

M06-58

M06-60

M06-50

VERNEICE BODDEN DR

VALENCIA DR

HARVEY STEPHENSON DR

M06-51

M06-52

M06-53

M06-54

CARAMBOLA ST

M06-49

M06-47

M06-48

M06-42

M06-43

M06-45

M06-46

M06-35

NEEMTREE CL

FARLEY DR

M06-44

M06-41

M06-37

M06-36

M06-34

RUTGERS DR

M06-39

M06-38

M06-33

BOYSBERRY DR

M06-40

BOMBAY ST

M06-26

M06-28

M06-31

M06-32

M06-05

M06-04

M06-41

M06-29

M06-30

M06-27

NONI DR

M06-07

M06-06

M06-24

M06-25

M06-03

M06-23

M06-19

M06-21

M06-20

M06-09

M06-08

M06-22

M06-18

M06-11

M06-10

BLOOMBURY AVE

M06-12

M06-17

M06-13

M06-16

M06-15

M06-14

M06-02

M06-01

M07-13

M07-14

M07-15

M07-16

M07-01

CNE 06

CNE 08

CNE 07

ANTON BODDEN DR

ENA CL

M08-107

M08-106

M08-94

YEATS ST

M08-95

M08-93

M08-92

STIRWELL RD

M08-91

M08-90

M08-88

M08-87

M06-04

M06-05

M06-06

M06-03

M07-01

M06-08

PINEAPPLE WAY

GRIFFIN ST

M07-10

M06-09

M06-12

PERSIAN WAY

LEROY FREDERICK DR

DEWSBURY AVE

CHRISTIANA FORBES DR

HOPE SPRING CRES

SILVER HILL DR

Sources: Cayman data and ESRI

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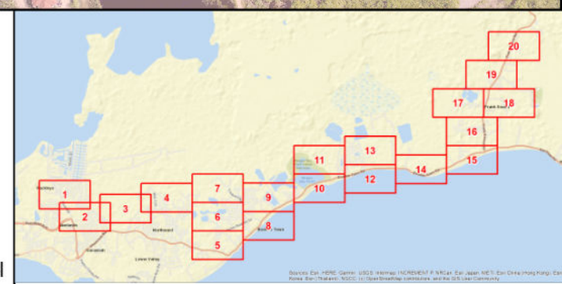

N

0 100 200 400 Meters

M06-98
LT-1
M08-209
CNE 05
M05-04
M05-05
M06-97
CNE 08
M08-208
M06-96
CNE 06
M05-03
M08-201
M06-95
M06-94
M08-200
M06-93
M06-92
M06-91
M06-90
M06-89
M06-88
M06-87
M06-80
M06-81
M06-79
M06-86
M06-83
M06-84
M06-85
M08-207
M08-206
M08-202
M08-199
M08-196
M08-195
FIRESTONE DR
RASPBERRY DR
IGUANA DR
PROMENADE RD
CHESTERWOOD DR
HARVEY STEPHENSON DR
NEWTON CT
GLAMIS LINK
NOTTINGHAM DR
SHERBORNE DR
HAMPTON DR
QUEBEC LINK
BROADLANDS DR
TIVERTON DR
VERNEICE BODDEN DR
CALABASH DR
PASSION CIR
CINNAMON LINK
NORTHWARD RD

Source: Cayman Land Info, ESRI

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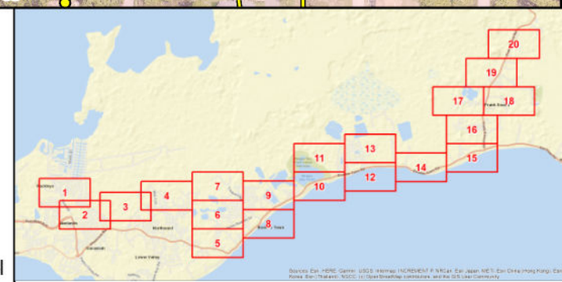

N

0 100 200 400 Meters

M08-90 M08-97 M08-98 M08-99 M08-103 M08-112 M08-113 M08-114 M08-116 M08-128 M08-129 M08-130 M08-131 M08-132 M08-144 M08-145 M08-146 M08-147 M08-101 M08-102 M08-100 M08-214 M08-213 M08-89 M08-87 M08-86 M08-85 M08-01 M08-02 M08-03 M08-04 M09-01 M09-02 M09-03

YEATS ST WILDE ST HARDY ST SITWELL RD BELFORD DR NEEMTREE CL HARVEY STEPHENSON DR ANTON BODDEN DR LAKE DESTINY DR PARTRIDGE CL

CNE 06 CNE 07 CNE 08 CNE 09

M07-01 M07-02 M07-03 M07-04 M07-05 M07-06 M07-07 M07-10 M06-08 M07-11 M06-09 M06-12 M07-87 M07-86 M07-84 M07-85 M07-81 M07-83 M07-82 M07-78 M07-80 M07-77 M07-79 M07-76 M07-75 M07-73 M07-74 M07-72 M07-70 M07-71 M07-69 M07-68 M07-43 M07-44 M07-45 M07-42 M07-46 M07-67 M07-66 M07-63 M07-65 M07-64 M07-62 M07-60 M07-59

GRIFFIN ST PINEAPPLE WAY LEROY FREDERICK DR PERSIAN WAY DRAGONFLY CL BODDEN TOWN RD GUM SQUARE RD

Sources: Cayman data and ESRI

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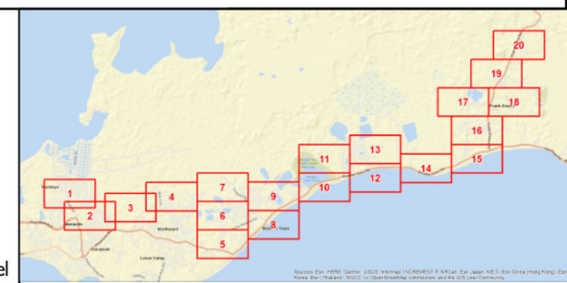

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N

0 100 200 400 Meters

CNE 08

CNE 09

SHERBORNE DR
GLAMIS LINK
DALMAIN DR
HAMPTON DR
TONBRIDGE DR
ABBOTSFORD DR
LAKE DESTINY DR
SITWELL RD
FROST ST
NASHE ST
WILDE ST
YEATS ST
HARDY ST
BELFORD DR
TENNYSON ST
DICKENS ST
CARRINGTON LN
CLARIES AVE
ENTERPRISE WAY
KIPLING ST
BRONTE WAY
WOODS CL
BODDEN TOWN RD
LAKEVIEW DR
PARTRIDGE CL

M08-206 M08-204 M08-205 M08-203 M08-196 M08-197 M08-198 M08-193 M08-192 M08-194 M08-191 M08-180 M08-190 M08-179 M08-189 M08-169 M08-170 M08-181 M08-188 M08-160 M08-178 M08-182 M08-187 M08-159 M08-168 M08-177 M08-186 M08-161 M08-185 M08-158 M08-167 M08-152 M08-162 M08-176 M08-157 M08-173 M08-184 M08-156 M08-165 M08-175 M08-153 M08-174 M08-164 M08-122 M08-137 M08-151 M08-154 M08-121 M08-138 M08-155 M08-136 M08-150 M08-108 M08-123 M08-149 M08-107 M08-135 M08-139 M08-148 M08-120 M08-140 M08-106 M08-124 M08-134 M08-119 M08-141 M08-94 M08-109 M08-125 M08-105 M08-110 M08-142 M08-118 M08-126 M08-95 M08-104 M08-111 M08-127 M08-117 M08-133 M08-143 M08-93 M08-96 M08-112 M08-116 M08-128 M08-132 M08-144

M08-84 M08-83 M08-82 M08-81 M08-212 M08-07 M08-08 M08-06 M08-05 M09-05 M09-04 M09-03

M08-211 M08-11 M08-210 M09-08 M09-07 M08-10 M08-09 M09-06

M08-61 M08-73 M08-60 M08-48 M08-74 M08-72 M08-59 M08-78 M08-77 M08-62 M08-58 M08-49 M08-80 M08-79 M08-76 M08-71 M08-63 M08-75 M08-57 M08-70 M08-64 M08-68 M08-69 M08-50 M08-65 M08-39 M08-67 M08-66 M08-56 M08-38 M08-55 M08-37 M08-24 M08-53 M08-54 M08-51 M08-35 M08-25 M08-52 M08-36 M08-15 M08-16 M08-33 M08-34 M08-26 M08-32 M08-31 M08-27 M08-14 M08-28 M08-30 M08-29 M08-13 M08-12

Sources: Cayman data and ESRI

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- Below SOAEL

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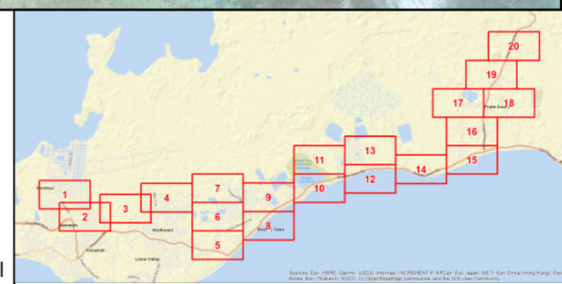

N

0 100 200 400 Meters

CNE 11

M11-18

LONGFELLOW CIR

M11-01

M11-02

M10-06

CNE 10

M10-04

M10-05

M10-02

M10-01

M10-03

BODDEN TOWN RD

CNE 08

M08-46

CLARIES AVE

M08-45

M08-47

M08-44

M08-20

M08-61

M08-43

M08-21

M08-60

M08-48

M08-42

BROOKE DR

M08-22

M08-49

M08-41

M08-23

M08-19

M08-40

ENTERPRISE WAY

M08-39

M08-38

M08-24

M08-18

BRONTE WAY

M08-17

M08-16

M08-15

Sources: Cayman data and ESRI

East-West Arterial Extension Alternative Assessment

Noise Impacts
Alternative B3
Horizon Year 2074

NRA NATIONAL ROADS AUTHORITY

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Noise Measurement Location
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- Short-Term

Receptor
- Acquisition
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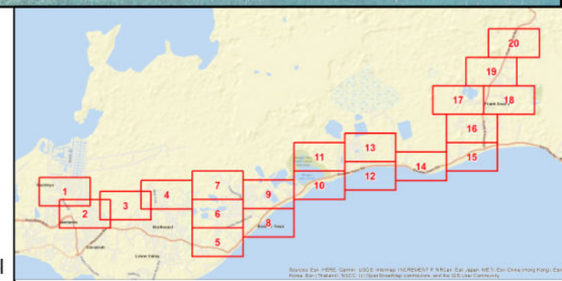
- Below SOAEL

SOAEL - Significant Observed Adverse Effect Level



N

0 100 200 400 Meters

CNE 11

WILLIE WOOD DR

M11-132

M11-117 M11-118

PERIWINKLE DR

M11-113 M11-115 M11-116 M11-114

M11-104 M11-105 M11-102

WORDSWORTH ST

M11-101 M11-99 M11-100

M11-91 M11-92 M11-89

GOLDSMITH ST

CHAUCER DR

M11-90 M11-85 M11-86 M11-88 M11-87 M11-76

MIDLAND DR

M11-74 M11-75

M11-36

M11-33

M11-32 M11-35 M11-34 M11-33 M11-31 M11-30

BRIDGES CL

M11-26 M11-25 M11-27 M11-24 M11-23 M11-22

LONGFELLOW CIR

M11-19 M11-17

Sources: Cayman data, ESRI

East-West Arterial Extension Alternative Assessment

Noise Impacts
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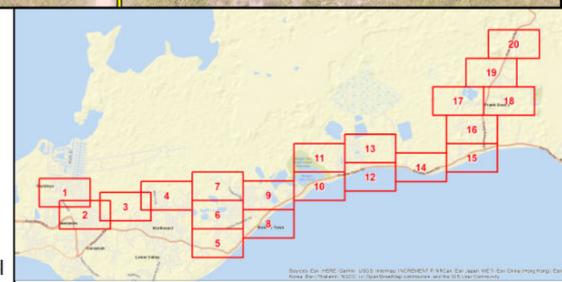

N

0 100 200 400 Meters

M11-73 M11-39 SAFFRON LN M11-45 M11-46 M11-44 M11-47 BREADFRUIT LN M11-48 M11-53 M11-55 M11-56 M11-38 M11-40 M11-43 M11-54 M11-57 M11-42 M11-49 M11-50 M11-51 M11-37 M11-41 M11-33 M11-32 M11-31 M11-30 BRIDGES CL LONGFELLOW CIR M11-29 M11-27 M11-28 M11-22 M11-20 M11-16 M11-03 M11-04 CHERRY TREE DR M11-59 M11-61 M11-58 M11-60 M11-62 M11-63 SAND DOLLAR WAY BROADVIEW DR M11-11 M11-10 M11-12 ST-4 GOOSEBERRY DR M11-15 M11-14 M11-13 M11-05 M11-06 M11-07 M11-08 CNE 11 BODDEN TOWN RD CNE 10 M10-09 M10-08 M10-07

Sources: Cayman data and ESRI

East-West Arterial Extension Alternative Assessment

Noise Impacts
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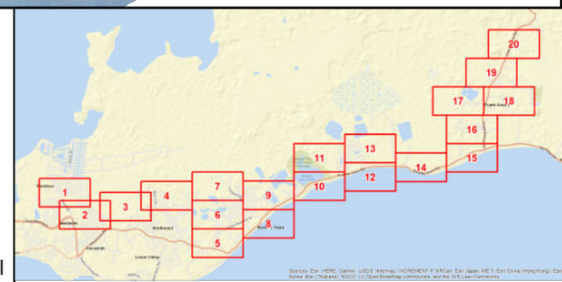

N

0 100 200 400 Meters

CNE 11

JOHN CARTER DR
WILLIE WOOD DR
PERIWINKLE DR
GARDENIA DR
WORDSWORTH ST
GOLDSMITH ST
BREADFRUIT LN
MIDLAND DR
PEPPER TREE DR
CHERRY TREE DR
SAND DOLLAR WAY
GOOSEBERRY DR
BROADVIEW DR

M11-146 M11-147 M11-148 M11-139 M11-144 M11-145 M11-141 M11-140 M11-138 M11-142 M11-137 M11-143 M11-136 M11-125 M11-135 M11-126 M11-134 M11-127 M11-150 M11-133 M11-128 M11-129 M11-124 M11-131 M11-130 M11-123 M11-121 M11-122 M11-120 M11-149 M11-132 M11-119 M11-106 M11-118 M11-109 M11-110 M11-112 M11-111 M11-113 M11-114 M11-115 M11-107 M11-108 M11-106 M11-104 M11-95 M11-105 M11-97 M11-96 M11-103 M11-98 M11-94 M11-100 M11-99 M11-93 M11-92 M11-83 M11-80 M11-82 M11-84 M11-79 M11-81 M11-85 M11-78 M11-86 M11-77 M11-71 M11-76 M11-73 M11-72 M11-46 M11-70 M11-67 M11-66 M11-69 M11-64 M11-68 M11-65 M11-59 M11-09 M11-11 M11-10

Sources: Cayman data and ESRI

East-West Arterial Extension Alternative Assessment

Noise Impacts
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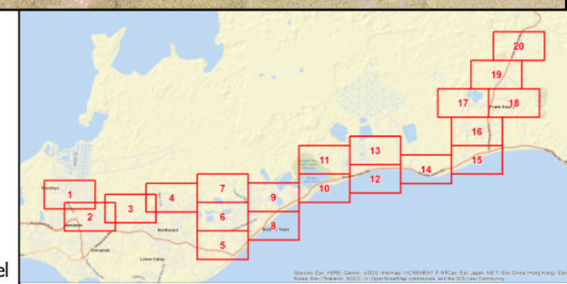

N

0 100 200 400 Meters

CNE 14

M14-47

CNE 12

M12-20

M13-01

M12-01

M12-03

M13-02

M13-03

M12-02

M12-04

M13-04

M12-06

M12-07

M12-09

M12-05

M13-05

M12-08

M12-10

M12-11

M12-13

M12-14

M12-15

M13-06

M13-07

M12-16

M12-17

M12-18

M12-19

CLIFF HILL LN

BODDEN TOWN RD

CNE 13

SCHOOL HOUSE LN

Sources: Cayman data and ESRI

East-West Arterial Extension Alternative Assessment

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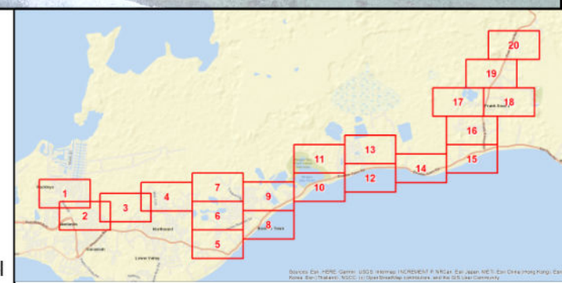

N

0 100 200 400 Meters

CNE 14

CNE 15

M14-35 M14-36 EIFFEL DR M14-37 M14-38 M14-28 M14-30 M14-39 M14-40 M14-43 M14-46 M14-31 M14-32 M14-41 M14-42 M14-44 M14-45 M14-27 M14-29 M14-33 M14-11 M14-26 M14-25 M14-23 M14-10 M14-24 NOEL DR BRACKEN CL M14-22 M14-09 M14-20 M14-21 M14-19 M14-18 FRENCHMANS DR LA CONTE DR M14-12 M14-13 M14-17 M14-16 M14-15 M14-14 M14-08 M14-07 BODDEN TOWN RD M14-02 M14-05 M14-03 M14-06 M14-01 M14-04 M14-47 M15-02 M15-01

M15-05 M15-04 M15-03

FRANK SOUND RD

SEA VIEW RD

Sources: Cayman data and ESRI

East-West Arterial Extension Alternative Assessment

Noise Impacts
Alternative B3
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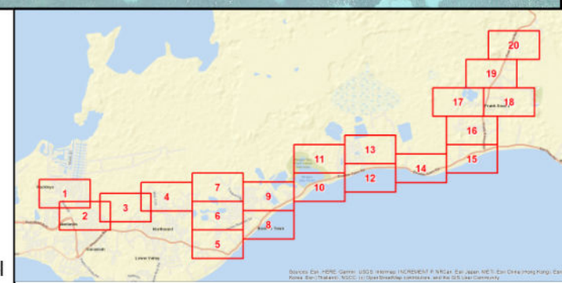



East-West Arterial Extension Alternative Assessment

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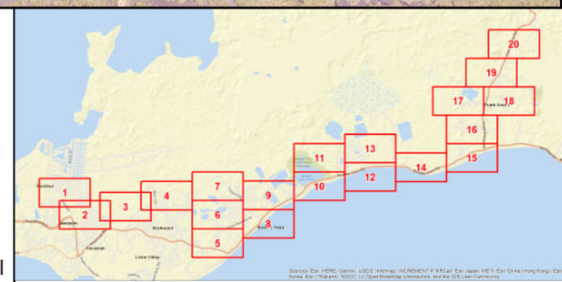

N

0 100 200 400 Meters

M18-24
M18-25
M18-26
M18-27
M18-28
M18-29
M18-30
M18-77
M18-77
ST-7
M18-46
M18-47
M18-34
M18-33
M18-35
M18-31
M18-03
M18-02
M18-76
M18-76
M18-43
M18-36
M18-32
M18-01
M18-45
M18-42
M18-44
M18-37
M18-41
M18-40
M18-39
M18-38
M17-09
M17-08

CNE 18
CNE 19
CNE 17
CNE 16

BRIDGPORT ST
NOBEL ST
MASTIC RD
SOURSOP LINK
SWEETSOP DR
PERDITTHA LN
FRANK SOUND RD

Sources: Cayman data, and ESRI

East-West Arterial Extension Alternative Assessment

Noise Impacts
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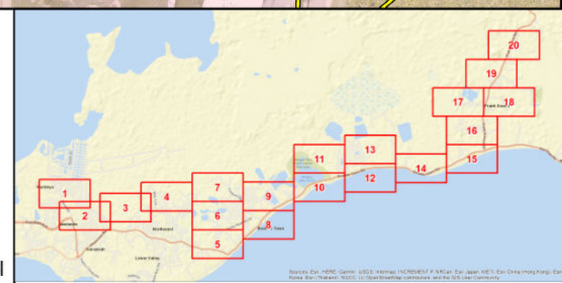

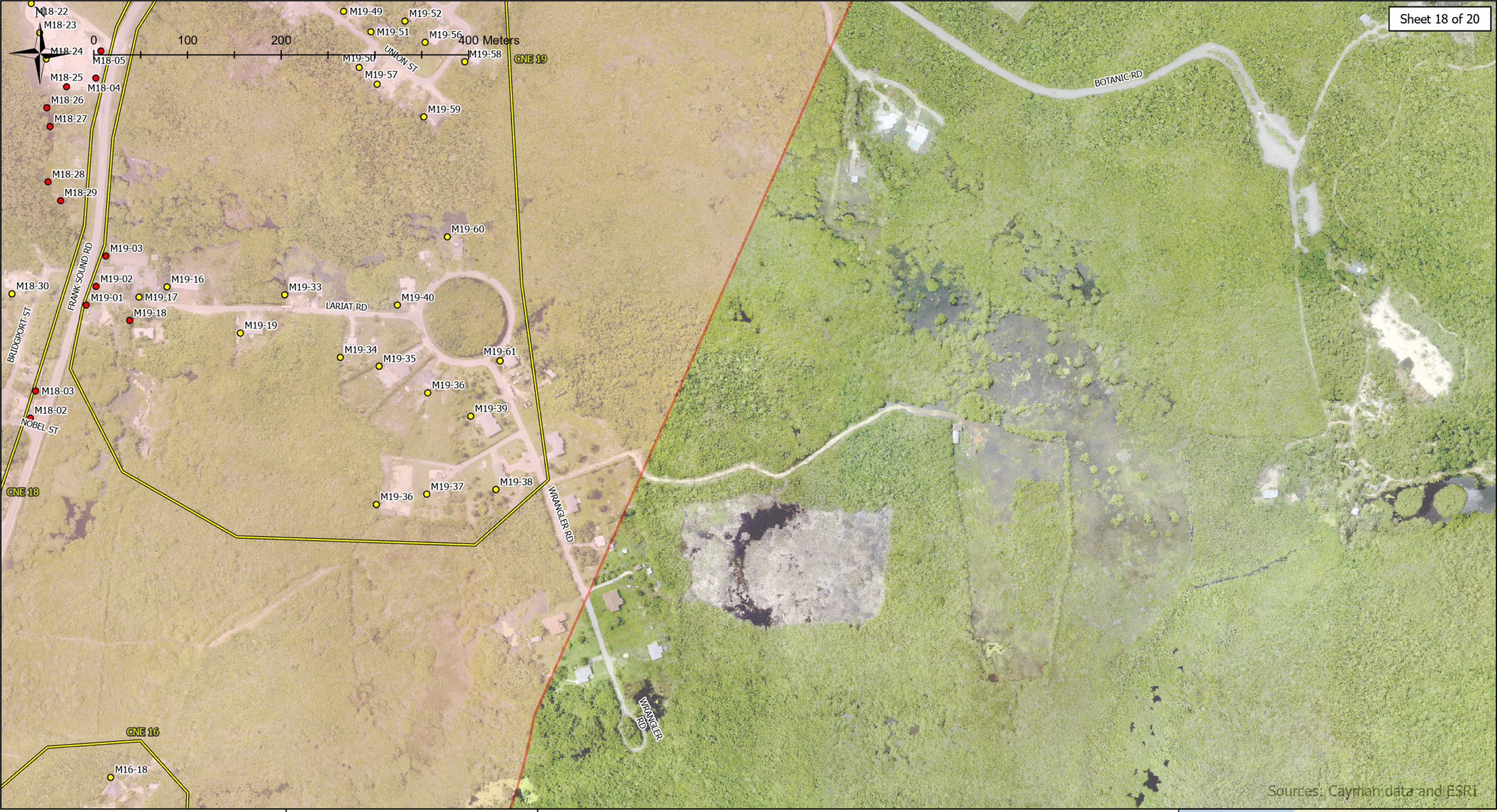

East-West Arterial Extension
Alternative Assessment

Noise Impacts
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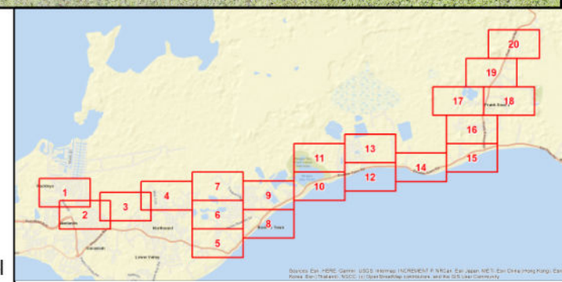

SOAEL - Significant Observed Adverse Effect Level

N

0 100 200 400 Meters

M18-75 M18-74 M18-73 ST-6 M18-65 M18-64 CNE 18 M18-63 M18-72 M18-66 M18-61 M18-60 M18-67 M18-59 M18-68 M18-69 M18-58 M18-70 M18-57 M18-52 M18-71 M18-56 M18-53 M18-51 M18-15 M18-54 M18-50 M18-16 M18-17 M18-10 M18-55 M18-49 M18-09 M18-48 M18-18 M18-19 M18-08 M18-47 M18-21 M18-20 M18-07 M18-06 M18-04 M18-15 M18-22 M18-14 M19-10 M19-11 M18-13 M18-12 M19-09 M19-25 M18-11 M19-08 CNE 19 M19-07 M19-26 M19-06 M19-05 M19-12 M19-24 M19-27 M19-28 M19-44 M19-13 M19-23 M19-45 M19-29 M19-43 M19-14 M19-22 M19-30 M19-46 M19-54 M19-47 M19-21 M19-42 M19-20 M19-31 M19-55 M19-32 M19-41 M19-48 M19-53 M19-49

SERENITY LN

ROSSINI ST

SERENITY LN

SERENITY LN

UNION ST

GRANT ST

EAGLE ST

FRANK SOUND RD

MERCATOR ST

CONSTANTINE ST

BOTANIC RD

Sources: Cayman data and ESRI

East-West Arterial Extension Alternative Assessment

Noise Impacts
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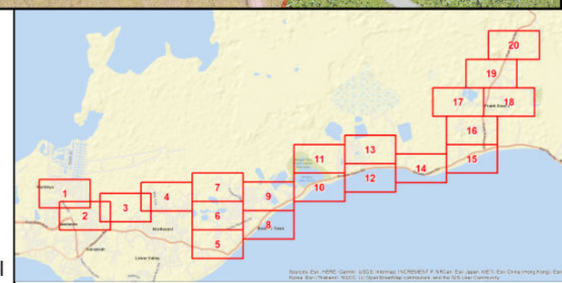

N

0 100 200 400 Meters

FRANK SOUND RD

IDLEWOOD LN

QUIET WAY

CNE 20

M20-02

M20-03

DRUMMOND WAY

M20-04

M20-01

Sources: Cayman data and ESRI

East-West Arterial Extension Alternative Assessment

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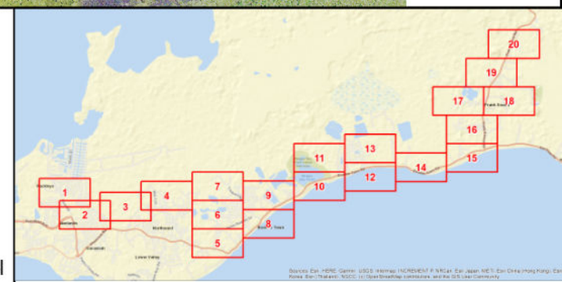

Attachment O

Alternative B4 2074 SOAEL Impact Mapping

N

0 100 200 400 Meters

WHISPERING WATERS WAY
BAYFIELD CRES
SOUTHWARD DR
WINDWARD RD
HOPEFIELD DR
RINA DR
MILTON DR
COLLEGE CL
RACKLEY BLVD
TRINITY WAY
ARLENE AVE
YELLOWSTONE ST
FAITH AVE
FLEET AVE
KIMBERLY ST
ELDON ST
LEONCE DR
HIRST RD
KEYSTONE ST
FARRELL RD
CNE 01
CNE 02
TREVOR CL
BRIGHTSIDE ST
VIVID WAY
VISION ST
BERMUDA WAY
MOONSTONE WAY
GREENLEAF DR
SPECTRUM DR
KIMERA WAY
SADDLEWOOD DR
RILEY CIR
RODEO CL
CHARIOT DR
CANDLEWOOD DR
NATHAN MERREN DR
HEMLOCK WAY
MOONBEAM DR
BARCADERE CT
ELDERBERRY DR
DEVONSHIRE DR

M01-01 M01-02 M01-03 M01-04 M01-05 M01-06 M01-07 M01-08 M01-09 M01-10 M01-11 M01-12 M01-13 M01-14 M01-15 M01-16 M01-17 M01-18 M01-19 M01-20 M01-21 M01-22 M01-23 M01-24 M01-25 M01-26 M01-27 M01-28 M01-29 M01-31 M01-33 M01-34 M01-35 M01-36 M01-37 M01-38 M01-39 M01-40 M01-41 M01-42 M01-43 M01-44 M01-45 M01-46 M01-47 M01-48 M01-49 M01-50 M01-51 M01-52 M01-53 M01-54 M01-55 M01-56 M01-57 M01-58 M01-59 M01-60 M01-61 M01-62 M01-63 M01-64 M01-65 M01-66 M01-67 M01-68 M01-69 M01-70 M01-71 M01-72 M01-74 M01-75 M01-76 M01-77

M02-01 M02-02 M02-03 M02-04 M02-06 M02-07 M02-08 M02-09 M02-10 M02-11 M02-12 M02-13 M02-14 M02-15 M02-16 M02-17 M02-18 M02-19 M02-20 M02-21 M02-22 M02-23 M02-24 M02-25 M02-26 M02-28 M02-29 M02-30 M02-31 M02-32 M02-33 M02-34 M02-35 M02-36 M02-37 M02-39 M02-40 M02-41 M02-42 M02-43 M02-45 M02-46 M02-47 M02-48 M02-49 M02-50 M02-51 M02-52 M02-53 M02-55 M02-56 M02-57 M02-58 M02-59 M02-60 M02-61 M02-62 M02-63 M02-64 M02-66 M02-67 M02-68 M02-69 M02-70 M02-71 M02-72 M02-76 M02-77 M02-78 M02-79 M02-80 M02-82 M02-84 M02-85 M02-86 M02-87 M02-130 M02-131

ST-1

Sources: Esri, Maxar, Earthstar Geographics, and the GIS User Community

East-West Arterial Extension Alternative Assessment

Noise Impacts
Alternative B4
Horizon Year 2074

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Noise Measurement Location
- Long-Term
- Short-Term

Receptor
- Acquisition
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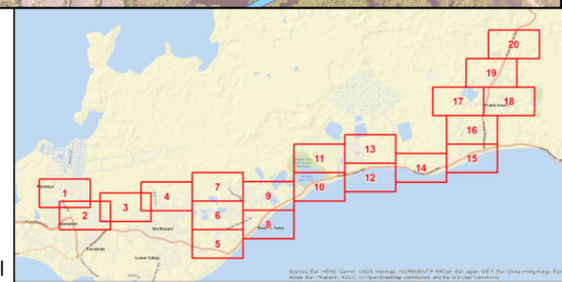
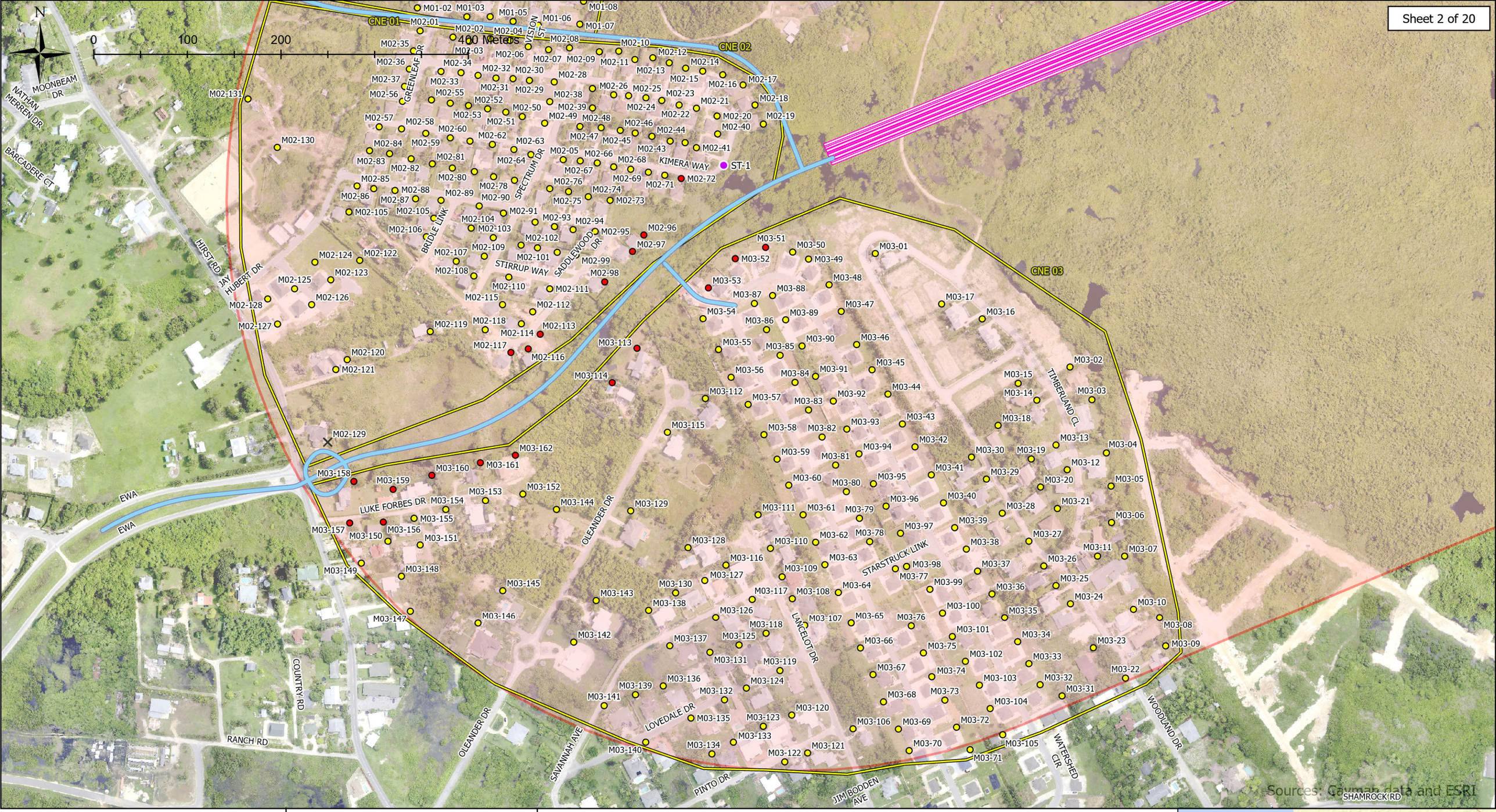
- Below SOAEL

SOAEL - Significant Observed Adverse Effect Level





East-West Arterial Extension Alternative Assessment

Noise Impacts
Alternative B4
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Receptor
- Acquisition
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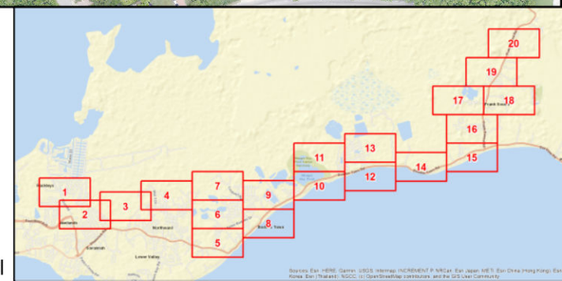



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Receptor
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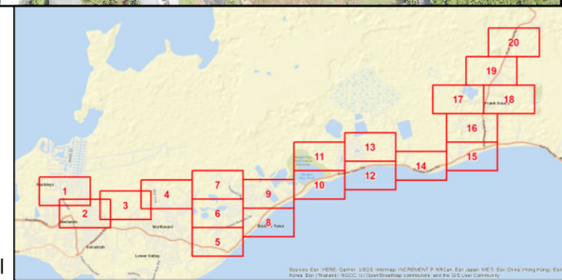


N

0 100 200 400 Meters

ST-2

CNE 04

CNE 05

M04-01 M04-02 M04-03 M04-04 M04-05 M04-06 M04-07 M04-08 M04-09 M04-10 M04-11 M04-12 M04-13 M04-14 M04-15 M04-16 M04-17 M04-18 M04-19 M04-22 M04-23 M04-24 M04-25 M04-26 M04-27 M04-28 M04-29 M04-30 M04-31 M04-32 M04-33 M04-34 M04-35 M04-36 M04-37 M04-38 M04-39 M04-40 M04-41 M04-42 M04-43 M04-44 M04-45 M04-46 M04-47 M04-48 M04-49 M04-50 M04-51 M04-52

M05-01 M05-02

LIVINGSTON WAY

SHEFFIELD DR

PAULEACH RD

DOMINICA DR

MINZETT DR

WILL T RD

ROYAL HEIGHTS DR

FIG TREE DR

GRENADA CL

THATCH TREE LN

NORTHWARD RD

YELLOW DORCAS DR

REGINA AVE

GLASS AVE

MERRIMAC CRES

HUDSON DR

ALLURE LINK

MENDIP CIR

AVALON ST

CANBERRA ST

Source: Cayman data and ESRI

East-West Arterial Extension Alternative Assessment

Noise Impacts
Alternative B4
Horizon Year 2074

NRA NATIONAL ROADS AUTHORITY

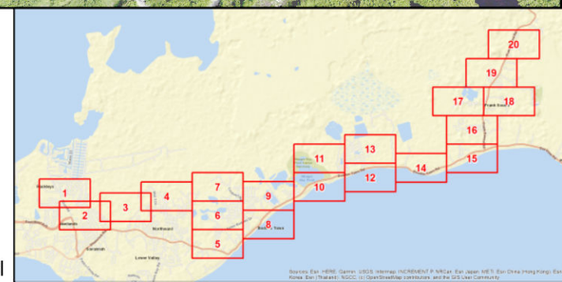
Date Created: 1/16/2024

- Noise Study Area
- Common Noise Environment (CNE)
- Section 1 Alignment
- Alternative B4 Prop Edge of Travel

Noise Measurement Location
- Long-Term
- Short-Term

Receptor
- Acquisition
- Above SOAEL
- Below SOAEL

SOAEL - Significant Observed Adverse Effect Level





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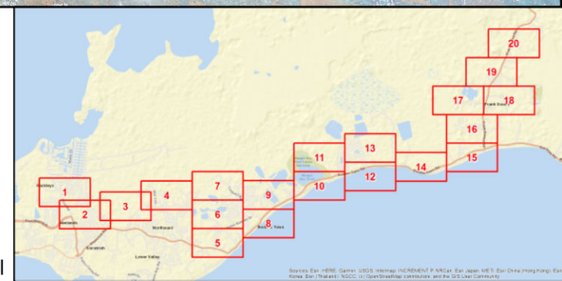



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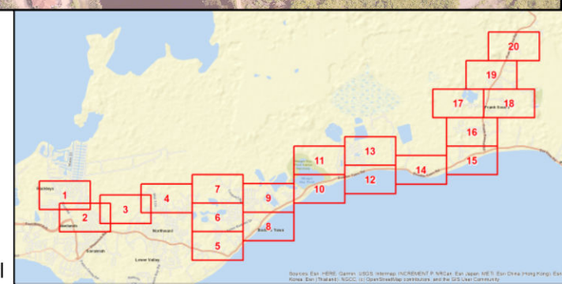

N

0 100 200 400 Meters

M06-98
LT-1
M08-209
CNE 05
M05-04
M05-05
M06-97
CNE 08
M08-208
M06-96
CNE 06
M05-03
M08-201
FIRESTONE DR
RASPBERRY DR
IGUANA DR
PROMENADE RD
CHESTERWOOD DR
M08-207
M08-206
HARVEY STEPHENSON DR
M06-95
M06-94
M08-202
NEWTON CT
M08-200
M06-93
M08-199
GLAMIS LINK
NOTTINGHAM DR
SHERBORNE DR
M06-92
BROADLANDS DR
QUEBEC LINK
M06-91
TIVERTON DR
M08-196
HAMPTON DR
M06-90
M06-89
M06-87
M06-88
NORTHWARD RD
M06-80
CALABASH DR
VERNEICE BODDEN DR
PASSION CIR
M06-79
M06-81
M06-86
CINNAMON LINK
M06-85
M08-195
M06-83
M06-84

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

East-West Arterial Extension Alternative Assessment

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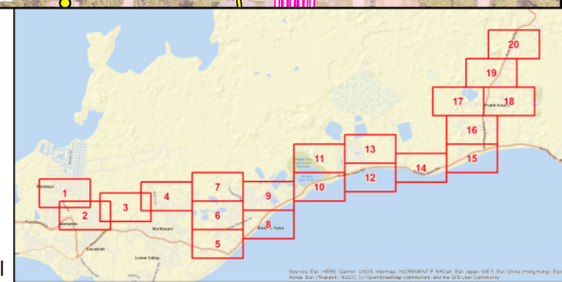



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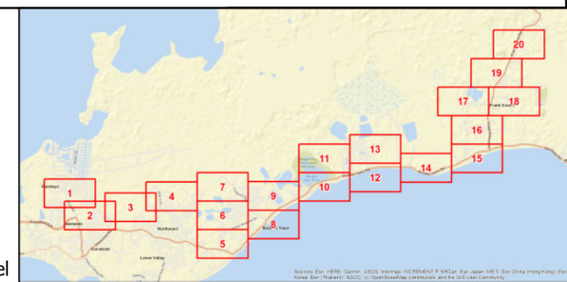

N

0 100 200 400 Meters

CNE 08

CNE 09

SHERBORNE DR
GLAMIS LINK
DALMAIN DR
HAMPTON DR
TONBRIDGE DR
ABBOTSFORD DR
BEDFORD DR
YEATS ST
HARDY ST
NASHE ST
WILDE ST
FROST ST
SITWELL RD
LAKE DESTINY DR
LAKEVIEW DR
PARTRIDGE CL
TENNYSON ST
KIPLING ST
DICKENS ST
CARRINGTON LN
CLARIES AVE
ENTERPRISE WAY
BRONTE WAY
WOODS CL
BODDEN TOWN RD

M08-206 M08-204 M08-205 M08-203 M08-196 M08-197 M08-198 M08-193 M08-192 M08-194 M08-191 M08-180 M08-190 M08-189 M08-170 M08-179 M08-169 M08-188 M08-181 M08-187 M08-159 M08-160 M08-182 M08-168 M08-177 M08-186 M08-161 M08-172 M08-183 M08-185 M08-158 M08-167 M08-162 M08-176 M08-152 M08-157 M08-173 M08-184 M08-163 M08-166 M08-175 M08-156 M08-174 M08-153 M08-165 M08-164 M08-151 M08-154 M08-150 M08-155 M08-138 M08-136 M08-149 M08-123 M08-139 M08-135 M08-148 M08-140 M08-120 M08-124 M08-134 M08-141 M08-119 M08-125 M08-110 M08-142 M08-118 M08-126 M08-111 M08-117 M08-127 M08-133 M08-143 M08-112 M08-116 M08-128 M08-132 M08-144 M08-122 M08-137 M08-121 M08-108 M08-107 M08-106 M08-94 M08-109 M08-105 M08-95 M08-104 M08-96 M08-93

M08-61 M08-73 M08-60 M08-48 M08-74 M08-72 M08-59 M08-78 M08-77 M08-62 M08-58 M08-49 M08-80 M08-79 M08-76 M08-71 M08-75 M08-63 M08-57 M08-40 M08-70 M08-64 M08-68 M08-69 M08-50 M08-39 M08-65 M08-67 M08-66 M08-56 M08-38 M08-55 M08-37 M08-24 M08-53 M08-54 M08-51 M08-25 M08-52 M08-35 M08-36 M08-15 M08-33 M08-34 M08-26 M08-16 M08-32 M08-27 M08-31 M08-28 M08-14 M08-30 M08-29 M08-13 M08-12

M08-84 M08-83 M08-82 M08-81 M08-211 M08-210 M08-11 M09-08 M09-07 M08-10 M08-09 M09-06 M08-212 M08-07 M08-08 M08-06 M08-05 M09-05 M09-04 M09-03

Sources: Cayman data and ESRI

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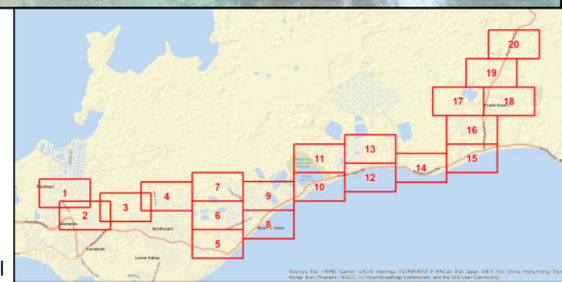

N

0 100 200 400 Meters

CNE 11

CNE 10

CNE 08

BODDEN TOWN RD

LONGFELLOW CIR

CLARIES AVE

BROOKE DR

ENTERPRISE WAY

BRONTE WAY

M11-18 M11-01 M11-02 M10-06 M10-05 M10-04 M10-02 M10-01 M10-03

M08-46 M08-45 M08-47 M08-44 M08-20 M08-61 M08-43 M08-21 M08-48 M08-60 M08-42 M08-22 M08-49 M08-41 M08-23 M08-19 M08-40 M08-39 M08-24 M08-38 M08-18 M08-17 M08-16 M08-15

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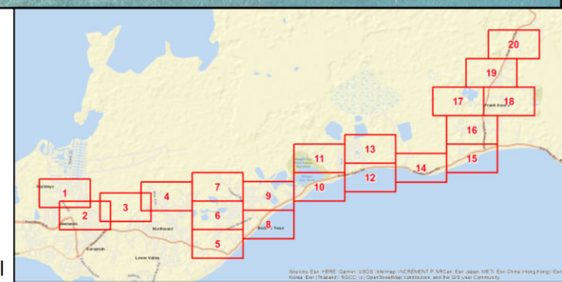

N

0 100 200 400 Meters

CNE 11

WILLIE WOOD DR
M11-132
M11-117
M11-118
PERIWINKLE DR
M11-113
M11-114
M11-116
M11-115
M11-104
M11-102
WORDSWORTH ST
M11-105
M11-101
M11-99
M11-100
M11-91
M11-92
M11-89
M11-90
GOLDSMITH ST
M11-85
CHAUCER DR
M11-86
M11-88
M11-87
M11-76
M11-75
MIDLAND DR
M11-74
M11-36
M11-33
M11-35
M11-34
M11-33
M11-32
M11-31
BRIDGES CL
M11-30
M11-26
M11-25
M11-27
M11-24
M11-23
M11-22
M11-19
LONGFELLOW CIR
M11-17

Sources: Cayman data and ESRI

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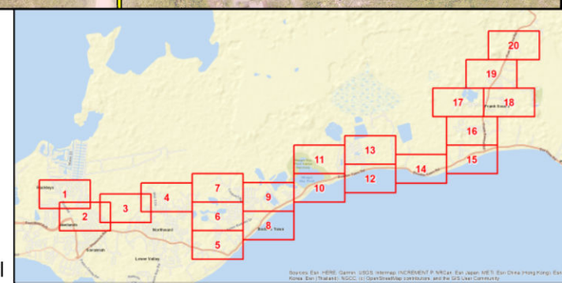

N

0 100 200 400 Meters

M11-73 M11-39 SAFFRON LN M11-45 M11-46 CHERRY TREE DR M11-59 M11-60 M11-58 M11-61 M11-62 DOLLAR WAY SAND M11-63 BROADVIEW DR GOOSEBERRY DR M11-11 M11-10 ST-4 M11-12

M11-44 M11-47 M11-52 M11-53 M11-55 M11-56 BREADFRUIT LN M11-48 M11-54 M11-57 M11-38 M11-40 M11-43 M11-42 M11-49 M11-50 M11-51 M11-41 M11-37

M11-33 M11-32 M11-31 M11-30 BRIDGES CL LONGFELLOW CIR M11-29 M11-27 M11-28 M11-22 M11-20 M11-16

M11-14 M11-13 M11-15 M11-05 M11-06 M11-07 M11-08 CNE 11 BODDEN TOWN RD

CHERRY TREE DR M11-03 M11-04 CNE 10 M10-09 M10-08 M10-07

Sources: Cayman data and ESRI

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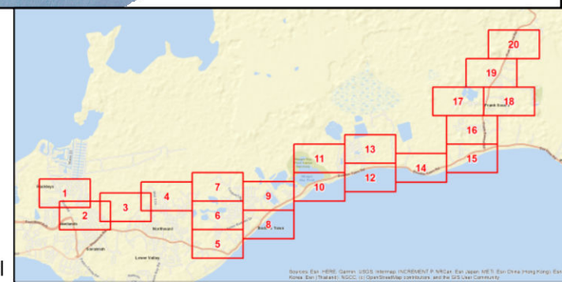

N

0 100 200 400 Meters

CNE 11

M11-146 M11-147 M11-148 M11-139 M11-144 M11-145 JOHN CARTER DR M11-140 M11-138 M11-142 M11-141 M11-137 M11-143 M11-136 M11-125 M11-134 M11-135 M11-126 M11-133 M11-150 M11-127 WILLIE WOOD DR M11-128 M11-129 M11-131 M11-130 M11-123 M11-124 M11-121 M11-122 M11-120 M11-149 M11-132 M11-119 M11-106 PERIWINKLE DR M11-118 GARDENIA DR M11-109 M11-110 M11-112 M11-111 M11-113 M11-115 M11-114 M11-107 M11-108 WORDSWORTH ST M11-106 M11-104 M11-105 M11-97 M11-96 M11-95 M11-103 M11-98 M11-94 M11-99 M11-100 M11-93 GOLDSMITH ST M11-83 M11-92 M11-80 M11-82 M11-79 M11-81 M11-84 M11-85 M11-78 M11-86 M11-77 MIDLAND DR M11-71 M11-76 M11-73 M11-72 BREADFRUIT LN M11-46 M11-70 PEPPER TREE DR M11-69 M11-67 M11-66 M11-64 CHERRY TREE DR M11-68 M11-65 SAND DOLLAR WAY M11-59 GOOSEBERRY DR M11-11 M11-10 BROADVIEW DR M11-09

Sources: Cayman data and ESRI

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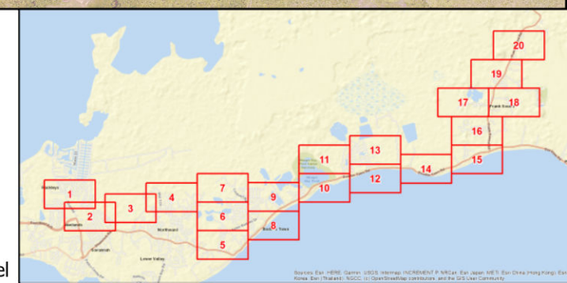

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N

0 100 200 400 Meters

CNE 14

CNE 12

CNE 13

M12-20
M13-01
M12-01
M12-03
M13-02
M13-03
M12-02
M12-04
M13-04
M12-06
M12-07
M12-09
M12-05
M13-05
M12-08
M12-10
M12-11
M12-13
M12-14
M12-18
M12-19
M12-15
M13-07
M13-06
M12-16
M12-17
M14-47

CLIFF HILL LN
BODDEN TOWN RD
SCHOOL HOUSE LN

Sources: Cayman data and ESRI

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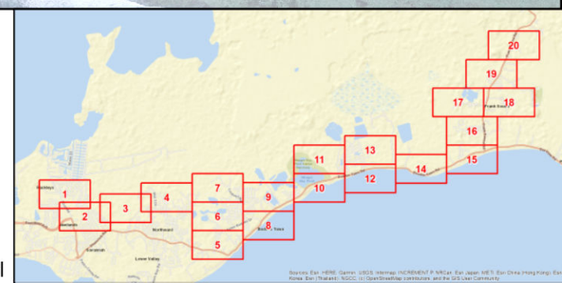



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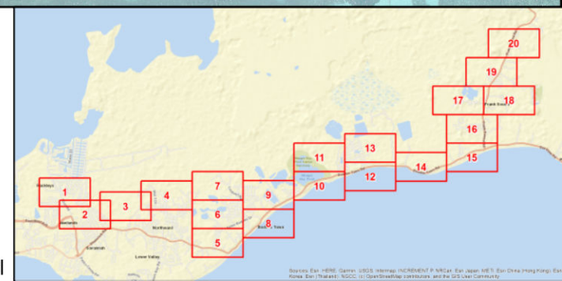



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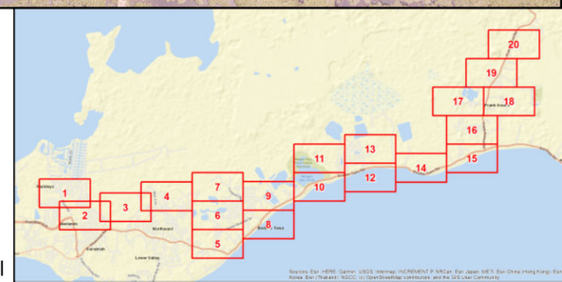

N

0 100 200 400 Meters

CNE 18

CNE 19

CNE 17

CNE 16

M18-77 M18-77

ST-7

M18-76 M18-76

M18-46

M18-47

M18-43

M18-45

M18-44

M18-42

M18-41

M18-39

M18-40

M18-38

M18-24

M18-25

M18-26

M18-27

M18-28

M18-29

M18-30

M18-34

M18-33

M18-35

M18-31

M18-36

M18-32

M18-01

M18-37

M17-09

M18-03

M18-02

M17-08

SOURSOP LINK

SWEETSOP DR

PERDITHA LN

MASTIC RD

NOBEL ST

BRIDGPORT ST

FRANK SOUND RD

Sources: Cayman data and ESRI

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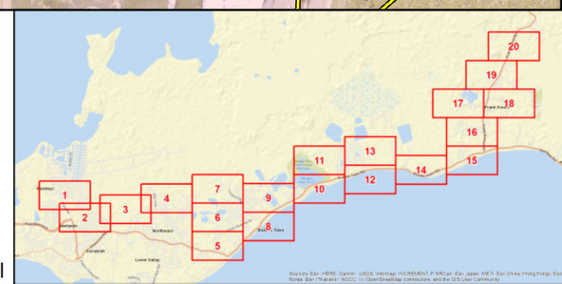

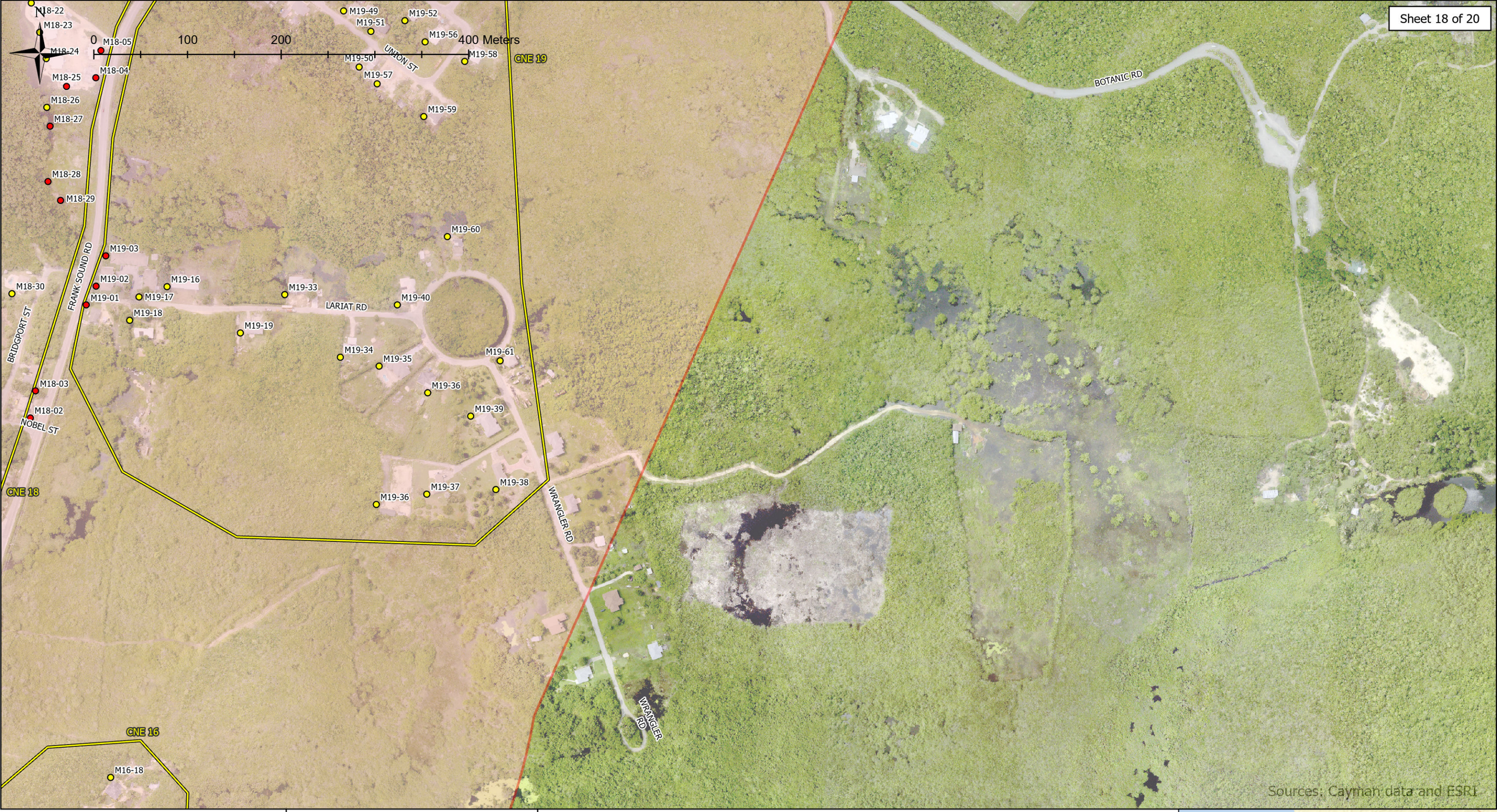

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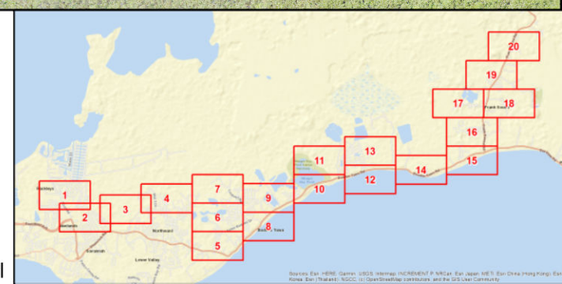

N

0 100 200 400 Meters

M18-75 M18-74 M18-73 ST-6 M18-65 M18-64 CNE 18 M18-63 SERENITY LN M18-72 M18-66 M18-61 M18-60 M18-67 M18-59 M18-68 M18-69 M18-58 M18-70 M18-57 M18-52 M18-71 M18-56 M18-53 M18-51 M18-15 M18-12 M18-14 M19-10 M19-11 M18-13 M19-09 M19-25 ROSSINI ST M18-54 M18-50 M18-16 M18-11 CNE 19 MERCATOR ST M18-17 M18-10 M19-08 M18-55 M19-07 M18-09 M18-49 M18-48 M19-26 M18-18 M19-06 M18-19 M19-05 M18-47 M18-08 M19-12 M19-24 M19-27 M18-21 M18-07 M18-20 M19-28 M19-44 EAGLE ST M18-06 M19-43 M19-45 M19-13 M19-23 GRANT ST UNION ST M19-29 M18-14 M19-22 M19-54 M19-04 M19-15 M19-30 M19-46 M19-21 M19-47 M19-20 M19-31 M19-42 M19-55 M19-32 M19-41 M19-48 M19-53 CONSTANTINE ST M19-49 M18-22

FRANK SOUND RD

BOTANIC RD

Sources: Cayman data and ESRI

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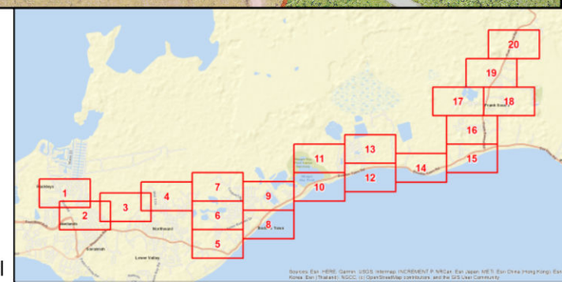

N

0 100 200 400 Meters

FRANK SOUND RD

IDLEWOOD LN

QUIET WAY

CNE 20

M20-02

M20-03

DRUMMOND WAY

M20-04

M20-01

Sources: Cayman data and ESRI

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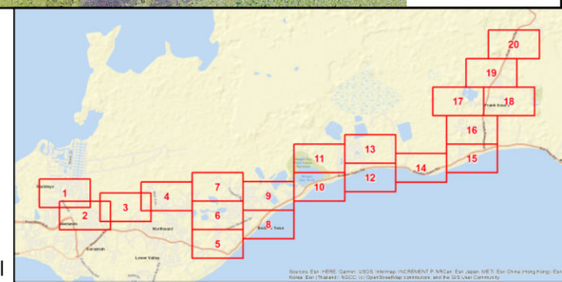
- Long-Term
- Short-Term

Receptor
- Acquisition
- Above SOAEL
- Below SOAEL

SOAEL - Significant Observed Adverse Effect Level



Appendix E, Attachment E – Geo-Environmental – Assessment of Alternatives

Environmental Statement
East-West Arterial Extension:
Section 2 (Woodland Drive – Lookout Road)
Section 3 (Lookout Road – Frank Sound Road)



Geo-Environmental FINAL

Assessment of Alternatives
Grand Cayman East-West Arterial Extension

NRA
NATIONAL ROADS AUTHORITY

February 21, 2024

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List of Terms

CMW	Central Mangrove Wetland
Cu yd	Cubic Yards
EIA	Environmental Impact Assessment
EWA	East West Arterial
Ha	Hectare
m^3	Cubic Metres
NRA	National Roads Authority
RDI	Richards and Dumbleton International
ToR	Terms of Reference
WebTAG	UK Department for Transport's Transport Analysis Guidance

1 Introduction

The East-West Arterial (EWA) Extension Environmental Impact Assessment (EIA) is proposed to evaluate an alternative east-west travel route on Grand Cayman. The Terms of Reference (ToR) for the proposed EWA Extension EIA was finalized on April 4, 2023. Applicable information from the ToR has been included within this document. Since then, five Build alternatives (B1, B2, B3, B4, and C1), in addition to the No-Build scenario were developed and assessed as part of the Longlist Evaluation. A separate Longlist Alternatives Evaluation Document has been prepared to document this analysis.

As a result of the Longlist Alternatives Evaluation, four Build alternatives (B1, B2, B3, and B4) and the No-Build scenario were advanced to the Shortlist Alternatives Evaluation. This report focuses on the assessment of geo-environmental impacts due to these identified alternatives. Information from this report will be incorporated within the Shortlist Alternatives Evaluation Document and Environmental Statement.

2 Shortlist of Alternatives

Geo-environmental processes on Grand Cayman and within the EWA EIA study area contribute to sourcing potable water to residents and support natural resources. Applicable governmental standards were reviewed, and the baseline conditions were assessed for the island's geo-environmental processes.

This analysis evaluates the anticipated effects of the shortlisted alternatives on Geo-Environmental features, including the Lower Valley Freshwater Lens, North Side Freshwater Lens, brackish groundwater, and peat. The Shortlist Evaluation specifically concentrates on analysing direct impacts, where applicable, since these impacts can more accurately be assessed and quantified based on the project's level of design. The potential for possible indirect and cumulative effects has been discussed where applicable; however, since these impacts are less defined due to numerous variables outside of the project's design process, they have only been noted and qualitatively described. Further evaluation of indirect and cumulative effects will occur as part of the studies for the Preferred Alternative.

The shortlist of alternatives includes the No-Build scenario and four Build alternatives (B1, B2, B3, and B4) as depicted in **Figure 1**. As shown in **Figure 1**, the four Build alternatives all share the same common section beginning at the western terminus, near Woodland Drive, and continuing east to near Lookout Road. They also share the same common improvements to the local roadway network referred to as the Will T Connector. Additional details describing the shortlist of alternatives including full descriptions of each alternative along with typical design sections can be found in the Shortlist Evaluation Document.

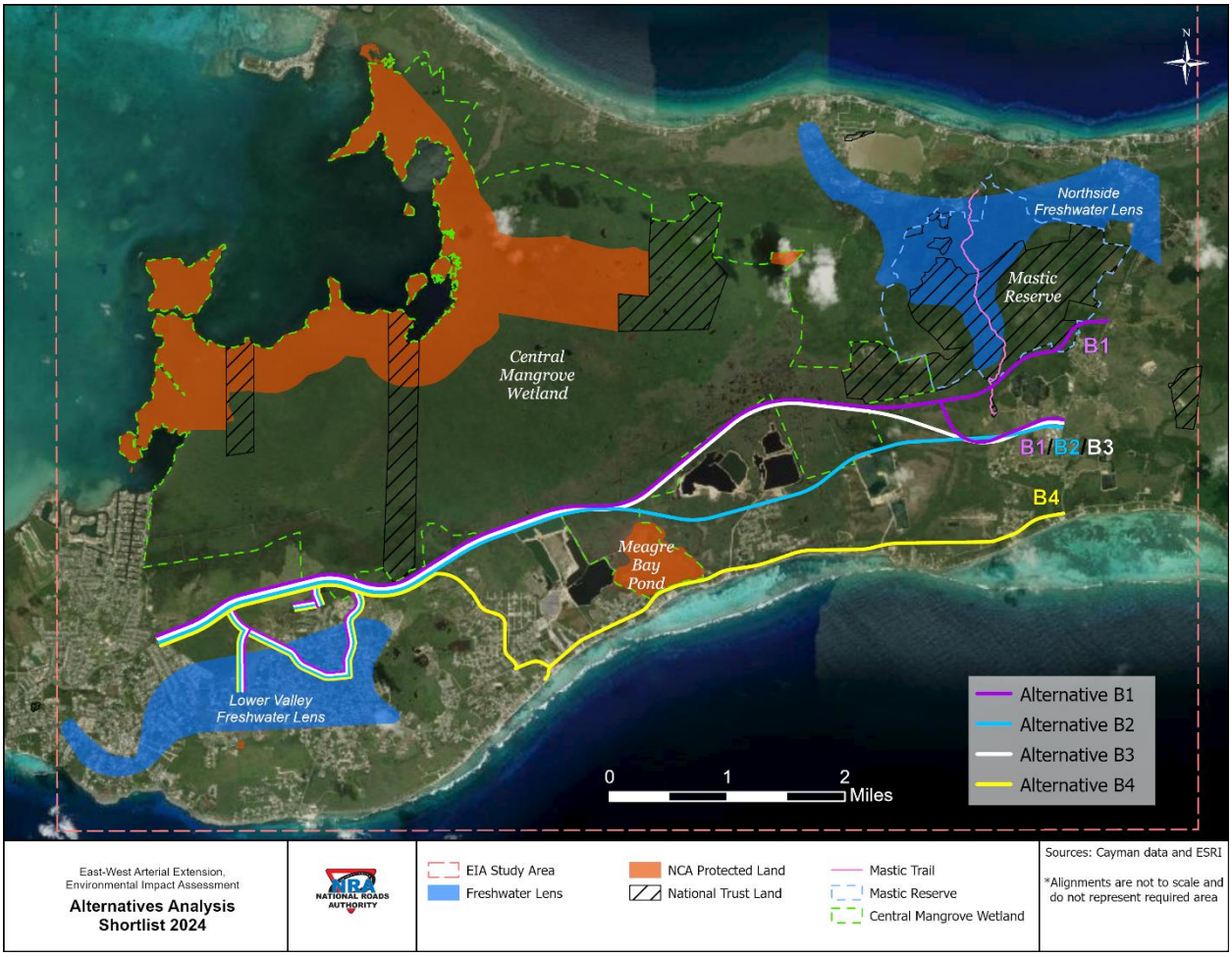

Figure 1: Shortlist of Build Alternatives

3 Baseline Conditions

3.1 Data Sources Evaluated

A source of geological and hydrogeological information for this assessment was the 2022 book by Dr. Brian Jones titled, Geology of the Cayman Islands. Also, the Water Authority Cayman provided two reports prepared for the Cayman Islands Government by Richards and Dumbleton International (RDI), dated August 1975 and November 1980, which contain data on the depth and areal extent of the freshwater lenses. The Hydrogeological Survey of Grand Cayman by the Water Authority (a 1:50,000-scale map) contains data that was also evaluated. All data sources utilized are listed in the References section of this document.

On December 13, 2023, the Water Authority provided information related to groundwater conditions in the vicinity of the Lower Valley Freshwater Lens and the North Side Freshwater Lens. This consisted of monitoring data from various periods within the overall time of 1982 to 2013, including water level data, electrical resistivity profiles, maps of monitoring wells and domestic wells, a technical paper about the Lower Valley reverse osmosis plant, and several case studies in which well owners were assisted by the Water Authority with recommendations regarding development of private groundwater supplies. The groundwater information from the Water Authority primarily concerns salinity levels in regard to maintaining water supply for potable and non-potable purposes.

A field assessment was conducted in July 2023 to observe exposed bedrock formations and peat as well as visit an active quarry within the EIA study area (Section 3.8.4 Field Assessment). Desktop studies were conducted, including a freshwater lens assessment and historical canal impact assessment on the freshwater lenses (Section 3.8). The project team qualitatively assessed the reported locations of freshwater lenses and assessed potential unconfined aquifer impacts associated with the development of canals based on literature review.

3.2 Review of Applicable Standards and Regulations

The Water Authority, under the Water Authority Act (2022) Revision, is charged with the management, control, and protection of water resources. Water Authority Act (2022 Revision) states in Section 19 that groundwater vests in the name of the Crown and appoints the Water Authority as the custodian of groundwater in the name of, and on behalf of, the Crown.

The Water Authority in the Cayman Islands is a utility and a regulatory agency that operates a central sewerage system and regulates onsite wastewater treatment systems. The Water Authority also operates a central water supply system that uses reverse osmosis treatment of saline groundwater. The Water Authority also regulates the construction and use of water supply wells.

The Water Authority Law, passed in 1982, placed controls on extraction from freshwater lenses. Three large, exploitable freshwater lenses occur on Grand Cayman. Formerly widespread was the pumping and trucking of water from such lenses, and some trucking of water continues. Historically some other (smaller) freshwater lenses on Grand Cayman have been lost due to excessive pumping and/or groundwater contamination.

Section 19, part (2) of the Development and Planning Regulations of the Cayman Islands (2020 Revision) indicates that, "Strict conditions shall be imposed to ensure that the water in the lens shall not be contaminated by the development or by the effluent therefrom and that the quantity of water used will not deplete the lens to the disadvantage of the existing users."

The Water Authority operates four reverse osmosis plants on Grand Cayman. The Cayman Water Company also operates several reverse osmosis plants to supply users in the western part of Grand Cayman.

The Water Authority regulates the treatment and disposal of wastewater. There is no central sewage system in the project area and wastewater in the project area is treated by septic tanks for small developments and aerobic treatment units for larger developments. Treated effluent is discharged into effluent disposal wells. The Water Authority issues the specifications for effluent disposal wells. The NRA manages stormwater disposal, typically excess stormwater is disposed via stormwater drainage wells. In the Cayman Islands the term effluent is typically used for disposal wells for the disposal of treated effluent and stormwater wells for the disposal of stormwater.

The qualitative assessment for Geo-Environmental resources was based on the UK Department for Transport's "Transport Analysis Guidance Unit A3: Environmental Impact Appraisal" (WebTAG) and incorporates the March 2020 Design Manual for Roads and Bridges LA 113 as appropriate. The most applicable category for Geo-Environmental impacts is "Impacts to Water Environment".

3.3 Water Authority Coordination

Coordination with the Water Authority has occurred to obtain relevant information regarding available geo-environmental information for Grand Cayman, including collected data, soil mapping, and technical reports for the Lower Valley and North Side fresh groundwater lenses. Additional coordination with the Water Authority and applicable agencies will continue with the Preferred Alternative.

3.4 Geology

Grand Cayman is generally low-lying. A recent estimate of the maximum land surface elevation at Grand Cayman is approximately 56 feet (17 metres) above sea level, from the book "Geology of the Cayman Islands" by Dr. Jones, which was published by Springer on November 14, 2022.

Grand Cayman is located on the Cayman Ridge, which forms the southern margin of the North American plate. The Cayman Ridge is a block uplifted above the surrounding seafloor, which is bounded by dipping fault planes. The region is tectonically active because the Cayman Islands are near the Oriente Transform Fault and the Mid-Cayman Rise. A map of the Caribbean area and a cross section showing the Cayman Ridge are in **Figures 2 and 3**, respectively. **Figure 2** is from Ren (2017) . **Figure 3** is from Jones (1994).

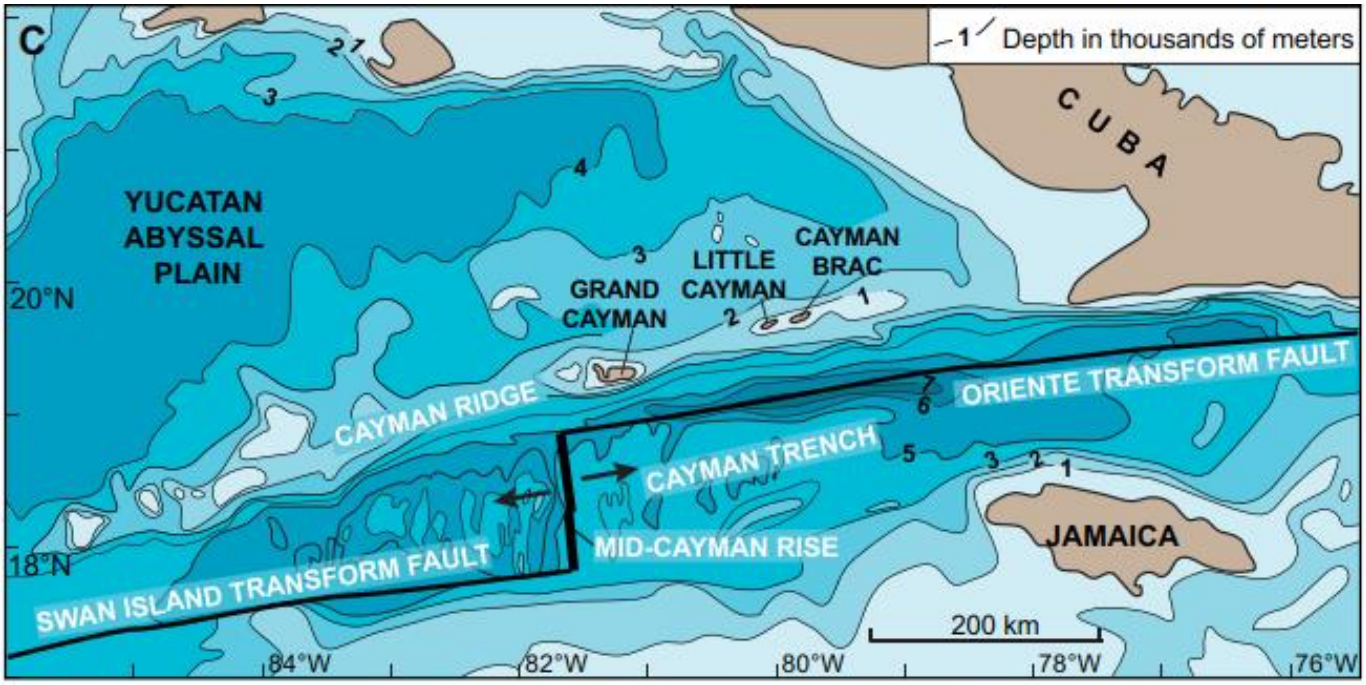

Figure 2: Map of the Caribbean Area
Source: Ren (2017)

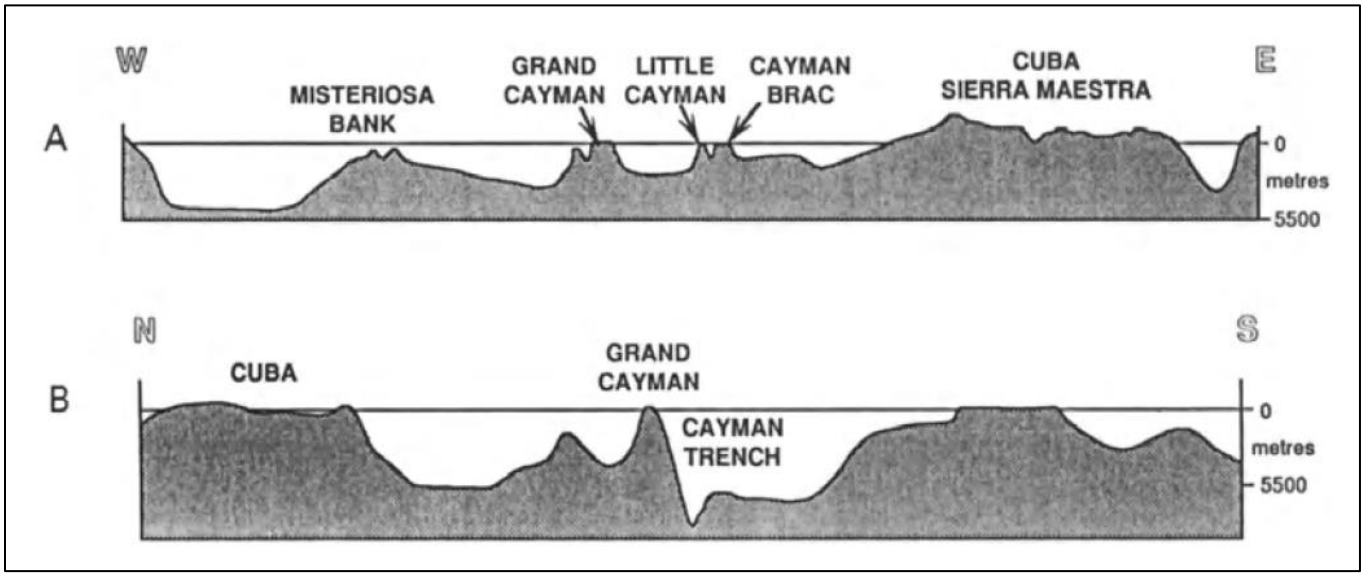

Figure 3: Cross section of Cayman Ridge. (A) Location of Grand Cayman on Cayman Ridge (B) Cayman Trench
Source: Jones (1994)

Carbonate rock up to 30 million years old is exposed on Grand Cayman. The carbonate thickness is at least 1,316 ft (401 metres) based on deep well data described in the book "Geology of the Cayman Islands" (2022) by Dr. Jones. The carbonates rest on older bedrock, and they formed during cycles of sea level change. During high stands of sea level, carbonate deposition occurred. In low stands of sea level, previously formed carbonates were eroded and weathered. The strata

dip toward the west at up to five degrees. Unconformities occur between the mapped formations, which represent periods of erosion.

The Bluff Group is a stratigraphic name that includes the following geologic units, from deepest (oldest) to youngest (shallowest): the Brac Formation, the Cayman Formation, and the Pedro Castle Formation. Although the Brac Formation is stratigraphically within the Bluff Group beneath the Cayman Islands, the Brac Formation specifically is not exposed at the island of Grand Cayman. (Jones, 2022)

The Cayman Formation underlies the EIA study area. It consists of relatively hard, microcrystalline dolostone containing the mineral dolomite (calcium magnesium carbonate). Dolostone in the Cayman Islands is dolomitized limestone in which magnesium ions from seawater have replaced calcium ions. The calcium percentage in the rock increases from the peripheral part of Grand Cayman to the interior-most areas of the island. The gradual dolomitization by seawater occurred during the Miocene, Pliocene, and Pleistocene Epochs.

The thickness of the Cayman Formation is up to 492 ft (150 m) thick. Exposed Cayman Formation may have an irregular surface from karst landscape development, and it commonly has caves. The rock is extensively jointed, and many joints are solution-widened. Further, joints and other openings may be filled with breccia composed of carbonate rock fragments.

The Pedro Castle Formation overlies the Cayman Formation. The Pedro Castle Formation outcrops mainly in the southernmost part of Grand Cayman, which is called Lower Valley. The Pedro Castle Formation is up to 70.5 ft (21.5 m) thick in the western part of Grand Cayman. he Pedro Castle Formation may be relatively soft close to its stratigraphic contact with the underlying hard Cayman Formation.

Surrounding and partially onlapping the Bluff Group is the Ironshore Formation. Its thickness ranges from a thin veneer to 29 ft (9 m). The Ironshore Formation consists of friable, poorly consolidated reef limestone, calcarenite, and oolitic limestone. The Ironshore Formation is the surficial geologic unit in most of western Grand Cayman.

A geologic map also showing the roadway alternatives is included in **Figure 4**.

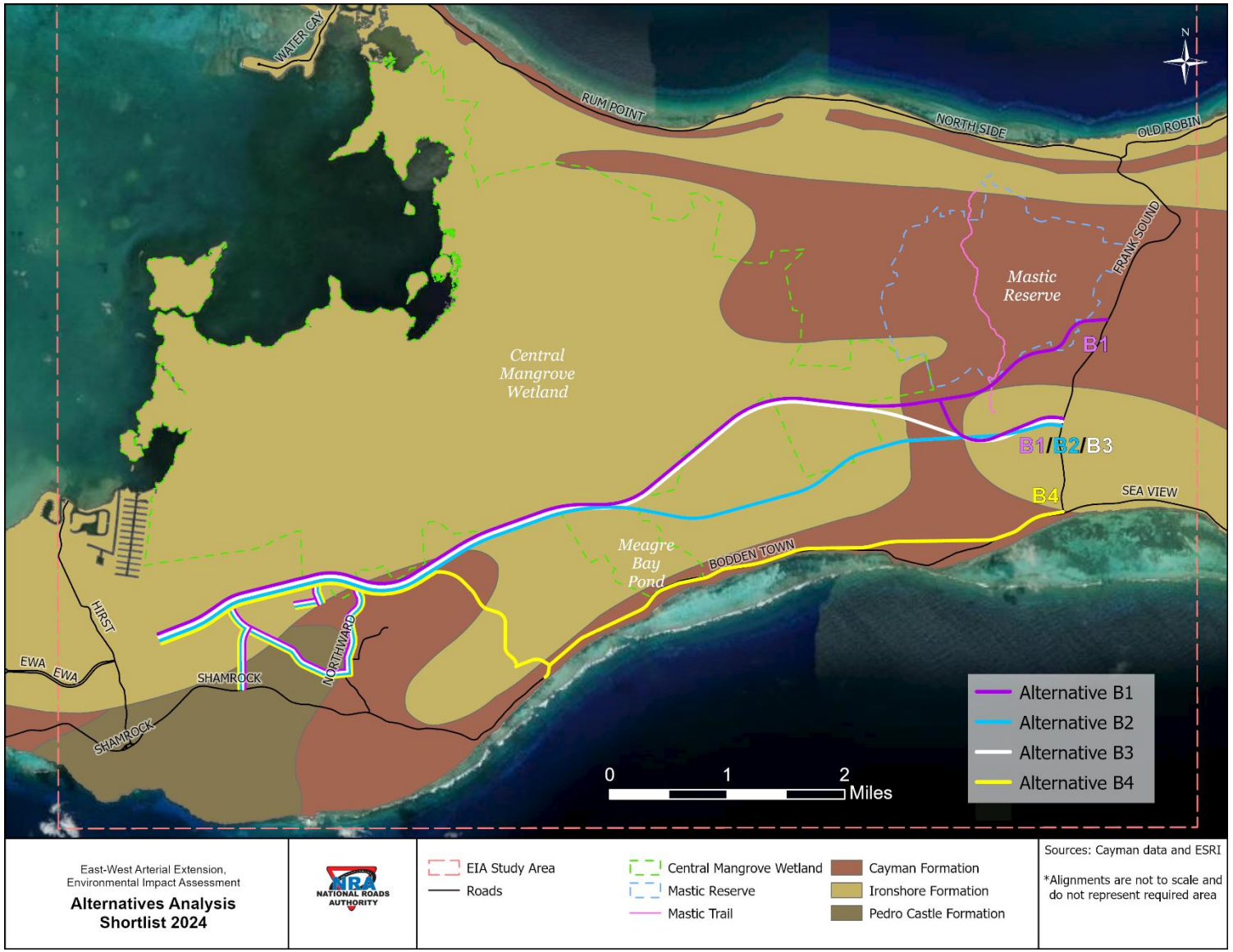

Figure 4: Geologic Map of the Study Area

3.5 Soils

Soils are generally thin on Grand Cayman. The sediments in the extensive mangrove wetlands have a particular sequence, which is described as transgressive by Woodroffe (1981). The sequence records the gradual submergence of the island in the Holocene Epoch.

The basal unit is a crust that formed on rock during subaerial conditions predating the marine transgression. Overlying the crusts is plastic mud deposited in seasonal floods. On top of the mud is peat formed from mangrove vegetation in an intertidal environment. The organic content of the peat ranges from 50 to 80 percent, and it is 80 to 90 percent water as a percentage of wet weight.

The National Roads Authority (NRA) provided plans and a subsurface profile for Section 2 of the East-West Extension (dated 2008). NRA provided similar information for a portion of Section 3 (dated 2014). The subsurface profiles trial pit data is included in **Attachment A – NRA Trial Pit Data – 2008 and 2014**. The spacing between trial pits was mostly 300 ft (91 m), although the spacing was smaller in some areas. The trial pits measured the depth to rock, and soil and peat thicknesses. In places, rock was at the land surface.

At its deepest, the top of rock was approximately 14 ft (4 m) below the land surface. Some trial pits encountered a layer of soil up to about 1 ft (0.3 m) thick on top of bedrock. Resting on this thin soil (or directly on top of bedrock) was a peat layer. The thickness of peat ranged from about 1 ft (0.3 m) to 14 ft (4 m). Several trial pits encountered the water table at, or just below the land surface.

For this assessment it was anticipated that the subsurface area would be excavated below the limits of weak materials, such as peat and carbonate-derived residuum, and then filled with load bearing materials to construct the highway. Karst landscape conditions including voids may also influence the project designs and construction, especially in areas where proposed bridge or structure foundations are bearing on rock. Liquefaction of soils is another consideration that may occur due to tectonic activity.

3.6 Peat

Peat has historically been connected to climate change as it has been determined to sequester greenhouse gases. Peat is mainly composed of organic remains from the mangroves themselves, principally from the two mangrove species *Rhizophora mangle* and *Avicennia germinans*. Peat deposits are fibrous, with abundant roots and rootlets. The peat does not have carbonate minerals, and molluscs are rare.

Mangrove-derived peat deposits underlie most of the mangrove swamps and cover the bedrock in many areas of Grand Cayman. Much of the peat is less than 3 ft (1 m) thick, but locally may be as thick as 20 ft (6 m). It is anticipated that peat underlies a portion of the proposed roadway alignments based on the plans and a subsurface profile for Section 2 of the East-West Extension (dated 2008) and a portion of Section 3 (dated 2014). The thickness of peat in the 2008 and 2014 trial pits ranged from about 1 ft (0.3 m) to 14 ft (4 m). It should be noted that the 2008 and 2014 subsurface profiles do not encompass the entire EIA study area and assumptions had to be made in estimation of peat volumes for the Shortlist Evaluation. Methodology is provided in Section

4.1.2 below and additional subsurface studies will be conducted as needed for the Preferred Alternative.

For the roadway construction, peat and other unsuitable material may need to be removed and replaced with aggregate to create a firm foundation. The aggregate material will need to be mined from the existing authorised commercial quarries. In August 2018, the Water Authority estimated that there are approximately 32 million cubic yards (yd^3) (24.3 million cubic metres) of aggregate in the authorised commercial quarries. An alternative to removing peat and replacing with aggregate is to elevate the proposed roadway using bridges and other design options.

3.7 Hydrogeology

The three largest, usable freshwater lenses on Grand Cayman are the Lower Valley Lens, the North Side Lens, and the East End Lens. Of these, the Lower Valley Lens is the smallest and the East End Lens is the largest. The main freshwater lenses currently existing within the EIA study area are the Lower Valley Lens and the North Side Lens. The No-Build scenario, specifically Shamrock Road and Northward Rd, and the four Build alternatives (Alternatives B1, B2, B3 and B4) overlay the Lower Valley Lens. The North Side Lens is located north of the eastern extent of the No-Build scenario and the four Build alternatives (B1 to B4). A geologic map depicting the freshwater lenses as well as showing the roadway alternatives, is included in **Figure 5**. The freshwater lens assessment is in Section 3.8.

The source of the natural freshwater on Grand Cayman is almost entirely precipitation that contains a chloride concentration of 7 to 13.5 mg/l, based on information from the book, "Geology of the Cayman Islands" (2022) by Dr. Jones. Precipitation recharges the lenses by rapid flow through discontinuities in the bedrock during rainstorms. Recharge also occurs by slow infiltration through the unsaturated zone.

Freshwater occurs in lens-shaped bodies beneath topographic highs in the Bluff Group as an unconfined aquifer in the fractured carbonate rock. The unconfined aquifer is hydraulically connected with the ocean, and the water table elevation is typically less than 1.5 ft (0.5 m) above mean sea level. Because of the high permeability of the karst rock, surface streams are absent, and the water table gradient is low. Underneath the freshwater zone is a thick, brackish water zone that transitions from fresh to saline water. The freshwater zone has a chloride concentration less than or equal to 600 milligrams per litre (mg/l). In the brackish zone it is 600 to 19,000 mg/l. The saline zone has a chloride concentration of at least 19,000 mg/l. Tidal oscillations generate mixing of brackish and fresh water. The semi-diurnal tide range is 0.2 m, and the seasonal fluctuation is 0.5 m.

Based on the Ghyben–Herzberg ratio, for each metre of fresh water in an unconfined aquifer above sea level, there is 40 metres of fresh water in the aquifer below sea level. In the Cayman Islands, an idealized lens configuration is not completely met because the extensively fractured bedrock aquifers cause the shapes of the lenses to change.

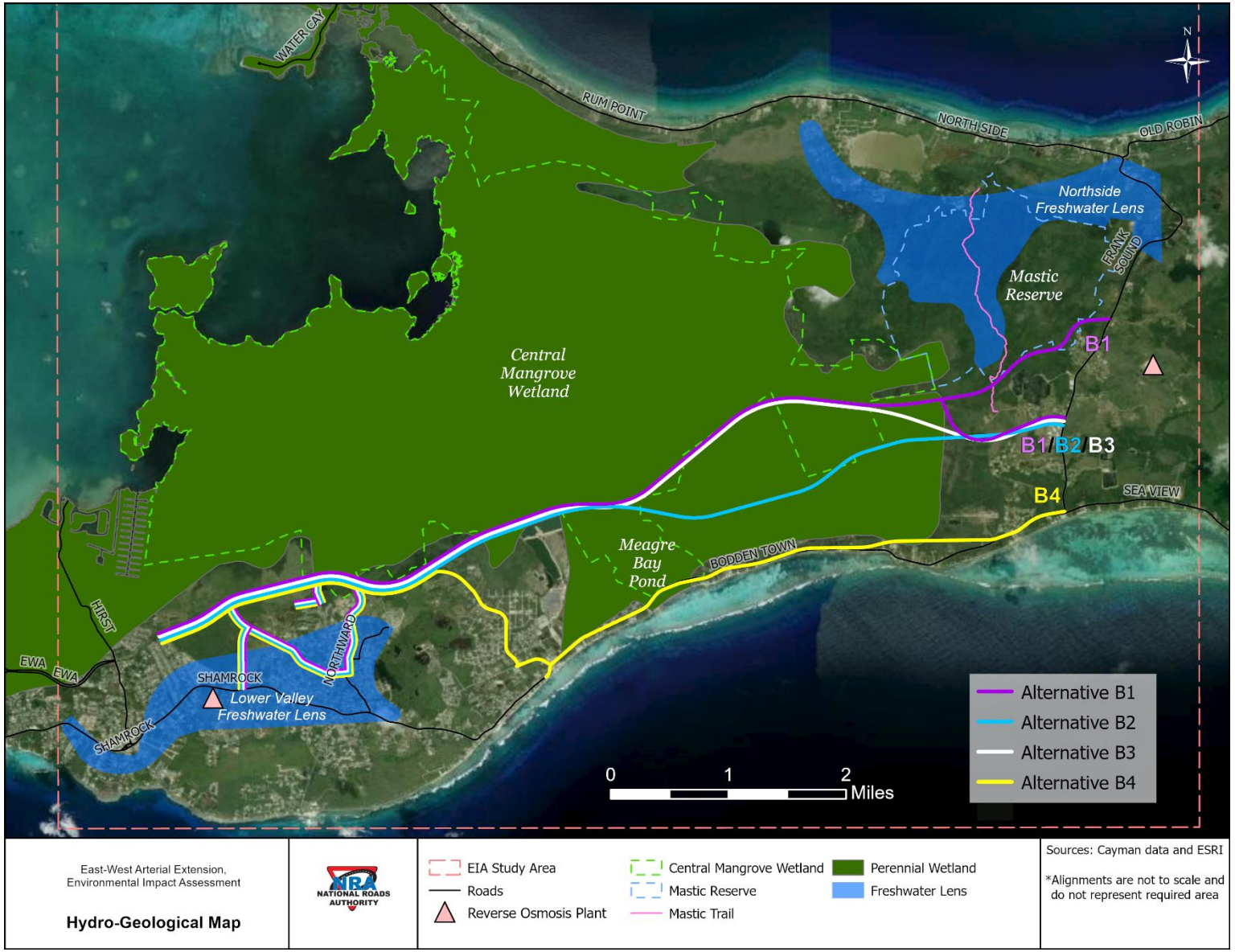

Figure 5: Hydro-Geological Map of the Study Area

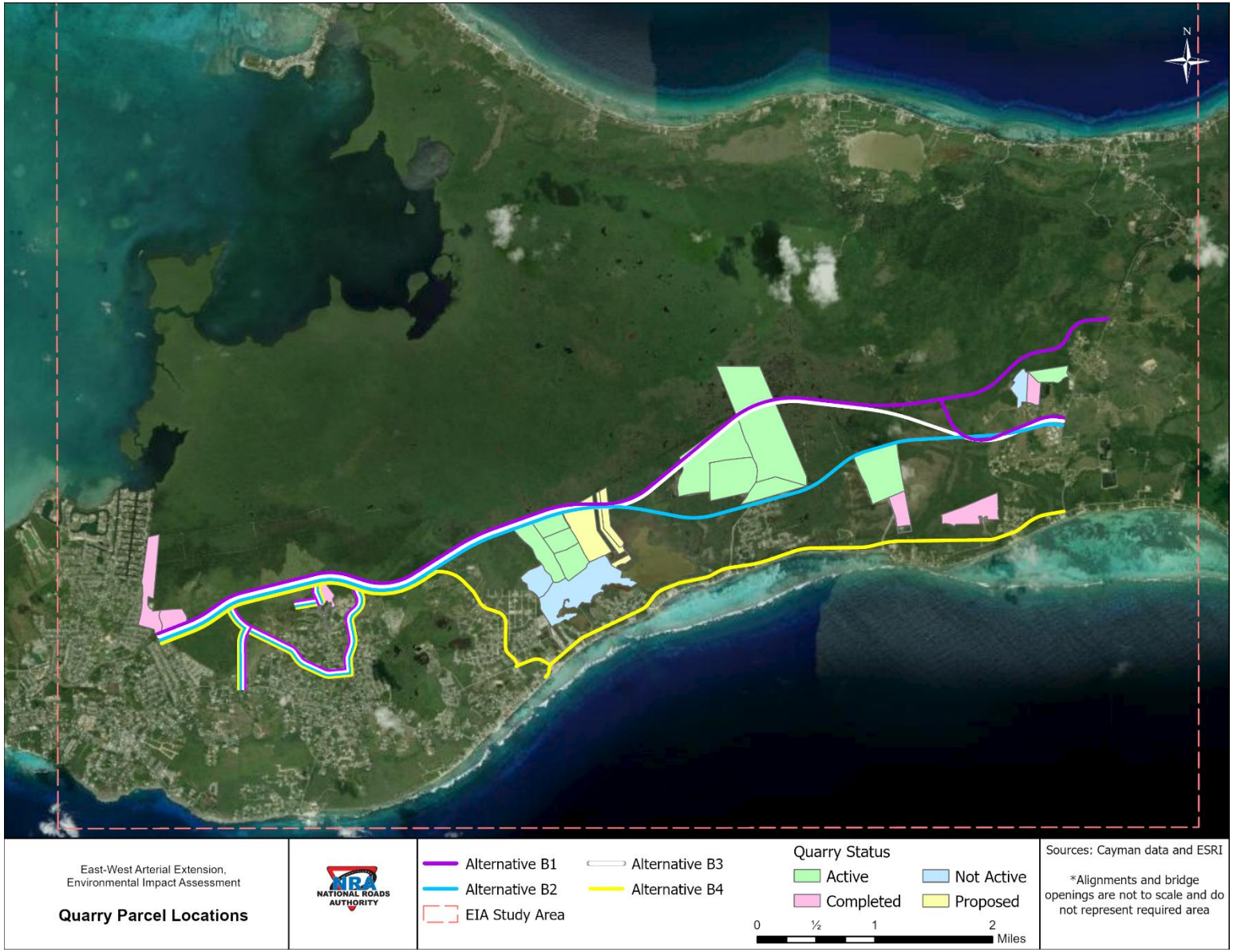

Figure 6: Quarry Locations Within the EIA Study Area

3.8 Quarries

Based on coordination with the NRA, Water Authority, and Department of the Environment (DoE), there are a total of 17 quarries within the EIA study area, including 6 active, 6 completed, 3 not active, and 2 proposed quarries, encompassing a total of 22 parcels. Alternatives B1, B2, and B3 are located directly adjacent to existing water-filled, rock quarries and cross through two proposed quarries. In addition, Alternatives B1 and B3 cross through two active quarries. An active quarry was visited during the 2023 field assessment (see Section 3.8.4). Quarry locations are included in **Figure 6**.

Quarries represent potentially more direct pathways into the karst aquifer, especially where karst voids may have been connected to the surface as a result of mining or hydrogeologic processes. In this sense, the saturated quarries are broadly similar to natural ponds, wells, or sinkholes with respect to vulnerability. In addition, the planned land use and possible mineral rights at the quarries will be further investigated for the areas along the Preferred Alternative.

3.9 Studies and Field Survey

3.9.1 Lower Valley Freshwater Lens

The Lower Valley Lens underlies the No-Build scenario and all four Build alternatives (Alternatives B1, B2, B3 and B4). The lens covers an area of 960 acres (388 hectares) and is elongated in a generally east-west orientation (**Figure 1** and **Figure 5**). Cap rock in the upper part of the Cayman Formation acts as a barrier to upward movement of groundwater from the deeper part of the Cayman Formation. The Lower Valley Lens overlies northwest-trending photolineaments that represent bedrock fractures likely connected with the ocean. In general, a lineament is a linear feature on the surface of the earth associated with geologic aspects such as discontinuities in bedrock. Lineaments may represent zones with relatively greater groundwater flow.

The freshwater table in the Lower Valley Lens is up to 2 feet (0.6 metres) above sea level. The bottom of the freshwater lens is at 26 feet (8 metres) below sea level. The transition zone between fresh and saline water extends from 26 feet (8 metres) below sea level to 66 feet (20 metres) below sea level. Seawater is present 66 feet (20 metres) below sea level and lower.

The Lower Valley Lens has historically been a water supply source. Since 1998 the Water Authority has operated a reverse osmosis plant located over the Lower Valley freshwater lens (**Figure 5**). The Water Authority had previously operated the Lower Valley wellfield and reservoir from 1984 to 1994, pumping fresh groundwater at low abstraction rates. Currently the Water Authority pumps and treats only saline water (below the Lower Valley Freshwater Lens). This approach preserves the Lower Valley Lens for local water users.

The reverse osmosis plant disposes of brine in a zone deeper than the abstraction zone. At the Lower Valley reverse osmosis plant, the abstraction zone is approximately 150 to 220 feet (45-67 metres) deep, the disposal zone is approximately 280 to 330 feet deep, and the distance between the abstraction well and the disposal well is approximately 330 feet (100 metres) (**Figure 7**). Note that **Figure 7** indicates the brine disposal depth in 2001; however, in 2005 it was deepened to the

depth stated in this report, because the production capacity of the reverse osmosis plant had increased. Disposal in the ocean is undesirable from an environmental standpoint.

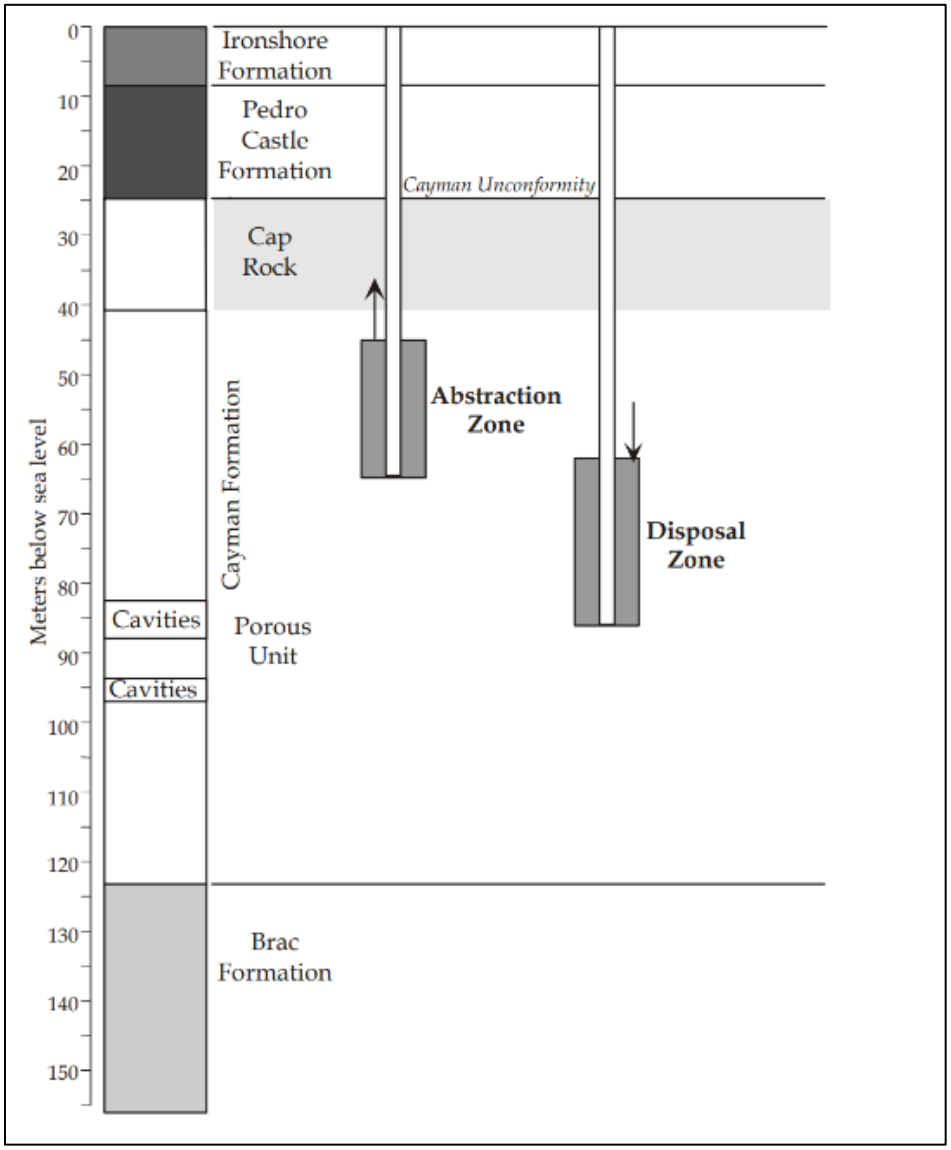

Figure 7: Lower Valley abstraction and disposal zones in relation to the geological succession

Source: Jones, B., van Genderen, H. J., & van Zanten, T. (2001)

3.9.2 North Side Freshwater Lens

The North Side Lens is adjacent to (and slightly north of) Alternatives B1, B2 and B3. The lens covers an area of 1,536 acres (622 hectares) and is located south of Old Man Bay. The lens is centred on the topographic feature called "The Mountain", which refers to the area on Grand Cayman where the land surface elevation is the highest on the island. The fresh water exists in coarse white marl, gravel, and limestone. The North Side Lens overlies north- and northwest-trending bedrock lineaments.

The Water Authority does not have detailed water level data for the North Side Lens, but the expected water table elevation is 1.5 to 2 ft (0.5 to 0.6 m) above sea level. The bottom of the freshwater lens is 43 feet (13 metres) below sea level, and seawater is present at 82 feet (25 metres) below sea level. The Water Authority's North Side reverse osmosis plant (in the central part of Grand Cayman) is located outside the limits of the North Side Freshwater Lens (**Figure 5**).

3.9.3 Canal Impacts on Freshwater Lenses

Canalization for mosquito control in mangrove wetlands occurred on Grand Cayman beginning in the 1970s in order to drain water quicker and reduce mosquito breeding. Canals in the 7-to-9-foot depth range (2 to 3 metres) were cut through the shallow aquifer cap rock that serves as a confining bed. As a result, the breaching of the confining layer facilitated the hydraulic connection between freshwater lenses and the sea and the water table was lowered closer to sea level in the freshwater lens discharge areas.

Three hydrogeologic studies performed for the Cayman Islands Government in the 1970s and 1980s concluded that canals had caused adverse impacts by reducing the thicknesses of the freshwater lenses. [Bermes, B. J. (1983); RDI (August 1975); RDI (November 1980)]. In addition, in a 1995 Technical Memorandum, the Water Authority determined that canals had adversely affected the lenses [Genderen, H.-J. van. (1995)]. Since that time, the development of canals has been discouraged and/or prohibited. In addition, some existing canals on Grand Cayman have been blocked under direction from the Water Authority.

Within the project area, the four Build alternatives cross the central mangrove wetlands in the vicinity of the Lower Valley Lens and the North Side Lens; therefore, it is important to take into account the impact of canalization when assessing potential stormwater management approaches. For example, swales in mangrove areas may have a similar impact as the canals.



Figure 8: Blocked canal (July 2023)

3.9.4 Field Assessment

A site visit of the EIA study area was conducted in July 2023 to assess the existing conditions. Exposed bedrock formations were found in the CMW area (**Figure 9**), EWA western terminus (**Figure 10**), and Mastic Trail area (**Figures 11 to 14**). Peat was observed in the mangrove areas.

Access was provided by the NRA to the quarry just east of the Meagre Bay Pond during the field assessment. Observations were made around the perimeter of the quarry up to the northern most point of the quarry where it borders the CMW. The quarry contained large excavators that were actively being used for excavation in the quarries (**Figure 15**). The NRA personnel also indicated that blasting was being utilized in the excavation process. Limestone is actively being excavated from the quarry for use in construction (**Figure 16**). The term "limestone" is used widely for rock that is quarried in the Cayman Islands, although technically the quarried rock is limestone or dolostone.

The excavation areas were filled with groundwater almost up to the existing ground level. The depth below the water table of the quarries varies. The older quarries were excavated in the 12 to 14 ft (3.7 to 4.3 m) range, and the commercial quarries reach depths up to 50 ft (15.2 m). The portion of the CMW that could be observed from the north end of the quarry was mostly covered with pools of water at the surface level and was populated with mangrove trees. Please see the Terrestrial Ecology Assessment of Alternatives Document for further details regarding the CMW and low-density mangrove areas. Peat was found in conjunction with the mangroves (**Figure 17**).



Figure 9: Bedrock outcrop in the CMW area (July 2023)



Figure 10: Bedrock outcrop within western terminus of the EWA (July 2023)



Figure 11: Limestone pit along the Mastic Trail (July 2023)



Figure 12: Exposed bedrock along Mastic Trail (July 2023)



Figure 13: Large bedrock outcrop along the Mastic trail (July 2023)



Figure 14: Crevice in the bedrock along the Mastic Trail (July 2023)



Figure 15: Active Quarry (July 2023)



Figure 16: Quarried rock (July 2023)



Figure 17: Peat in mangroves north of the quarry (July 2023)

4 Impact Assessment

The following section describes potential impacts from the proposed shortlist of alternatives that may include changes to the quantity and quality of freshwater lenses, brackish groundwater, and peat.

4.1 Quantitative

4.1.1 Freshwater Lenses and Brackish Groundwater

Freshwater lenses are critically important water supplies on Grand Cayman. Potential impacts to freshwater lenses include the addition of impermeable surfaces that could diminish groundwater recharge or redirect stormwater away from the freshwater lenses. The term "groundwater" in the context of this assessment refers to underground water throughout the whole project study area, which is mostly brackish (not fresh) water with a chloride concentration ranging from 60 to 19,000 milligrams per litre. Certain changes in recharge could negatively influence hydraulic conditions in and around freshwater lenses or degrade the quality of recharging water. In addition, changes in drainage patterns also have the potential to impact the freshwater lenses. Changes in groundwater quality could theoretically follow mixing of the existing groundwater with stormwater infiltrating off new roadway. Changes in the unconfined aquifer water level could result in a rise in the water table where stormwater is newly infiltrated, or the water table could drop locally if infiltration were reduced due to new impermeable surfaces.

The freshwater lenses can also be damaged as potential sources of potable supply if the groundwater flow system supporting the lens undergoes changes that diminish the volume of

freshwater. This may result in eventual salt-water contamination of all but the shallowest wells used to extract fresh groundwater.

In the Lower Valley and North Side areas, the freshwater lens is primarily used for residential use, agriculture, and horticulture, where farming takes place and residences have fruit trees and other crops that can be grown because there is fresh groundwater. The fresh groundwater also supports the presence of specific naturally occurring vegetation that could be impacted by changes in the presence of fresh groundwater.

The Water Authority operates a reverse osmosis plant at the Lower Valley Water Works, and this plant abstracts saline groundwater from below the shallow fresh groundwater. The saline brine from the plant is disposed below the abstraction zone. The fresh water produced at Lower Valley Water Works is distributed via the public water supply system.

The construction of the new road may involve deep foundations such as piers, columns, or piles. The specific types, sizes and locations of necessary bridge and other roadway structure foundations will be assessed later in the design phase of the project. Drilling for deep foundations can also potentially increase hydraulic connections between layers containing groundwaters of different quality (e.g., fresh or saline) thus leading to contamination.

The use of disposal wells adjacent to roadways is a current practice for the disposal of stormwater in Grand Cayman, and they may also be implemented as part of the EWA project. Depths and locations of existing stormwater disposal wells were provided by the NRA on August 4, 2023. The provided well data indicates that the stormwater is typically drained into the subsurface at levels that are stratigraphically underneath freshwater lenses, to minimize mixing of the stormwater with fresh groundwater. The stormwater disposal wells are generally deeper than the lower limits of freshwater lenses at Grand Cayman, based on stormwater disposal well data provided by the Water Authority. Therefore, the water in the stormwater disposal wells is entering the unconfined aquifer where the aquifer is brackish.

Stormwater drainage patterns and recharge rates may be impacted if the project requires construction of stormwater disposal wells or other means for the conveyance or discharge of stormwater. Changes in groundwater quality could theoretically follow mixing of the existing groundwater with stormwater infiltrating off new roadway. Changes in the unconfined aquifer water level could be a rise in the water table where stormwater is newly infiltrated, or the water table could drop locally if infiltration were reduced due to new impermeable surfaces.

The potential release of contaminants may also impact groundwater, including the freshwater lenses. Due to the karst geology of the Cayman Islands and the absence of shallow low permeability confining zones, contaminants released directly (e.g., spillages) or indirectly (via surface water runoff) from the proposed EWA have the potential to migrate into the underlying aquifers leading to deterioration in groundwater quality. The amount of possible impact from the EWA would be related to the facility location in either a lens recharge or discharge area. The lens recharge areas are depicted in **Figure 1 and Figure 5**. The lens discharge areas begin at the limits of the recharge area and are not delineated.

Theoretically, a circular freshwater lens is recharged in its centre (where it is thickest) by precipitation, and the lens discharges fresh groundwater at the edges of the hypothetical circle. The lenses on Grand Cayman have non-circular shapes, primarily due to the configuration of the underlying geology. The Cayman Islands Government mapped areas of the freshwater lenses (on the hydrogeologic map) show the lens recharge areas. The lens discharge areas are the areas outside the lenses, including wetlands. Specifically, the discharge areas include the wetlands generally located north of the Lower Valley lens, and south-east of the North Side lens.

Construction in the lens recharge areas would result in direct impacts on the lenses. In addition, if the discharge areas are disrupted, then the lenses might have their configurations and discharge flow directions changed. Generally, groundwater moves from areas of higher groundwater elevation to areas of lower groundwater elevation. In this sense the edges of the freshwater lenses on the hydrogeologic map are the edges of discharge areas. Based on Water Authority data, the freshwater lens recharge areas are the zones within the 600-milligram per litre chloride contours. At increasing distance away from the freshwater lens boundaries, the role of the swampy area as mainly a receiving zone for migrating freshwater will tend to diminish. For example, areas closer to the Atlantic Ocean will tend to be zones of mixing with seawater. In terms of potential impact, impacts within the lens recharge area are considered higher than impacts within the lens discharge area.

Furthermore, soil compaction and the increased impervious surfaces (pavement) may result in reduced infiltration, which may impact the recharge rate and water level in the Lower Valley and North Side freshwater lenses, as well as groundwater.

During the construction of the proposed EWA roadway, temporary dewatering of foundations may result in localised and temporary decline in groundwater levels and deterioration in groundwater quality via induced saline intrusion.

These potential impacts of the shortlisted alternatives have been assessed individually for the Lower Valley Freshwater Lens, the North Side Freshwater Lens, and brackish groundwater. The impact of the project on the change of drainage patterns and the potable supply of the freshwater lenses have been assessed by the distance from the proposed roadway to the freshwater lenses recharge area, as these are the only formally delineated boundaries. Reduced infiltration capacity of the freshwater lenses and groundwater have been assessed by measuring the increase of impervious surface area assuming that no sustainable drainage solutions be employed during the design. The temporary dewatering impact of the project was assessed along the length of the proposed roadway through the CMW. See **Table 1** for the quantified values for distance from the freshwater lenses, the amount of impervious surface area, and the length of roadway through the CMW.

4.1.2 Peat

Peat may potentially be removed, covered over, compacted, or contaminated during construction, which may impact the CMW. The peat substrate is necessary to provide new growth for many species of flora, including but not limited to mangrove species. Peat is a vital component of a healthy wetland ecosystem and sequesters and purifies toxins from the surrounding groundwater.

The removal of peat and potential for the release of greenhouse gases is discussed further in the Greenhouse Gas Assessment of Alternatives. The impact to peat was assessed by the overall quantity of peat removal anticipated for each alternative.

The methodology for determining the total quantity of peat removal for each alternative is based on the trial pit data supplied by NRA from 2008 and 2014 discussed in Section 3.5 of this document. The data included depths and locations of peat, which were translated to a profile/alignment in which an engineer design template was applied to calculate the volume of excavation based on the width of the corridor, the length along the alignment, and the depth provided by the trial pit data.

The original trial pit locations mostly line up with the current Alternative B1 corridor (**Attachment A**) and so were able to be applied along the entire alignment for the available data set. Missing pieces of data between trial pit locations were interpolated. For Alternatives B2, B3, and B4, this same trial pit data was applied to the portions of the alignment that followed or most closely followed the existing trial pit data. In some cases, where the trial pit locations were somewhat removed from the alignment, this data was projected to the alignment. In other locations that were far removed from the data, aerial imagery and context of location were used to best approximate additional peat removal areas (for example, if aerial imagery showed a densely vegetated area with pockets of water, similar to known peat areas).

Additional information regarding peat quantities is provided within the Engineering Evaluation Document. See **Table 1** for the quantified values of volume of peat removal and the length of roadway through the CMW.

Table 1: Summary of Geo-Environmental Quantitative Impact Assessment by Alternative

Resource	Potential Impact	Assessment Method	No-Build	B1	B2	B3	B4
Lower Valley Lens	Impact on lens recharge area	Acreage of roadway construction within the mapped recharge area	N/A*	10.1 acres 4.1 ha	10.1 acres 4.1 ha	10.1 acres 4.1 ha	10.1 acres 4.1 ha
North Side Lens	Impact on lens recharge area	Distance of additional roadway from the mapped recharge area	N/A*	0.1 mile; 0.2 km	0.5 mile; 0.8 km	0.6 mile; 0.9 km	1.3 miles; 2.1 km
Brackish Ground-water	Contamination of groundwater due to contaminant spills and infiltration of road runoff	Increase of impervious surface area**	0 acre; 0 ha	161 acres; 65 ha	132 acres; 53 ha	135 acres; 55 ha	98 acres; 40 ha
Peat	Peat impact on CMW	Additional length of roadway thru CMW	0 mile; 0 km	2.8 miles; 4.5 km	2.1 miles; 3.4 km	2.8 miles; 4.5 km	0.7 mile; 1.1 km
		Total volume of peat removal; *cubic yards (Cu yd); cubic metres (m^3)*	0 Cu yd; 0 m^3	550,994 Cu yd; 421,265 m^3	223,811 Cu yd; 171,116 m^3	454,153 Cu yd; 347,225 m^3	118,895 Cu yd; 90,902 m^3

*The No-Build scenario is considered the baseline for comparison for the Build alternatives in terms of roadway infrastructure. Therefore, is it considered to include no additional roadway (expressed as N/A).
**Impervious surface area was calculated based on the 2074 cross-sections and corridor lengths. See the Engineering Evaluation Document for additional details.

4.2 Qualitative

4.2.1 Qualitative Assessment Methodology

The following qualitative assessment for Geo-Environmental resources was based on the UK Department for Transport's "Transport Analysis Guidance Unit A3: Environmental Impact Appraisal" (WebTAG). The most applicable category for Geo-Environmental impacts is "Impacts to Water Environment". Therefore, this qualitative assessment incorporates WebTAG Section 10 of the Unit A3; Environmental Impact Appraisal as appropriate. The qualitative assessment also incorporates the March 2020 Design Manual for Roads and Bridges LA 113 as appropriate.

A variation from WebTAG Unit A3 is that this assessment did not include the "Very Large Adverse Impact" category since it is inconsistent with the 7-point qualitative scale assigned in the Appraisal Summary Table.

The **first step** of the qualitative assessment was to determine the importance (or value) of features based on the guidance table below:

Table 2: Estimating the Importance of Water Environment Features

Importance	Criteria	Examples
Very high	• Feature with a high quality and rarity, regional or national scale and limited potential for substitution	• Aquifer providing potable water to a large population (groundwater) • Important fish population (surface water) • Floodplain or defence protecting more than 100 residential properties (flood risk)
High	• Feature with a high quality and rarity, local scale and limited potential for substitution • Feature with a medium quality and rarity, regional or national scale and limited potential for substitution	• High status water body (surface water) • Aquifer providing potable water to a small population (groundwater) • Notable fish population (surface water) • Floodplain or defence protecting up to 100 residential properties or industrial premises (flood risk)
Medium	• Feature with a medium quality and rarity, local scale and limited potential for substitution • Feature with a low quality and rarity, regional or national scale and limited potential for substitution	• Good status water body (surface water) • Aquifer providing abstraction water for agricultural or industrial use (groundwater) • Floodplain or defence protecting up to 10 industrial premises (flood risk)
Low	• Feature with a low quality and rarity, local scale and limited potential for substitution	• Less than good status (surface water) • Unproductive strata (groundwater) • Floodplain with limited existing development (flood risk)

Source: WebTAG Unit A3, Environmental Impact Appraisal, Table 13, November 2023

The **second step** of the qualitative assessment was to determine the magnitude of impact (positive or negative). This is based on Table 14 from WebTAG Unit A3 as depicted in **Table 3**. Please note that the ranking system and criteria from WebTAG were followed, but that some of the terminology within the magnitude of impact section was modified to ease document consistency

and reader understanding. Because the subsequent step (the **third step**) in the evaluation uses the terms "Adverse" and "Beneficial," those terms in **Table 3** were changed to "Negative" and "Positive." This change in terminology is consistent with other sections of WebTAG Unit A3.

Table 3: Estimating the Magnitude of Impact

Magnitude	Criteria	Example
Major Negative	• Results in loss of feature	• Loss of important fishery • Change in water quality status • Compromise employment source • Loss of flood storage/increased flood risk • Pollution of potable source of abstraction
Moderate Negative	• Results in adverse impact on integrity of feature or loss of part of feature	• Loss in productivity of a fishery • Contribution of a significant proportion of the effluent in the receiving water body • Reduction in the economic value of the feature
Minor Negative	• Results in minor adverse impact on feature	• Measurable changes in feature, but of limited size and/or proportion
Negligible	• Results in an impact on feature but of insufficient magnitude to affect the use/integrity	• Discharges to watercourse but no significant loss in quality, fishery productivity or biodiversity • No significant impact on the economic value of the feature • No increase in flood risk
Minor Positive	• Results in minor beneficial impact on feature or a reduced risk of adverse effect occurring.	• Measurable changes in feature, but of limited size and/or proportion
Moderate Positive	• Results in moderate improvement of feature	• Enhanced productivity of a fishery • Reduction in a significant proportion of the effluent in a receiving water body • Moderate reduction in flood risk
Major Positive	• Results in major improvement of feature	• Removal of major existing polluting discharge to a watercourse • Major reduction in flood risk

Source: WebTAG Unit A3, Environmental Impact Appraisal, Table 14, November 2023

The **third step** of the qualitative assessment was to determine the assessment scores based on the results of Steps 1 and 2. As shown in **Table 4** the assessment scores are based on the magnitude of impact and the importance of the water environment feature. **Table 4** is the matrix that was used to define the scores of the selected features which are presented in **Table 7**.

This step is a streamlined version of determining the Overall Assessment Score of the water resource per WebTAG Unit A3 (see paragraph 10.2.15). To reduce confusion, the terminology in **Table 4** was updated to match the terms used in Unit A3's Table 16. However, the process for

using the matrix was not changed. This allows for an assessment score per *resource* to be determined.

Table 4: Assessment Score by Resource

Magnitude of Impact*	Importance of Water Environment Features			
	Very High	High	Medium	Low
Major Negative	Large adverse**	Large adverse	Moderate adverse	Slight adverse
Moderate Negative	Large adverse	Moderate adverse	Slight adverse	Neutral
Minor Negative	Moderate adverse	Slight adverse	Neutral	Neutral
Negligible	Slight adverse	Neutral	Neutral	Neutral

**All identified impacts were adverse, therefore beneficial impacts are not shown within the table*
***Very Large and Large Adverse were merged to be consistent with the 7-point qualitative scale for the Appraisal Summary Table*

Source: WebTAG Unit A3, Environmental Impact Appraisal, Table 15, November 2023

Finally, an Overall Assessment Score of each alternative that takes into account the individual assessment score for each resource is evaluated and determined (**Table 5**). WebTAG guides project teams to also consider the number of key water resources affected by a scheme when determining the Overall Assessment Score. Therefore, both the assessment score by resource as well as the number of impacted resources were taken into account when determining the Overall Assessment Score per alternative.

Table 5: Definitions of Overall Assessment Score

Score	Comment
Large Beneficial Impact	It is extremely unlikely that any scheme incorporating the construction of a new transport route (road or rail) would fit into this category. However, a scheme could have a large positive impact if it is predicted that it will result in a 'very' or 'highly' significant improvement to a water feature(s), with insignificant adverse impacts on other water features.
Moderate Beneficial Impact	Where the scheme provides an opportunity to enhance the water environment features, because it results in predicted: • Significant improvements for at least one water feature, with insignificant adverse impacts on other features; • Very or highly significant improvements, but with some adverse impacts of a much lower significance. The predicted improvements achieved by the scheme should greatly outweigh any potential negative impacts.
Slight Beneficial Impact	Where the scheme provides an opportunity to enhance the water environment, because it provides improvements in water features which are of greater significance than the adverse effects.

Score	Comment
Neutral	Where the net impact of the scheme is neutral, because: • It has no appreciable effect, either positive or negative, on the identified water environment features; • The scheme would result in a combination of effects, some positive and some negative, which balance to give an overall neutral impact. In most cases, these will be slight or moderate positive and negative impacts. It may be possible to balance impacts of greater significance; however, in these cases great care will be required to ensure that the impacts are comparable in terms of their potential environmental impacts and the perception of these impacts.
Slight Adverse Impacts	Where the scheme may result in a degradation of the water environment because the predicted adverse impacts are of greater significance than the predicted improvements.
Moderate Adverse Impacts	Where the scheme may result in a degradation of the water environment, because it results in predicted: • Significant adverse impacts on at least one feature, with insignificant predicted improvements to other features; • Very or highly significant adverse impacts but with some improvements which are of a much lower significance and are insufficient positive impacts to offset the negative impacts of the scheme.
Large Adverse Impact	Where the scheme may result in a degradation of the water environment, because it results in predicted: • Highly significant adverse impacts on a water environment feature; • Significant adverse impacts on several water environment features
**Very Large Adverse Impact was not included for consistency with the 7-point qualitative scale for the Appraisal Summary Table*	

Source: TAG Unit A3, Environmental Impact Appraisal, Table 16*, November 2023

4.2.2 Importance of Water Environment Features

The first step in the qualitative assessment was to determine the importance of each water environmental feature (resource) based on **Table 2**.

4.2.2.1 Lower Valley Freshwater Lens

As described in Section 2.2.1, the Lower Valley Freshwater Lens is an existing water supply source for potable water for a localized population. Fresh groundwater also supports agriculture and horticulture, including farming and residences with fruit trees and other crops, and the presence of specific naturally occurring vegetation.

While there is also a population that obtains treated public water from the Water Authority's desalination plant, there are domestic well owners that directly rely on the freshwater lens as a supply of water. While connection to the existing public water system is possible as a substitution, consumers who previously used private wells might have a new cost if they needed to switch to desalinated, public water for their supply. The Lower Valley Freshwater Lens receives a **"Very High"** rating on the Importance of Water Environment Features scale due to the high freshwater quality, its localized use as a fresh water supply, and limited potential for substitution.

4.2.2.2 North Side Freshwater Lens

As described in Section 2.2.2, the North Side Freshwater Lens is an existing water supply source for potable water for a localized population. Fresh groundwater also supports agriculture and horticulture, including farming and residences with fruit trees and other crops, and the presence of specific naturally occurring vegetation.

While there is also a population that obtains treated public water from the Water Authority's desalination plant, there are domestic well owners that directly rely on the freshwater lens as a supply of water. Consumers previously using only private wells would have a new cost if they needed to connect to public water, including situations where it was to be used for agriculture or horticulture.

While connection to the existing public water system is possible as a substitution, consumers who previously used private wells might have a new cost if they needed to switch to desalinated, public water for their supply. The North Side Freshwater Lens receives a **"Very High"** rating on the Importance of Water Environment Features scale due to the high freshwater quality, its localized use as a fresh water supply, and limited potential for substitution.

4.2.2.3 Brackish Groundwater

Brackish groundwater refers to the subsurface water located beneath the EIA study area, which is mostly brackish (a combination of salt water and fresh water). Brackish water is widely available though is unusable without treatment. Due to its generally non-potable water quality and wide availability, the brackish groundwater receives a **"Medium"** rating on the Importance of Water Environment Features scale.

4.2.2.4 Peat

The peat substrate, which is necessary to provide for new growth for many species of flora, is a vital component of a healthy wetland ecosystem, and sequesters and purifies toxins from the surrounding groundwater. Due to the direct connection of peat with ecosystems of high national priority with limited potential for substitution (CMW), peat receives a **"Very High"** rating on the Importance of Water Environment Features scale.

4.2.3 Magnitude of Impact

The second step in the qualitative assessment was to determine the magnitude of impact of each alternative on water environmental feature (resource) based on **Table 3**.

4.2.3.1 No-Build

The No-Build scenario is considered the baseline condition of comparison for the Build Alternatives (B1, B2, B3, and B4) regarding Geo-Environmental resources. Therefore, this scenario receives a **"Negligible"** rating on the Magnitude of Impact scale for all resources (Lower Valley Freshwater Lens, North Side Freshwater Lens, Brackish Groundwater, and Peat).

4.2.3.2 Alternative B1

Lower Valley Freshwater Lens: A portion of Alternative B1 extends across the recharge area of the Lower Vally Freshwater Lens and partially crosses the discharge area. Alternative B1 is anticipated to result in 10.1 acres (4.1 hectares) of roadway construction within the Lower Valley Freshwater Lens recharge area. This equates to approximately 1% of the identified overall recharge area. Potential impacts from construction within the recharge area include reduced infiltration and direct contamination during construction. Due to the potential for reduced infiltration and contamination, Alternative B1 is anticipated to have a negative impact on the Lower Vally Freshwater Lens. However, based upon the low area of impact (1% of recharge area) and amount of existing development within the Lower Valley Freshwater Lens recharge area, Alternative B1 is anticipated to have an insignificant impact on the overall waterbody quality. Therefore, it receives a **"Minor Negative"** rating on the Magnitude of Impact scale.

North Side Freshwater Lens: Alternative B1 is located approximately 0.1 mile (0.2 kilometre) south of the identified North Side Freshwater Lens recharge area. Due to the proximity, it is anticipated that a portion of Alternative B1 would be located within the North Side Freshwater Lens discharge area. As discussed in Section 4.1.1 above, the discharge areas are not formally delineated boundaries. Potential impacts from construction within the discharge area include disruption the natural discharge patterns and configuration of the freshwater portion of the lens. Due to the overall size of the resource and lack of direct impact on the recharge area, Alternative B1 is anticipated to have a measurable but insignificant impact on the North Side Freshwater Lens. Therefore, it receives a **"Minor Negative"** rating on the Magnitude of Impact scale.

Brackish Groundwater: Alternative B1 extends across an area underlain by brackish groundwater. While the brackish groundwater is mostly non-potable, it is ultimately hydrologically connected with freshwater. Potential impacts include decrease in infiltration due to additional impervious surface area and disruption to natural flow patterns beneath the roadway fill materials. Although Alternative B1 is anticipated to have a negative impact to the adjacent groundwater, it is anticipated to be limited in size/proportion due to the abundance of brackish groundwater throughout the EIA study area. Therefore, it receives a **"Minor Negative"** rating on the Magnitude of Impact scale.

Peat: Alternative B1 is anticipated to require approximately 550,994 Cu yd (421,265 m^3) of peat removal for construction. Alternative B1 is also anticipated to result in the construction of approximately 2.8 miles (4.5 km) of new roadway within the CMW. Due to the volume of peat removal required and dependence of the CMW system on peat for both substrate and water quality, peat removal is anticipated to have a negative, measurable impact on the CMW system. However, based on the overall size of the CMW system (**Figure 1**), Alternative B1 is not anticipated to result in a degraded quality or loss of the overall CMW system due to peat removal. Therefore, it receives a **"Moderate Negative"** rating on the Magnitude of Impact scale.

4.2.3.3 Alternative B2

Lower Valley Freshwater Lens: A portion of Alternative B2 extends across the recharge area of the Lower Vally Freshwater Lens and partially crosses the discharge area. Alternative B2 is anticipated to result in 10.1 acres (4.1 hectares) of roadway construction within the Lower Valley Freshwater Lens recharge area. This equates to approximately 1% of the identified overall recharge area. Potential impacts from construction within the recharge area include reduced infiltration and direct contamination during construction. Due to the potential for reduced infiltration and contamination, Alternative B2 is anticipated to have a negative impact on the Lower Vally Freshwater Lens. However, based upon the low area of impact (1% of recharge area) and amount of existing development within the Lower Vally Freshwater Lens recharge area, Alternative B2 is anticipated to have an insignificant impact on the overall waterbody quality. Therefore, it receives a **"Minor Negative"** rating on the Magnitude of Impact scale.

North Side Freshwater Lens: Alternative B2 is located approximately 0.5 mile (0.8 kilometre) south of the mapped North Side Freshwater Lens recharge area. Due to the distance, it is unclear whether the alternative is located within the North Side Freshwater Lens discharge area. Therefore, Alternative B2 is anticipated to have an immeasurable impact on the North Side Freshwater Lens. Therefore, it receives a **"Negligible"** rating on the Magnitude of Impact scale.

Brackish Groundwater: Alternative B2 extends across area underlain by brackish groundwater. While the brackish groundwater is mostly non-potable, it is ultimately hydrologically connected with freshwater. Potential impacts include decrease in infiltration due to additional impervious surface area and disruption to natural flow patterns beneath the roadway fill materials. Although Alternative B2 is anticipated to have a negative impact to the adjacent groundwater, it is anticipated to be limited in size/proportion due to the abundance of brackish groundwater throughout the EIA study area. Therefore, it receives a **"Minor Negative"** rating on the Magnitude of Impact scale.

Peat: Alternative B2 is anticipated to require approximately 223,811 Cu yd (171,116 m^3) of peat removal for construction. Alternative B2 is also anticipated to result in the construction of approximately 2.1 miles (3.4 km) of new roadway within the CMW. Due to the volume of peat removal required and dependence of the CMW system on peat for both substrate and water quality, peat removal is anticipated to have a negative, measurable impact on the CMW system. However, based on the overall size of the CMW system **(Figure 1)**, Alternative B2 is not anticipated to result in a degraded quality or loss of the overall CMW system due to peat removal. Therefore, it receives an **"Moderate Negative"** rating on the Magnitude of Impact scale.

4.2.3.4 Alternative B3

Lower Valley Freshwater Lens: A portion of Alternative B3 extends across the recharge area of the Lower Vally Freshwater Lens and partially crosses the discharge area. Alternative B3 is anticipated to result in 10.1 acres (4.1 hectares) of roadway construction within the Lower Valley Freshwater Lens recharge area. This equates to approximately 1%

of the identified overall recharge area. Potential impacts from construction within the recharge area include reduced infiltration and direct contamination during construction. Due to the potential for reduced infiltration and contamination, Alternative B3 is anticipated to have a negative impact on the Lower Vally Freshwater Lens. However, based upon the low area of impact (1% of recharge area) and amount of existing development within the Lower Vally Freshwater Lens recharge area, Alternative B3 is anticipated to have an insignificant impact on the overall waterbody quality. Therefore, it receives a **"Minor Negative"** rating on the Magnitude of Impact scale.

North Side Freshwater Lens: Alternative B3 is located approximately 0.5 mile (0.9 kilometre) south of the identified North Side Freshwater Lens recharge area. Due to the distance, it is unclear whether the alternative is located within the North Side Freshwater Lens discharge area. Therefore, Alternative B3 is anticipated to have an immeasurable impact on the North Side Freshwater Lens. Therefore, it receives a **"Negligible"** rating on the Magnitude of Impact scale.

Brackish Groundwater: Alternative B3 extends across area underlain by brackish groundwater. While the brackish groundwater is mostly non-potable, it is ultimately hydrologically connected with freshwater. Potential impacts include decrease in infiltration due to additional impervious surface area and disruption to natural flow patterns beneath the roadway fill materials. Although Alternative B3 is anticipated to have a negative impact to the adjacent groundwater, it is anticipated to be limited in size/proportion due to the abundance of brackish groundwater throughout the EIA study area. Therefore, it receives a **"Minor Negative"** rating on the Magnitude of Impact scale.

Peat: Alternative B3 is anticipated to require approximately 454,153 Cu yd (347,225 m^3) of peat removal for construction. Alternative B3 is also anticipated to result in the construction of approximately 2.8 miles (4.5 km) of new roadway within the CMW. Due to the volume of peat removal required and dependence of the CMW system on peat for both substrate and water quality, peat removal is anticipated to have a negative, measurable impact on the CMW system; however, based on the overall size of the CMW system **(Figure 1)**, Alternative B3 is not anticipated to result in a degraded quality to the overall CMW system due to peat removal. Therefore, it receives a **"Moderate Negative"** rating on the Magnitude of Impact scale.

4.2.3.5 Alternative B4

Lower Valley Freshwater Lens: A portion of Alternative B4 extends across the recharge area of the Lower Vally Freshwater Lens and partially crosses the discharge area. Alternative B4 is anticipated to result in 10.1 acres (4.1 hectares) of roadway construction within the Lower Valley Freshwater Lens recharge area. This equates to approximately 1% of the identified overall recharge area. Potential impacts from construction within the recharge area include reduced infiltration and direct contamination during construction. Due to the potential for reduced infiltration and contamination, Alternative B4 is anticipated to have a negative impact on the Lower Vally Freshwater Lens. However, based upon the low area of impact (1% of recharge area) and amount of existing development

within the Lower Vally Freshwater Lens recharge area, Alternative B4 is anticipated to have an insignificant impact on the overall waterbody quality. Therefore, it receives a **"Minor Negative"** rating on the Magnitude of Impact scale.

North Side Freshwater Lens: Alternative B4 is located approximately 1.2 miles (2.0 kilometres) south of the identified North Side Freshwater Lens recharge area. Due to the distance, it is unclear whether the alternative is located within the North Side Freshwater Lens discharge area. Therefore, Alternative B4 is anticipated to have an immeasurable impact on the North Side Freshwater Lens. Therefore, it receives a **"Negligible"** rating on the Magnitude of Impact scale.

Brackish Groundwater: Alternative B4 extends across area underlain by brackish groundwater. While the brackish groundwater is mostly non-potable, it is ultimately hydrologically connected with freshwater. Potential impacts include decrease in infiltration due to additional impervious surface area and disruption to natural flow patterns beneath the roadway fill materials. Although Alternative B4 is anticipated to have a negative impact to the adjacent groundwater, it is anticipated to be limited in size/proportion due to the abundance of brackish groundwater throughout the EIA study area. Therefore, it receives a **"Minor Negative"** rating on the Magnitude of Impact scale.

Peat: Alternative B4 is anticipated to require approximately 118,895 Cu yd (90,902 m^3) of peat removal for construction. Alternative B4 is also anticipated to result in the construction of approximately 0.7 mile (1.1 km) of new roadway within the **CMW**. Due to the volume of peat removal required and dependence of the CMW system on peat for both substrate and water quality, peat removal is anticipated to have a negative, measurable impact on the CMW system; however, based on the overall size of the CMW system (**Figure 1**) and limited disturbance through the CMW, Alternative B4 is anticipated to result in a negative impact of limited size/proportion due to peat removal. Therefore, it receives a **"Minor Negative"** rating on the Magnitude of Impact scale.

4.2.4 Overall Assessment Scores

Table 6 provides an overview of the Importance and Magnitude of Impact by resource and alternative.

Table 6: Summary Table of Importance and Magnitude of Impact by Resource and Alternative

Resource	Importance	Anticipated Magnitude of Impact by Alternative				
		No-Build	B1	B2	B3	B4
Lower Valley Freshwater Lens	Very High	Negligible	Minor Negative	Minor Negative	Minor Negative	Minor Negative
North Side Freshwater Lens	Very High	Negligible	Minor Negative	Negligible	Negligible	Negligible
Brackish Ground-water	Medium	Negligible	Minor Negative	Minor Negative	Minor Negative	Minor Negative
Peat	Very High	Negligible	Moderate Negative	Moderate Negative	Moderate Negative	Minor Negative

Table 7 provides an overall summary of the qualitative rating by resource and overall. As discussed in Section 4.2.1 above, the qualitative rating by resource is based on the importance of the resource and magnitude of impact as show in **Table 4**. For example, the Lower Valley Freshwater Lens has an importance of "Very High," and B1 is anticipated to have a "Minor Negative" impact on the resource; therefore, per **Table 4**, the anticipated impact of B1 on the Lower Valley Freshwater Lens is "Moderate Adverse." The overall qualitative rating for each Build alternative is based on the definition of assessment score guidance shown in **Table 5**. The following describes the overall qualitative impacts determined for each of the shortlisted alternatives.

No-Build: The No-Build scenario is anticipated to have a Slight Adverse or Neutral impact on the identified features. Therefore, it results in an overall "Slight Adverse" rating based on **Table 5**.

Alternatives B1, B2, and B3: Alternatives B1, B2, and B3 are anticipated to have a significant adverse impact on one feature (large adverse impact on peat) with moderate or slight impacts on the other identified features. Therefore, these alternatives result in an overall "Large Adverse" rating based on **Table 5**.

Alternative B4: Alternative B4 is anticipated to have moderate impacts on two features (moderate adverse impact on the Lower Valley Freshwater Lens and Peat) with a Slight Adverse or Neutral impact on the other identified features. Therefore, it results in an overall "Moderate Adverse" rating based on **Table 5**.

Table 7: Summary Table of Qualitative Impacts on Geo-Environmental Resources

Resource	No-Build	B1	B2	B3	B4
Lower Valley Freshwater Lens	Slight Adverse	Moderate Adverse	Moderate Adverse	Moderate Adverse	Moderate Adverse
North Side Freshwater Lens	Slight Adverse	Moderate Adverse	Slight Adverse	Slight Adverse	Slight Adverse
Brackish Groundwater	Neutral	Neutral	Neutral	Neutral	Neutral
Peat	Slight Adverse	Large Adverse	Large Adverse	Large Adverse	Moderate Adverse
Overall Qualitative Rating	**Slight Adverse**	**Large Adverse**	**Large Adverse**	**Large Adverse**	**Moderate Adverse**

4.3 Monetary

Not applicable per the UK Department for Transport "Transport Analysis Guidance".

5 Shortlist Evaluation Summary

The Shortlist Evaluation included a quantitative analysis (Section 4.1), a qualitative analysis (Section 4.2), and a monetary valuation (Section 4.3) for each of the shortlisted Build alternatives along with the No-Build scenario. As noted in Section 4.3, a monetary valuation is not applicable per the UK Department for Transport "Transport Analysis Guidance". The listed evaluations have been compiled into **Table 8** below.

For the unavoidable impacts reported, mitigation measures to aid in offsetting impacts may be possible. Mitigation measures have not been considered as part of this Shortlist Evaluation but will be investigated and identified for the Preferred Alternative and documented in the forthcoming Environmental Statement Document.

Table 8: Summary Table Geo-Environmental Shortlist Evaluation

Resource	No-Build	B1	B2	B3	B4
Lower Valley Freshwater Lens	Slight Adverse (0 acre; 0 ha of construction)	Moderate Adverse (10.1 acres; 4.1 ha of construction)	Moderate Adverse (10.1 acres; 4.1 ha of construction)	Moderate Adverse (10.1 acres; 4.1 ha of construction)	Moderate Adverse (10.1 acres; 4.1 ha of construction)
North Side Freshwater Lens	Slight Adverse (N/A)	Moderate Adverse (0.1 mile; 0.2 km distance)	Slight Adverse (0.5 mile; 0.8 km distance)	Slight Adverse (0.5 mile; 0.9 km distance)	Slight Adverse (1.2 miles; 2.0 km distance)
Brackish Groundwater	Neutral (0 acre; 0 ha)	Neutral (161 acres; 65 ha)	Neutral (132 acres; 53 ha)	Neutral (135 acres; 55 ha)	Neutral (98 acres; 40 ha)
Peat	Slight Adverse (0 mile; 0 km thru CMW) (0 Cu yd; 0 m^3)	Large Adverse (2.8 miles; 4.5 km thru CMW) (550,994 Cu yd; 421,265 m^3)	Large Adverse (2.1 miles; 3.4 km thru CMW) (223,811 Cu yd; 171,116 m^3)	Large Adverse (2.8 miles; 4.5 km thru CMW) (454,153 Cu yd; 347,225 m3)	Moderate Adverse (0.7 mile; 1.1 km thru CMW) (118,895 Cu yd; 90,902 m3)
Overall Qualitative Rating	**Slight Adverse**	**Large Adverse**	**Large Adverse**	**Large Adverse**	**Moderate Adverse**

The following summarizes the results of the analysis for the identified geo-environmental resources:

- *No-Build* – Based on the parameters of the evaluation, the No-Build scenario is not anticipated to have additional direct impacts on the identified geo-environmental resources

and considered the baseline of comparison. However, even a negligible impact on a resource of very high importance, such as the Freshwater Lenses and the peat, results in a "Slight Adverse" impact per WebTAG Unit A3. Therefore, it results in an overall **Slight Adverse** qualitative rating.

- *Alternative B4*– Based on the parameters of the evaluation, Alternative B4 would be the least impactful of the four Build alternatives since it is qualitatively ranked the lowest at **Moderate Adverse**, is the furthest from the North Side Freshwater Lens recharge area, requires the least acreage of additional impervious surface area, miles of roadway through the CMW, and volume of peat removal.

- *Alternative B2*– Based on the parameters of the evaluation, Alternative B2 would be the second least impactful of the four Build alternatives. While Alternative B2 has the same overall qualitative rating as Alternative B1 and Alternative B3 (**Large Adverse**), Alternative B2 results in less acreage of additional impervious surface area, miles of roadway through the CMW, and volume of peat removal than Alternative B1 or Alternative B3. Therefore, is it anticipated to be less impactful than Alternative B1 and Alternative B3 overall.

- *Alternative B3* – Based on the parameters of the evaluation, Alternative B3 would be the third least impactful of the four Build alternatives. Alternative B3 has the same overall qualitative rating as Alternative B1 and Alternative B2 (**Large Adverse**). However, as discussed in the Alternative B2 section above, Alternative B3 is anticipated to overall be more impactful than Alternative B2 based on the higher acreage of additional impervious surface area, miles of roadway through the CMW, and volume of peat removal.

- *Alternative B1* – Based on the parameters of the evaluation, Alternative B1 would be the most impactful of the four Build alternatives. While Alternative B1 has the same overall qualitative rating as Alternative B2 and Alternative B3 (**Large Adverse**), Alternative B1 is the closest of the Build alternatives to the North Side Freshwater Lens recharge area, requires the most acreage of additional impervious surface area, miles of roadway through the CMW, and volume of peat removal.

This Geo-Environmental Assessment is one in a series of Technical Reports that have been prepared for the Shortlist Evaluation. The level of impacts and the identification of the least impactful alternative will differ based on the resource/feature evaluated in each of the Technical Reports. Therefore, the least impactful alternative described in this evaluation summary and in each technical document **does not** move an alternative forward to the Preferred Evaluation nor does it constitute any special weighting or extra consideration in the Shortlist Evaluation Document. The comprehensive analysis of all the resources/features evaluated along with the rationale for the identification of the Preferred Alternative are presented in the Shortlist Evaluation Document.

6 References

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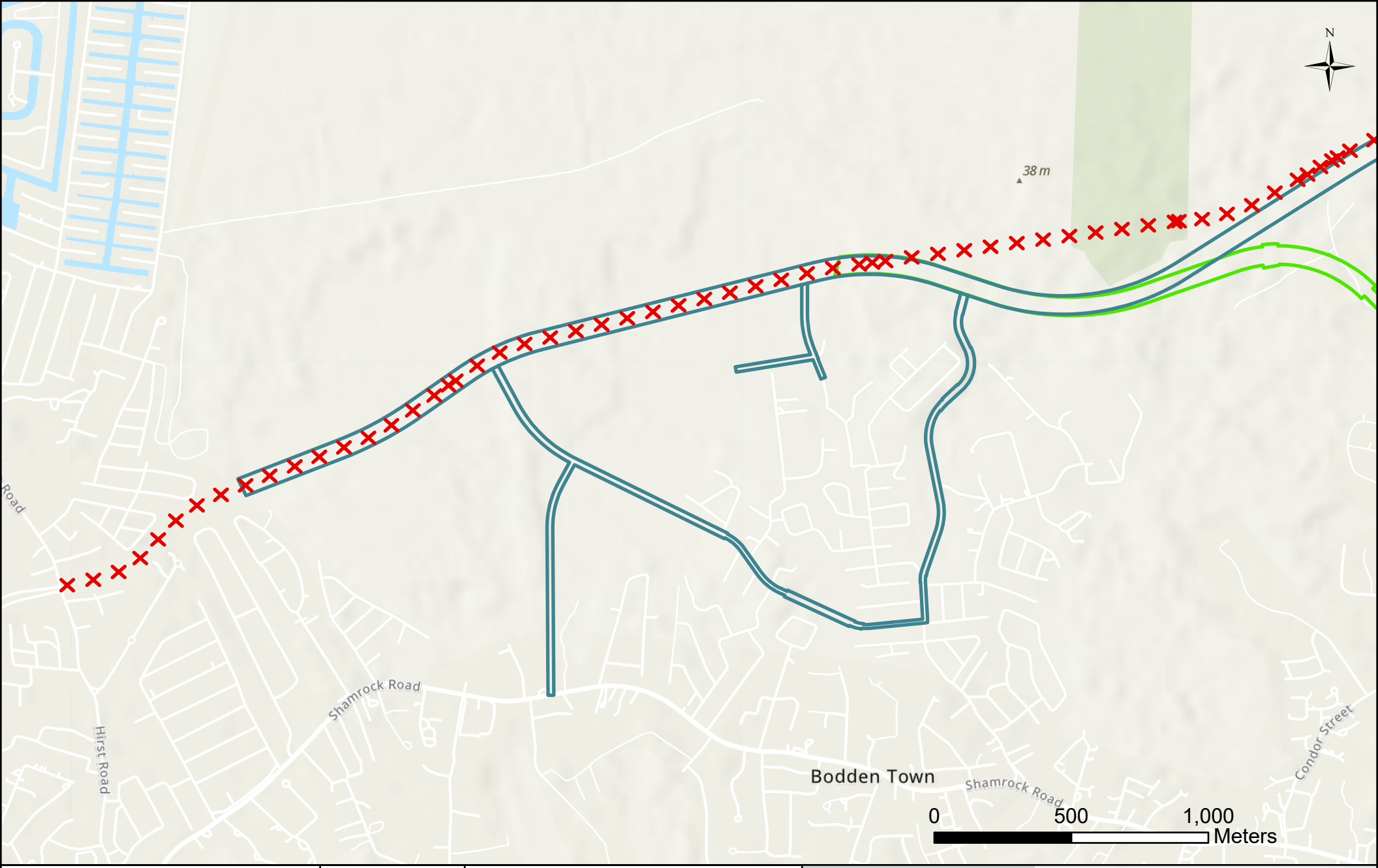
Attachment A

NRA Trial Pit Data – 2008 and 2014

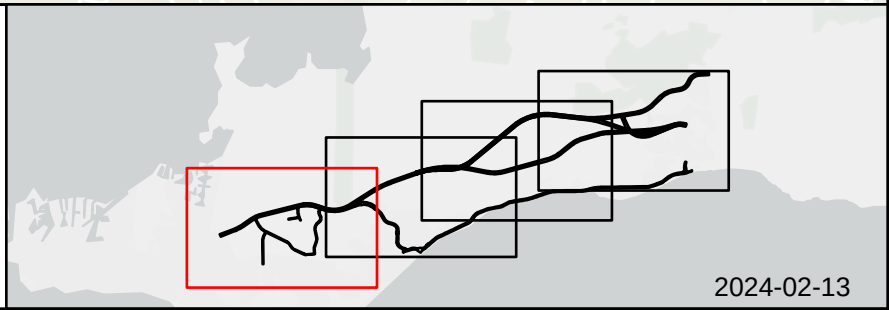


East-West Arterial Extension,
Environmental Impact Assessment

2008 and 2014
Trial Pit Locations
Map 1 of 4

NRA
NATIONAL ROADS AUTHORITY

- Section 2
- Alternative B1
- Alternative B2
- Alternative B3
- Alternative B4
- Trial Pit Locations



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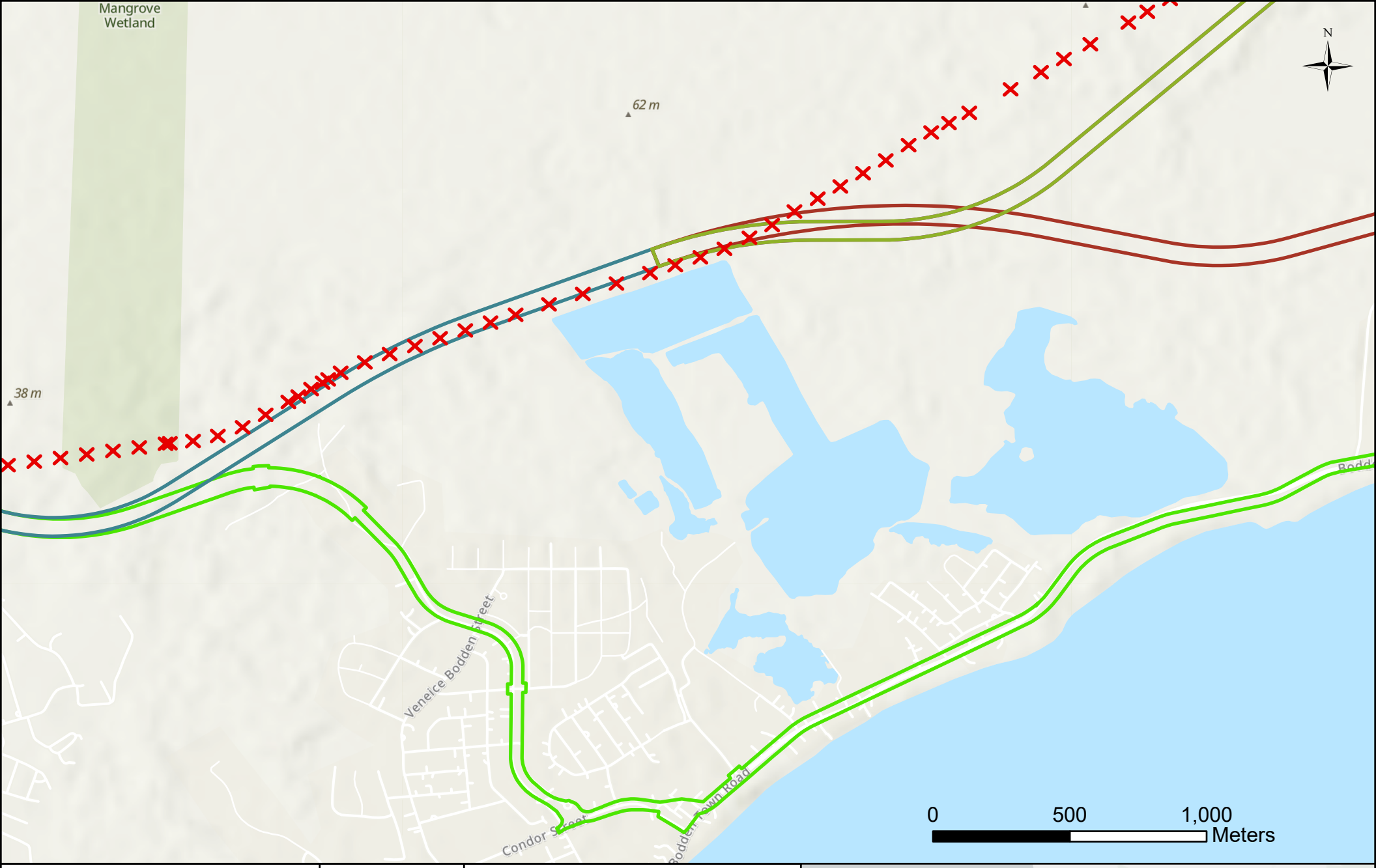

East-West Arterial Extension,
Environmental Impact Assessment

2008 and 2014
Trial Pit Locations
Map 2 of 4

NRA
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- Section 2
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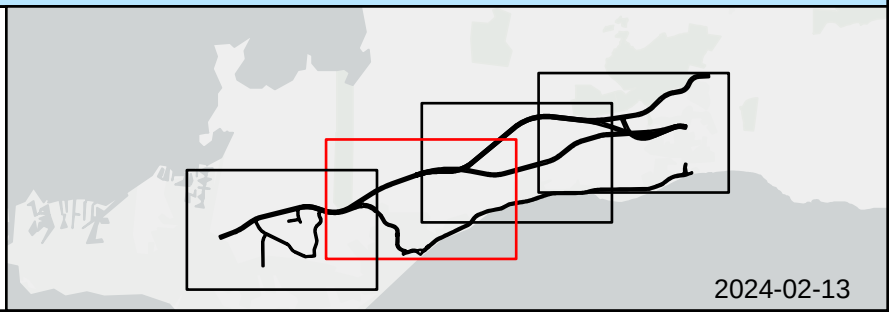
- Alternative B3
- Alternative B4
- Trial Pit Locations



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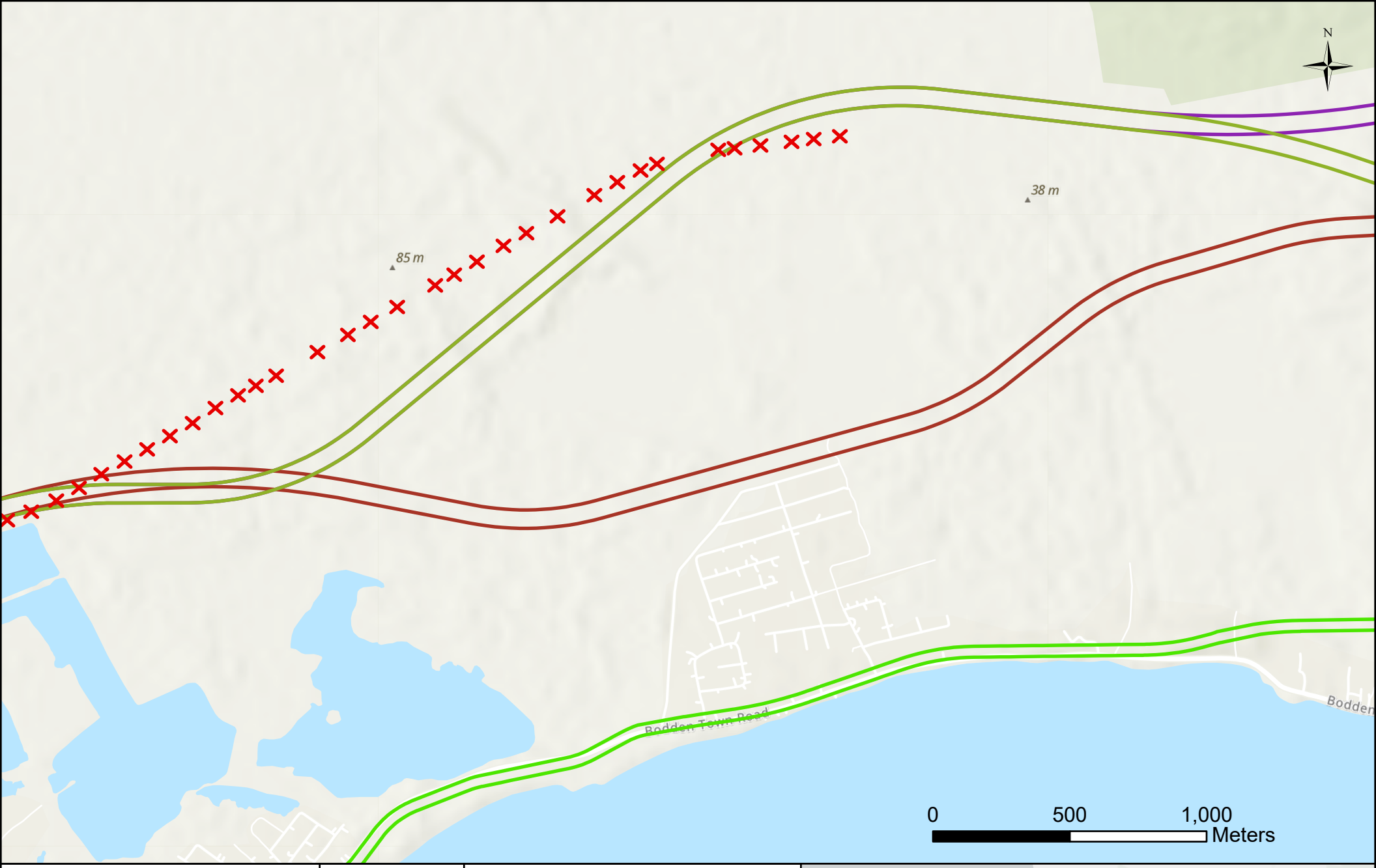

East-West Arterial Extension,
Environmental Impact Assessment

2008 and 2014
Trial Pit Locations
Map 3 of 4

NRA
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- Section 2
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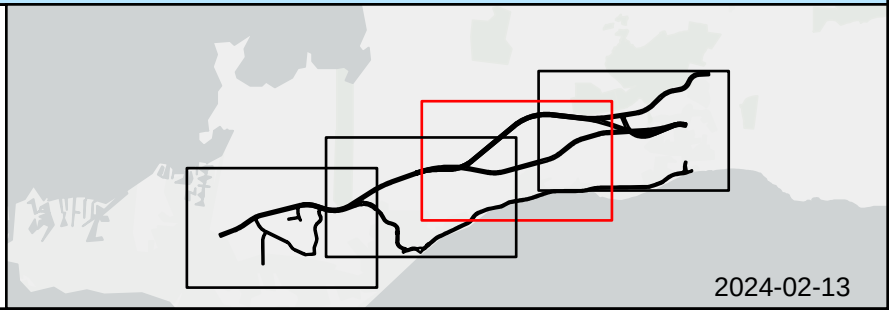
- Alternative B2
- Alternative B3
- Alternative B4
- Trial Pit Locations



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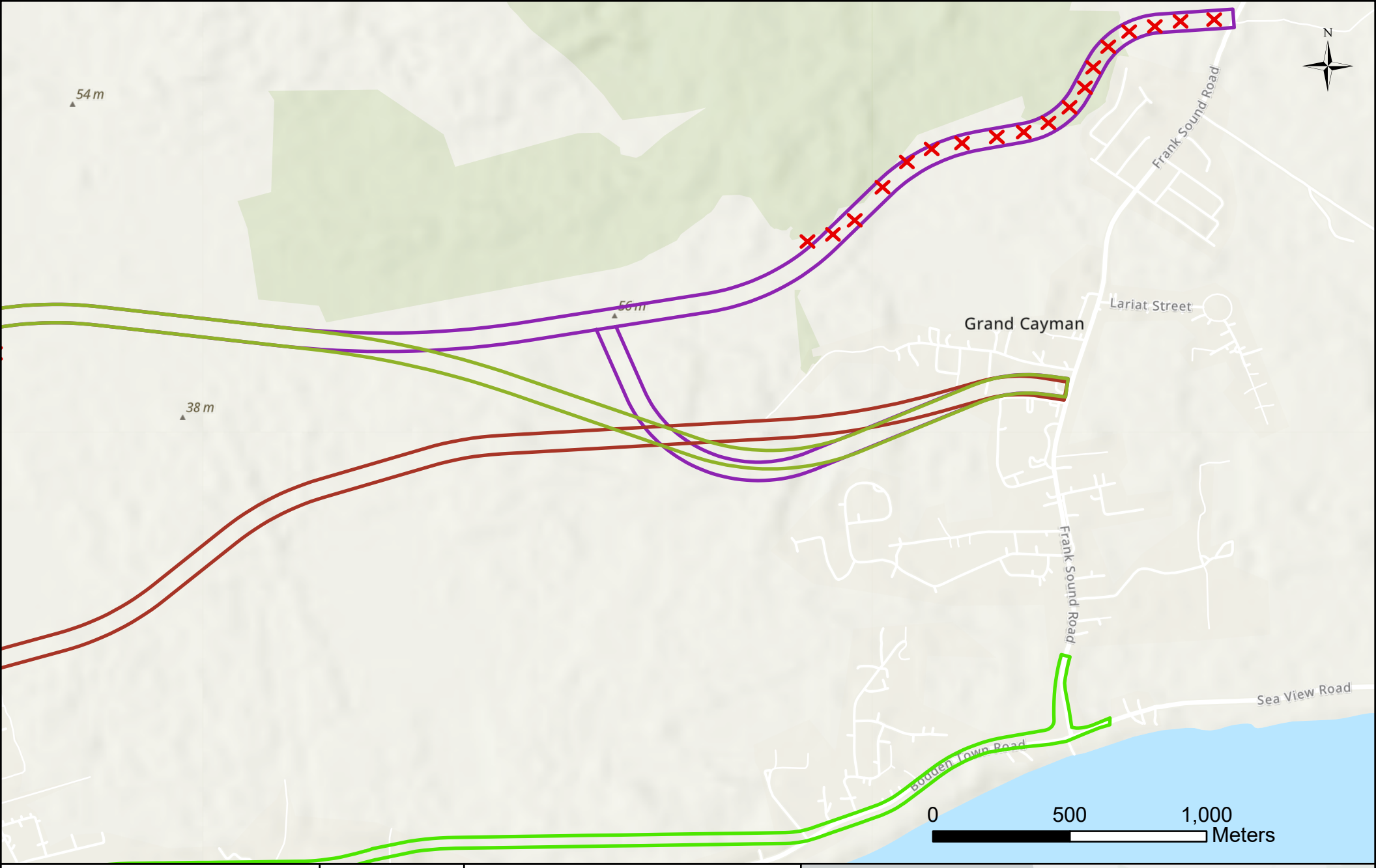
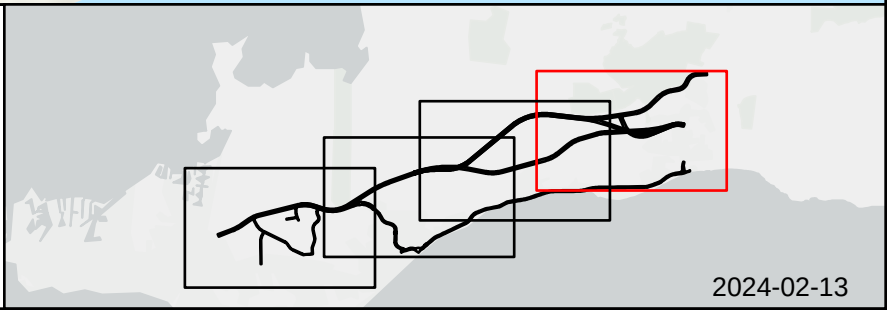


East-West Arterial Extension,
Environmental Impact Assessment

2008 and 2014
Trial Pit Locations
Map 4 of 4

NRA
NATIONAL ROADS AUTHORITY

- Section 2
- Alternative B1
- Alternative B2
- Alternative B3
- Alternative B4
- Trial Pit Locations



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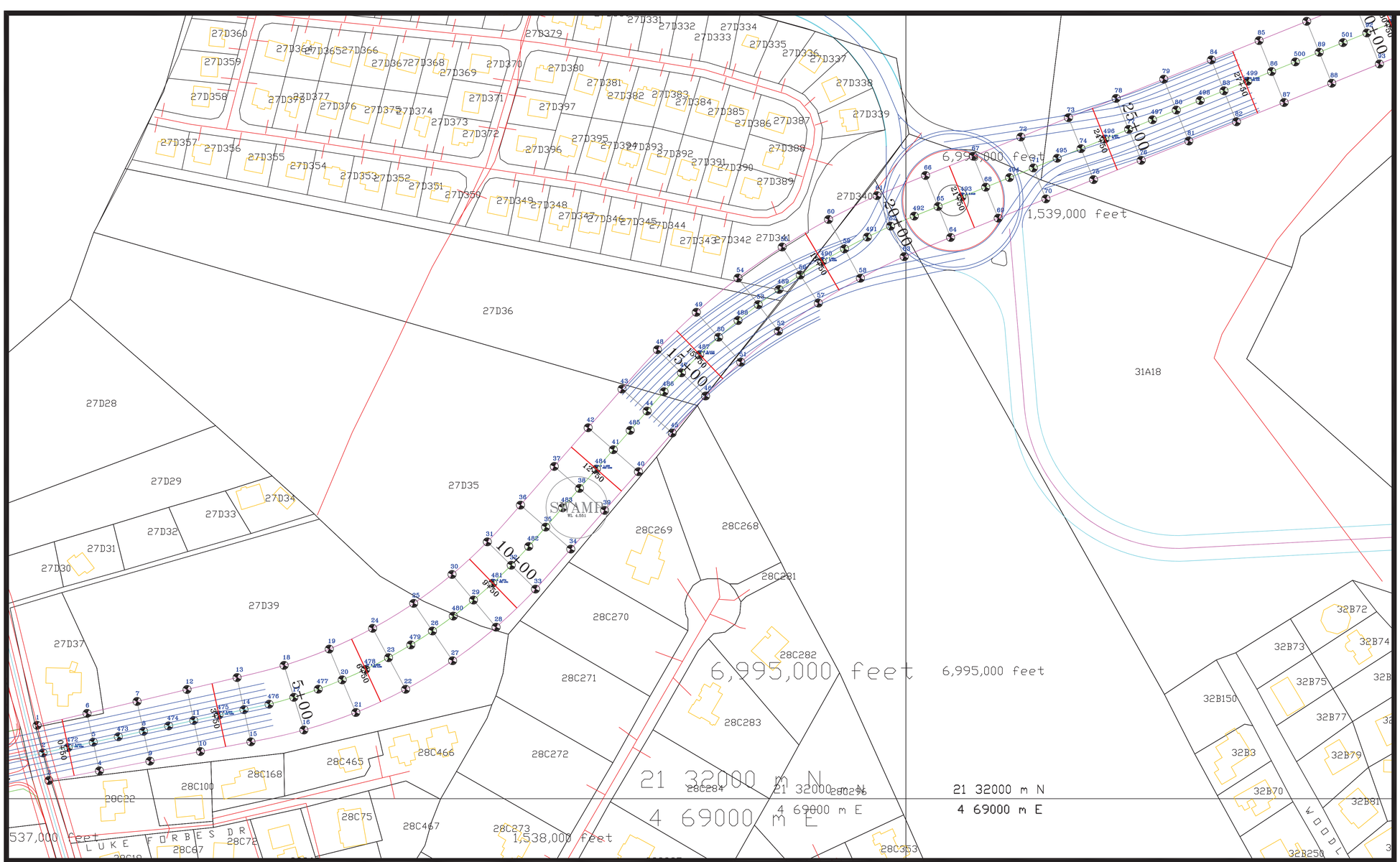

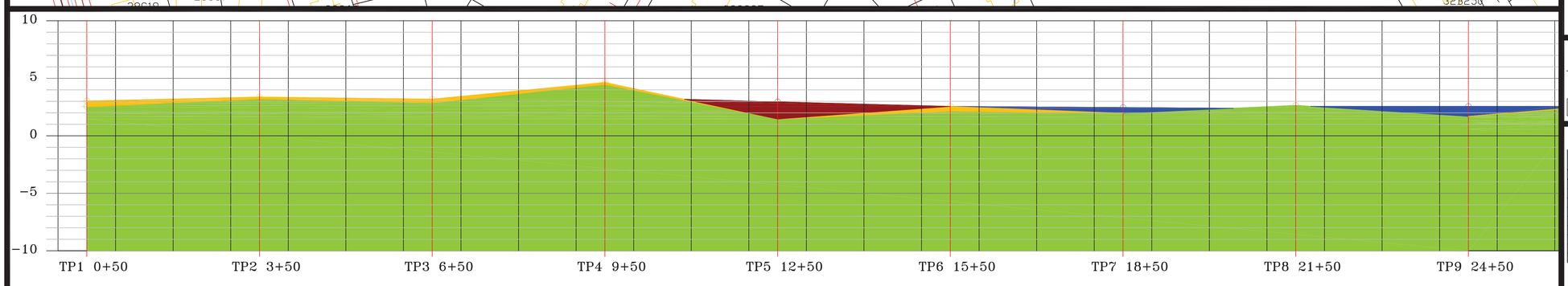



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TYPICAL TRIAL PIT #6 STATION 15+50

LEGEND

PEAT | SOIL | ROCK | WATER LEVEL

EAST-WEST EXTENSION HIRST ROAD TO LOOK OUT GARDENS GEOTECHNICAL SURVEY SEPTEMBER 2008

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472	TP1	0+50	300'	3.033		3.033		2.533
475	TP2	3+50	300'	3.375		3.375		3.208
478	TP3	6+50	300'	3.192		3.192		2.859
481	TP4	9+50	300'	4.641		4.641		4.474
484	TP5	12+50	300'				2.956	1.456
487	TP6	15+50	300'	2.558		2.558		2.1414
490	TP7	18+50	300'		2.462			1.964
493	TP8	21+50	300'	2.646		2.646		2.646
496	TP9	24+50	300'		2.567			1.687

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Drawn	D. Myles
Checked	P. Parchment
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No.	Revisions	Date	By

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Sheet 1 of 7

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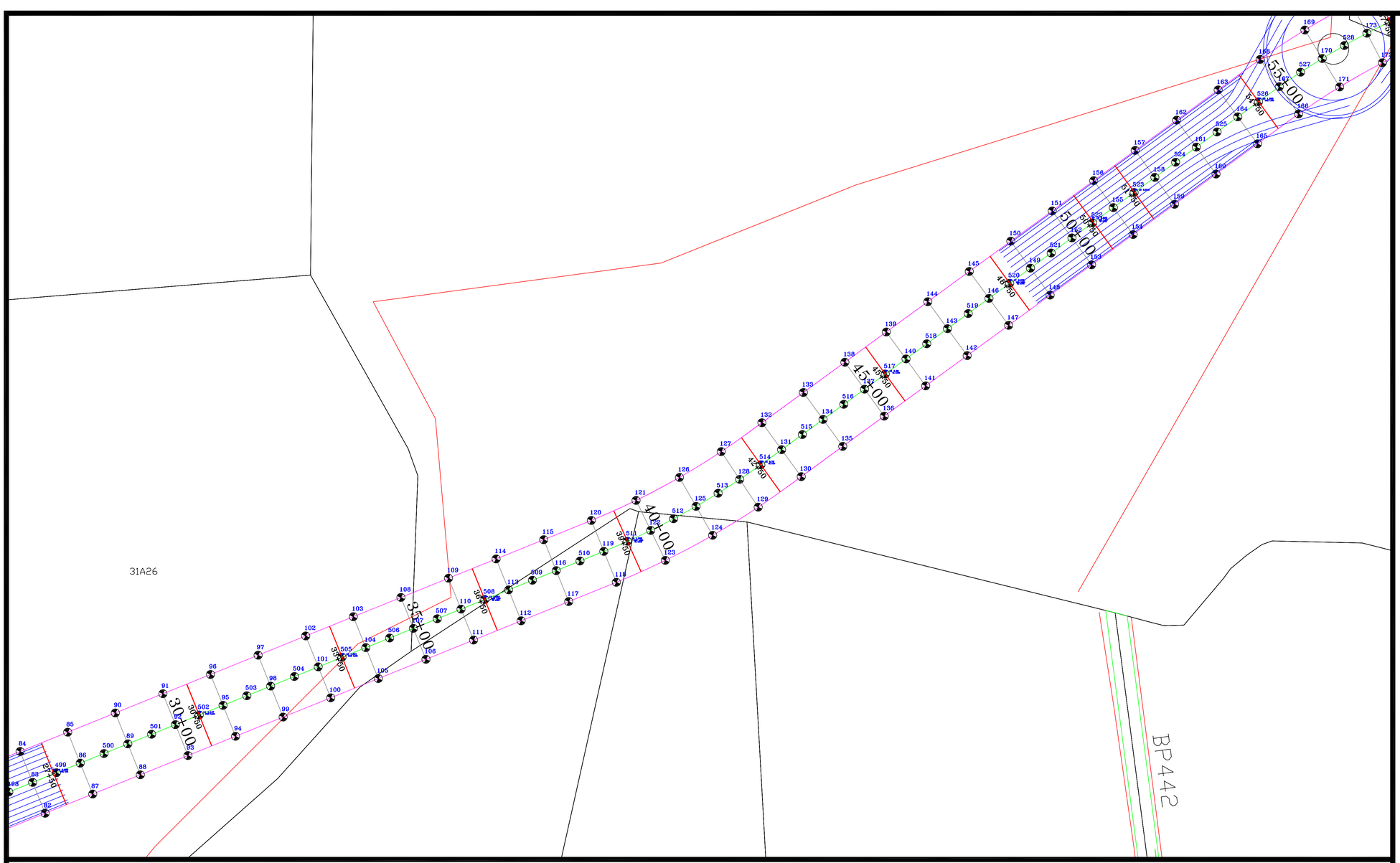
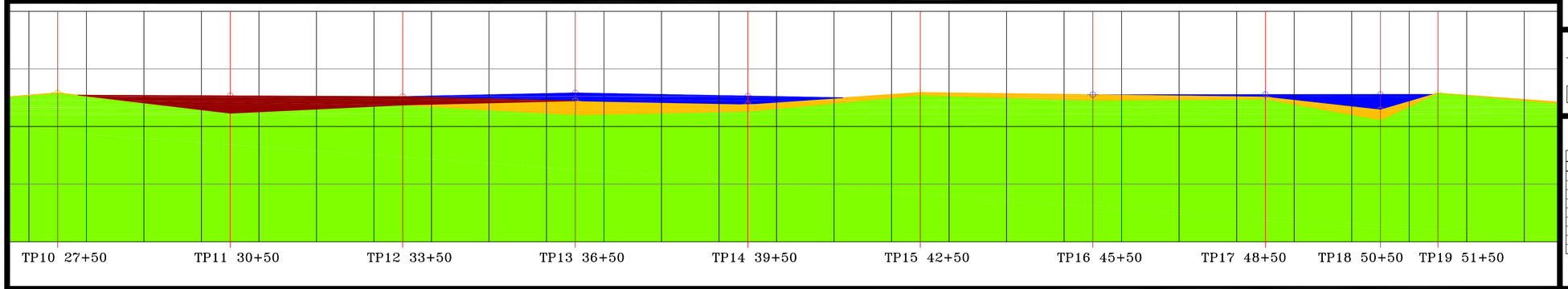
PLAN AND PROFILE LOCATIONS FOR GEOTECHNICAL SURVEY ON THE EAST−WEST EXTENSION







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PEAT | SOIL | ROCK | WATER LEVEL

EAST-WEST EXTENSION HIRST ROAD TO LOOK OUT GARDENS GEOTECHNICAL SURVEY SEPTEMBER 2008

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499	TP10	27+50	300'	2.94		2.94		2.896
502	TP11	30+50	300'	2.668			2.668	1.147
505	TP12	33+50	300'	2.599			2.599	1.861
508	TP13	36+50	300'	1.227	2.919	1.227		1.052
511	TP14	39+50	300'	1.936	2.649	1.936		1.305
514	TP15	42+50	300'	2.96		2.96		2.72
517	TP16	45+50	300'		2.766			2.26
520	TP17	48+50	200'	2.555	2.773	2.555		2.375
522	TP18	50+50	100'	1.438	2.781	1.438		0.563

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Checked	P. Parchment
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Sheet 2 of 7

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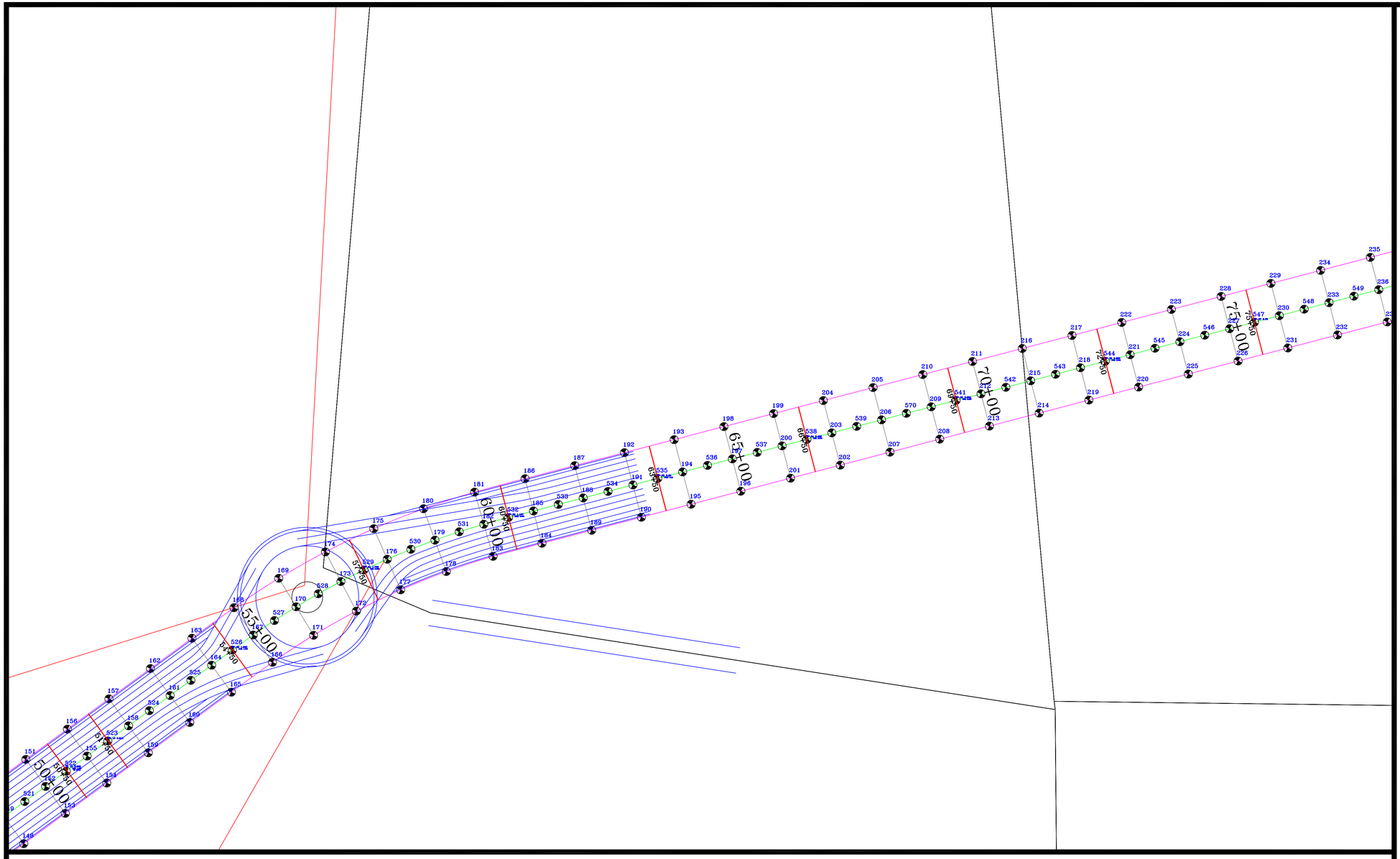
PLAN AND PROFILE LOCATIONS
FOR GEOTECHNICAL SURVEY
ON THE EAST-WEST EXTENSION





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LEGEND

PEAT | SOIL | ROCK | WATER LEVEL

EAST-WEST EXTENSION HIRST ROAD TO LOOK OUT GARDENS GEOTECHNICAL SURVEY SEPTEMBER 2008

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523	TP19	51+50	300'	2.912				2.912
526	TP20	54+50	300'	1.796		1.796		1.60
529	TP21	57+50	300'	2.239		2.239		1.729
532	TP22	60+50	300'	2.308			2.308	1.157
535	TP23	63+50	300'	2.42			2.42	2.22
538	TP24	66+50	300'	2.794		2.794		2.402
541	TP25	69+50	300'	3.507		3.507		3.234
544	TP26	72+50	300'	2.549		2.549		2.386
547	TP27	75+50	300'	2.75				2.75

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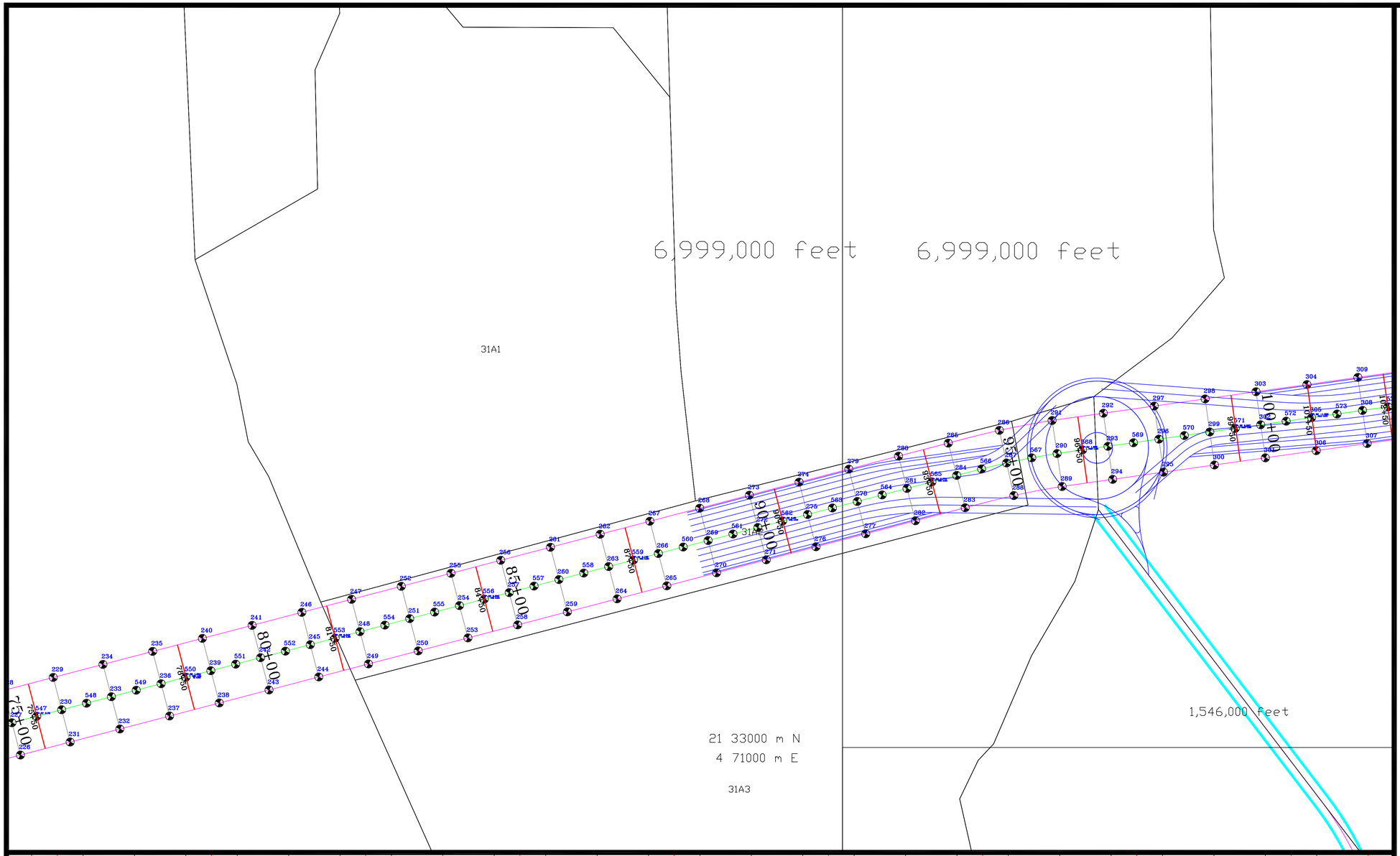

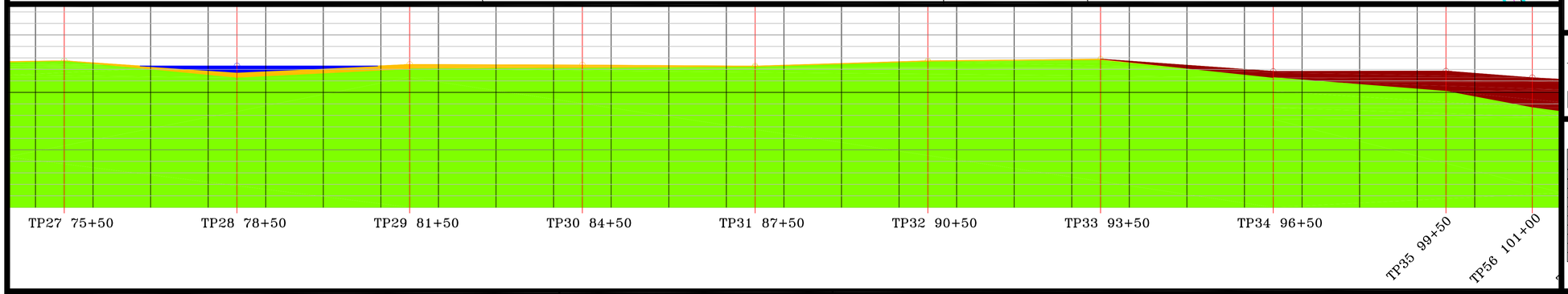


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LEGEND

PEAT | SOIL | ROCK | WATER LEVEL

EAST-WEST EXTENSION HIRST ROAD TO LOOK OUT GARDENS GEOTECHNICAL SURVEY SEPTEMBER 2008

POINT #	TRIAL PIT NOS	STATION LOC	DISTANCE (ft)	EXISTING LEVEL	WATER LEVEL	SOIL LAYER	PEAT LAYER	ROCK LAYER
550	TP28	78+50	300'	1.731	2.303	1.731		1.304
553	TP29	81+50	300'	2.433		2.433		2.046
556	TP30	84+50	300'	2.382		2.382		2.099
559	TP31	87+50	300'	2.295		2.295		2.195
562	TP32	90+50	300'	2.746		2.746		2.65
565	TP33	93+50	300'	2.896		2.896		2.779
568	TP34	96+50	300'	1.829			1.829	1.288
571	TP35	99+50	150'	1.855			1.855	0.057
305	TP56	101+00	150'	1.278			1.278	-1.322

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No.	Revisions	Date	By

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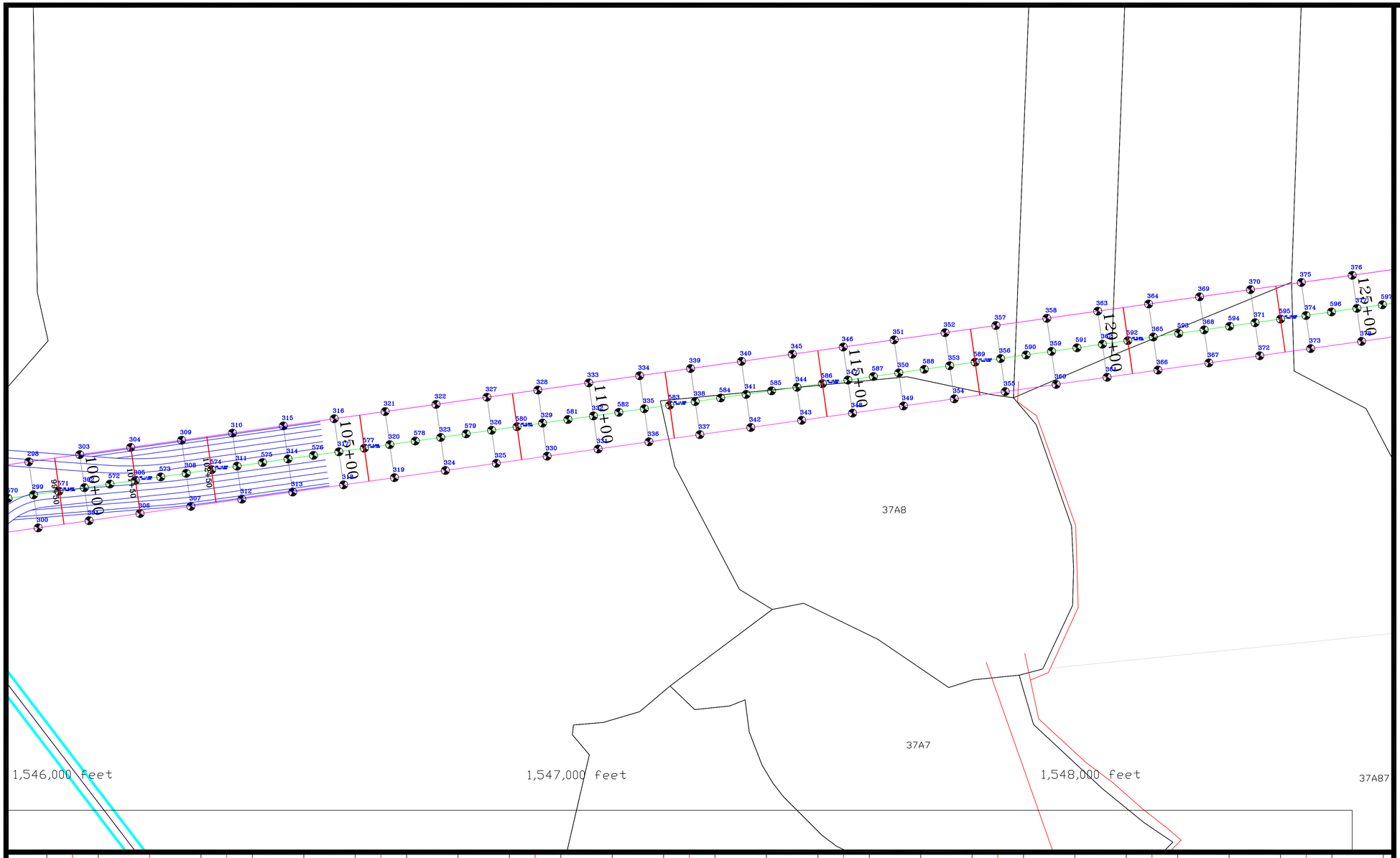



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LEGEND

PEAT | SOIL | ROCK | WATER LEVEL

EAST-WEST EXTENSION HIRST ROAD TO LOOK OUT GARDENS GEOTECHNICAL SURVEY SEPTEMBER 2008

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577	TP37	105+50	300'	1.319			1.319	0.588
580	TP38	108+50	300'	1.925			1.925	0.997
583	TP39	111+50	300'	1.859			1.859	-1.399
586	TP40	114+50	300'	2.237			2.237	-0.237
589	TP41	117+50	300'	2.151			2.151	-0.042
592	TP42	120+50	300'	2.128			2.128	0.494
595	TP43	123+50	300'	1.597			1.597	-6.403

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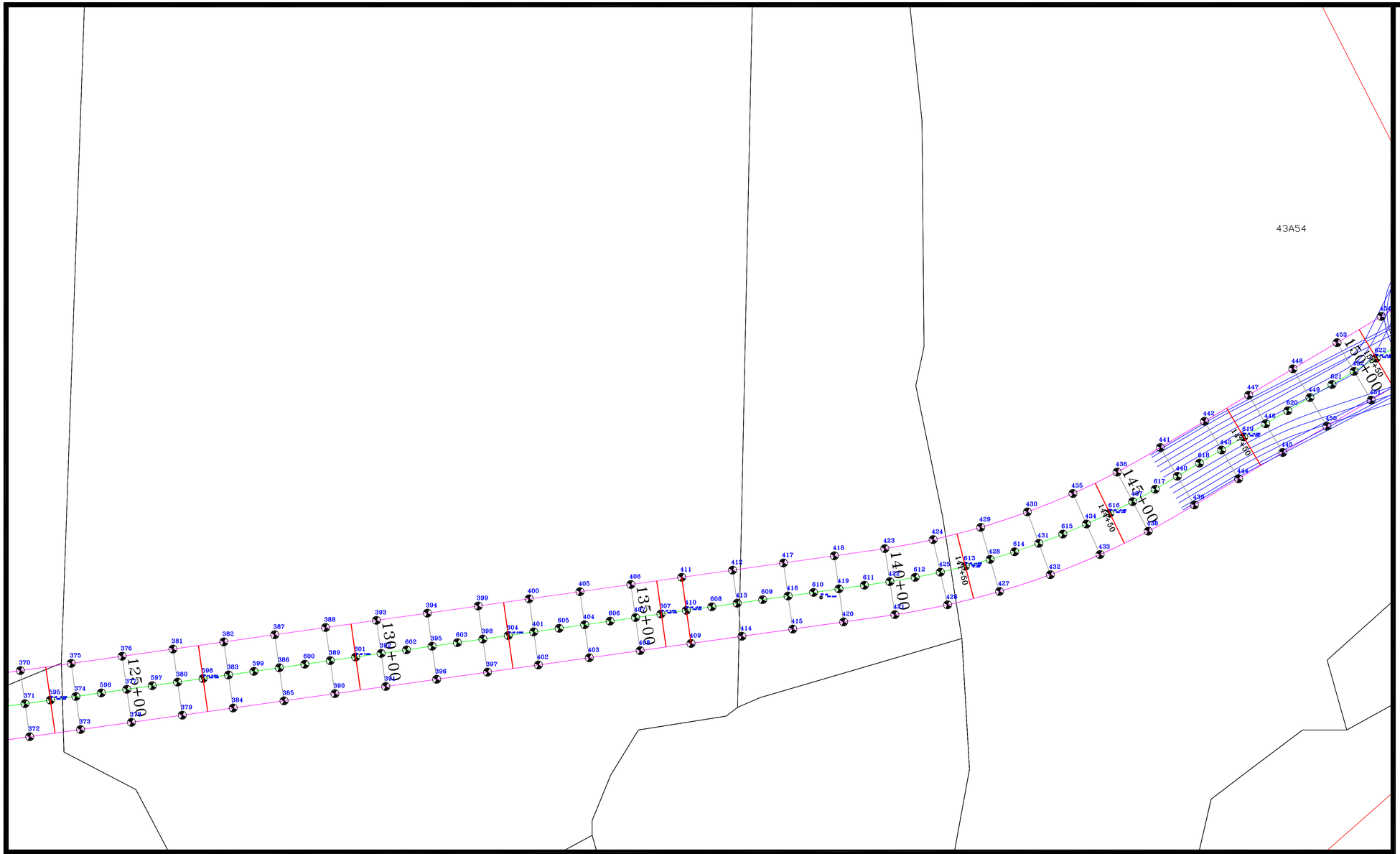
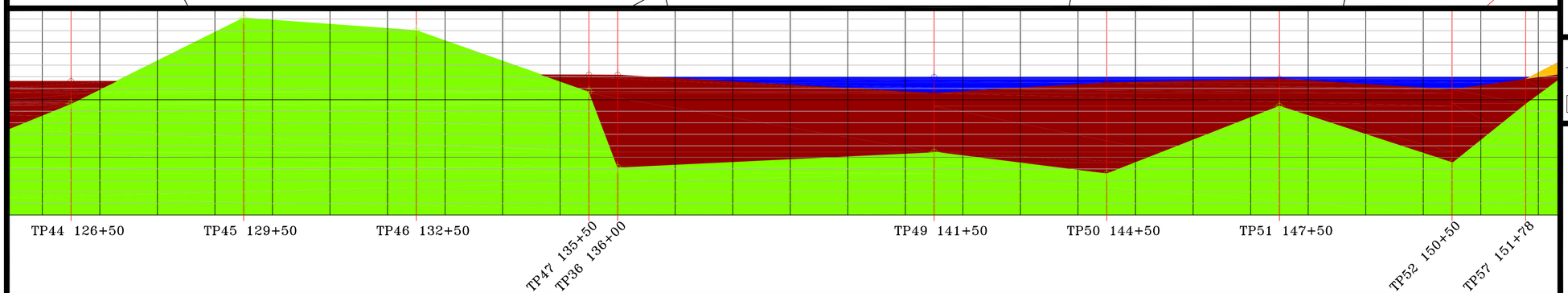
PLAN AND PROFILE LOCATIONS FOR GEOTECHNICAL SURVEY ON THE EAST-WEST EXTENSION







TYPICAL TRIAL PIT #44 STATION 126+50



TYPICAL TRIAL PIT #46 STATION 132+50



TYPICAL TRIAL PIT #49 STATION 141+50

LEGEND

PEAT | SOIL | ROCK | WATER LEVEL

EAST-WEST EXTENSION HIRST ROAD TO LOOK OUT GARDENS GEOTECHNICAL SURVEY SEPTEMBER 2008

POINT #	TRIAL PIT NOS	STATION LOC	DISTANCE (ft)	EXISTING LEVEL	WATER LEVEL	SOIL LAYER	PEAT LAYER	ROCK LAYER
598	TP44	126+50	300'	1.603			1.603	0.342
601	TP45	129+50	300'	7.096				7.096
604	TP46	132+50	300'	6.006				6.006
607	TP47	135+50	300'	2.151			2.151	0.723
610	TP58	136+00	50'	2.14			2.14	-5.86
610	TP48	138+50	300'	POND 550 FEET				
613	TP49	141+50	300'	0.565	1.958		0.565	-6.535
616	TP50	144+50	300'	1.468			1.468	-6.432
619	TP51	147+50	300'	1.812			1.812	-6.558
622	TP52	150+50	300'	0.873		0.873		-6.457

NATIONAL ROADS AUTHORITY

C/O P. O. BOX # 10426 APO
370 NORTH SOUND ROAD, GEORGE TOWN
GRAND CAYMAN, CAYMAN ISLANDS, B.W.I.

Project ref. GC44

Scale Horiz. 1" = 100'
Vert. 1" = 10'

Drawing Name. GC44-E/W ALIGN

Design	N. R. A.
Drawn	D. Myles
Checked	P. Parchment
Date:	24/10/08
Dwg.No.	6

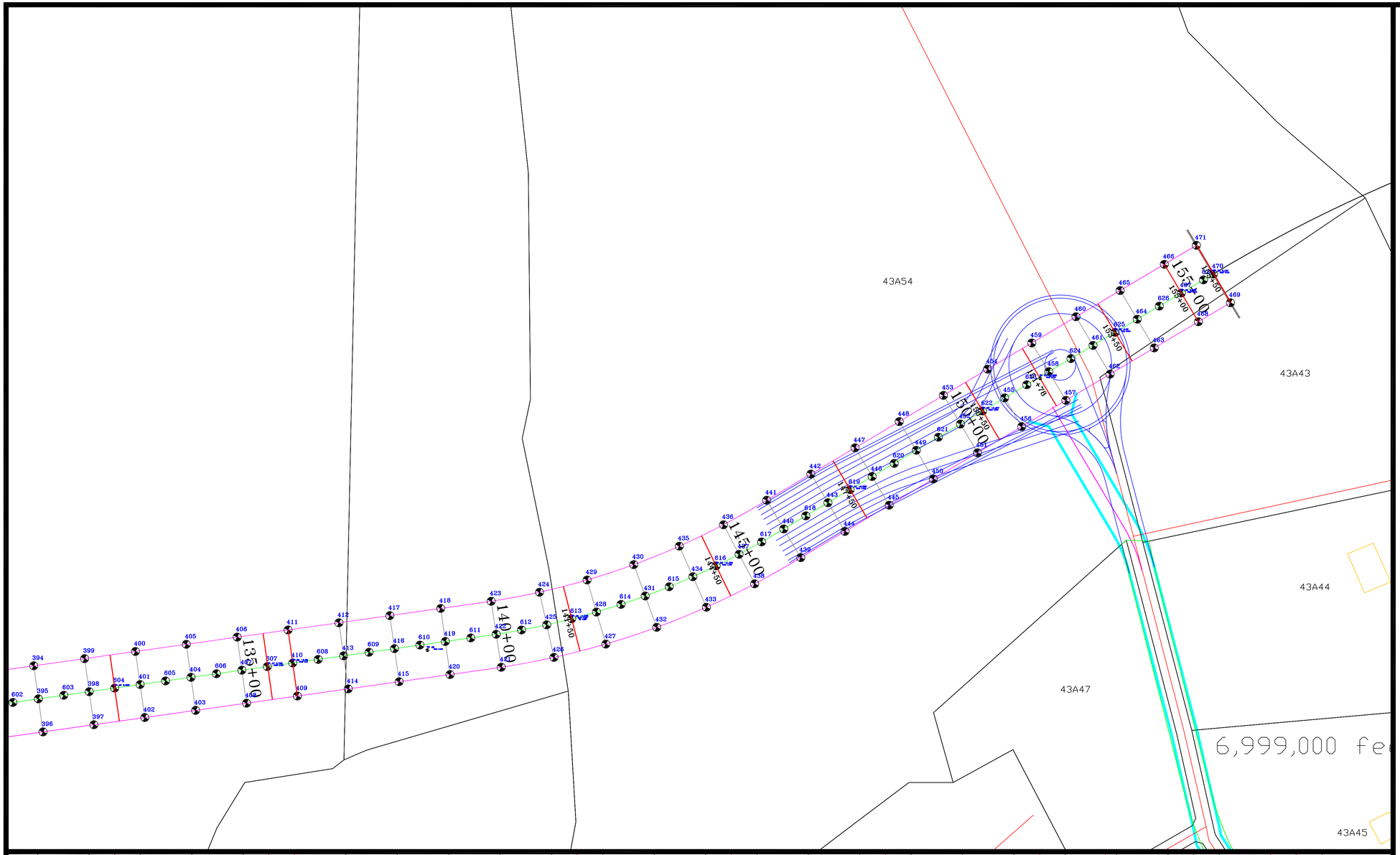
No.	Revisions	Date	By

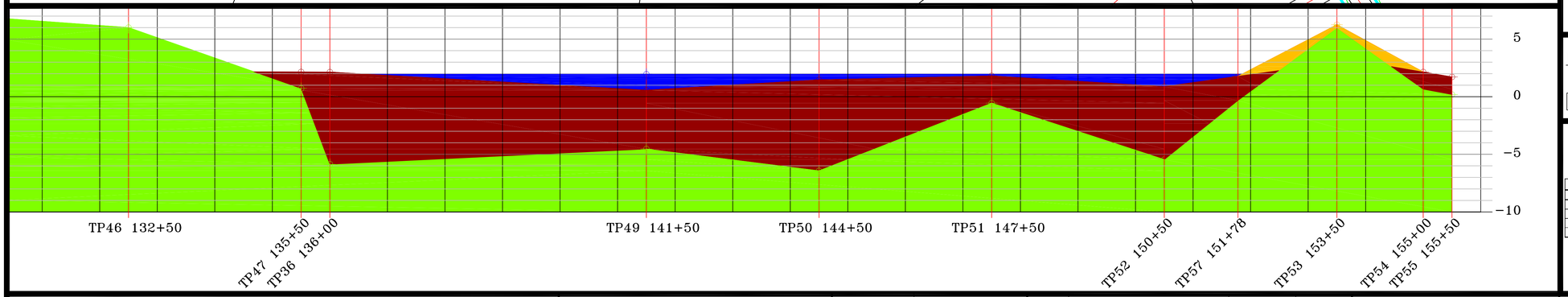
From sta. 125+00
To sta. 150+00

Sheet 6 of 7

TITLE

PLAN AND PROFILE LOCATIONS FOR GEOTECHNICAL SURVEY ON THE EAST-WEST EXTENSION







TYPICAL TRIAL PIT # 51 STATION 147+50



TYPICAL TRIAL PIT #52 STATION 150+50



TYPICAL TRIAL PIT #55 STATION 155+50

LEGEND

PEAT | SOIL | ROCK | WATER LEVEL

EAST-WEST EXTENSION HIRST ROAD TO LOOK OUT GARDENS GEOTECHNICAL SURVEY SEPTEMBER 2008

POINT #	TRIAL PIT NOS	STATION LOC	DISTANCE (ft)	EXISTING LEVEL	WATER LEVEL	SOIL LAYER	PEAT LAYER	ROCK LAYER
NONE	TP57	151+78	28'	1.774		1.774		0.326
625	TP53	153+50	150'	6.248			6.248	6.06
467	TP54	155+00	50'	2.148			2.148	0.658
470	TP55	155+50		0.719			0.719	0.191

NATIONAL ROADS AUTHORITY

C/O P. O. BOX # 10426 APO
370 NORTH SOUND ROAD, GEORGE TOWN
GRAND CAYMAN, CAYMAN ISLANDS, B.W.I.

Project ref. GC44

Scale Horiz. 1" = 100'
Vert. 1" = 10'

Drawing Name. GC44-E/W ALIGN

Design	N. R. A.
Drawn	D. Myles
Checked	P. Parchment
Date:	24/10/08
Dwg.No.	7

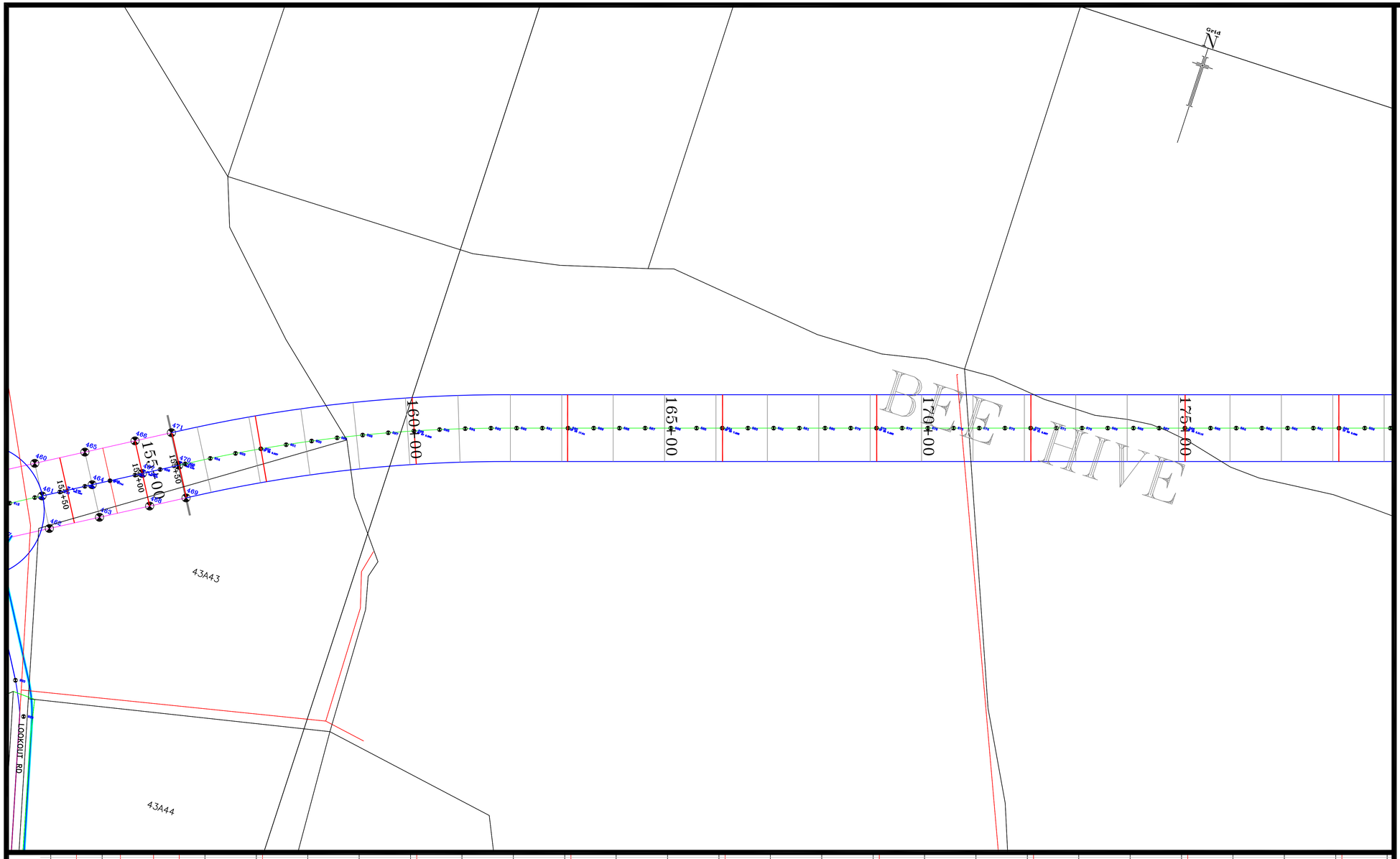
No.	Revisions	Date	By

From sta. 135+00
To sta. EOP

Sheet 7 of 7

TITLE

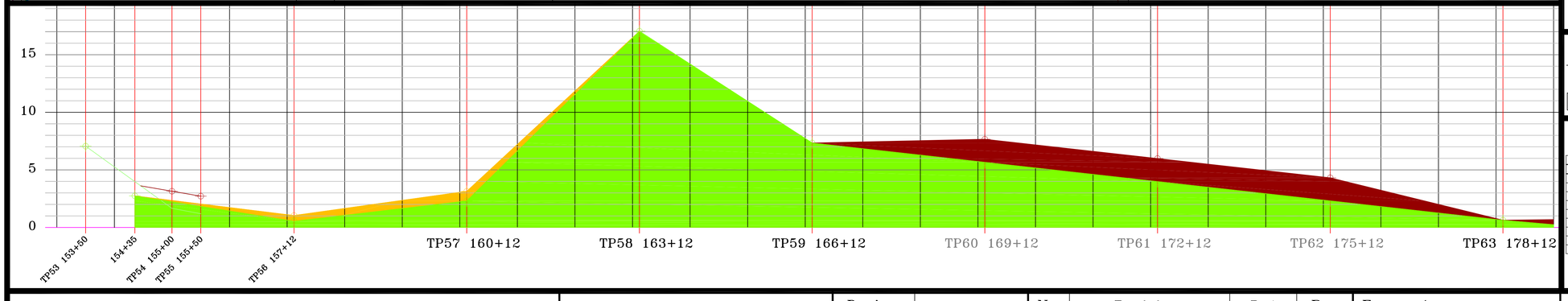
PLAN AND PROFILE LOCATIONS FOR GEOTECHNICAL SURVEY ON THE EAST-WEST EXTENSION



TYPICAL TRIAL PIT #56 STATION 157+12

TYPICAL TRIAL PIT #59 STATION 166+12

TYPICAL TRIAL PIT #63 STATION 178+12



LEGEND

PEAT | SOIL | ROCK | WATER LEVEL

EAST-WEST EXTENSION LOOKOUT GARDENS TO FRANK SOUND ROAD GEOTECHNICAL SURVEY AUGUST 2014

PNT #	TRIAL PIT NOS	STATION	DISTANCE (ft)	EXISTING LEVEL	WATER LEVEL	SOIL LAYER	PEAT LAYER	ROCK LAYER	
608	BOP	154+36	0			2.744			
602	TP56	157+12	276			1.037		0.537	
596	TP57	160+12	300				3.139	2.306	
590	TP58	163+12	300					17.04	
584	TP59	166+12	300					7.338	
578	TP60	169+12	300				7.6625	5.6625	ASSUMPTIONS
572	TP61	172+12	300				5.987	3.987	ASSUMPTIONS
566	TP62	175+12	300				4.3115	2.3115	ASSUMPTIONS
560	TP63	178+12	400					0.636	

NATIONAL ROADS AUTHORITY

C/O P. O. BOX # 10426 APO
370 NORTH SOUND ROAD, GEORGE TOWN
GRAND CAYMAN, CAYMAN ISLANDS, B.W.I.

Project ref. GC63

Scale Horiz. 1" = 100'
Vert. 1" = 10'

Drawing Name. GC63 EAST-WEST ALIGN

Design	N. R. A.
Drawn	D. Myles
Checked	P. Parchment
Date:	22 AUG 14
Dwg.No.	8

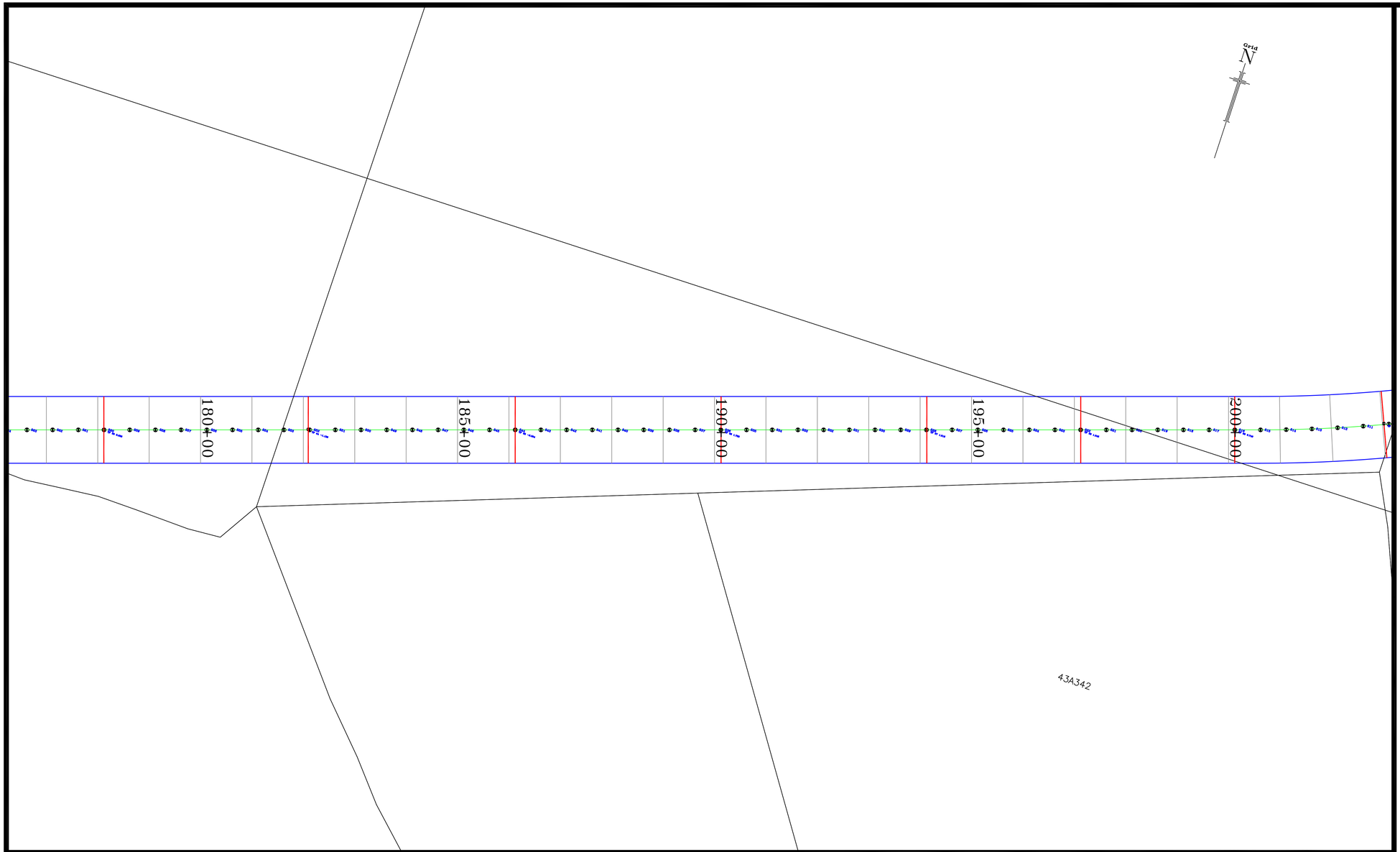
No.	Revisions	Date	By

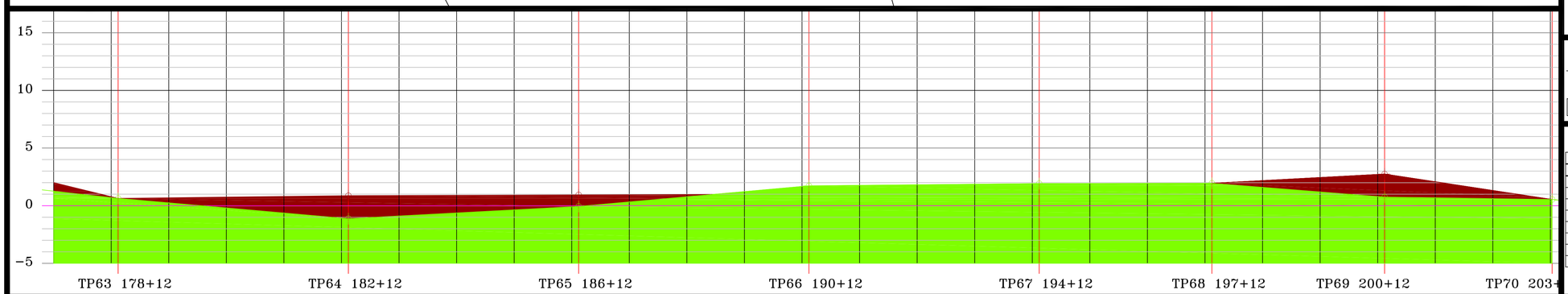
From sta. 153+50 BOP
To sta. 178+00

Sheet 8 of 20

TITLE

PLAN AND PROFILE LOCATIONS FOR GEOTECHNICAL SURVEY ON THE EAST-WEST EXTENSION





TYPICAL TRIAL PIT #63 STATION 178+12



TYPICAL TRIAL PIT #66 STATION 190+12

TYPICAL TRIAL PIT #69 STATION 200+12

LEGEND

PEAT | SOIL | ROCK | WATER LEVEL

EAST-WEST EXTENSION LOOKOUT GARDENS TO FRANK SOUND ROAD GEOTECHNICAL SURVEY AUGUST 2014

PNT #	TRIAL PIT NOS	STATION	DISTANCE (ft)	EXISTING LEVEL	WATER LEVEL	SOIL LAYER	PEAT LAYER	ROCK LAYER
560	TP63	178+12	400					0.636
552	TP64	182+12	400				0.874	-1.126
544	TP65	186+12	400				0.936	-0.064
536	TP66	190+12	400					1.723
528	TP67	194+12	400					1.918
522	TP68	197+12	300					1.945
516	TP69	200+12	300				2.749	0.749
510	TP70	203+03	300					0.541

NATIONAL ROADS AUTHORITY
C/O P. O. BOX # 10426 APO
370 NORTH SOUND ROAD, GEORGE TOWN
GRAND CAYMAN, CAYMAN ISLANDS, B.W.I.

Project ref. GC63

Scale Horiz. 1" = 100'
Vert. 1" = 10'

Drawing Name. GC63 EAST-WEST ALIGN

Design	N. R. A.
Drawn	D. Myles
Checked	P. Parchment
Date:	15 SEPT 14
Dwg.No.	9

No.	Revisions	Date	By

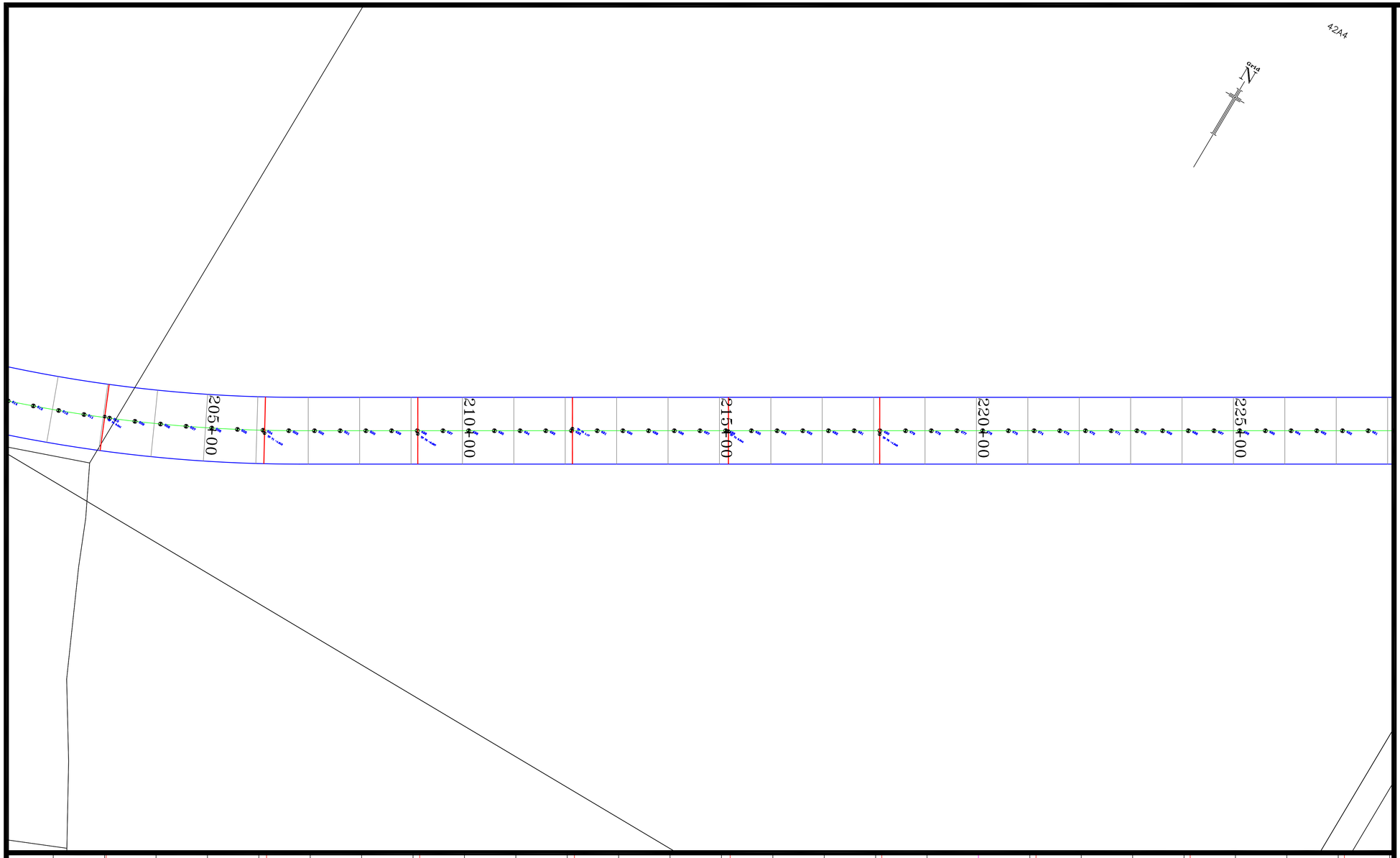
From sta. 178+00
To sta. 203+00

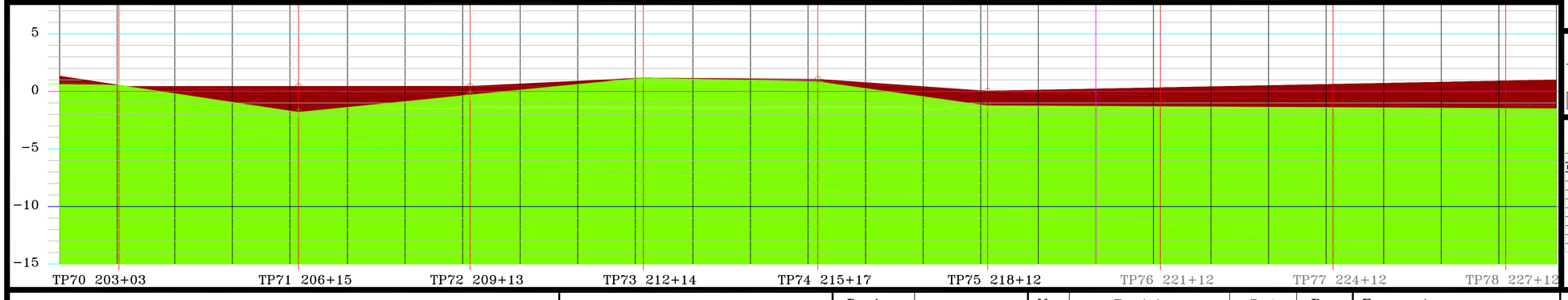
Sheet 9 of 20

TITLE

PLAN AND PROFILE LOCATIONS FOR GEOTECHNICAL SURVEY ON THE EAST−WEST EXTENSION

42A4





TYPICAL TRIAL PIT #70 STATION 203+03



TYPICAL TRIAL PIT #74 STATION 215+17

LEGEND

PEAT | SOIL | ROCK | WATER LEVEL

EAST-WEST EXTENSION LOOKOUT GARDENS TO FRANK SOUND ROAD GEOTECHNICAL SURVEY AUGUST 2014

PNT #	TRIAL PIT NOS	STATION	DISTANCE (ft)	EXISTING LEVEL	WATER LEVEL	SOIL LAYER	PEAT LAYER	ROCK LAYER	
510	TP70	203+03	300					0.541	
504	TP71	206+15	300				0.441	-1.812	
498	TP72	209+13	300				0.447	-0.307	
492	TP73	212+14	300				2.719	1.17	
486	TP74	215+17	300				1.057	0.844	
480	TP75	218+12	300				0.027	-1.243	
	TP76	221+12	300				0.321	-1.32	ASSUMPTIONS
	TP77	224+12	300				0.616	-1.396	ASSUMPTIONS
	TP78	227+12	300				0.91	-1.473	ASSUMPTIONS

NATIONAL ROADS AUTHORITY

C/O P. O. BOX # 10426 APO
370 NORTH SOUND ROAD, GEORGE TOWN
GRAND CAYMAN, CAYMAN ISLANDS, B.W.I.

Project ref. GC63

Scale Horiz. 1" = 100'
Vert. 1" = 10'

Drawing Name. GC63 EAST-WEST ALIGN

Design	N. R. A.
Drawn	D. Myles
Checked	P. Parchment
Date:	15 SEPT 14
Dwg.No.	10

No.	Revisions	Date	By

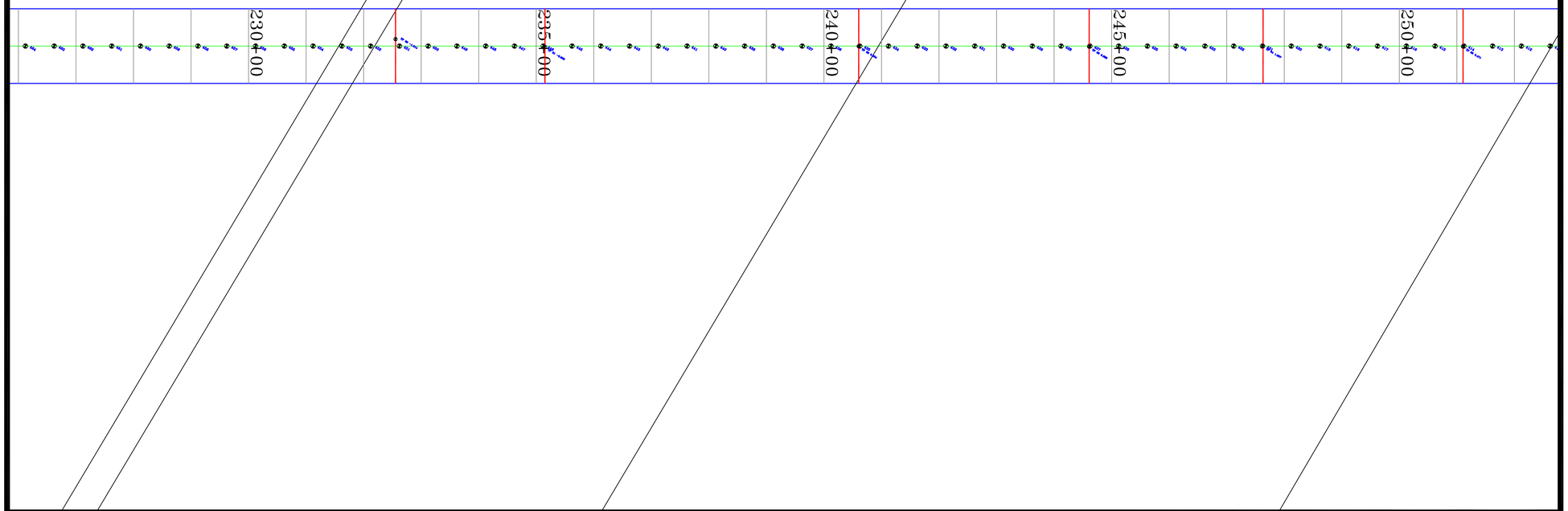
From sta. 202+00
To sta. 227+00

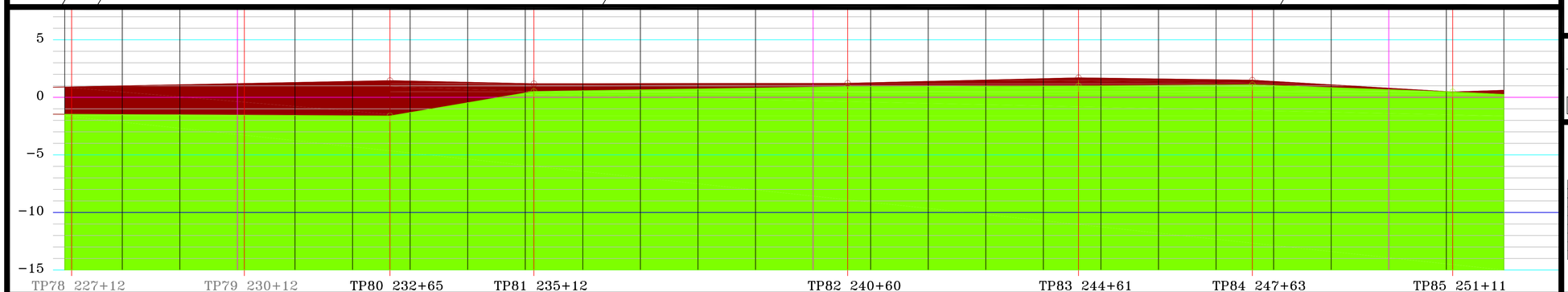
Sheet 10 of 20

TITLE

PLAN AND PROFILE LOCATIONS FOR GEOTECHNICAL SURVEY ON THE EAST-WEST EXTENSION

42A4







TYPICAL TRIAL PIT #82 STATION 240+60



TYPICAL TRIAL PIT #85 STATION 251+11

LEGEND

PEAT | SOIL | ROCK | WATER LEVEL

EAST-WEST EXTENSION LOOKOUT GARDENS TO FRANK SOUND ROAD GEOTECHNICAL SURVEY AUGUST 2014									
PNT #	TRIAL PIT NOS	STATION	DISTANCE (ft)	EXISTING LEVEL	WATER LEVEL	SOIL LAYER	PEAT LAYER	ROCK LAYER
	TP79	230+12	300				1.205	-1.549
451	TP80	232+65	300				1.453	-1.614
446	TP81	235+15	300				1.183	-0.509
435	TP82	240+60	545				1.223	0.934
427	TP83	244+61	400				1.695	0.983
421	TP84	247+63	300				1.49	1.097
414	TP85	251+11	500					0.471

ASSUMPTIONS

NATIONAL ROADS AUTHORITY

C/O P. O. BOX # 10426 APO
370 NORTH SOUND ROAD, GEORGE TOWN
GRAND CAYMAN, CAYMAN ISLANDS, B.W.I.

Project ref. GC63

Scale Horiz. 1" = 100'
Vert. 1" = 10'

Drawing Name. GC63 EAST-WEST ALIGN

Design	N. R. A.
Drawn	D. Myles
Checked	P. Parchment
Date:	15 SEPT 14
Dwg.No.	11

No.	Revisions	Date	By

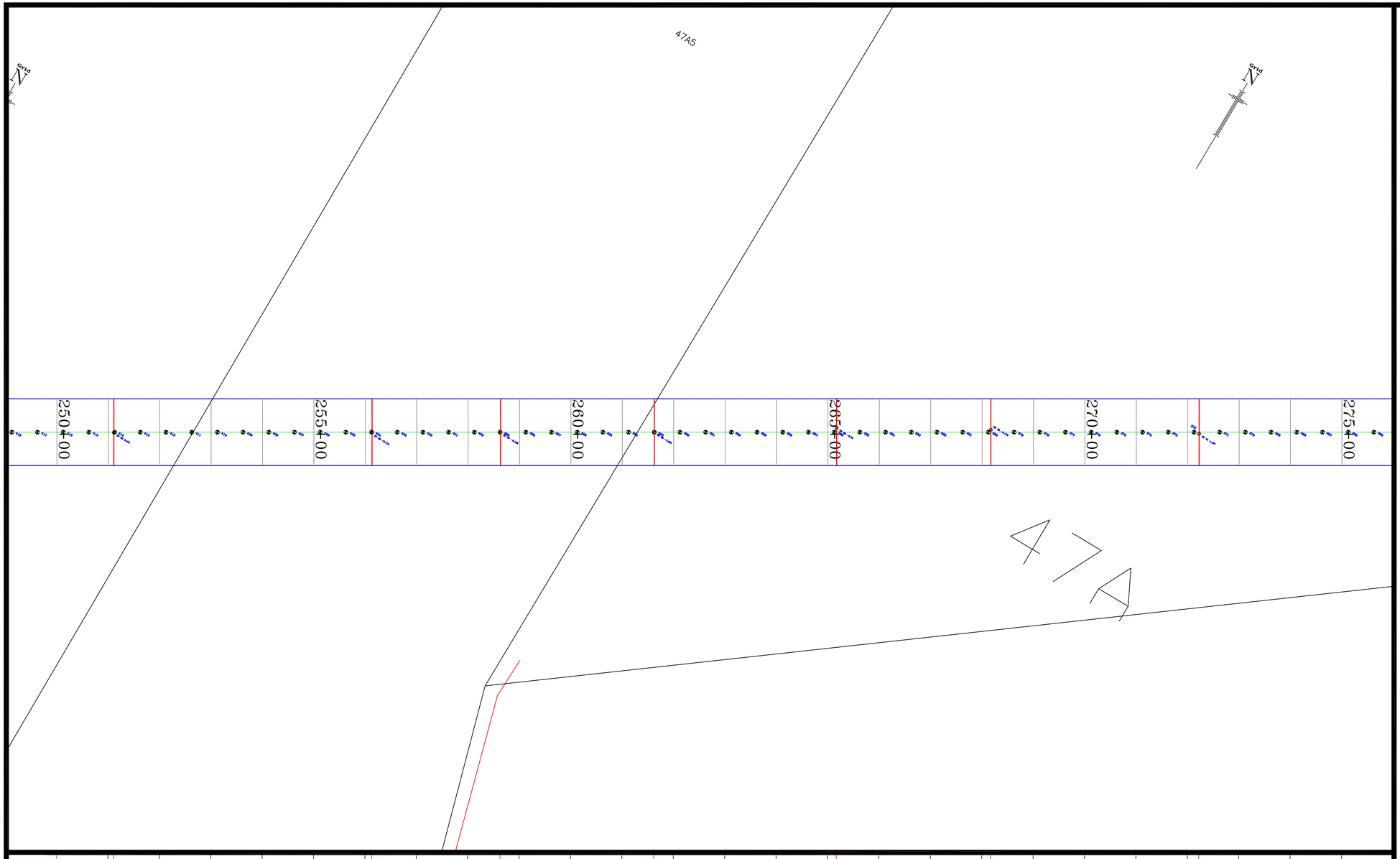
From sta. 230+00

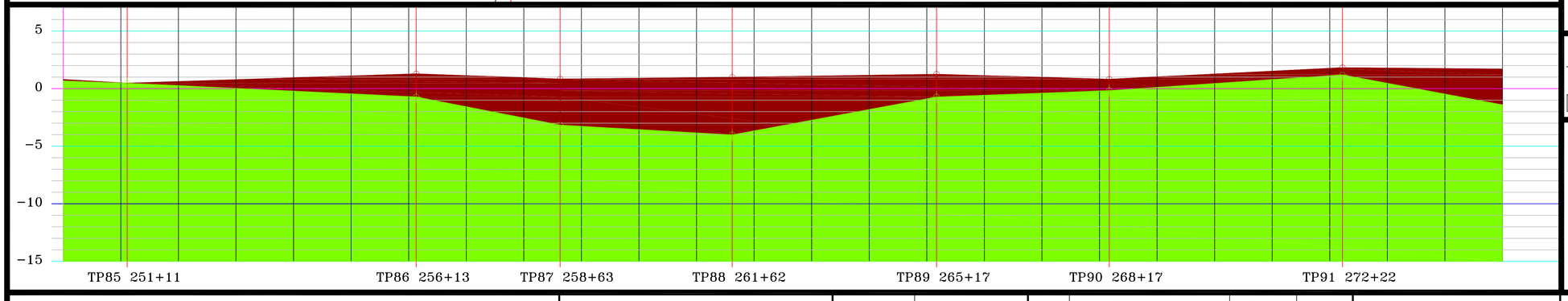
To sta. 251+00

Sheet 11 of 20

TITLE

PLAN AND PROFILE LOCATIONS
FOR GEOTECHNICAL SURVEY
ON THE EAST−WEST EXTENSION







TYPICAL TRIAL PIT #85 STATION 251+11



TYPICAL TRIAL PIT #88 STATION 261+62



TYPICAL TRIAL PIT #91 STATION 265+17

LEGEND

PEAT | SOIL | ROCK | WATER LEVEL

EAST-WEST EXTENSION LOOKOUT GARDENS TO FRANK SOUND ROAD GEOTECHNICAL SURVEY AUGUST 2014

PNT #	TRIAL PIT NOS	STATION	DISTANCE (ft)	EXISTING LEVEL	WATER LEVEL	SOIL LAYER	PEAT LAYER	ROCK LAYER
414	TP85	251+11	500					0.471
404	TP86	256+13	300				1.281	-0.719
399	TP87	258+63	300				0.832	-3.168
393	TP88	261+62	350				0.979	-4.021
386	TP89	265+17	300				1.244	-0.73
380	TP90	268+17	400				0.814	-0.175
372	TP91	272+22	300				1.816	1.197
362	TP92	277+11	500				1.613	-3.387

NATIONAL ROADS AUTHORITY
C/O P. O. BOX # 10426 APO
370 NORTH SOUND ROAD, GEORGE TOWN
GRAND CAYMAN, CAYMAN ISLANDS, B.W.I.

Project ref. GC63

Scale Horiz. 1" = 100'
Vert. 1" = 10'

Drawing Name. GC63 EAST-WEST ALIGN

Design	N. R. A.
Drawn	D. Myles
Checked	P. Parchment
Date:	15 SEPT 14
Dwg.No.	12

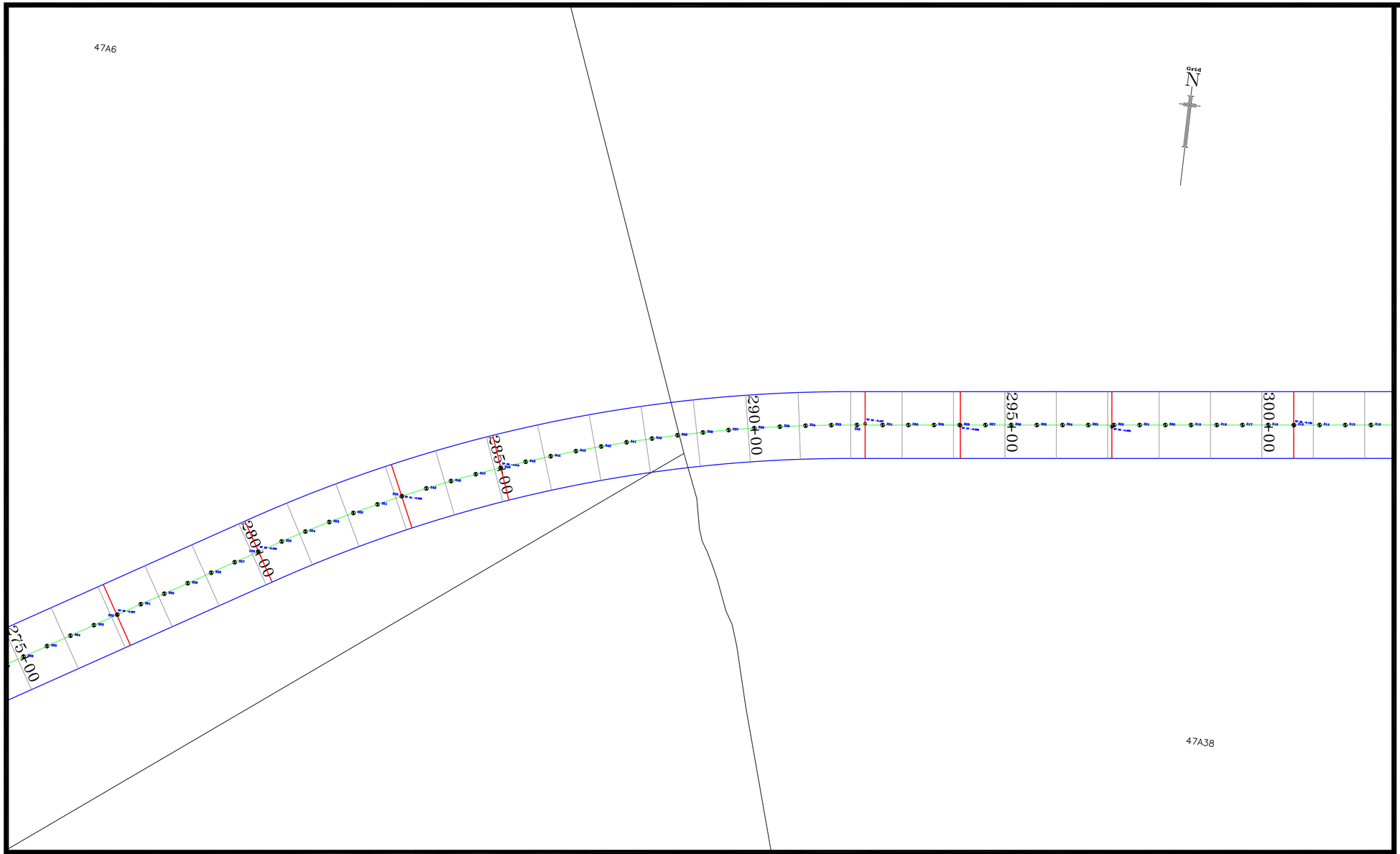
No.	Revisions	Date	By

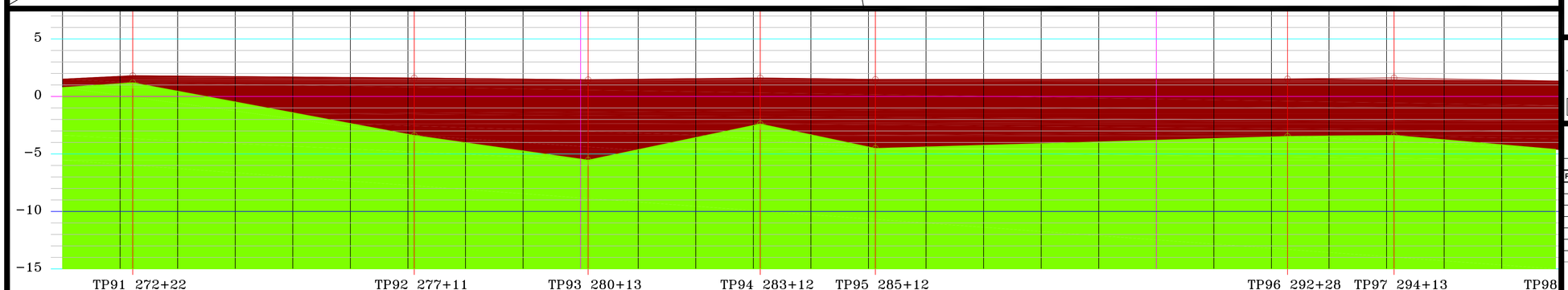
From sta. 251+00
To sta. 277+00

Sheet 12 of 20

TITLE

PLAN AND PROFILE LOCATIONS FOR GEOTECHNICAL SURVEY ON THE EAST−WEST EXTENSION







TYPICAL TRIAL PIT #92 STATION 277+11



TYPICAL TRIAL PIT #96 STATION 292+28



TYPICAL TRIAL PIT #99 STATION 300+62

LEGEND

PEAT | SOIL | ROCK | WATER LEVEL

EAST-WEST EXTENSION LOOKOUT GARDENS TO FRANK SOUND ROAD GEOTECHNICAL SURVEY AUGUST 2014

PNT #	TRIAL PIT NOS	STATION	DISTANCE (ft)	EXISTING LEVEL	WATER LEVEL	SOIL LAYER	PEAT LAYER	ROCK LAYER
372	TP91	272+22	300				1.816	1.197
362	TP92	277+11	500				1.613	-3.387
356	TP93	280+13	300				1.464	-5.536
350	TP94	283+12	300				1.612	-2.388
346	TP95	285+12	200				1.487	-4.513
332	TP96	292+28	700				1.533	-3.467
328	TP97	294+13	200				1.618	-3.382

NATIONAL ROADS AUTHORITY

C/O P. O. BOX # 10426 APO
370 NORTH SOUND ROAD, GEORGE TOWN
GRAND CAYMAN, CAYMAN ISLANDS, B.W.I.

Project ref. GC63

Scale Horiz. 1" = 100'
Vert. 1" = 10'

Drawing Name. GC63 EAST-WEST ALIGN

Design	N. R. A.
Drawn	D. Myles
Checked	P. Parchment
Date:	15 SEPT 14
Dwg.No.	13

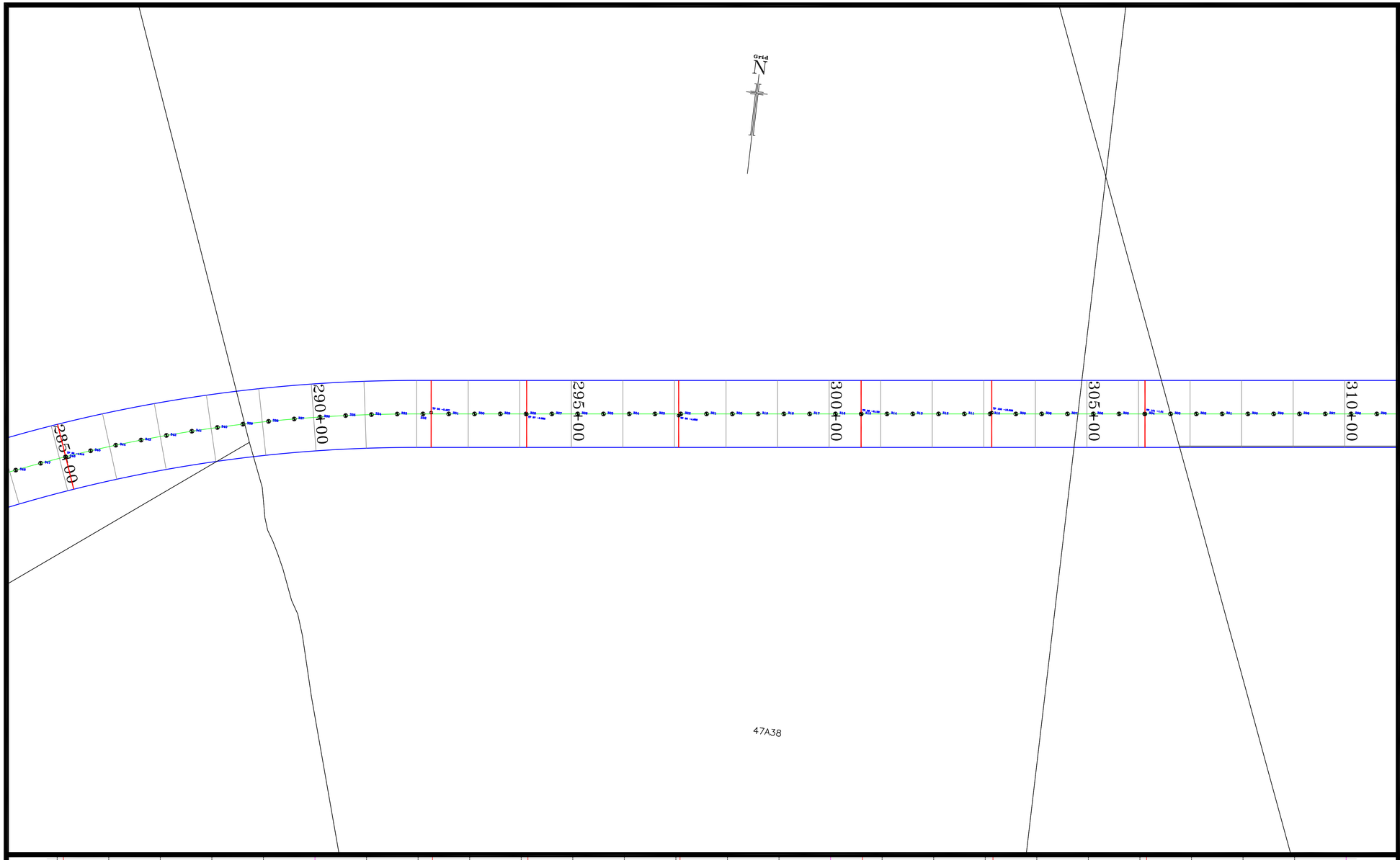
No.	Revisions	Date	By

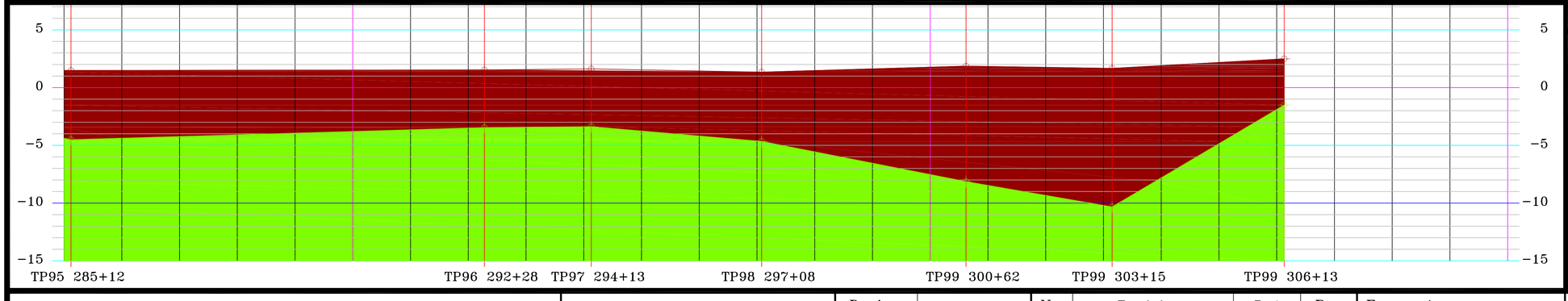
From sta. 272+00
To sta. 294+00

Sheet 13 of 20

TITLE

PLAN AND PROFILE LOCATIONS FOR GEOTECHNICAL SURVEY ON THE EAST−WEST EXTENSION







TYPICAL TRIAL PIT #99 STATION 300+62

LEGEND

PEAT | SOIL | ROCK | WATER LEVEL

EAST-WEST EXTENSION LOOKOUT GARDENS TO FRANK SOUND ROAD GEOTECHNICAL SURVEY AUGUST 2014

PNT #	TRIAL PIT NOS	STATION	DISTANCE (ft)	EXISTING LEVEL	WATER LEVEL	SOIL LAYER	PEAT LAYER	ROCK LAYER
346	TP95	285+12	200				1.487	-4.513
332	TP96	292+28	700				1.533	-3.467
328	TP97	294+13	200				1.618	-3.382
322	TP98	297+08	300				1.341	-4.659
315	TP99	300+62	300				1.861	-8.139
310	TP100	303+15	300				1.667	-10.333
304	TP101	306+13	300				2.49	-1.51

NATIONAL ROADS AUTHORITY

C/O P. O. BOX # 10426 APO
370 NORTH SOUND ROAD, GEORGE TOWN
GRAND CAYMAN, CAYMAN ISLANDS, B.W.I.

Project ref. GC63

Scale Horiz. 1" = 100'
Vert. 1" = 10'

Drawing Name. GC63 EAST-WEST ALIGN

Design	N. R. A.
Drawn	D. Myles
Checked	P. Parchment
Date:	15 SEPT 14
Dwg.No.	14

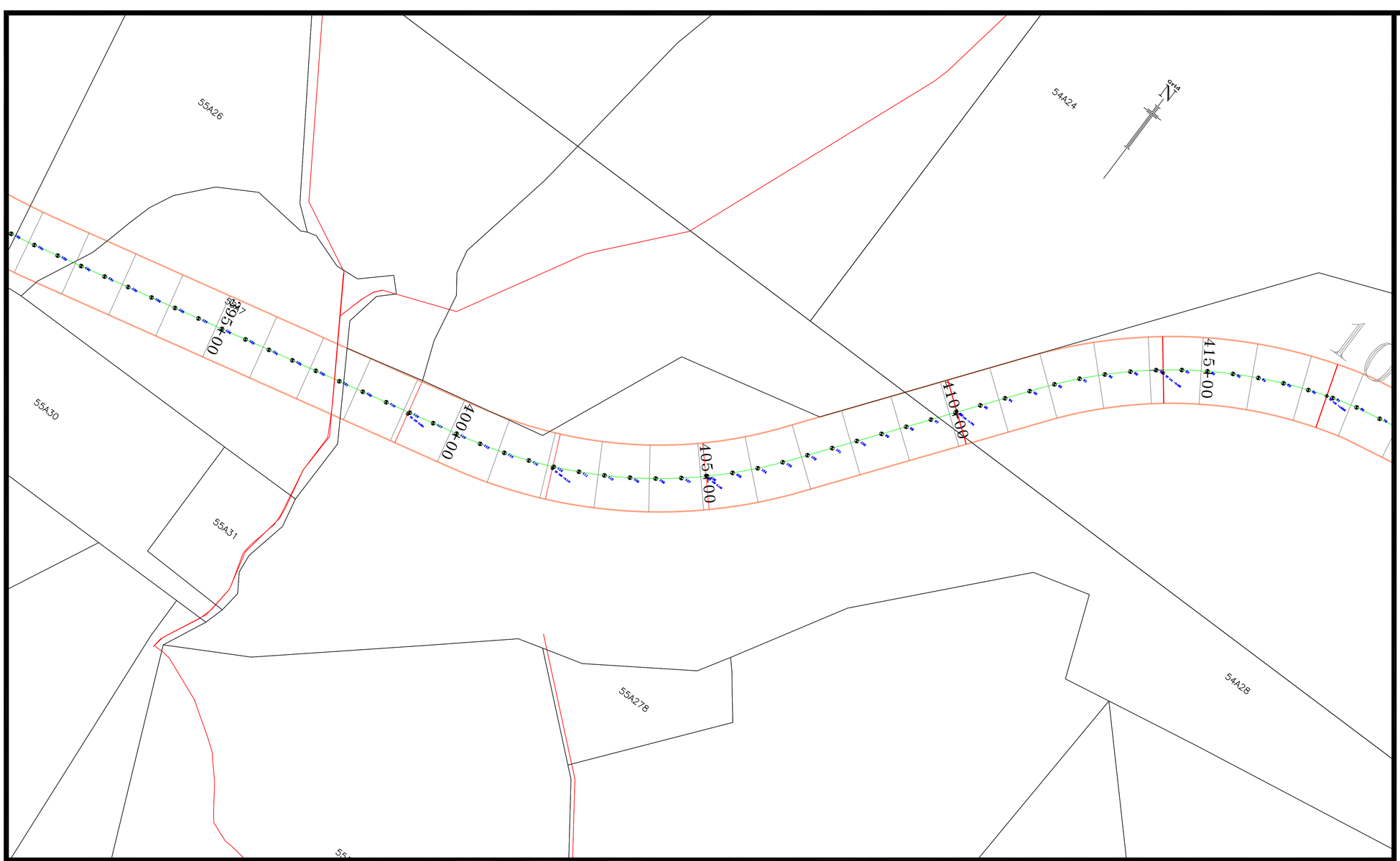
No.	Revisions	Date	By

From sta. 285+00
To sta. 306+00

Sheet 14 of 20

TITLE

PLAN AND PROFILE LOCATIONS FOR GEOTECHNICAL SURVEY ON THE EAST-WEST EXTENSION

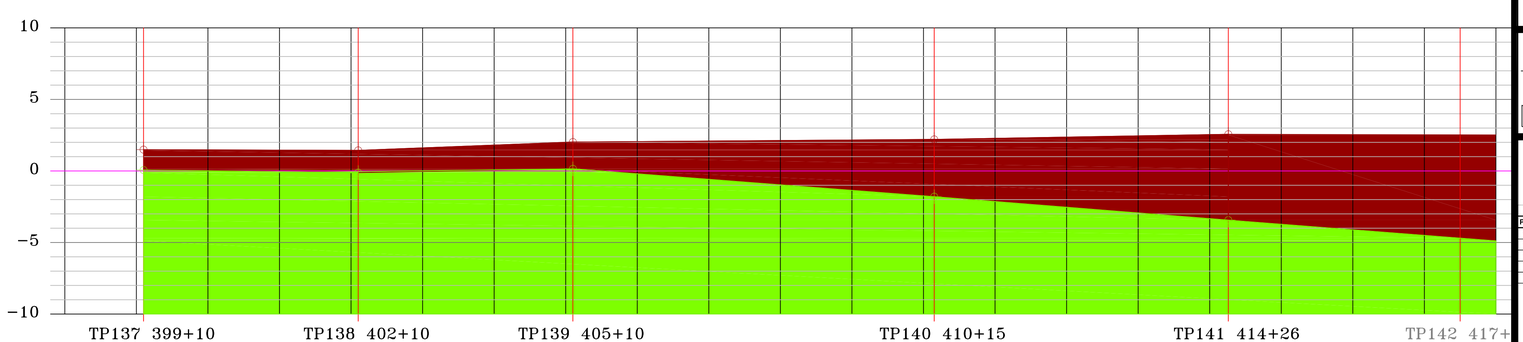




TYPICAL TRIAL PIT #137 STATION 399+10



TYPICAL TRIAL PIT #139 STATION 405+10



LEGEND

PEAT | SOIL | ROCK | WATER LEVEL

EAST-WEST EXTENSION LOOKOUT GARDENS TO FRANK SOUND ROAD GEOTECHNICAL SURVEY AUGUST 2014

PNT #	TRIAL PIT NOS	STATION	DISTANCE (ft)	EXISTING LEVEL	WATER LEVEL	SOIL LAYER	PEAT LAYER	ROCK LAYER
118	TP137	399+10	300				1.492	0.064
112	TP138	402+10	300				1.442	-0.115
106	TP139	405+10	500				2.026	0.148
96	TP140	410+15	500					-1.794
88	TP141	414+26	500				2.568	-3.432

MASTIC TRAIL WOODEN WALKWAY

NATIONAL ROADS AUTHORITY

C/O P. O. BOX # 10426 APO
370 NORTH SOUND ROAD, GEORGE TOWN
GRAND CAYMAN, CAYMAN ISLANDS, B.W.I.

Project ref. GC63

Scale Horiz. 1" = 100'
Vert. 1" = 10'

Drawing Name. GC63 EAST-WEST ALIGN

Design	N. R. A.
Drawn	D. Myles
Checked	P. Parchment
Date:	15 SEPT 14
Dwg.No.	18

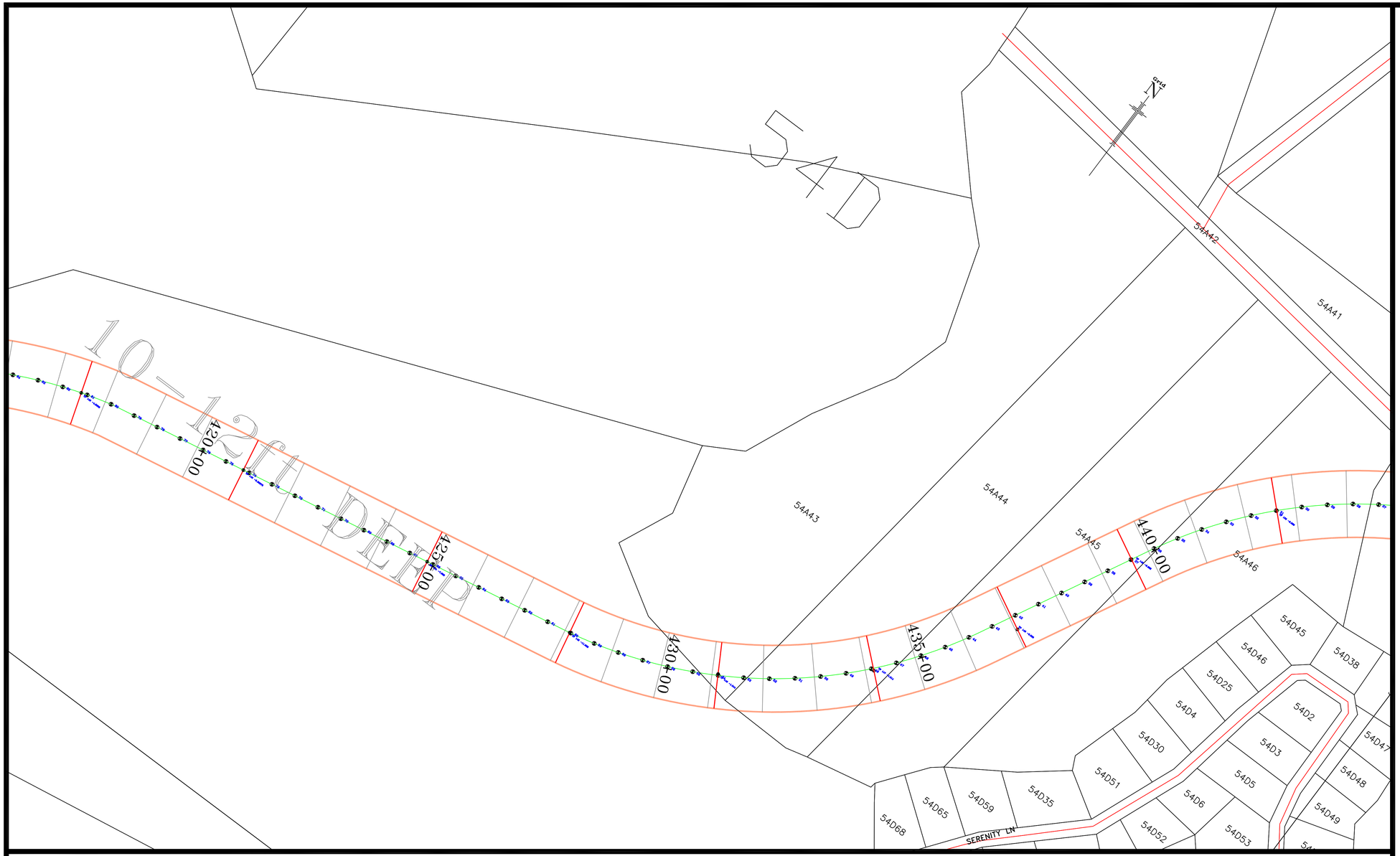
No.	Revisions	Date	By

From sta. 399+00
To sta. 414+00

Sheet 18 of 20

TITLE

PLAN AND PROFILE LOCATIONS FOR GEOTECHNICAL SURVEY ON THE EAST−WEST EXTENSION

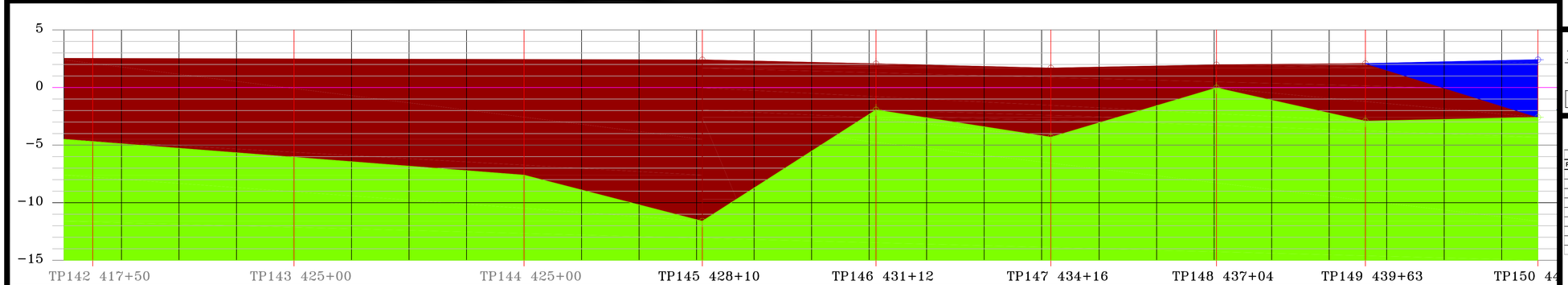




TYPICAL TRIAL PIT #146 STATION 135+50



TYPICAL TRIAL PIT #150 STATION 147+50



LEGEND

PEAT | SOIL | ROCK | WATER LEVEL

EAST-WEST EXTENSION LOOKOUT GARDENS TO FRANK SOUND ROAD GEOTECHNICAL SURVEY AUGUST 2014									
PNT #	TRIAL PIT NOS	STATION	DISTANCE (ft)	EXISTING LEVEL	WATER LEVEL	SOIL LAYER	PEAT LAYER	ROCK LAYER	
78	TP142	419+00	300				2.5282	-4.5303	
72	TP143	422+00	300				2.4851	-5.96375	ASSUMPTIONS
66	TP144	425+00	300				2.4361	-7.602	ASSUMPTIONS
60	TP145	428+10	300				2.398	-11.602	ASSUMPTIONS
54	TP146	431+12	300				2.056	-1.944	
48	TP147	434+16	300				1.686	-4.314	
42	TP148	437+04	300				1.967	-0.033	
37	TP149	439+63	300				2.078	-2.922	
31	TP150	442+63	300		2.411			-2.589	

NATIONAL ROADS AUTHORITY

C/O P. O. BOX # 10426 APO
370 NORTH SOUND ROAD, GEORGE TOWN
GRAND CAYMAN, CAYMAN ISLANDS, B.W.I.

Project ref. GC63

Scale Horiz. 1" = 100'
Vert. 1" = 10'

Drawing Name. GC63 EAST-WEST ALIGN

Design	N. R. A.
Drawn	D. Myles
Checked	P. Parchment
Date:	15 SEPT 14
Dwg.No.	19

No.	Revisions	Date	By

From sta. 419+00
To sta. 442+00

Sheet 19 of 20

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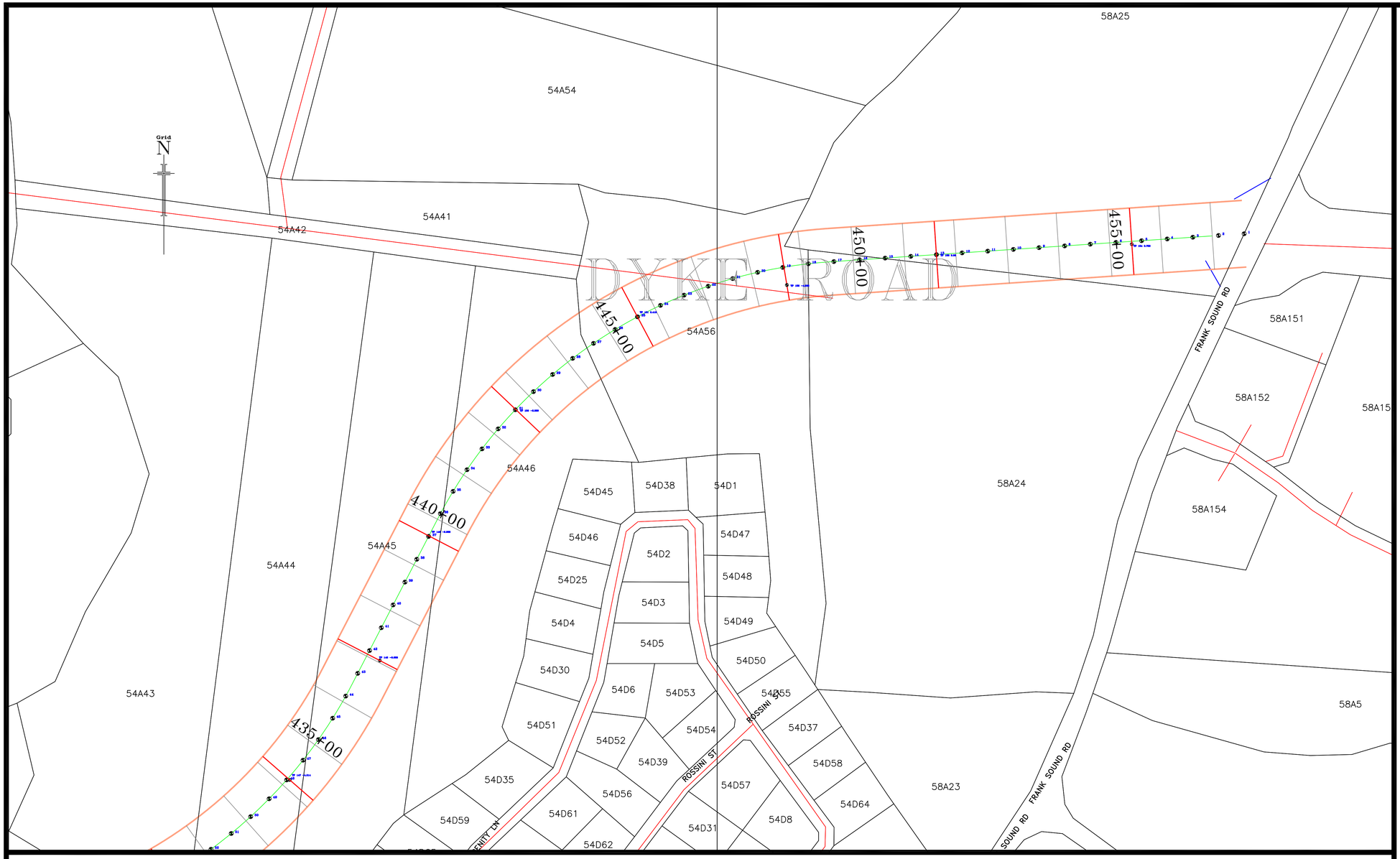
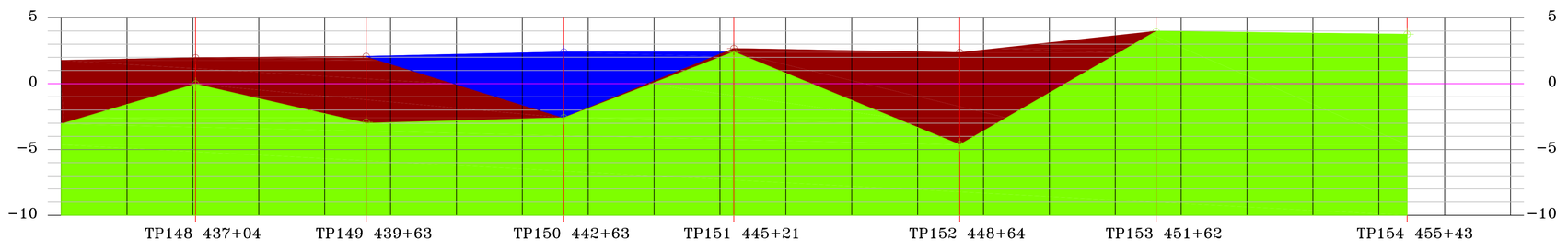
PLAN AND PROFILE LOCATIONS
FOR GEOTECHNICAL SURVEY
ON THE EAST−WEST EXTENSION







TYPICAL TRIAL PIT #148 STATION 141+50



TYPICAL TRIAL PIT #152 STATION 153+50

TYPICAL TRIAL PIT #154 STATION 155+50

LEGEND

PEAT | SOIL | ROCK | WATER LEVEL

EAST-WEST EXTENSION LOOKOUT GARDENS TO FRANK SOUND ROAD GEOTECHNICAL SURVEY AUGUST 2014

PNT #	TRIAL PIT NOS	STATION	DISTANCE (ft)	EXISTING LEVEL	WATER LEVEL	SOIL LAYER	PEAT LAYER	ROCK LAYER	
25	TP151	445+21	300				2.668	2.418	
19	TP152	448+64	300				2.365	-4.635	DYKE ROAD
13	TP153	451+62	300					3.98	
5	TP154	455+43	300					3.752	

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Design	N. R. A.
Drawn	D. Myles
Checked	P. Parchment
Date:	15 SEPT 14
Dwg.No.	20

No.	Revisions	Date	By

From sta. 455+00

To sta. 435+00

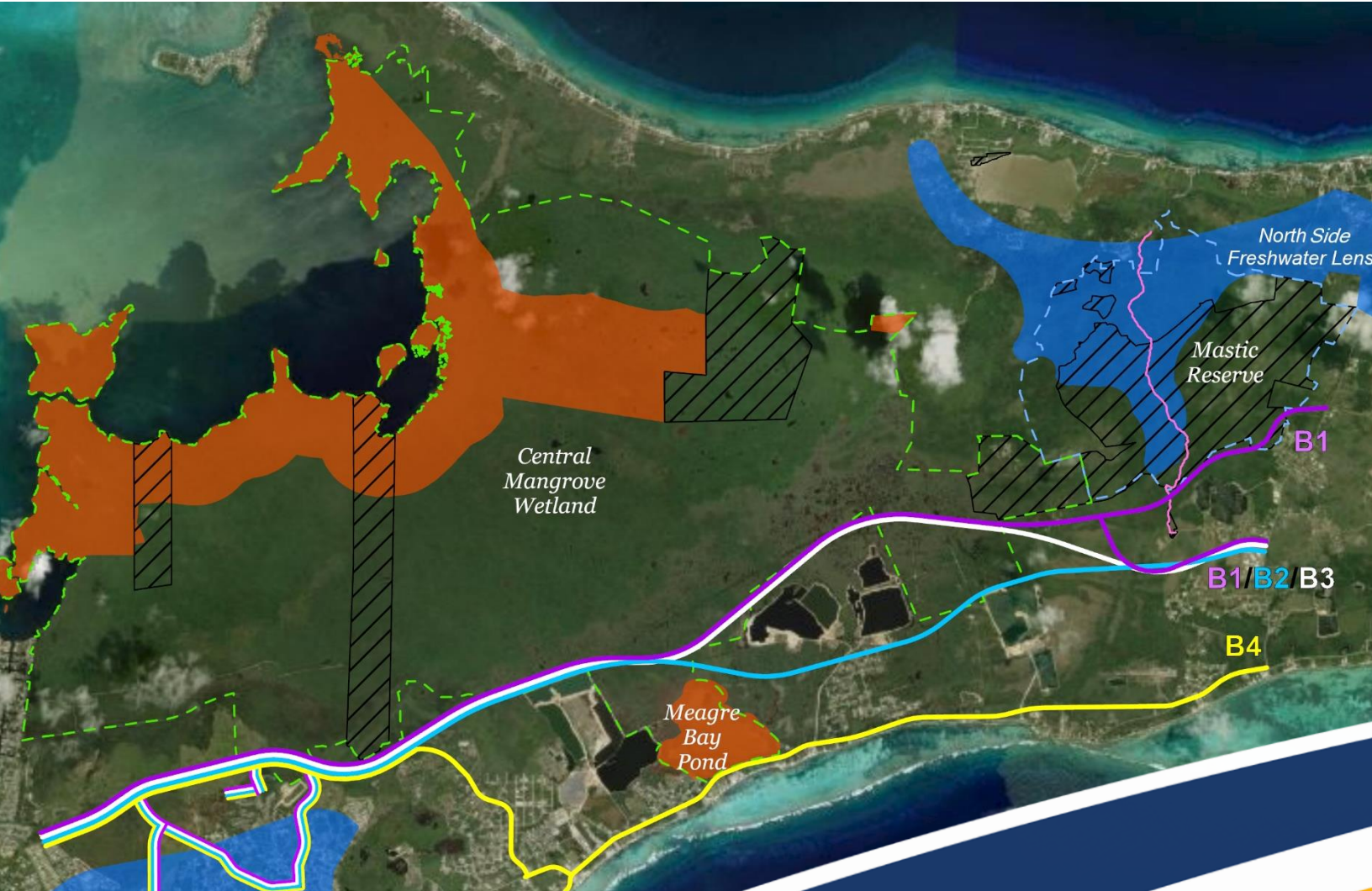
Sheet 20 of 20

TITLE

PLAN AND PROFILE LOCATIONS FOR GEOTECHNICAL SURVEY ON THE EAST-WEST EXTENSION

Appendix E, Attachment F – Terrestrial Ecology – Assessment of Alternatives

Environmental Statement
East-West Arterial Extension:
Section 2 (Woodland Drive – Lookout Road)
Section 3 (Lookout Road – Frank Sound Road)



Terrestrial Ecology - FINAL

Assessment of Alternatives
Grand Cayman East-West Arterial Extension

NRA
NATIONAL ROADS AUTHORITY

February 6, 2024

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List of Terms

CBA	Cost-Benefit Analysis
CI$	Cayman Islands Dollar
CIR	Colour-Infrared
CMW	Central Mangrove Wetland
DoE	Department of Environment
EIA	Environmental Impact Assessment
EWA	East-West Arterial
GIS	Geographic information systems
Ha	Hectares
Km	Kilometres
LiDAR	Light Detection and Ranging
NBAP	National Biodiversity Action Plan
NCA	National Conservation Act
NDVI	Normalized Difference Vegetation Index
NIR	Near Infrared
NT	National Trust
ppt	Parts Per Thousand
R	Red
RAM	Rapid Assessment Method
ToR	Terms of Reference
UMAM	Uniform Mitigation Assessment Method
USD	U.S. Dollar
USGS	United States Geological Survey
WebTAG	UK Department for Transport's Transport Analysis Guidance

1 Introduction

The East-West Arterial (EWA) Extension Environmental Impact Assessment (EIA) is proposed to evaluate an alternative east-west travel route on Grand Cayman. The Terms of Reference (ToR) for the proposed EWA Extension EIA was finalized on April 4, 2023. Since then, five Build alternatives (B1, B2, B3, B4, and C1), in addition to the No-Build scenario, were developed and assessed as part of the Longlist Alternatives Evaluation. A separate Longlist Alternatives Evaluation Document has been prepared to document this analysis.

As a result of the Longlist Alternatives Evaluation, four Build alternatives (B1, B2, B3, and B4) and the No-Build scenario were advanced to the shortlist evaluation. This report focuses on the assessment of terrestrial ecology resources for these shortlisted alternatives. Information from this report will be incorporated within the Shortlist Alternatives Evaluation Document and Environmental Statement.

2 Shortlist of Alternatives

This analysis evaluates the Shortlist of Alternatives and their anticipated direct impacts on terrestrial ecology. For the Shortlist Evaluation, terrestrial ecology impacts have been evaluated based on direct landcover habitat impacts and species habitat impacts. Evaluation of protected areas, including the Central Mangrove Wetland (CMW), Mastic Reserve, and Meagre Bay Pond, are included within the Cultural and Natural Heritage Assessment of Alternatives.

The Assessment of Alternatives specifically concentrates on analysing direct impacts since these impacts can be more accurately be assessed, quantified, and monetized based on the project's level of design. The potential for possible indirect and cumulative effects has been discussed, where applicable, however since these impacts are less defined due to numerous variables outside of the project's design process they have been noted and qualitatively described. Further evaluation of indirect and cumulative effects will occur as part of the analyses which will be carried out for the Preferred Alternative Evaluation.

The Shortlist of Alternatives includes the No-Build scenario and four Build alternatives (B1, B2, B3, and B4) as depicted in **Figure 1**. As shown in **Figure 1,** the four Build alternatives all share exactly the same common section beginning at the western terminus, near Woodland Drive, and continuing east to near Lookout Road. They also share the same common improvements to the local roadway network referred to as the Will T Connector. Additional details describing the Shortlist of Alternatives including full descriptions of each alternative along with typical design sections can be found in the Shortlist Evaluation Document.

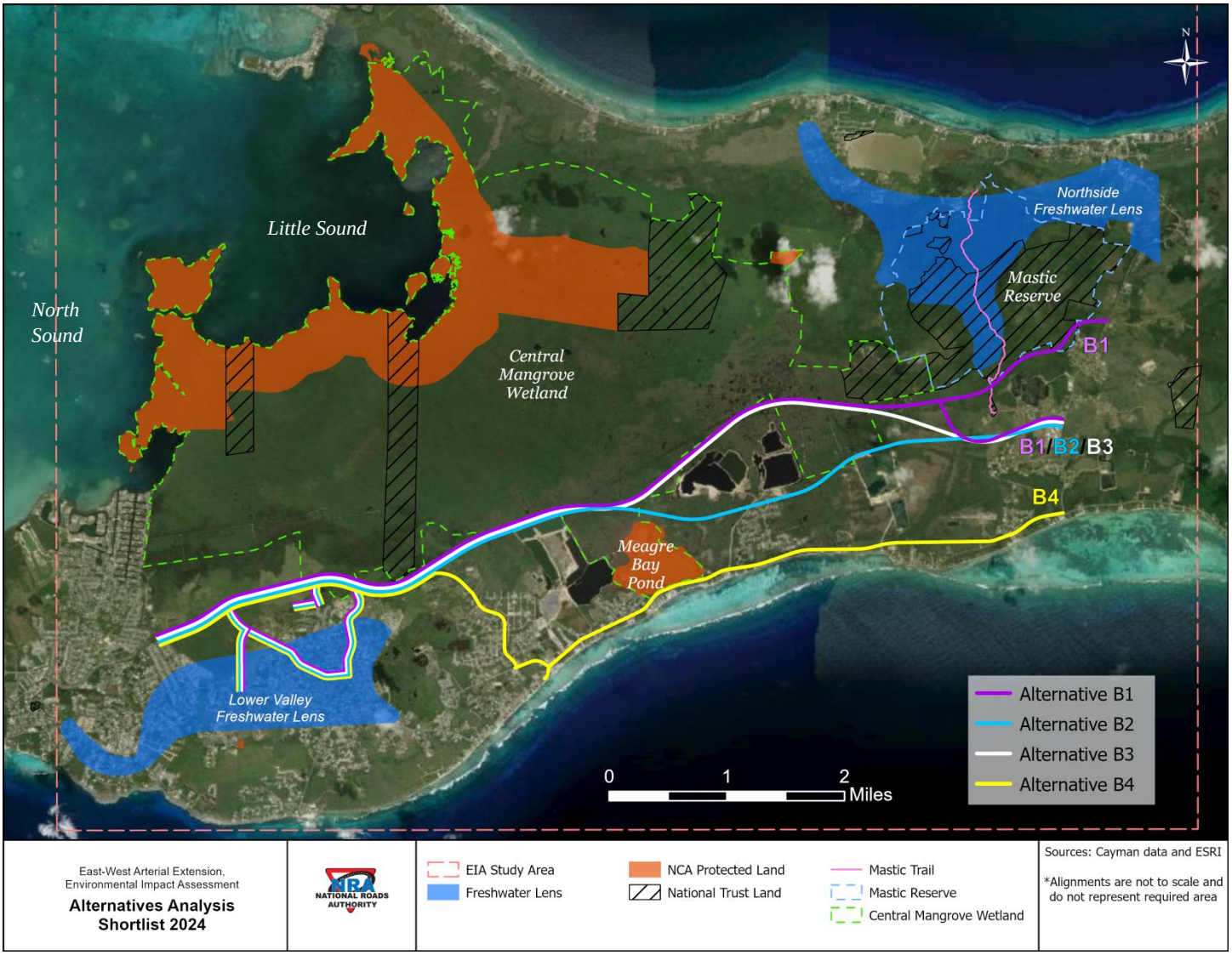

Figure 1: Shortlisted Build Alternatives

3 Baseline Conditions and Assessment Methodology

The Assessment of Alternatives included a July 2023 field review of the EIA study area and a desktop analysis using the technical reports, publications, government documents, websites, spreadsheets, and geographic information systems (GIS) datasets listed in **Section 3.1** of this document. Information derived from the field review and desktop analysis was used to establish existing conditions within, adjacent to, and in the vicinity of the proposed EWA Extension Build alternative corridors. This information was then used to identify and evaluate the potential impacts to terrestrial ecological resources for **Section 4: Anticipated Project Impacts** in this document.

3.1 Data Sources Evaluated

The following information (i.e. spreadsheets and GIS datasets) was provided by the Cayman Islands Department of Environment (DoE):

- Provided November 2022;
  - Grand Cayman Landcover and Habitat (2018);
  - Dry Forest above 20-ft Elevation;
  - Lands protected under the National Conservation Act (NCA) of 2013 (*.shp shapefile);
  - Lands owned by the National Trust (NT) (*.shp shapefile); and
  - Habitats of important species (*.shp shapefiles):
    - Plants
      - *Aegiphilia caymanensis*
      - Inkberry (*Scaevola Plumieri*)
      - *Pisonia margaratae*
      - Tea banker (*Pectis caymanensis*)
    - Reptiles
      - Marine Turtle Critical Habitat through 2018
      - Marine Turtle Nesting Beaches through 2018
    - Mammals
      - Northern lower valley forest Cuban white-shouldered bat (*Phyllops falcatus*) habitat
    - Birds
      - Grand Cayman Parrot (*Amazona leucocephala caymanensis*) density
      - White Tailed Tropicbird *(Phaethon lepturus*);
    - Insects
      - Pygmy Blue Butterfly (*Brephidium exilis thompsoni*)
- Provided July 2023;
  - Central Mangrove Wetland (CMW) (*.shp shapefile); and
  - Mastic Reserve and Mastic Trail (*.shp shapefile)
- Provided September 2023;
  - 2021 Natural Capital Account Spreadsheets for Natural Capital Account Report 2020; and
  - South Key Parrot Nesting Habitat (*.shp shapefile)
    - Referred to as "parrot nesting habitat" throughout this document.

The following information (i.e. geospatial datasets) was provided by the Cayman Islands Government and other sources:

- Provided by the Cayman Islands Land and Survey on August 4, 2023;
  - Light detection and ranging (LiDAR) LAS geospatial data; and
  - 2013 Colour-Infrared (CIR) imagery;
- CIR and Normalized Difference Vegetation Index (NDVI) imagery from EOS Data Analytics, dated January 25, 2023;
- Satellite imagery from Google Earth Pro, dated between June 5, 2023, and September 15, 2023.

The following legislation and relevant Cayman guidance materials were also reviewed as part of the ecological studies:

- Cayman Islands National Biodiversity Action Plan (NBAP) (2009);
- National Trust Law (2010 Revision);
- National Conservation Act (2013);
- National Conservation (General) Regulations (2016);
- The Mangrove Conservation Plan (2020);
- National Conservation (General) (Amendment) Regulations (2021);
- Development and Planning Act (2021 Revision);
- Development and Planning Regulations (2022 Revision);
- 2020 Cayman Islands Ecosystem Accounting (**Attachment E**);
- Childs, C., MacDonald, M.A., Bradbury, R.B. (2015). *Ecosystem services provided by two potential protected areas in the Cayman Islands.* National Trust for the Cayman Islands.; and
- UK Department for Transport's Transport Analysis Guidance (WebTAG) Unit A3: Environmental Impact Appraisal
- Chartered Institute of Ecology and Environmental Management's (CIEEM) *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine* (Updated April 2022)

The following Multi-lateral Environmental Conventions were reviewed as part of the ecological studies:

- Convention on Biological Diversity;
- Convention on Wetlands of International Importance (Ramsar Convention); and
- Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention).

3.2 Existing Conditions

A number of habitats, outlined in the 2009 National Biodiversity Action Plan, comprise the ecosystems on Grand Cayman. The island houses coastal, wetland, and upland ecosystems which all play an important role in providing ecosystem services and supporting native wildlife. The ecosystems are interconnected hydrologically and often share in the species that depend on them. Major ecosystems that are relatively untouched by human activity include wetland ecosystems and upland ecosystems.

Wetland Ecosystems

Mangrove wetlands provide Grand Cayman myriad ecosystem services, like protecting the coast from storms, waves, and floods; inhibiting coastal erosion; carbon sequestration; water filtration; and providing important habitat to many species like the Grand Cayman parrot. The CMW and Meagre Bay Pond (**Figure 1**) are both part of the mangrove wetland ecosystem on the island. The CMW is one of the largest contiguous wetland in the Caribbean.

Ideal conditions for mangroves include low wave energy, brackish water, fine soil sediment, and waterlogged soil. On Grand Cayman, mangrove typically grow on peat, laid down by mangroves themselves. The unique root systems of the red mangrove (*Rhizophora mangle*; buttressed roots) and black mangrove (*Avicennia germinans*; pneumatophores) slow the flow of the tides and encourage mud and silt deposition. Water salinity and hydroperiod (i.e., the depth, duration, and frequency of tides) affect the composition of mangroves in wetlands like the CMW. Any major disturbance to one or more of these factors is likely to alter the species composition, since red, black, and white mangroves (*Laguncularia racemose*) each prefer different depths of inundation and water salinity levels. Hurricane events can also strongly influence mangrove communities on Grand Cayman.

The CMW is an integral part of the water flow system on Grand Cayman. Water migrates, primarily as sheet flow, from the southern coast, across the CMW, and into the North Sound (**Figure 1**). The mangrove system filters the surface water and shallow ground water that flow through it, adding nutrients which are essential to the North Sound food chain. In addition, the CMW has an important role in the evapotranspiration/precipitation cycle of Grand Cayman. An estimated 40% of the rainfall in western districts of the island is believed to be due to evapotranspiration in the CMW (Bradley et al, 2004).

Meagre Bay Pond is part of the flow pattern between the southern shore of the island, the CMW, and North Sound. Meagre Bay Pond has a buffer of mangroves around it and provides habitat for over 104 different species of migratory birds and plenty of other wildlife (www.eBird.org). In times of heavy rain, the pond contributes to the south-to-north sheet flow through the CMW. Quarry and residential development adjacent to the pond threaten the pond's hydrology and its connection to the CMW sheet flow system.

Upland Ecosystems

The Mastic Reserve (**Figure 1**) is the oldest ecosystem on Grand Cayman. Comprised of subtropical, semi-deciduous dry forest, this part of the island is home to many endemic flora and fauna. The Mastic Reserve is recognized as an Important Bird Area, and provides habitat to numerous endemic species, including ten plant species, four reptile species, and five butterfly species (Bradley et al., 2004).

The Reserve is connected to the other ecosystems on Grand Cayman in many ways, both by providing habitat to some of the same species and via hydrological connection. The Reserve absorbs rainfall and slowly releases it, helping to regulate the water flow on the island. Some of that water soaks into the soil and recharges the groundwater, making it an essential part of supplying the island with freshwater. It also includes some pools and seasonal ponds, which support aquatic life.

3.3 Existing Developed Conditions and Trends

Five districts make up Grand Cayman: West Bay, George Town, Bodden Town, North Side, and East End. With Owen Roberts International Airport and the George Town Port located in George Town, both George Town and West Bay are the primary locations for commercial and retail businesses such as hotels and restaurants, with a mix of residential uses. Farther east, Bodden Town, North Side, and East End are primarily residential with some minor retail and community facilities interspersed along the existing roadways. Bodden Town is currently the fastest growing district, almost tripling in population size since the turn of the 21st century, while North Side and East End remain relatively sparsely populated. The EIA study area (**Figure 1**) encompasses both the Bodden Town and North Side Districts with the area required for the shortlisted Build alternatives (B1, B2, B3 and B4) being primarily located within the Bodden Town District. (Economic and Statistics Office, 2022).

The overall EIA study area consists of residential, commercial, agricultural, and industrial sites. Portions of the CMW (**Figure 1**) also extend into the EIA study area. Several active mine quarries sit within the EIA study area. Recent aerial photographs, as well as NDVI and CIR data derived from satellite imagery, provide a general overview of existing vegetative conditions within the EIA study area. The CMW and developed areas within the EIA study area are visually apparent. A distinct area marked by low density mangrove vegetation occurs along the southern boundary of the CMW, from Bodden Town to North Side as shown in **Figures 2**, **3**, and **4** This low density vegetation area appears to be comprised of a mix of mangroves, open water, bare ground (peat), and man-modified areas. **Figure 2** depicts the 2023 True Colour Aerial with an example area of low density mangrove habitat. Review of the aerial imagery shows cleared access paths/roads and canals extending through this area. Vegetation density also appears to be lower throughout this area when compared to the CMW areas farther north.

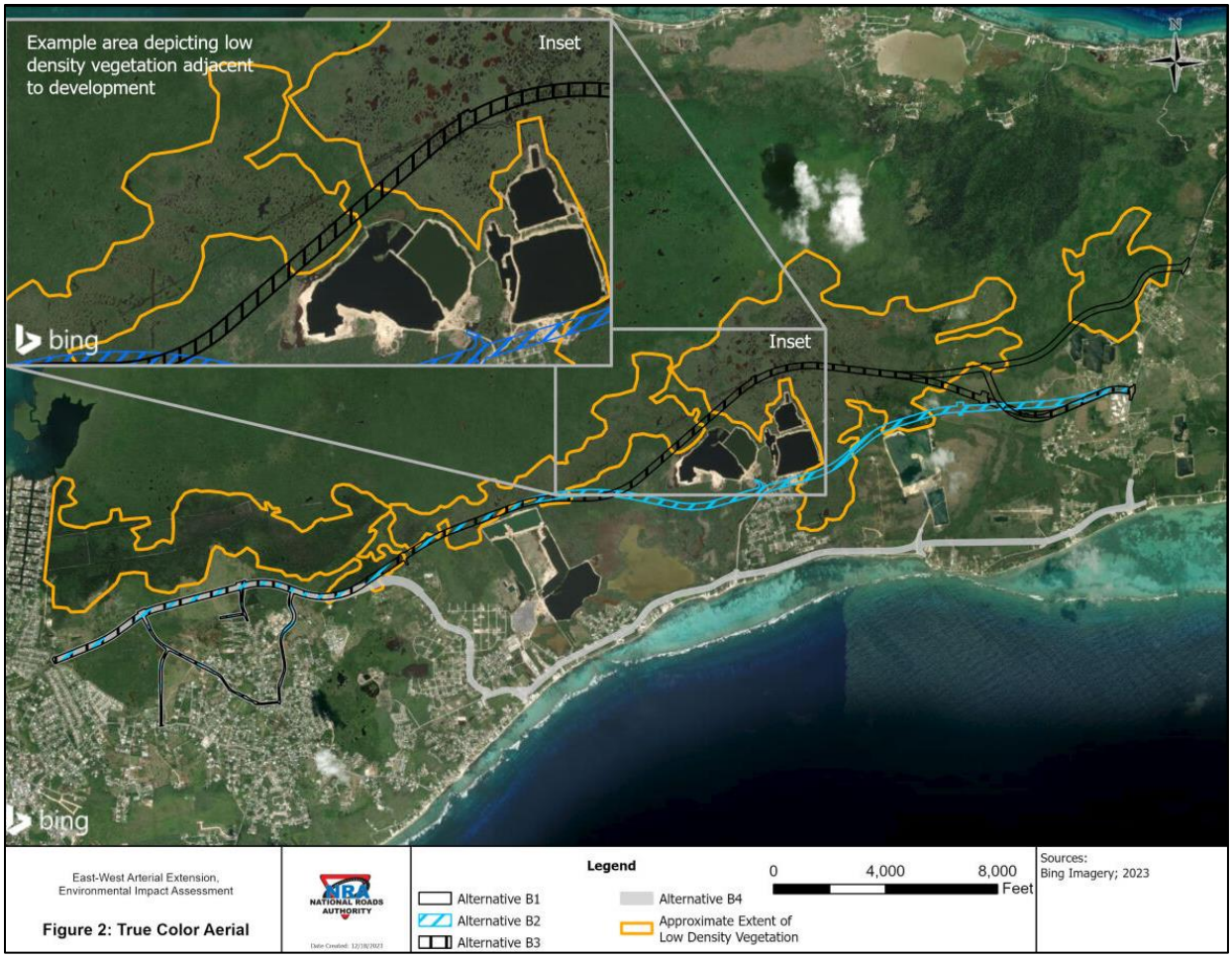

Figure 2: True Colour Aerial of EWA EIA Study Area

Figure 3 and **Figure 4** depict the January 25, 2023 NDVI and CIR imagery with an example area of the low density mangrove habitat. Imagery from this time of year was selected to support this analysis due to low cloud coverage. NDVI mapping is used to quantify vegetation greenness (based on the presence of chlorophyll) and is useful in understanding vegetation density and assessing changes in plant health. NDVI is calculated as a ratio between the red (R) and near infrared (NIR) values and is the most common index used in scholarly study of mangroves (Tran *et al.*, 2022). Greenness is based on several factors: the number and type of plants, how leafy they are, and how healthy they are. In places where foliage is dense and plants are growing quickly, the index is high, represented in dark green. Areas where vegetation density is low are depicted as yellow or orange. Areas where NDVI values indicate low density vegetation may be due to the presence of naturally occurring open water features such as mangrove lagoons and ponds, or areas where mangroves have been uprooted due to severe weather events. Additionally, accuracy of reflectance values can vary based on mangrove species due to a variety of factors. Therefore, field verification of vegetative conditions will need to be performed.

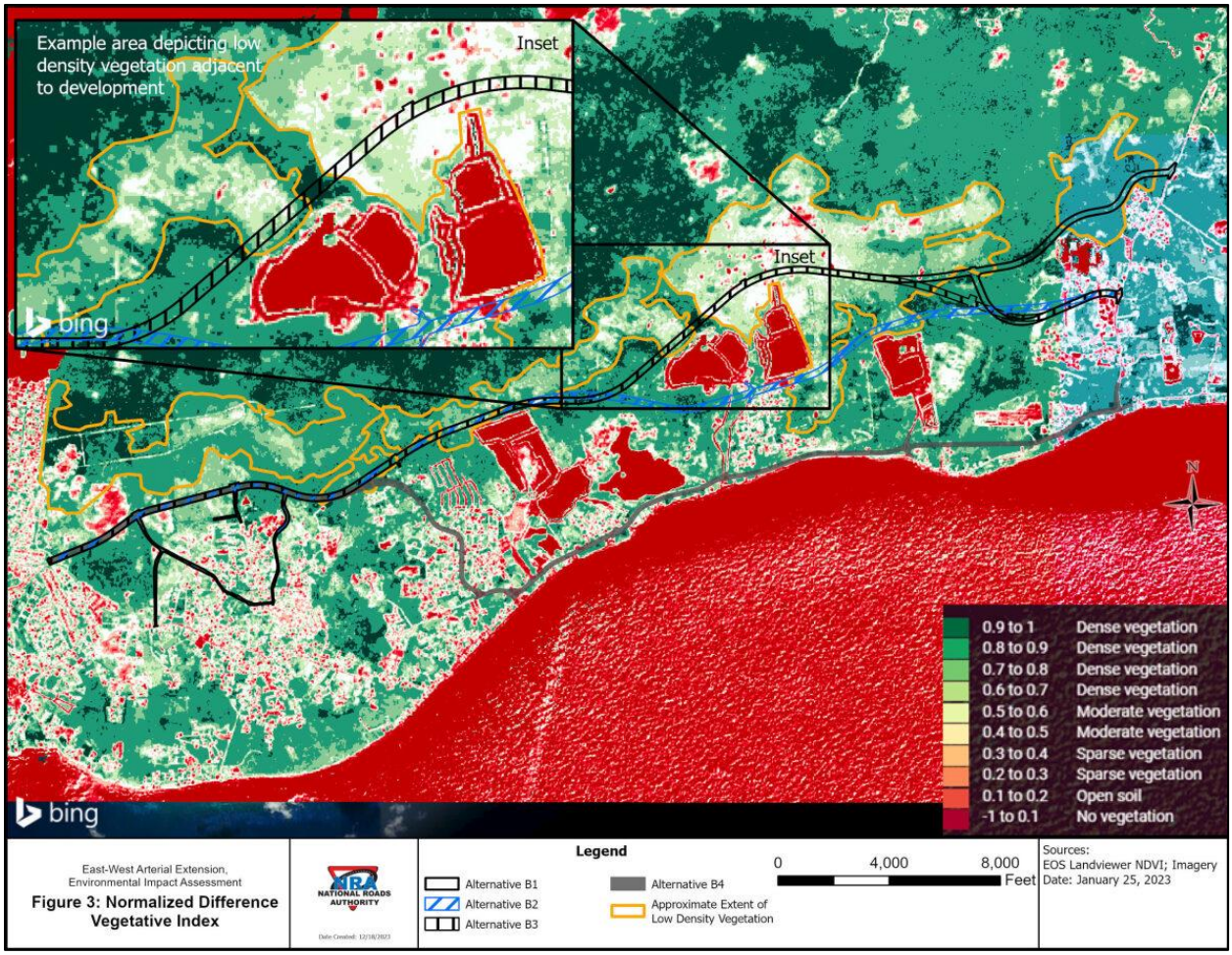

Figure 3: NDVI of EWA EIA Study Area
Source: EOS Data Analytics (Jan 25, 2023)

Similarly, CIR imagery is widely used for interpretation of vegetation health. CIR imagery shows healthy vegetation in hues of red; intense reds indicate densely growing vegetation, while lighter shades of red and pink indicate sparsely growing vegetation. Various shades of greens and tans may also indicate areas of lower vegetative growth. Bare soils appear as shades of white, blue, or green. (USGS, n.d.)

Per **Figure 3** above, areas of low density mangroves demonstrate lower values on the NDVI scale (0.4 to 0.6) when compared with northern sections of the CMW (0.7 to 1.0). Per **Figure 4** below, the low density mangroves are interspersed with areas of dark tan and green indicating lower vegetative growth, ponds, and bare ground, specifically peat.

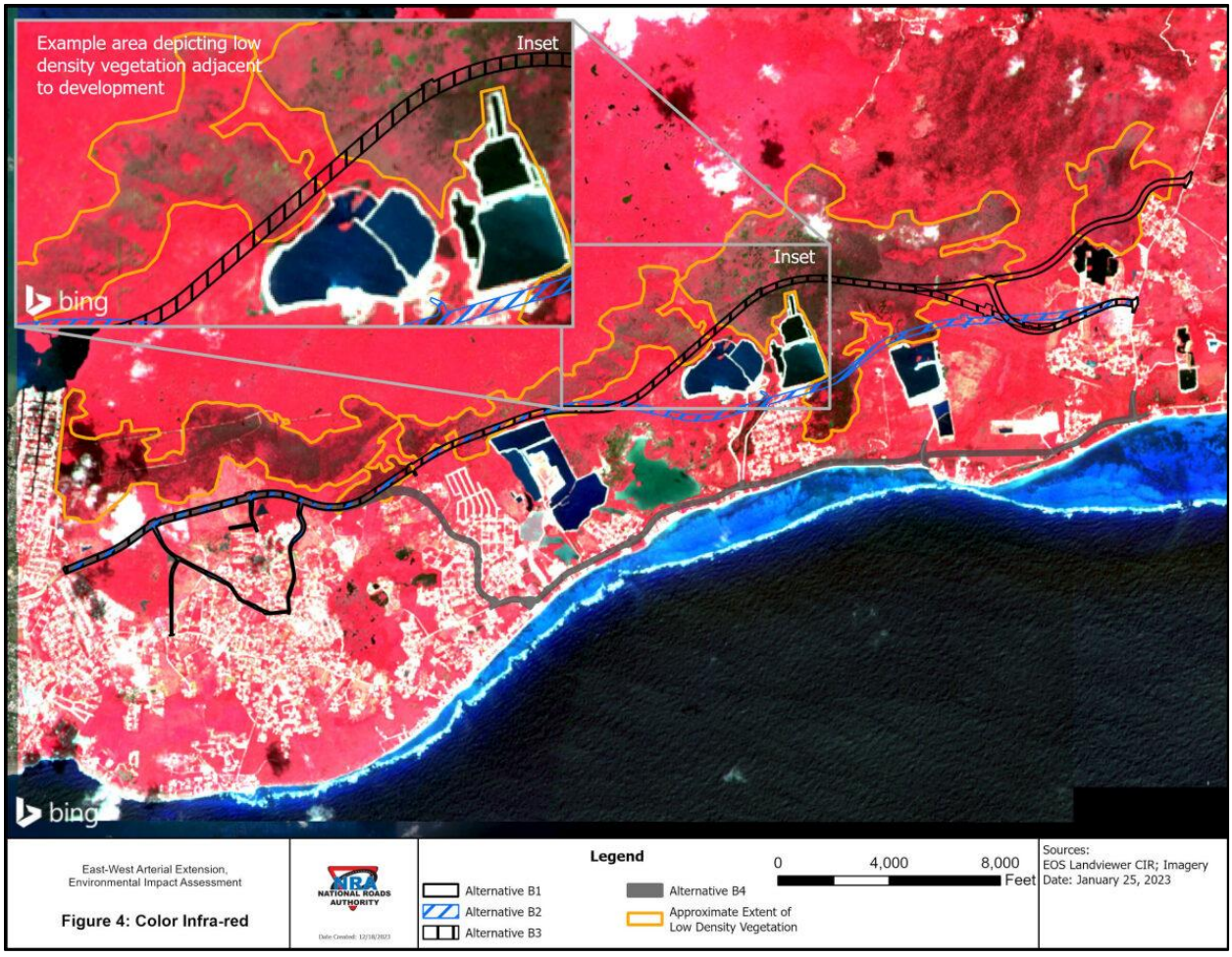

Figure 4: CIR of EWA EIA Study Area
Source: EOS Data Analytics (Jan 25, 2023)

There are various reasons that may influence why mangrove habitat in this area appears to be lower density, including elevation, salinity, urban impacts on water quality (e.g., nutrient build-up), adjacent urbanization, and hurricanes:

Elevation: A high water table plus low elevation may result in pooling water, which can affect the type and density of mangrove species growing in those areas along with the density of open ponds.

Salinity: Salinity is another factor that could affect the density and growth of mangroves. Red mangroves survive best in waters with salinities at 35 parts per thousand (ppt) or below with minimal fluctuation, though they can grow in salinities almost twice that (Biber, 2006; Florida Museum, n.d.). Black mangrove seedlings prefer salinities between 15 and 45 ppt for establishment and growth. When salinities exceed 60 ppt, it can cause black mangrove growth difficulties and seedling mortality (Matto *et al.*, 2023).

Nutrient Runoff: Nutrient runoff from agricultural and urban activity has a documented negative effect on mangroves. Excess nutrients result in an overproduction of shoots relative to roots. The increased shoot to root ratio leaves the mangroves more susceptible to increased salinity and

drought which negatively affects the health of the plant resulting in chlorosis and mortality. (Lovelock *et al*, 2009)

Urbanization: As depicted in **Figures 2** through **4**, the low density vegetation area is adjacent to urban development along the southern edge of the island, and adjacent to quarries in the southwest. This low density area may represent an ecotone between developed land and undeveloped CMW. The proximity to urban development and quarry activity could be affecting the density of the vegetation through degradation.

Hurricanes: Hurricanes, along with other tropical storms, can have a significant impact on mangrove habitat. High-velocity winds and storm surge can impact both the vegetative community and underlying soils (peat). Mangrove habitats which have been fragmented, are adjacent to development, or have been previously channelized are especially vulnerable (2009 NBAP). Dependent of the severity of the storm, this can result in either relatively short-term impacts or result in long-term changes or elimination of the vegetative communities. Vegetative communities recovering from a storm event may result in lower density than undisturbed communities.

During the July 2023 field evaluation, mangrove habitat in the "low density" area displayed characteristics indicating stressed vegetation (stunted growth, chlorosis of the leaves, and fungal growth), impacted water quality (discoloration, debris), and an overall decrease in vegetative cover/density. The low density mangrove area will be investigated further during the Preferred Alternative.

3.4 Pre-Field Evaluation Desktop Review

Prior to the field evaluation, a comprehensive desktop review was conducted using geospatial files provided by the DoE (see **Section 3.1**). The purpose of this desktop review was to identify existing ecological features within the EIA study area. These features included NT parcels, protected habitats and other lands, and areas known to have occurrences of listed sensitive species.

The geospatial file that was the most relevant to the desktop and later field review was the 2018 Grand Cayman Landcover and Habitat because it provided the most comprehensive baseline for the existing landcover and habitat types in the EIA study area (**Figure 5**). A 500-foot buffer was established around each Build alternative and the No-Build scenario to identify the primary habitats that could experience direct and indirect impacts from the project. Using the Grand Cayman Landcover and Habitat file, habitats within the 500-foot buffer were identified. These habitats were later verified through field evaluation.

A total of 55 field verification points were proposed to sample each of the habitats in the Grand Cayman Landcover and Habitat file. A total of three habitat points were selected for each habitat in the 500-foot buffer. The habitat in the northern portion of the EIA study area was more uniform than those in the southern portion, which contained a larger diversity of more fragmented habitats. Therefore, more field verification points were required in the south than the north. Additionally, some habitats only appeared once in the 500-foot buffer areas, therefore, additional verification points were added outside the buffer areas to ensure multiple data points were collected for each habitat type.

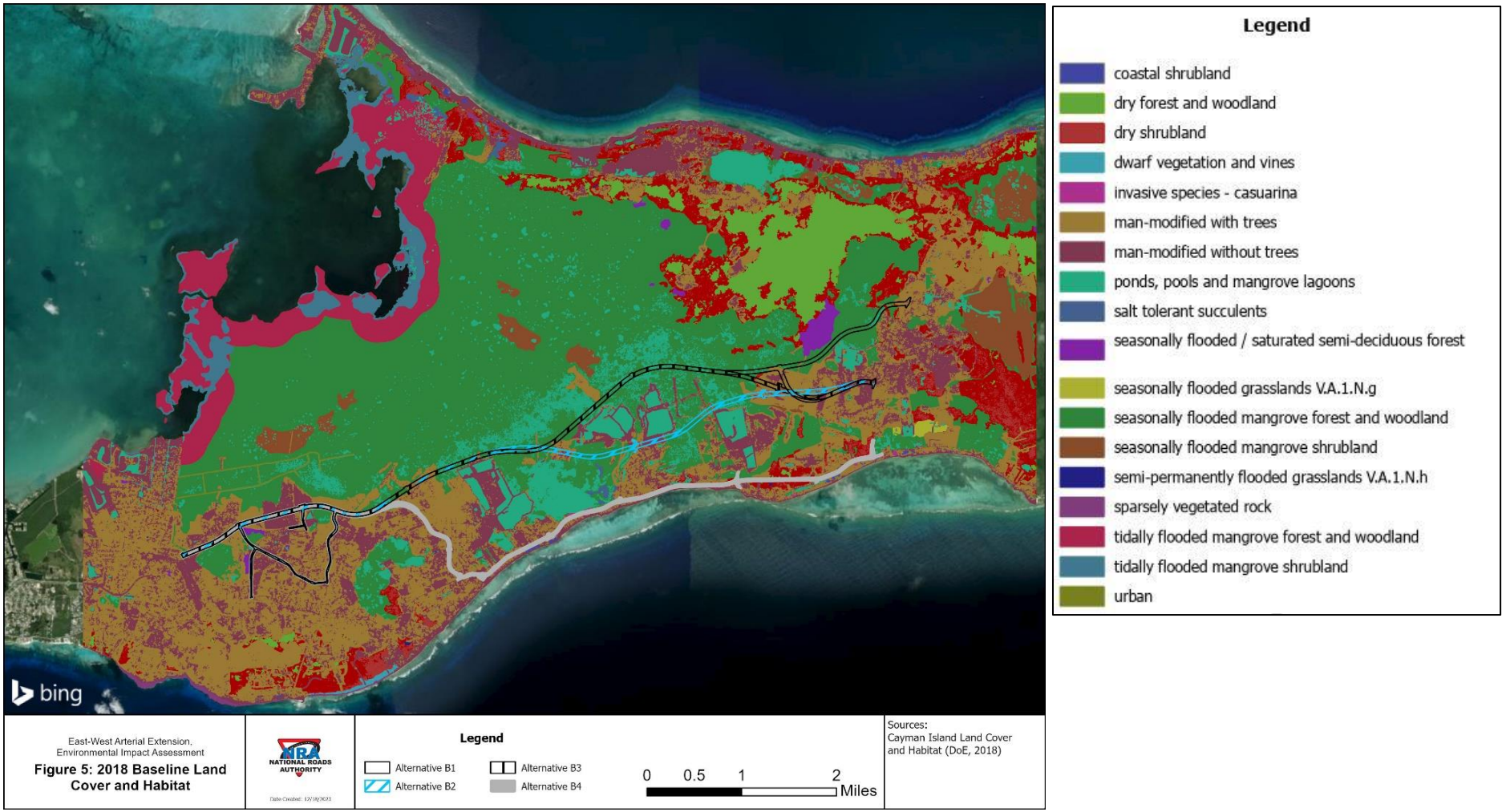

Figure 5: 2018 Baseline Landcover and Habitat of EWA EIA Study Area

3.5 Field Evaluation

The terrestrial ecology team conducted an on-site field evaluation of the habitats in the EIA study area from July 24th – July 28th, 2023. During this field evaluation, ecologists observed and noted existing conditions, habitat types and condition, vegetative species, and wildlife. Supplemental data was collected based on the habitat type for each field verification point such as litter, salinity, and canopy height for water and forested communities respectively.

During the field evaluation, 21 of the 55 preselected field verification points were inaccessible. In these cases, additional field verification points were sampled to replace the inaccessible points. A total of 25 alternative field verification points were sampled. Based on the field conditions, 59 field verification points were sampled (34 originally chosen points and 25 alternative points). **Figure 6** shows the 34 original field verification points that were sampled in green, the 25 alternative field verification points in yellow, and the 21 original, unsampled field verification points in red.

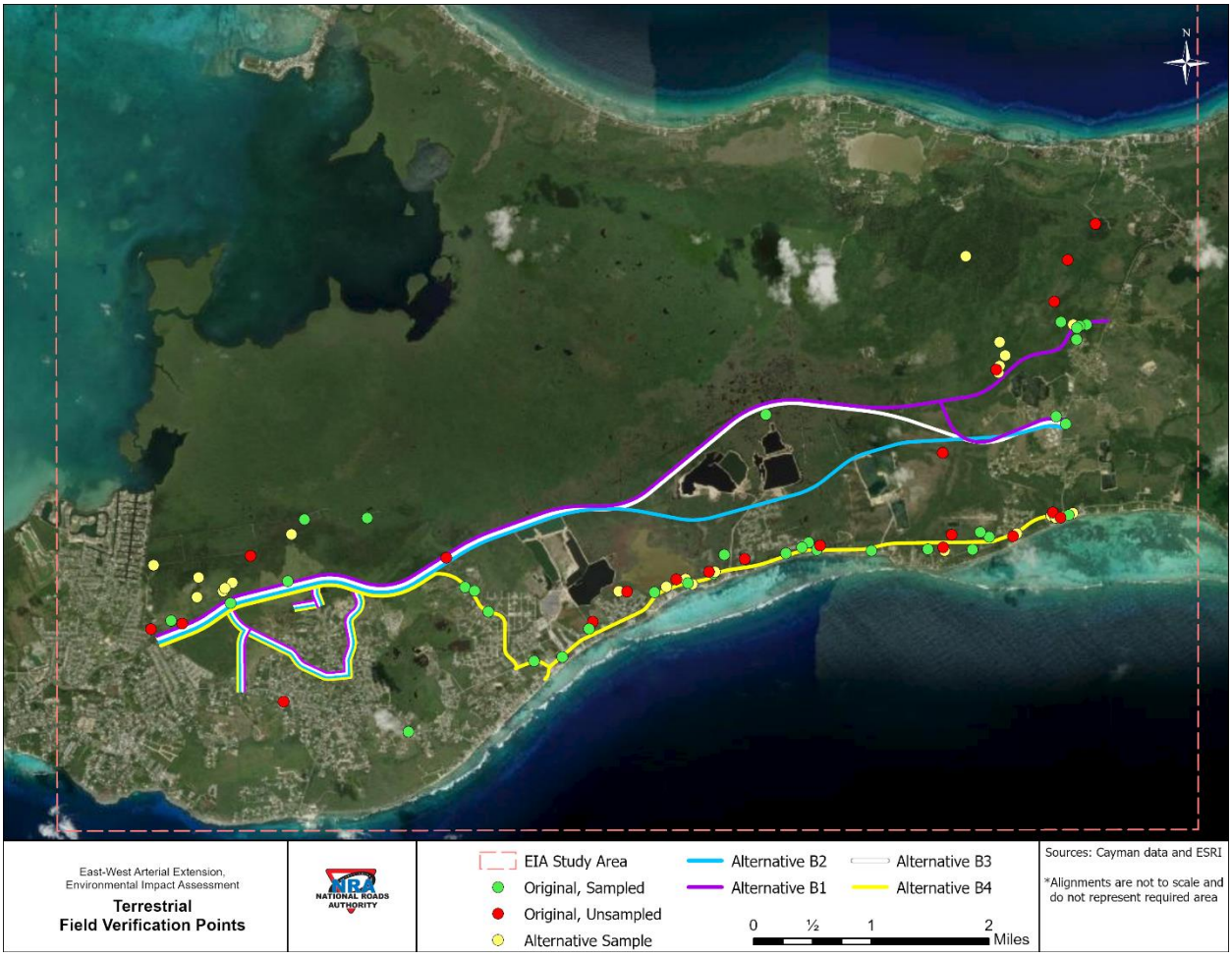

Figure 6: Terrestrial Field Verification Points, July 2023

3.6 Post-Field Evaluation Desktop Evaluation

The purpose of the desktop evaluation was to establish existing habitat conditions within the area of the Build alternatives. This evaluation was performed using the 2018 Grand Cayman Landcover

and Habitat data layer as a baseline of existing landcovers. The 2018 data layer was then refined based on an overlay analysis using data collected during the field review and information derived from recent aerial imagery and other remotely sensed data (LiDAR, CIR, and NDVI) to reflect existing habitat conditions. The 2018 Grand Cayman Landcover and Habitat data layer was reclassified to:

- Reflect new development or habitat conversion.
- Divide man-modified features into subcategories, such as residential, commercial, agricultural development, etc.
- Update habitat features based on proximity to developed areas, such as those areas adjacent to industrial, commercial, and residential developments.
    - These areas were reviewed in relation to possible indirect secondary impacts that may occur because of the adjacent development, including changes in hydrology and drainage patterns, sedimentation, and habitat fragmentation.
- Reflect habitat types based on field observations.

The updated habitat mapping within the area of each of the shortlisted Build alternatives can be found in **Attachment A – Attachment D**. This habitat mapping incorporates revisions to the 2018 Grand Cayman Landcover and Habitat based on the field evaluation and desktop reviews described. Descriptions of habitats are provided in **Section 3.7** below.

3.7 Existing Habitat

Habitat classifications and descriptions are based on the Vegetation Classification for the Cayman Islands (Burton, 2007). Based on the desktop and field evaluations previously discussed, additional subclassifications were also included. The broad classifications encountered, and additional subclassifications are detailed as follows:

3.7.1 Man-Modified

This habitat classification includes any land which has been altered or disturbed due to a variety of human activities including habitat conversion for use as residential, commercial, or industrial activities. These areas may also include activities managed for agricultural purposes, or those that come under the influence of agricultural practices, specifically, the growing of fruits, crops or the keeping of livestock.

3.7.1.1 Man-modified Without Trees

This habitat subclassification is defined as any land without trees which has been modified. Although these areas are classified as man-modified, they still may contain a vegetative component suitable for providing functional habitat to important species. Per Burton (2008b), this would include seasonally flooded grasslands, medium or short tropical/subtropical grassland with broad-leaved evergreen or semi-evergreen shrubs, or saturated tropical/subtropical perennial forb vegetation.

Plant species noted during the field evaluation included: buttonwood (*Conocarpus erectus*), sea-purselane (*Sesuvium portulacastrum*), seaside heliotrope (*Heliotropium curassavicum*), queen of the night (*Selenicereus grandifloras*), white button (*Spilanthes urens*), beach naupaka (*Scaevola*

taccada), bay vine (*Ipomoea pes-caprae*), chick weed (*Chamaesyce/Euphorbia hypericifolia*), prostrate sandmat (*Euphorbia prostrata*), cutleaf groundcherry (*Physalis angulata*), Australian pine (*Casuarina equisetifolia*), buff coat (*Waltheria indica*), seaside mahoe (*Thespesia populnea*), Euphorbia (*Chamaesyce/ Euphorbia bruntii*), goose grass (*Eleusine indica*), Alamo vine (*Merremia dissecta*), coconut palm (*Cocos nucifera*), logwood/bloodwood (*Haematoxylum campechianum*), tan-tan (*Leucaena leucocephala*), red mombin (*Spondias purpurea*), banana (*Musa paradisiacal*), weeping fig (*Ficus benjamina*), gumbo limbo (*Bursera simaruba*), royal poinciana (*Delonix regia*), wild coffee (*Psychotria nervosa*), guinea grass (*Panicum maximum/ Megathyrsus maximus*) and ackee fruit (*Blighia sapida*).

Field biologists also observed butterflies, Greater Antillean grackle (*Quiscalus niger caymanensis*), black-necked stilt (*Himantopus mexicanus*), black-crowned night heron (*Nycticorax nycticorax*), glossy ibis (*Plegadis falcinellus*), Grand Cayman parrot, western cattle egret (*Bubulcus ibis*), yellow warbler (*Setophaga petechia*), tri-colored heron (*Egretta tricolor*), green heron (*Butorides virescens*), northern mockingbird (*Mimus polyglottos*), dragonflies, anoles, and smooth-billed ani (*Crotophaga ani*).



Figure 7: Man-Modified Without Trees (July 2023 Field Evaluation)

3.7.1.2 Man-modified With Trees

This habitat subclassification is defined as any land with trees which has been modified. Although these areas are classified as man-modified, they still may contain a vegetative component suitable for providing functional habitat to important species. This habitat subclassification would include any man-modified areas which have established a dominance of woody vegetation, including broad-leaved evergreen or semi-evergreen trees.

Plant species noted during the field evaluation included: saltwort (*Batis maritima*), samphire (*Blutaparon vermiculare*), sea-purselane (*Sesuvium portulacastrum*), white button (*Spilanthes urens*), buttonwood, logwood (*Haematoxylum campechianum*), and yellow root (*Morinda royoc*). Field biologists also observed Greater Antillean grackle.



Figure 8: Man-Modified With Trees (July 2023 Field Evaluation)

3.7.1.3 Agricultural

This habitat subclassification includes areas containing the presence of row crops, groves, or a cultivated tree plantation.



Figure 9: Agricultural (July 2023 Field Evaluation)

3.7.1.4 Commercial

This habitat subclassification includes areas that have been developed for commercial use and contain minimal vegetation or vegetation is present but is maintained. These areas consist of hotels, automotive facilities, retail developments, and other businesses.

3.7.1.5 Disturbed Land

This habitat subclassification consists of areas that have been changed/disturbed primarily due to human activities.

3.7.1.6 Institutional

This habitat subclassification includes areas that have been developed for institutional use and contain minimal vegetation or vegetation is present but is maintained. These areas include schools, parks, and municipal areas.

3.7.1.7 Mining

This habitat subclassification includes areas that encompass both surface and subsurface mining operations. There are several quarry areas between Bodden Town and East End.



Figure 10: Mining (July 2023 Field Evaluation)

3.7.1.8 Pasture

This habitat subclassification includes pastureland used for livestock grazing.



Figure 11: Cattle Pasture (July 2023 Field Evaluation)

3.7.1.9 Residential

This habitat subclassification consists of residential land use ranging from low to medium density single family homes, to multiple dwelling units. These areas contain minimal vegetation or vegetation is present but is controlled.



Figure 12: Residential (July 2023 Field Evaluation)

3.7.1.10 Roads

This habitat subclassification includes paved roads extending through residential and commercial areas, as well as unpaved access roads through rural or agricultural areas.



Figure 13: Roads (July 2023 Field Evaluation)

3.7.1.11 Man-Made Ponds

This habitat subclassification includes man-made (artificial) ponds.



Figure 14: Man-made excavated pond (July 2023 Field Evaluation)

3.7.2 Coastal

3.7.2.1 Coastal Shrubland

This habitat is defined as a class of vegetation dominated by flora, which ranges in height between 0.5 metre and 5 metres. Shrubs tend to grow as separate individuals or clumps of individuals. In shrubland, the canopy cover of shrubs constitutes greater than 25% of the total canopy cover. Larger trees may be present in shrubland; however, tree canopy cover should constitute less than 25% of the total cover to distinguish the area from woodland. Coastal shrublands of Grand Cayman may be dominated by hemi-sclerophyllous evergreen shrubland, sclerophyllous evergreen shrubland, mixed evergreen/drought-deciduous dwarf-shrubland, or low tropical/subtropical perennial forb vegetation. This category represents a wide variety of vegetative species found in the coastal zone.

Plant species observed during the July 2023 field effort were parrot berry (*Bourreria venosa*), seagrape (*Coccoloba uvifera*), Cayman agave (*Agave caymanensis*), coconut palm, silver palm (*Coccothrinax proctorii*), gumbo limbo, and cocoplum (*Chrysobalanus icaco*), with minimal invasive species coverage consisting of leadtree (*Leucaena leucocephala*), Egyptian crowfoot (*Dactyloctenium aegyptium*), beach naupaka (*Scaevola taccada*), grey nickel (*Guilandina bonduc*) and Australian pine (*Casuarina equisetifolia*).

Pollinators, multiple bird species, including Grand Cayman parrot, and anoles were also observed in coastal shrubland habitats.



Figure 15: Grand Cayman parrot (left) and parrot berry (right) (July 2023 Field Evaluation)

3.7.3 Upland

3.7.3.1 Dry Forest and Woodland

Dry forest is defined as a class of vegetation characterized by a closed tree canopy, with interlocking crowns generally providing 60-100% cover. Woodland, by comparison, is characterised by an open canopy, with tree crowns constituting just 25-60% cover. The canopy

height of forest and woodland ranges from 16 metres down to 4.5 metres in height, below which shrubland species dominate. Per Burton (2008b), vegetative communities included in this habitat are lowland semi-deciduous forest, seasonally flooded/saturated semi-deciduous forest, xeromorphic semi-deciduous forest, lowland/submontane drought-deciduous forest woodland, and tropical/subtropical semi-deciduous woodland.

During the field evaluation, biologists identified the following plant species in this habitat: pink trumpet tree (*Tabebuia heterophylla*), devil head (*Morisonia ferruginea*), lead tree, queen of the night, bloody head (*Capparis flexuosa*), shamrock (*Tecoma stans*), silver palm, west indian almond (*Terminalia catappa*), gumbo limbo, wild olive (*Bontia daphnoides*), tan-tan, Asian leatherleaf (*Colubrina asiatica*), butterfly orchid tree (*Bauhinia divaricata*), seaside mahoe (*Thespesia populnea*), Australian pine, grey nickel, Cayman agave, and frangipani (*Plumeria obtussa*). Insects observed included honeybees (*Apis* sp.), and Julia butterfly (*Dryas iulia*).



Figure 16: Dry Forest and Woodland (July 2023 Field Evaluation)

3.7.3.2 Dry Shrubland

This habitat is defined as areas dominated by woody and herbaceous species ranging in height between 0.5 metre and 5 metres tall. The canopy cover of shrubs averages over 25% of the total canopy cover, with larger trees that may be present with less than 25% total coverage. Dry shrubland is typically dominated by tropical/subtropical broad-leaved evergreen shrubland or mixed evergreen deciduous shrubland. Succulents and black candlewood (*Erithalis fruticosa*) may be present as well.

During the field evaluation, biologists identified the following plant species in this habitat: silver palm, logwood/bloodwood, Balbis' airplant (*Tillandsia baldbisiana*), Simpson's stopper (*Myrcianthes fragrans*), gumbo limbo, strangler fig (*Ficus aurea*), mangrove fern (*Acrostichum aureum*), pink trumpet tree (*Tabebuia heterophylla*), Cayman agave, wild olive, black mastic

(*Terminalia eriostachya*), foliage flower (*Phyllanthus angustifolius*), tan-tan, papaya (*Carica papaya*), shamrock, dildo cactus (*Pilosocereus royenii*), butterfly orchid tree, Spanish moss (*Tillandsia usnoides*), frangipani, giant air plant (*Tillandsia utriculate*), mangrove fern (*Acrostichum aureum*), queen of the night, buttonwood, black candlewood, twisted sister (*Tillandsia flexuosa*), seaside mahoe, shamrock, seagrape, and west indian almond.

Field observations also recorded the presence of birds, rat holes, Grand Cayman parrot, and butterflies.



Figure 17: Dry Shrubland (July 2023 Field Evaluation)

3.7.3.3 Invasive Species – Casuarina

This habitat is defined as invasive, or monoculture habitats dominated by invasive woody species (primarily *Casuarina*). Invasive plant species observed were Australian pine, beach naupaka, seaside mahoe, scaevola (*Scaevola taccada*), Asian leatherleaf, seagrape, tan-tan, parrot berry, orange geiger (*Cordia sebestena*), gumbo limbo, lavender (*Tournefortia gnaphalodes*), and *Cenchrus tribuloides*.

Field observations also recorded domestic chicken (*Gallus domesticus*), butterflies, and small birds.



Figure 18: Australian Pine (*Casuarina equisetifolia*) (July 2023 Field Evaluation)

3.7.3.4 Palm Hammock

This habitat consists of forest community composed of predominantly palms and is found on sandy type soils. Observed woody species were coconut palm, silver palm, match head (*Phyla nodiflora*), logwood/bloodwood, northern needle-leaf (*Tillandsia balbisiana*), yellow root, prickly pear (*Opuntia dillenii*), wire wiss (*Smilax habanensis*), and queen of the night. Field observations consisted of green iguana (*Iguana iguana*), northern flicker (*Colaptes auratus gundlachi*), termite mounds, and wasps.



Figure 19: Palm Hammock (July 2023 Field Evaluation)

3.7.4 Wetland Habitats

3.7.4.1 Ponds, Pools, Mangrove Lagoons

This habitat is defined as natural and man-modified areas of standing permanent and temporary water and associated vegetation. This habitat category consists of semi-permanently flooded grasslands, aquatic vegetation, tidal tropical/sub-tropical forb vegetation, mangrove pools/ponds/lagoons, man-made ditches and ponds, pools, and flooded marl pits.

During the field evaluation, biologists documented the following plant species in this habitat: black mangrove, buttonwood, mangrove fern, white mangrove, seaside mahoe (*Thespesia populnea*), Australian pine (*Casuarina equisetifolia*), seagrape, red mangrove, and sea-purselane.

Field observations also included Greater Antillean grackle, black-necked stilt, tri-colored heron, magnificent frigatebird (*Fregata magnificens*), northern flicker, smooth-billed ani, yellow warbler, minnows, green heron, dragonflies, butterflies, cattle, honeybees, mosquitoes, and mud crabs.




Figure 20: Ponds, Pools, and Mangrove Lagoons (July 2023 Field Evaluation)

3.7.4.2 Seasonally Flooded Mangrove Forest and Woodland

This habitat consists of forests of mangroves and mangrove associates, mostly growing on deep autochthonous peat with the surface 0 to 50 centimetres above mean high spring tide and located far enough inland to be free of tidal inundation under all conditions. Summer rainfall stratifies freshwater flooding over the more saline groundwater, with buttonwood, black mangrove, and mangrove rubber vine (*Rhabdadenia biflora)* all producing opportunistic rootlets to exploit the transient freshwater layer. (Burton, 2007).

During the field evaluation, biologists observed rat holes, mosquitos, termites, ants, common gallinule (*Gallinula galeata*), yellow warbler, damsel fly, geckos, butterflies, snowy egret (*Egretta thula*), common ground dove (*Columbina passerina*), northern flicker, West Indian woodpecker (*Melanerpes superciliaris caymanensis*), yellow-bellied sapsucker (*Sphyrapicus varius*), Greater Antillean grackle, and green heron in this habitat.

Plant species observed consisted of kapok tree (*Ceiba sp*.), black mangrove, red mangrove, white mangrove, mangrove fern, buttonwood, flat-leaf flat sedge (*Cyperus planifolius*), pine fern (*Amenia adiantifolia*), bermuda grass (*Cynodon dactylon*), Balbis' airplant, Simpson's stopper, coconut palm, lancewood (*Ocotea coriacea*), sea-purslane, tan-tan, lucy Julia (*Stylosanthes hamata*), coat button (*Tridax procumbens*), *Spermacoce tetraquetra*, parrot berry, grey nickel, gumbo limbo, slender false buttonwood (*Spermacoce verticillate*), Australian pine, *Chiococca parviflora*, beach naupaka, seaside mahoe, and round-leaf sage (*Lantana involucrata*).



Figure 21: Buttonwood (left) and Black Mangrove (right) (July 2023 Field Evaluation)



Figure 22: White Mangrove (left) and Red Mangrove (right) (July 2023 Field Evaluation)

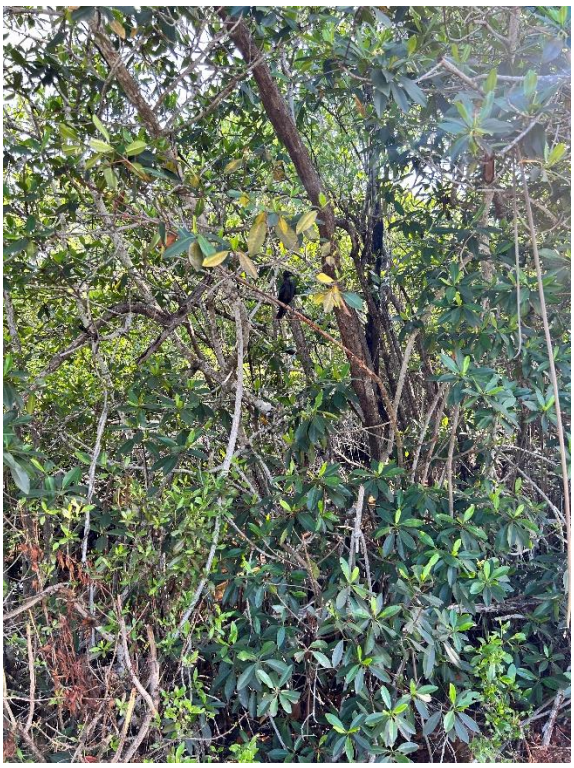

Figure 23: Seasonally Flooded Mangrove Forest and Woodland (July 2023 Field Evaluation)

3.7.4.3 Seasonally Flooded Mangrove Shrubland

This habitat consists of seasonally flooded and saturated evergreen shrubland and saturated sclerophyllous evergreen shrubland.

Field observations of floral species included black mangrove, white mangrove, red mangrove (*Rhizophora mangle*), tan-tan, gumbo limbo, cocoplum, Australian pine, beach naupaka, seaside mahoe, logwood/bloodwood, buttonwood, pink trumpet tree, yaupon holly (*Ilex vomitoria*), bull thatch (*Thrinax radiata*), bamboo (*Lasiacis divaricata*), and saltgrass (*Distichlis spicata*).

Faunal species observed included various butterflies, Grand Cayman parrot, common gallinule, purple gallinule (*Porphyrio martinicus*) and green iguana.



Figure 24: Seasonally Flooded Mangrove Shrubland (July 2023 Field Evaluation)

3.7.4.4 Seasonally Flooded/Saturated Semi-deciduous Forest

This habitat consists of areas at the intersection between lowland semi-deciduous forest and seasonally flooded mangrove. It generally consists of forests of flood-tolerant trees in shallow peat over saturated oxisol soil (Burton, 2007).

During the field evaluation, biologists documented the following plant species in this habitat: gumbo limbo, mangrove fern, silver palm, pink trumpet tree, Cayman agave, wild olive, mangrove rubber vine, bamboo, bastard mahogany (*Trichilia glabra*), duppy bush (*Phyllanthus angustifolius*), snowberry (*Chiococca alba*), and wire wiss.

Field observations also included green iguana, Cuban tree frog (*Osteopilus septentrionalis*), and Caribbean dove (*Leptotila jamaicensis*).



Figure 25: Seasonally Flooded/Saturated Semi-deciduous Forest (July 2023 Field Evaluation)

3.7.4.5 Seasonally Flooded Mangrove Forest (Low Density)

This habitat consists of mangrove forest of similar characteristics to Seasonally Flooded Mangrove Forest and Woodland, however displaying lower vegetative density. In general, mangrove forests in these habitats exhibit characteristics indicating stressed vegetation (stunted growth, chlorosis of the leaves, and fungal growth), impacted water quality (discoloration, debris), and an overall decrease in vegetative cover/density based on the GIS and field evaluations completed. The low density mangrove area will be investigated further during the Preferred Alternative.



Figure 26: Seasonally Flooded Low Density Mangrove Forest (July 2023 Field Evaluation)

3.8 Important Species Habitat

Geospatial data provided by the DoE regarding important species habitat included: Cayman parrot nesting habitat, Cuban white-shouldered bat, tea banker, Cayman pygmy blue butterfly, marine turtle nesting habitat (sea turtles on Grand Cayman include *Caretta caretta*, *Chelonia mydas*, *Dermochelys coriacea*, *Eretmochelys imbricata*, and *Lepidochelys kempii*), marine turtle critical habitat (includes same as previous), white tailed tropicbird, *Pisonia margaratae* (an endemic woody shrub), and mint. Additional data on 2014 parrot density was provided by DoE.

The geospatial data provided represents the only habitat data formally delineated, but other species are also present and will be evaluated, where applicable, as part of the Preferred Alternative. Only the important species habitats within the direct area required for the shortlisted Build alternatives (B1, B2, B3 and B4) were evaluated as part of this assessment. Further evaluation of impacts and possible mitigation measures will occur as part of the Preferred Alternative.

A summary of each species habitat is as follows, per the Cayman NBAP (2009):

- *Parrot nesting habitat* – On Grand Cayman parrots breed in cavities in black mangroves, as well as in cavities in dry forest tree species. Breeding season for birds on Grand Cayman is identified as April through late June (Cayman Turtle Centre, 2021).

- *White-shouldered bat* – The white shouldered bat uses the mature dry forest habitat on Grand Cayman.
- *Tea banker* – This coastal perennial herb typically grows close to the coast, in sand and gravel. It may also be found in beachside cemeteries and is subject to habitat fragmentation due to human activity (NBAP, 2009)
- *Pygmy blue butterfly* – The butterfly depends on habitats of salt-tolerant succulents during all life-cycle phases. It is also found in pools, ponds, and mangrove lagoons. Some of its habitats have been reduced to areas of a few square metres.
- *Marine turtle nesting habitat and marine turtle critical habitat* – These habitats refer to the terrestrial areas used during the portion of the sea turtle lifecycle spent on and near land. Female sea turtles create nests on shore, and many species use feeding grounds near shore (seagrass beds and coral reefs) (NBAP, 2009).
- *White tailed tropicbird* – This bird uses cliff and cave habitats during breeding season, laying just one egg in a rock crevice. These birds have been observed on the coastal bluff east of Bodden Town in Grand Cayman.
- *Pisonia margaratae* – This woody shrub found in terrestrial habitats, typically the understory of forest and woodlands, though it is also known to be found adjacent to roads (NBAP, 2009)
- *Mint* – This endemic plant species is a woody vine that grows in the canopy of forest and woodland habitats.

Additionally, the parrot density data is based on parrot sightings and is not limited to solely nesting habitat. Parrots may forage outside of their nesting habitat, accounting for observed parrots outside of the delineated nesting habitat. Generally, parrot habitat contains mangrove, coastal shrubland, dry shrubland, dry forest, farm and grassland, and urban and man-modified areas. The density data received from DoE covers areas of no parrot sightings to areas of up to three parrot sightings per hectare. The estimated number of parrots on Grand Cayman may be as low as 1,400 and as abundant as 7,500 or more, as estimates vary by source and time frame. According to "Important Bird Areas in the Caribbean – Cayman Islands", Grand Cayman was home to between approximately 1,408-1,935 parrots in 1995. Per Haakonsson et al. (2017), Grand Cayman had an estimated parrot population size of 6,395 (+/- 1,202) parrots in 2014. The provided parrot density data is from 2014, therefore it is estimated to be based on a parrot population size of approximately 6,395 per Haakonsson et al. (2017).

4 Anticipated Project Impacts

Proposed direct impacts in relation to terrestrial habitat and important species habitat have been assessed for each of the shortlisted Build alternatives (B1, B2, B3 and B4) and are summarized in the subsequent sections in quantitative, qualitative, and monetary form. Direct impact areas were estimated based on the occurrence of each habitat type within each of the alternatives. Potential indirect impacts to habitats are broadly discussed within **Section 4.2.2**. Further evaluation of potential indirect impacts will occur during the Preferred Alternative.

4.1 Quantitative

4.1.1 Habitat Impacts

Direct habitat impacts were assessed for each of the shortlisted Build alternatives (B1, B2, B3, and B4) and No-Build. These direct habitat impacts were quantified based on the area needed for the alternatives. Details regarding the corridor widths are within the Engineering Evaluation and Shortlist Evaluation Document.

The No-Build scenario is assumed to have no direct impact on habitats. The habitat mapping within the area of each shortlisted Build alternative can be found in **Attachment A – Attachment D**. A summary of the proposed acres and hectares (ha) of direct impact is provided in **Table 1**:

Table 1: Summary of Habitat Impacts by Alternative

Habitat Type	Impact Acres *(Hectares)*				
	No-Build	**B1**	**B2**	**B3**	**B4**
Man-Modified Land Uses					
Man-modified without trees	---	63.5 *(25.7 ha)*	67.9 *(27.5 ha)*	61.4 *(24.9 ha)*	58.5 *(23.7 ha)*
Man-modified with trees	---	6.5 *(2.6 ha)*	10.4 *(4.2 ha)*	5.7 *(2.3 ha)*	24.2 *(9.8 ha)*
Agricultural	---	---	---	---	0.3 *(0.1 ha)*
Commercial	---	2.2 *(0.9 ha)*	2.1 *(0.9 ha)*	2.1 *(0.9ha)*	6.3 *(2.6 ha)*
Disturbed land	---	0.9 *(0.4 ha)*	0.9 *(0.4 ha)*	0.9 *(0.4 ha)*	1.0 *(0.4 ha)*
Institutional	---	0.1 *(0.1 ha)*	0.1 *(0.1 ha)*	0.1 *(0.1 ha)*	---
Mining	---	---	4.9 *(2.0 ha)*	---	---
Pasture	---	14.5 *(5.9 ha)*	14.5 *(5.9 ha)*	14.5 *(5.9 ha)*	14.5 *(5.9 ha)*
Residential	---	2.5 *(1.0 ha)*	4.8 *(1.9 ha)*	2.5 *(1.0 ha)*	19.4 *(8.0 ha)*
Roads	---	2.4 *(1.0 ha)*	2.6 *(1.1 ha)*	1.9 *(0.8 ha)*	13.1 *(5.3 ha)*
Man-Made Pond	---	0.4 *(0.1 ha)*	0.4 *(0.1 ha)*	0.4 *(0.1 ha)*	0.4 *(0.1 ha)*
Total	**0.0** *(0.0 ha)*	**93.0** *(37.7 ha)*	**108.6** *(43.9 ha)*	**89.5** *(36.2 ha)*	**137.7** *(55.7 ha)*
Coastal Habitat					
Coastal shrubland	---	---	---	---	2.3 *(0.9 ha)*
Total	---	---	---	---	**2.3** *(0.9 ha)*

Habitat Type	Impact Acres *(Hectares)*				
	No-Build	**B1**	**B2**	**B3**	**B4**
Upland Habitats					
Dry forest and woodland	---	0.1 *(0.1 ha)*	---	---	6.0 *(2.4 ha)*
Dry shrubland	---	0.5 *(0.2 ha)*	---	0.6 *(0.2 ha)*	11.9 *(4.8 ha)*
Invasive species - casuarina	---	0.3 *(0.1 ha)*	0.3 *(0.1 ha)*	0.3 *(0.1 ha)*	3.6 *(1.5 ha)*
Palm Hammock	---	1.5 *(0.6 ha)*	1.5 *(0.6 ha)*	1.5 *(0.6 ha)*	0.4 *(0.6 ha)*
Total	**0.0** *(0.0 ha)*	**2.4** *(1.0 ha)*	**1.8** *(0.7 ha)*	**2.5** *(1.0 ha)*	**21.9** *(8.9 ha)*
Wetland Habitats					
Ponds, pools and mangrove lagoons	---	1.9 *(0.8 ha)*	2.3 *(0.9 ha)*	1.3 *(0.5 ha)*	1.4 *(0.6 ha)*
Seasonally flooded mangrove forest and woodland	---	107.5 *(43.5 ha)*	57.8 *(23.4 ha)*	79.9 *(32.3 ha)*	32.8 *(13.3 ha)*
Seasonally flooded mangrove shrubland	---	---	---	---	0.1 *(0.1 ha)*
Seasonally flooded / saturated semi-deciduous forest	---	1.5 *(0.6 ha)*	1.5 *(0.6 ha)*	1.5 *(0.6 ha)*	1.5 *(0.6 ha)*
Seasonally flooded mangrove forest (low density)	---	83.4 *(33.7 ha)*	66.6 *(26.9 ha)*	68.4 *(27.7 ha)*	---
Total	**0.0** *(0.0 ha)*	**194.3** *(78.6 ha)*	**128.2** *(51.9 ha)*	**151.1** *(61.1 ha)*	**35.8** *(14.4 ha)*
Combined Total	**0.0** *(0.0 ha)*	**289.7** *(117.3 ha)*	**238.6** *(96.6 ha)*	**243.0** *(98.4 ha)*	**197.7** *(80.0 ha)*

4.1.2 Important Species Habitat

Direct impacts to important species habitat impacts were assessed for each of the shortlisted Build alternatives (B1, B2, B3, and B4).

The No-Build scenario is assumed to have no direct impact on important species habitats. The important species habitat mapping within the area of each shortlisted Build alternative can be found further below in this section. A summary of the anticipated direct impacts to important species habitats by alternative are presented in **Table 2** below:

Table 2: Summary of Important Species Habitat Impacts by Alternative

Species	Habitat Impact Acres (*Hectares*)				
	No-Build	**B1**	**B2**	**B3**	**B4**
Parrot Nesting Habitat (Cayman Parrot)	---	117.5 *(47.6 ha)*	91.4 (*37.0 ha*)	80.1 *(32.4 ha)*	15.5 *(6.3 ha)*
Parrot Density (Cayman Parrot)	---	0.3 parrots/acre (*0.6 parrots/ha*)	0.2 parrots/acre (*0.5 parrots/ha*)	0.2 parrots/acre (*0.5 parrots/ha*)	0.2 parrots/acre (*0.5 parrots/ha*)
Mint	---	---	---	---	---
Inkberry	---	---	---	---	---
Marine Turtle Critical Habitat	---	---	---	---	---
Marine Turtle Nesting Beaches	---	---	---	---	---
Pisionia margaratae	---	---	---	---	---
Pygmy blue butterfly	---	---	---	---	0.1 *(0.04 ha)*
Tea Banker	---	---	---	---	0.01 *(0.004 ha)*
White Tailed Tropicbird	---	---	---	---	---
Cuban white-shouldered bat	---	---	---	---	---

4.1.2.1 No-Build

The No-Build scenario is assumed to have no direct impact on important species habitats.

4.1.2.2 Alternative B1

Alternative B1 would directly impact 117.5 acres (47.5 ha) of Parrot Nesting Habitat (**Figure 27**). This accounts for 4.3% of the total Parrot Nesting Habitat within the EIA study area (based on geospatial data provided by DoE in September 2023). To determine the potential impact on parrots depending on this habitat, the impacted area was also examined against parrot density within the study area (2014 geospatial data provided by DoE). Parrot density includes a larger area than parrot nesting habitat as it is based on field observations of parrots and may also include foraging behaviour.

Parrot density along Alternative B1 ranges from 0.04 to 1.34 parrots per acre (0.1 to 3.3 parrots per hectare), with an average density of 0.3 parrots per acre (0.6 parrots per hectare) (**Figure 28**). It is important to note that Alternative B1 (the northern spur) is the only alternative that traverses through an area with a density higher than 3 parrots per hectare (1.2 parrots per acre). Alternative B1 is not anticipated to impact any of the other important species' habitats identified.

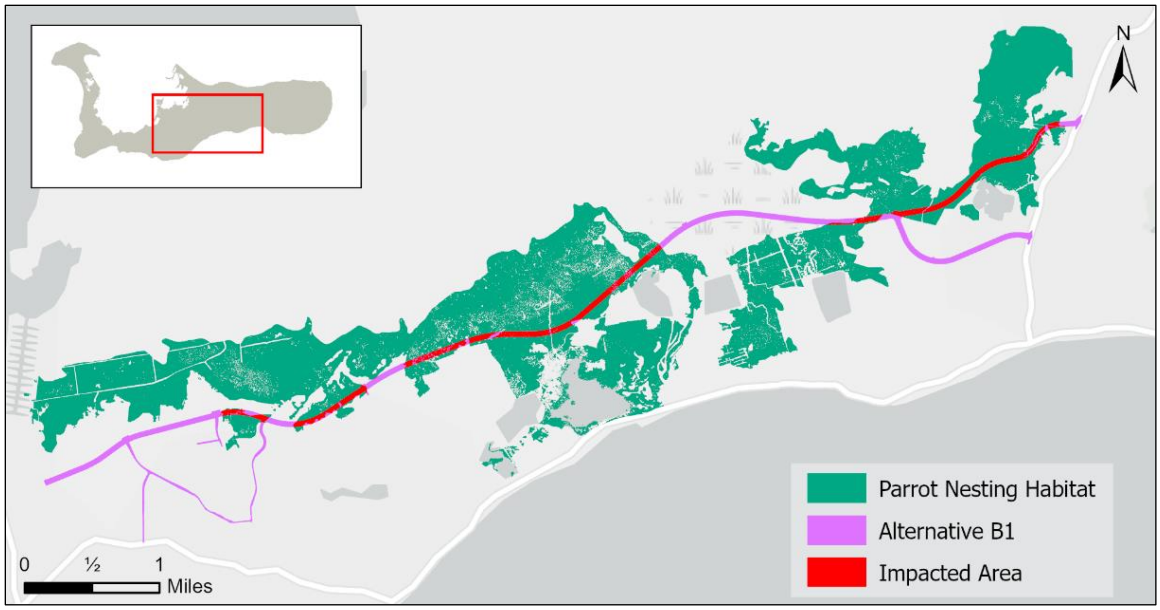

Figure 27: Alternative B1 Impact on Parrot Nesting Habitat
Source: Esri, DoE

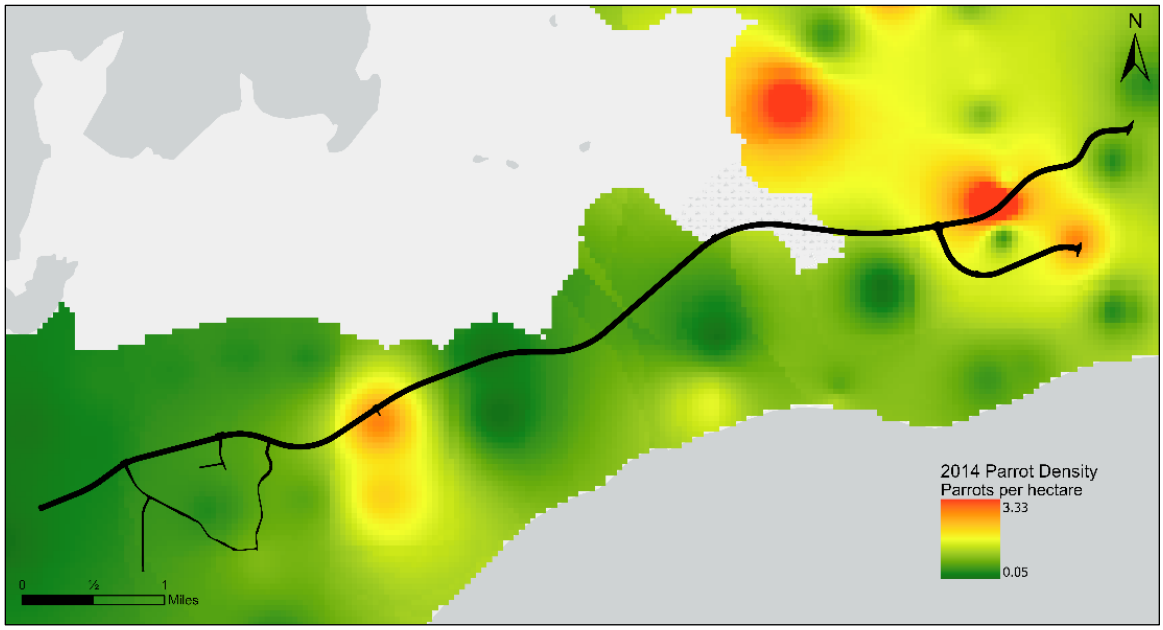

Figure 28: Alternative B1 Impact on 2014 Parrot Density
Source: Esri, DoE

4.1.2.3 Alternative B2

Alternative B2 would directly impact 91.4 acres (37.0 ha) of Parrot Nesting Habitat (**Figure 29**). This accounts for 3.3% of total Parrot Nesting Habitat within the EIA study area (based on geospatial data provided by DoE in September 2023). Parrot density along Alternative B2 ranges from 0.04 to 0.6 parrots per acre (0.1 to 1.5 parrots per hectare), with an average density of 0.2 parrots per acre (0.5 parrots per hectare) (**Figure 30**). Alternative B2 is not anticipated to impact any of the other important species' habitats identified.



Figure 29: Alternative B2 Impact on Parrot Nesting Habitat
Source: Esri, DoE

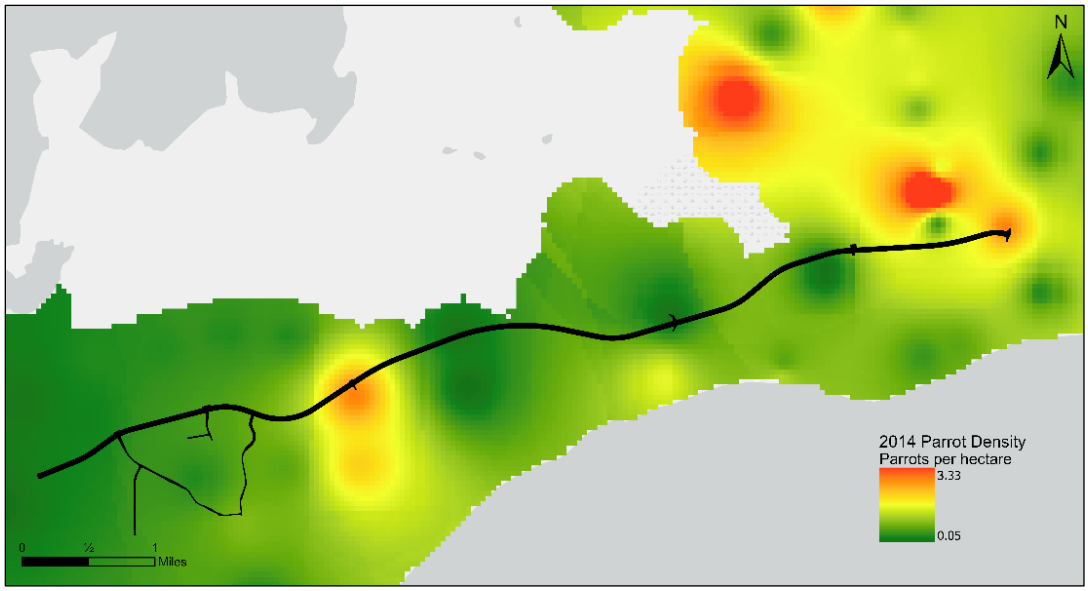

Figure 30: Alternative B2 Impact on 2014 Parrot Density
Source: Esri, DoE

4.1.2.4 Alternative B3

Alternative B3 would directly impact 80.1 acres (32.4 ha) of Parrot Nesting Habitat (**Figure 31**). This accounts for 2.9% of total Parrot Nesting Habitat within the EIA study area (based on geospatial data provided by DoE in September 2023). Parrot density along Alternative B3 ranges from 0.04 to 0.6 parrots per acre (0.1 to 1.5 parrots per hectare), with an average density of 0.2 parrots per acre (0.5 parrots per hectare) (**Figure 32**). Alternative B3 is not anticipated to impact any of the other important species' habitats identified.

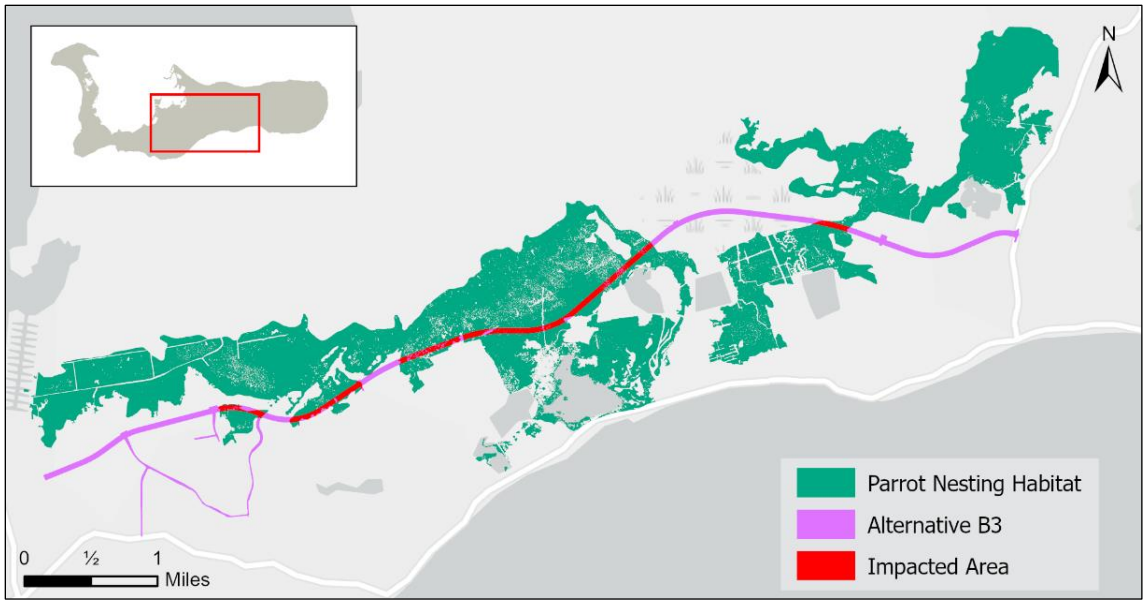

Figure 31: Alternative B3 Impact on Parrot Nesting Habitat
Source: Esri, DoE

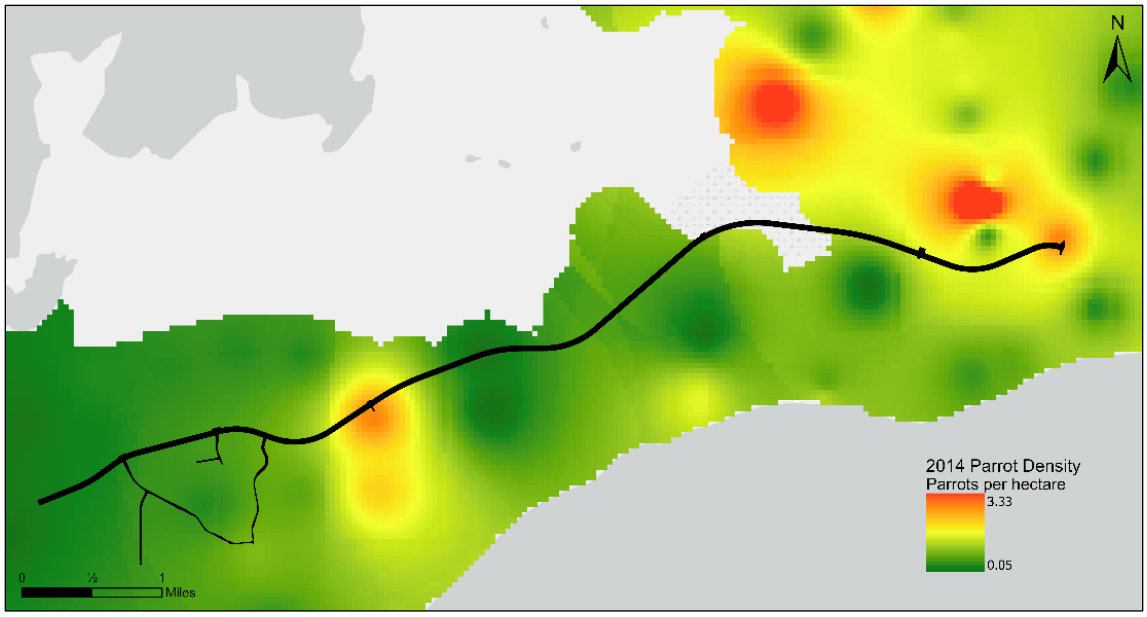

Figure 32: Alternative B3 Impact on 2014 Parrot Density
Source: Esri, DoE

4.1.2.5 Alternative B4

Alternative B4 would directly impact 15.5 acres (6.5 ha) of Parrot Nesting Habitat (**Figure 33**). This accounts for <1% of total Parrot Nesting Habitat within the EIA study area (based on geospatial data provided by DoE in September 2023). Parrot density along Alternative B4 ranges from 0.04 to 0.6 parrots per acre (0.1 to 1.5 parrots per hectare), with an average density of 0.2 parrots per acre (0.5 parrots per hectare) (**Figure 34**).

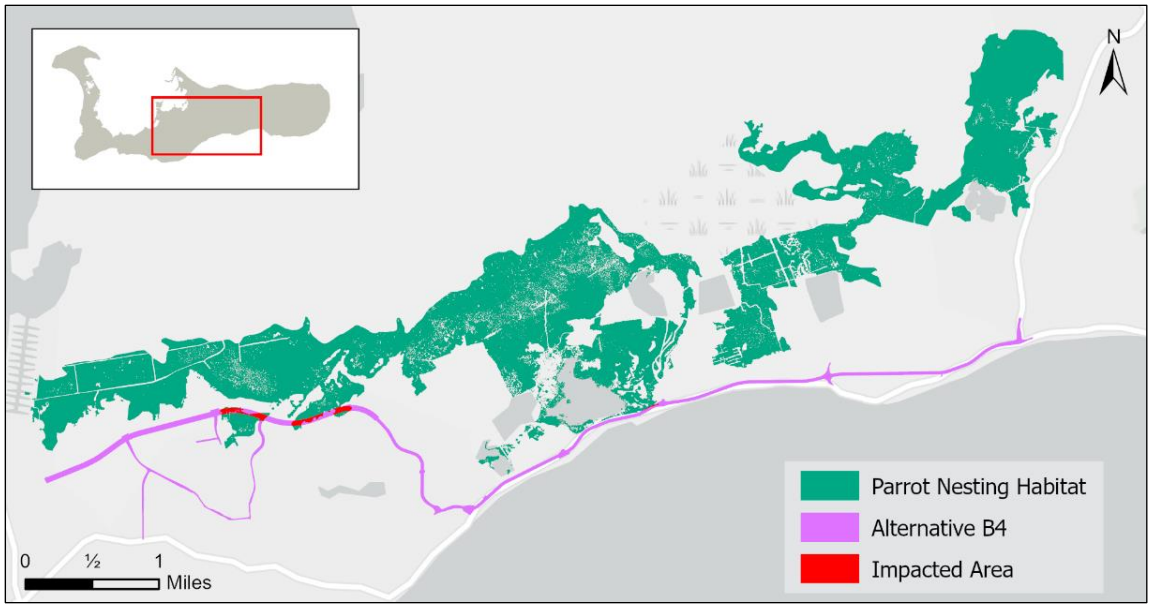

Figure 33: Alternative B4 Impact on Parrot Nesting Habitat
Source: Esri, DoE

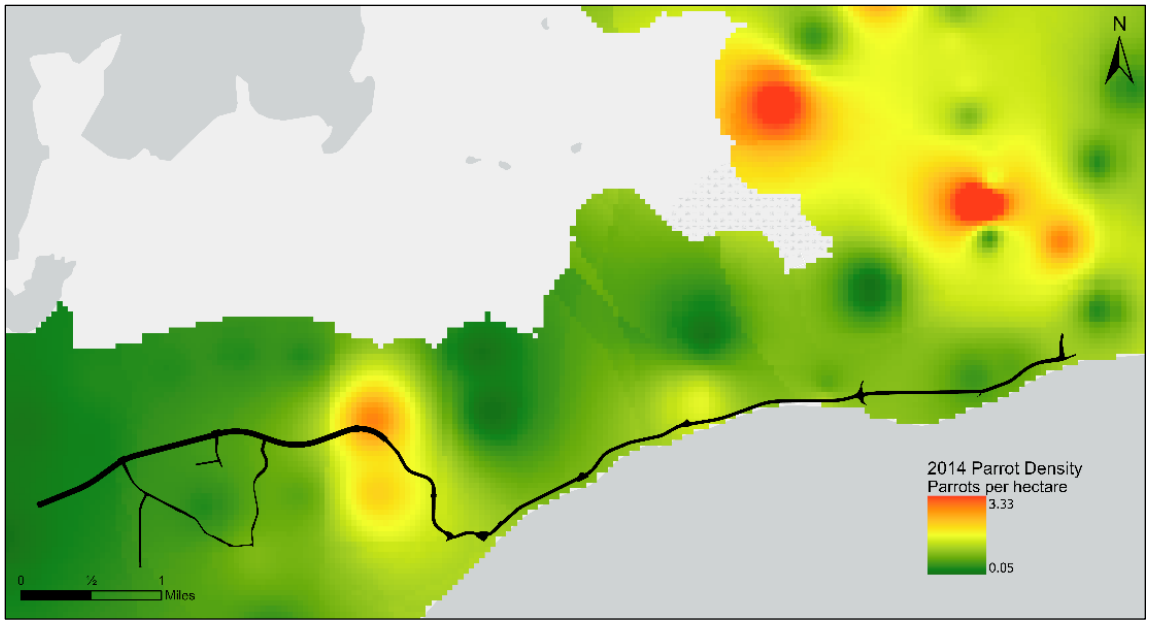

Figure 34: Alternative B4 Impact on 2014 Parrot Density
Source: Esri, DoE

Alternative B4 would also directly impact pygmy blue butterfly habitat (**Figure 35**) and tea banker area (**Figure 36**). The anticipated impact area of pygmy blue butterfly habitat would be 0.1 acre (0.04 ha), which is <1% of the pygmy blue butterfly habitat within the EIA study area. The anticipated impact area of tea banker area habitat would be 0.01 acre (0.004 ha), which is <1% of the tea banker area within the EIA study area.



Figure 35: Alternative B4 Impact on Pygmy Blue Butterfly Habitat
Source: Esri, DoE

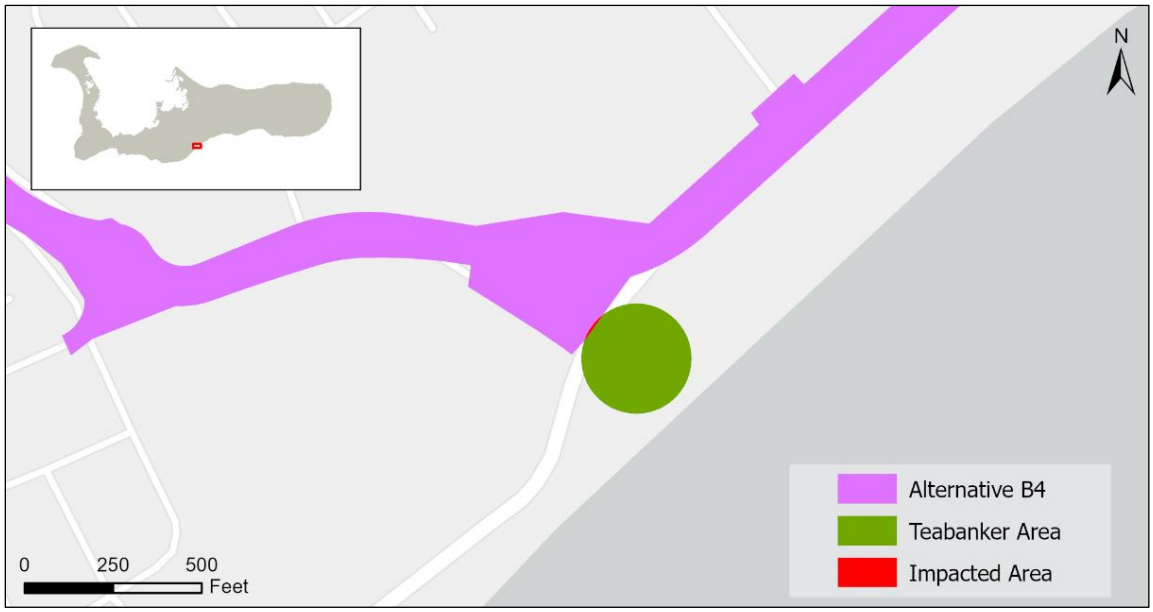

Figure 36: Alternative B4 Impact on Tea Banker Area
Source: Esri, DoE

4.2 Qualitative

The following describes the qualitative assessment for Terrestrial Ecology that is based on the UK Department for Transport's "Transport Analysis Guidance Unit A3: Environmental Impact Appraisal" (WebTAG). The most applicable category for Terrestrial Ecology impacts is "Impacts to Biodiversity." This qualitative assessment follows Section 9 of WebTAG.

4.2.1 Step 1 – Determination of Value

The first step of the qualitative assessment was to determine the value of the identified habitat types. **Table 3** is adapted from WebTAG and provides the criteria and example features for each value category.

Table 3: Guidance on Describing the Biodiversity and Earth Heritage Value of Features

Value	Criteria	Examples
Very high	High importance and rarity, international scale and limited potential for substitution	Internationally designated sites
High	High importance and rarity, national scale, or regional scale with limited potential for substitution	Nationally designated sites or regionally important sites with limited potential for substitution
Medium	High or medium importance and rarity, local or regional scale, and limited potential for substitution	Regionally important sites with potential for substitution or locally designated sites
Low	Low or medium importance and rarity, local scale	Undesignated sites of some local biodiversity and earth heritage interest
Negligible	Very low importance and rarity, local scale	Other sites with little or no local biodiversity and earth heritage interest

Source: TAG Unit A3, Table 8, Environmental Impact Appraisal, November 2023

Cayman Island publications, primarily the 2009 NBAP and 2013 NCA, were reviewed to determine the value ranking for each broad habitat category:

Man-Modified land uses: Based on the 2009 NBAP, urban and man-modified areas are not currently represented in the protected areas of the Cayman Islands. Urban and man-modified areas are a result of human activity and result in the loss of the previous primary habitat once established in that area. Urban and man-modified areas have already resulted in habitat destruction, habitat fragmentation, spread of invasive species, and/or interruption of wildlife corridors. While not primary habitat, man-modified land uses provide habitat for certain animal species and include native fauna, as noted by field biologists in **Section 3.7** above.

Due to the low importance and local scale significance, man-modified land uses receive a rating of **"Low"** on the Value scale.

Coastal habitats: Based on the 2009 NBAP, coastal shrubland, along with mangroves, comprise the natural coastal vegetation of the Cayman Islands. Based on the unique environment and relatively narrow extent along the coastline, coastal shrubland supports a diversity of species,

including reptiles such as the Grand Cayman Blue iguana. Coastal shrubland also provides beach stabilization and turtle nesting.

Due to the high importance and national significance, coastal habitats receive a rating of **"High"** on the Value scale.

Upland habitats: Based on the 2009 NBAP, dry shrubland habitat is critically under-represented within the protected areas of the Cayman Islands. Dry shrubland habitat supports a significant and unique biodiversity and provides storm refugia to wildlife during severe weather. Based on the 2009 NBAP, natural woodland is a rarity in the Cayman Islands and dry forest represents the most biodiverse of all terrestrial habitats in the Cayman Islands.

Due to the high importance and national significance, upland habitats receive a rating of **"High"** on the Value scale.

Wetland habitats: Based on the 2009 NBAP, mangrove (wetland) habitats constitute one of the Cayman Islands' most undervalued and severely impacted habitats Mangroves contribute significantly to the biodiversity of both terrestrial and marine ecosystems. The black mangroves within wetland habitats provide nesting habitat for a significant portion of Grand Cayman's national bird, the Cayman Parrot.

Due to the high importance and national significance, wetland habitats receive a rating of **"High"** on the Value scale.

Parrot habitat (nesting and density): Parrot habitat represents habitat for the National Bird, the Cayman Parrot. Based on the 2009 NBAP, the Cayman Parrot is an endemic, near-threatened species. Current factors affecting the parrot include habitat loss, habitat fragmentation, introduced predators, human impact, and road traffic.

Due to the high importance, national significance, and protection under Part 1 Section 1 of the 2013 NCA, parrot habitat receives a rating of **"High"** on the Value scale.

Pygmy blue butterfly habitat: Based on the 2009 NBAP, the pygmy blue butterfly is endemic to the Cayman Islands and is one of the smallest butterflies in the Western hemisphere. Current factors affecting the butterfly include range limitation, population fragmentation, and insecticide usage.

The pygmy blue butterfly is protected under Part 1 Section 1 of the 2013 NCA, therefore is received a rating of "**High**" on the Value scale.

Tea Banker habitat: Based on the 2009 NBAP, the tea banker is endemic to the Cayman Islands and critically endangered. Tea banker has traditionally been used in preparation of an aromatic tea. Current factors affecting the tea banker include restricted habitat, habitat loss, and spread of invasive species. Attempts to propagate tea banker have been met with little success.

The tea banker is protected under Part 1 Section 1 of the 2013 NCA, therefore is received a rating of "**High**" on the Value scale.

4.2.2 Step 2 – Determination of Magnitude of Impact

The second step of the qualitative assessment was to determine the magnitude of impact based on the anticipated degree of impact. This determination of impact is based on the **Table 4** below:

Table 4: Criteria for Determining the Magnitude of the Impact

Magnitude	Criteria
Major Negative	The proposal (either on its own or with other proposals) may adversely affect the integrity of the key environmental resource, in terms of the coherence of its ecological structure and function, across its whole area, that enables it to sustain the habitat, complex of habitats and / or the population levels of species of interest.
Intermediate Negative	The key environmental resource's integrity will not be adversely affected, but the effect on the resource is likely to be significant in terms of its ecological objectives. If, in the light of full information, it cannot be clearly demonstrated that the proposal will not have an adverse effect on integrity, then the impact should be assessed as major negative.
Minor Negative	Neither of the above apply, but some minor negative impact is evident.
Neutral	No observable impact in either direction.
Positive	Impacts which provide a net gain for wildlife overall.

Source: TAG Unit A3, Environmental Impact Appraisal, Table 10, November 2023

The following describes the evaluation of each shortlisted alternative and the anticipated Magnitude of Impact. For Important Species Habitat, the determination of Magnitude of Impact analysis was limited to three types: parrot habitat (including nesting habitat and density), pygmy blue butterfly habitat, and tea banker habitat. No other Important Species Habitats listed in **Table 2** were directly impacted by any of the alternatives; therefore, analysis of these habitats would provide no comparative value. If an alternative's area would not be anticipated to directly impact a habitat or ecosystem listed, it is assigned a magnitude of "Neutral."

4.2.2.1 No-Build

The No-Build scenario is not anticipated to have a direct impact on land uses or habitat types; therefore, it receives a score of **"Neutral"** for all categories of the Magnitude of Impact scale. Potential indirect impacts, such as noise and wildlife-vehicular collisions, will be evaluated as part of the Preferred Alternative.

4.2.2.2 Alternative B1

Man-Modified land uses: Alternative B1 is anticipated to have a direct impact to 93.0 acres (37.7 ha) of man-modified land uses. The majority (68%) of the impacts to man-modified land uses would be to the man-modified without trees land use (63.5 acres (25.7 ha)). This land use is mostly found within or on the outskirts of residential areas located on the west and east ends of Alternative B1. Though not necessarily of high or medium importance and rarity, this land use is often adjacent to higher valued habitats and provides a buffer for species between the higher value habitats and nearby development. Alternative B1 will potentially have indirect impacts to the habitat, such as reduced hydrologic connectivity and habitat fragmentation, which will be further evaluated as part of the Preferred Alternative.

Provided the acres of impact and buffer from high value habitats, Alternative B1 is anticipated to have a measurable negative impact on man-modified land uses and adjacent habitats. However, Alternative B1 is not anticipated to have an adverse impact to the overall coherence of the ecological structure or function of the habitat or surrounding habitats. Therefore, Alternative B1 receives an **"Intermediate Negative"** score on the Magnitude of Impact scale.

Coastal habitats: Alternative B1 is not anticipated to have any direct impacts on coastal habitat; therefore, it receives a score of **"Neutral"** on the Magnitude of Impact scale. Potential indirect impacts, such as impacts to hydrologic connectivity and habitat fragmentation, will be evaluated as part of the Preferred Alternative.

Upland habitats: Alternative B1 is anticipated to have a direct impact to 2.4 acres (1.0 ha) of upland habitats. The majority (63%) of the impacts to upland habits would be to palm hammock (1.5 acres (0.6 ha)). Invasive species – Casuarina impacts account for 13% (0.3 acres (0.1 ha)) of impacts to upland habitats. Alternative B1 will potentially have indirect impacts to the habitat, such reduced hydrologic connectivity and habitat fragmentation, which will be further evaluated as part of the Preferred Alternative.

Provided the low acreage of impact, Alternative B1 is anticipated to have a measurable, but insignificant negative impact on upland habitats. Therefore, Alternative B1 receives a **"Minor Negative"** score on the Magnitude of Impact scale.

Wetland habitats: Alternative B1 is anticipated to have a direct impact to 194.3 acres (78.6 ha) of wetland habitats. The majority (55%) of the impacts are to seasonally flooded mangrove forest and woodland (107.5 acres (43.5 ha)). Seasonally flooded mangrove forest (low density) accounts for 43% (83.4 acres (33.7 ha)) of the impacts to wetland habitats. Alternative B1 will potentially have indirect impacts to the habitat, such as reduced hydrologic connectivity and habitat fragmentation, which will be further evaluated as part of the Preferred Alternative.

Provided the acres of impact, Alternative B1 is anticipated to have a measurable negative impact on wetland habitats. However, provided the adjacency of the impacts to developed areas and large-scale size of the connected habitat (CMW system is estimated at 8,655 acres (3,502 ha) in size; see **Figure 1**), Alternative B1 is not anticipated to have an adverse impact to the overall coherence of the ecological structure or function of the habitat. Therefore, Alternative B1 receives an **"Intermediate Negative"** score on the Magnitude of Impact scale.

Parrot Habitat (Nesting and Density): Alternative B1 is anticipated to have a direct impact to 117.5 acres (47.6 ha) of parrot nesting habitat. This accounts for 4.3% of the total parrot nesting habitat within the EIA study area (based on geospatial data provided by DoE in September 2023). Parrot density along Alternative B1 ranges from 0.1 to 3.3, with an average density of 0.3 parrots per acre (0.6 parrots per hectare) (**Figure 28**) (2014 geospatial data provided by DoE). Alternative B1 would potentially have indirect impacts on the parrot and its associated habitat, such as noise and wildlife-vehicular collisions, which will be further evaluated as part of the Preferred Alternative. According to Haakonsson et al. (2017), the growth trend of the Grand Cayman Parrot has been increasing over time despite the effects of anthropogenic and natural disturbances, with an estimated 2014 parrot population size of 6,395 on Grand Cayman.

Provided the acres of impact and density, Alternative B1 is anticipated to have a measurable negative impact on parrot habitat. However, provided the estimated parrot population and growth trend, Alternative B1 is not anticipated to have an adverse impact to the overall coherence of the ecological structure or function of the habitat or population levels. Therefore, Alternative B1 receives an **"Intermediate Negative"** score on the Magnitude of Impact scale.

Pygmy blue butterfly habitat: Alternative B1 is not anticipated to have a direct impact on Pygmy blue butterfly habitat; therefore, it receives a score of **"Neutral"** on the Magnitude of Impact scale. Potential indirect impacts, such as habitat fragmentation and wildlife-vehicular collisions, will be evaluated as part of the Preferred Alternative.

Tea Banker habitat: Alternative B1 is not anticipated to have a direct impact on Tea Banker habitat; therefore, it receives a score of **"Neutral"** on the Magnitude of Impact scale. Potential indirect impacts, such as habitat fragmentation and reduced hydrologic connectivity, will be evaluated as part of the Preferred Alternative.

4.2.2.3 Alternative B2

Man-Modified land uses: Alternative B2 is anticipated to have a direct impact to 108.6 acres (43.9 ha) of man-modified land uses. The majority (63%) of the impacts to man-modified land uses would be to the man-modified without trees land use (67.9 acres (27.4 ha)). This land use is mostly found within or on the outskirts of residential areas located on the west and east ends of Alternative B2. Though not necessarily of high or medium importance and rarity, this land use is often adjacent to higher valued habitats and provides a buffer for species between the higher value habitats and nearby development. Alternative B2 will potentially have indirect impacts to the habitat, such as reduced hydrologic connectivity and habitat fragmentation, which will be further evaluated as part of the Preferred Alternative.

Provided the acres of impact and buffer from high value habitats, Alternative B2 is anticipated to have a measurable negative impact on man-modified land uses and adjacent habitats. However, Alternative B2 is not anticipated to have an adverse impact to the overall coherence of the ecological structure or function of the habitat or surrounding habitats. Therefore, Alternative B2 receives an **"Intermediate Negative"** score on the Magnitude of Impact scale.

Coastal habitats: Alternative B2 is not anticipated to have any direct impacts on coastal habitat; therefore, it receives a score of **"Neutral"** on the Magnitude of Impact scale. Potential indirect impacts, such as reduced hydrologic connectivity and habitat fragmentation, will be evaluated as part of the Preferred Alternative.

Upland habitats: Alternative B2 is anticipated to have a direct impact to 1.8 acres (0.7 ha) of upland habitats. The majority (83%) of the impacts to upland habits would be to palm hammock (1.5 acres (0.6 ha)). The remaining impacts would be to the invasive Casuarina (0.3 acres (0.01 ha)). Alternative B2 will potentially have indirect impacts to the habitat, such as reduced hydrologic connectivity and habitat fragmentation, which will be further evaluated as part of the Preferred Alternative.

Provided the low acreage of impact, Alternative B2 is anticipated to have a measurable, but insignificant negative impact on upland habitats. Therefore, Alternative B2 receives a **"Minor Negative"** score on the Magnitude of Impact scale.

Wetland habitats: Alternative B2 is anticipated to have a direct impact to 128.2 acres (51.9 ha) of wetland habitats. The majority (52%) of the impacts are to seasonally flooded mangrove forest (low density) (66.6 acres (26.9 ha)). Seasonally flooded mangrove forest and woodland accounts for 45% (57.8 acres (23.4 ha)) of the impacts to wetland habitats. Alternative B2 will potentially have indirect impacts to the habitat, such as reduced hydrologic connectivity and habitat fragmentation, which will be further evaluated as part of the Preferred Alternative.

Provided the acres of impact, Alternative B2 is anticipated to have a measurable negative impact on wetland habitats. However, provided the adjacency of the impacts to developed areas and large-scale size of the connected habitat (CMW system is estimated at 8,655 acres (3,502 ha) in size; see **Figure 1**), Alternative B2 is not anticipated to have an adverse impact to the overall coherence of the ecological structure or function of the habitat. Therefore, Alternative B2 receives an **"Intermediate Negative"** score on the Magnitude of Impact scale.

Parrot Habitat (Nesting and Density): Alternative B2 is anticipated to have a direct impact to 91.4 acres (37.0 ha) of parrot nesting habitat. This accounts for 3.3% of total parrot nesting habitat within the EIA study area (based on geospatial data provided by DoE in September 2023). Parrot density along Alternative B2 ranges from 0.1 to 1.5, with an average density of 0.2 parrots per acre (0.5 parrots per hectare) (**Figure 30**) (2014 geospatial data provided by DoE). Alternative B2 will potentially have indirect impacts on the parrot and its associated habitat, such as noise and wildlife-vehicular collisions, which will be further evaluated as part of the Preferred Alternative. According to Haakonsson et al. (2017), the growth trend of the Grand Cayman Parrot has been increasing over time despite the effects of anthropogenic and natural disturbances, with an estimated 2014 parrot population size of 6,395 on Grand Cayman.

Provided the acres of impact and density, Alternative B2 is anticipated to have a measurable negative impact on parrot habitat. However, provided the estimated parrot population and growth trend, Alternative B2 is not anticipated to have an adverse impact to the overall coherence of the ecological structure or function of the habitat or population levels. Therefore, Alternative B2 receives an **"Intermediate Negative"** score on the Magnitude of Impact scale.

Pygmy blue butterfly habitat: Alternative B2 is not anticipated to have a direct impact on Pygmy blue butterfly habitat; therefore, it receives a score of **"Neutral"** on the Magnitude of Impact scale. Potential indirect impacts, such as habitat fragmentation and wildlife-vehicular collisions, will be evaluated as part of the Preferred Alternative.

Tea Banker habitat: Alternative B2 is not anticipated to have a direct impact on Tea Banker habitat; therefore, it receives a score of **"Neutral"** on the Magnitude of Impact scale. Potential indirect impacts, such as habitat fragmentation and reduced hydrologic connectivity, will be evaluated as part of the Preferred Alternative.

4.2.2.4 Alternative B3

Man-Modified land uses: Alternative B3 is anticipated to have a direct impact to 89.5 acres (36.2 ha) of man-modified land uses. The majority (69%) of the impacts to man-modified land uses would be to the man-modified without trees land use (61.4 acres (24.9 ha)). This land use is mostly found within or on the outskirts of residential areas located on the west and east ends of Alternative B3. Though not necessarily of high or medium importance and rarity, this land use is often adjacent to higher valued habitats and provides a buffer for species between the higher value habitats and nearby development. Alternative B3 will potentially have indirect impacts to the habitat, such as reduced hydrologic connectivity and habitat fragmentation, which will be further evaluated as part of the Preferred Alternative.

Provided the acres of impact and buffer from high value habitats, Alternative B3 is anticipated to have a measurable negative impact on man-modified land uses and adjacent habitats. However, Alternative B3 is not anticipated to have an adverse impact to the overall coherence of the ecological structure or function of the habitat or surrounding habitats. Therefore, Alternative B3 receives an **"Intermediate Negative"** score on the Magnitude of Impact scale.

Coastal habitats: Alternative B3 is not anticipated to have any direct impacts on coastal habitat; therefore, it receives a score of **"Neutral"** on the Magnitude of Impact scale. Potential indirect impacts, such as reduced hydrologic connectivity and habitat fragmentation, will be evaluated as part of the Preferred Alternative.

Upland habitats: Alternative B3 is anticipated to have a direct impact to 2.5 acres (1.0 ha) of upland habitats. The majority (60%) of these impacts would be to palm hammock (1.5 acres (0.6 ha)). Alternative B3 will potentially have indirect impacts to the habitat, such as reduced hydrologic connectivity and habitat fragmentation, which will be further evaluated as part of the Preferred Alternative.

Provided the low acreage of impact, Alternative B3 is anticipated to have a measurable, but insignificant negative impact on upland habitats. Therefore, Alternative B3 receives a **"Minor Negative"** score on the Magnitude of Impact scale.

Wetland habitats: Alternative B3 is anticipated to have a direct impact to 151.1 acres (61.1 ha) of wetland habitat. The majority (53%) of the impacts are to seasonally flooded mangrove forest and woodland (79.9 acres (32.3 ha)). Seasonally flooded mangrove forest (low density) accounts for 45% (68.4 acres (27.7 ha)) of the impacts to wetland habitats. Alternative B3 will potentially have indirect impacts to the habitat, such as reduced hydrologic connectivity and habitat fragmentation, which will be further evaluated as part of the Preferred Alternative.

Provided the acres of impact, Alternative B3 is anticipated to have a measurable negative impact on wetland habitats. However, provided the adjacency of the impacts to developed areas and large-scale size of the connected habitat (CMW system is estimated at 8,655 acres (3,502 ha) in size; see **Figure 1**), Alternative B3 is not anticipated to have an adverse impact to the overall coherence of the ecological structure or function of the habitat. Therefore, Alternative B3 receives an **"Intermediate Negative"** score on the Magnitude of Impact scale.

Parrot Habitat (Nesting and Density): Alternative B3 is anticipated to have a direct impact to 80.1 acres (32.4 ha) of parrot nesting habitat. This accounts for 2.9% of total parrot nesting habitat within the EIA study area (based on geospatial data provided by DoE in September 2023). Parrot density along Alternative B3 ranges from 0.1 to 1.5, with an average density of 0.2 parrots per acre (0.5 parrots per hectare) (**Figure 32**) (2014 geospatial data provided by DoE). Alternative B3 will potentially have indirect impacts on the parrot and its associated habitat, such as noise and wildlife-vehicular collisions, which will be further evaluated as part of the Preferred Alternative. According to Haakonsson et al. (2017), the growth trend of the Grand Cayman Parrot has been increasing over time despite the effects of anthropogenic and natural disturbances, with an estimated 2014 parrot population size of 6,395 on Grand Cayman.

Provided the acres of impact and density, Alternative B3 is anticipated to have a measurable negative impact on parrot habitat. However, provided the estimated parrot population and growth trend, Alternative B3 is not anticipated to have an adverse impact to the overall coherence of the ecological structure or function of the habitat or population levels. Therefore, Alternative B3 receives an **"Intermediate Negative"** score on the Magnitude of Impact scale.

Pygmy blue butterfly habitat: Alternative B3 is not anticipated to have a direct impact on Pygmy blue butterfly habitat; therefore, it receives a score of **"Neutral"** on the Magnitude of Impact scale. Potential indirect impacts, such as habitat fragmentation and wildlife-vehicular collisions, will be evaluated as part of the Preferred Alternative.

Tea Banker habitat: Alternative B3 is not anticipated to have a direct impact on Tea Banker habitat; therefore, it receives a score of **"Neutral"** on the Magnitude of Impact scale. Potential indirect impacts, such as habitat fragmentation and reduced hydrologic connectivity, will be evaluated as part of the Preferred Alternative.

4.2.2.5 Alternative B4

Man-Modified land uses: Alternative B4 is anticipated to have a direct impact to 137.7 acres (55.7 ha) of man-modified land uses. The majority (43%) of the impacts to man-modified land uses would be to the man-modified without trees land use (58.5 acres (23.7 ha)). This land use can be found in varying extents throughout the alternative. Though not necessarily of high or medium importance and rarity, this land use is often adjacent to higher valued habitats and provides a buffer for species between the higher value habitats and nearby development. Alternative B4 will potentially have indirect impacts to the habitat, such as reduced hydrologic connectivity and habitat fragmentation, which will be further evaluated as part of the Preferred Alternative.

Provided the acres of impact and buffer from high value habitats, Alternative B4 is anticipated to have a measurable negative impact on man-modified land uses and adjacent habitats. However, Alternative B4 is not anticipated to have an adverse impact to the overall coherence of the ecological structure or function of the habitat or surrounding habitats. Therefore, Alternative B4 receives an **"Intermediate Negative"** score on the Magnitude of Impact scale.

Coastal habitat: Alternative B4 is anticipated to have a direct impact to 2.3 acres (0.9 ha) of coastal habitat (coastal shrubland). The coastal shrubland within Alternative B4 is primarily located along the existing Bodden Town Road and adjacent to existing development. Alternative B4 will

potentially have indirect impacts to the habitat, such as reduced hydrologic connectivity and habitat fragmentation, which will be further evaluated as part of the Preferred Alternative.

Provided the low acreage of impact and proximity to existing development, Alternative B1 is anticipated to have a measurable, but insignificant negative impact on coastal habitats. Therefore, Alternative B4 receives a **"Minor Negative"** score on the Magnitude of Impact scale.

Upland habitats: Alternative B4 is anticipated to have a direct impact to 21.9 acres (8.9 ha) of upland habitats. The majority (54%) of these impacts would be to the dry shrubland habitat (11.9 acres (4.8 ha)). Alternative B4 will potentially have indirect impacts to the habitat, such as reduced hydrologic connectivity and habitat fragmentation, which will be further evaluated as part of the Preferred Alternative.

Provided the acres of impact, Alternative B4 is anticipated to have a measurable negative impact on upland habitats. However, Alternative B4 is not anticipated to have an adverse impact to the overall coherence of the ecological structure or function of the habitat or species it supports. Therefore, Alternative B4 receives an **"Intermediate Negative"** score on the Magnitude of Impact scale.

Wetland habitats: Alternative B4 is anticipated to have a direct impact to 35.8 acres (14.4 ha) of wetland habitat. The majority (92%) of project related impacts are to seasonally flooded mangrove forest and woodland (32.8 acres (13.3 ha)). Alternative B4 will potentially have indirect impacts to the habitat, such as reduced hydrologic connectivity and habitat fragmentation, which will be further evaluated as part of the Preferred Alternative.

Provided the acres of impact, Alternative B4 is anticipated to have a measurable negative impact on wetland habitats. However, provided the adjacency of the impacts to developed areas and large-scale size of the connected habitat (CMW system is estimated at 8,655 acres (3,502 ha) in size; see **Figure 1**), Alternative B4 is not anticipated to have a significant impact on wetland habitat. Therefore, Alternative B4 receives an **"Minor Negative"** score on the Magnitude of Impact scale.

Parrot Habitat (Nesting and Density): Alternative B4 is anticipated to have a direct impact to 15.5 acres (6.3 ha) of parrot nesting habitat. This accounts for <1% of total Parrot Nesting Habitat within the EIA study area (based on geospatial data provided by DoE in September 2023). Parrot density along Alternative B4 ranges from 0.1 to 1.5, with an average of 0.2 parrots per acre (0.5 parrots per hectare) (**Figure 34**) (2014 geospatial data provided by DoE). Alternative B4 will potentially have indirect impacts to the habitat, such as noise and wildlife-vehicular collisions, which will be further evaluated as part of the Preferred Alternative. According to Haakonsson et al. (2017), the growth trend of the Grand Cayman Parrot has been increasing over time despite the effects of anthropogenic and natural disturbances, with an estimated 2014 parrot population size of 6,395 on Grand Cayman.

Based on the acres of impact, density, estimated parrot population, and growth trend, Alternative B4 is anticipated to have a measurable, but insignificant negative impact on parrot habitat. Therefore, Alternative B4 receives a **"Minor Negative"** score on the Magnitude of Impact scale.

Pygmy blue butterfly habitat: Alternative B4 is anticipated to have a direct impact to 0.1 acres (0.04 ha) of pygmy blue butterfly habitat. This impact area accounts for <1% of the pygmy blue butterfly habitat adjacent to Bodden Town Road and is already located next to a developed area. Alternative B4 will potentially have indirect impacts to the habitat, such as and wildlife-vehicular collisions and habitat fragmentation, which will be further evaluated as part of the Preferred Alternative.

Based on the percentage of impact and location along existing development, Alternative B4 is anticipated to have a negligible impact on pygmy blue butterfly habitat. Therefore, Alternative B4 receives a **"Neutral"** score on the Magnitude of Impact scale.

Tea Banker habitat: Alternative B4 is anticipated to have a direct impact to 0.01 acres (0.004 ha) of tea banker habitat. This impact area accounts for <1% of the tea banker habitat adjacent to Bodden Town Road and is already located next to a developed area. Alternative B4 will potentially have indirect impacts to the habitat, such as reduced hydrologic connectivity and habitat fragmentation, which will be further evaluated as part of the Preferred Alternative.

Based on the percentage of impact and location along existing development, Alternative B4 is anticipated to have a negligible impact on tea banker habitat. Therefore, Alternative B4 receives a **"Neutral"** score on the Magnitude of Impact scale.

A summary of anticipated magnitudes of impact, by alternative, to each identified resource is available below in **Table 5**. The table also includes the resource's biodiversity and earth heritage value for reference.

Table 5: Anticipated Magnitude of Impact by Alternative

Resource	Value	Anticipated Magnitude of Impact by Alternative				
		No-Build	B1	B2	B3	B4
Man-Modified	Low	Neutral	Intermediate Negative	Intermediate Negative	Intermediate Negative	Intermediate Negative
Coastal Habitat	High	Neutral	Neutral	Neutral	Neutral	Minor Negative
Upland Habitats	High	Neutral	Minor Negative	Minor Negative	Minor Negative	Intermediate Negative
Wetland Habitats	High	Neutral	Intermediate Negative	Intermediate Negative	Intermediate Negative	Minor Negative
Parrot Habitat *(Cayman Parrot Nesting and Density)*	High	Neutral	Intermediate Negative	Intermediate Negative	Intermediate Negative	Minor Negative
Pygmy blue butterfly	High	Neutral	Neutral	Neutral	Neutral	Neutral
Tea Banker	High	Neutral	Neutral	Neutral	Neutral	Neutral

4.2.3 Step 3 – Determination Overall Assessment Score

The final step of the qualitative assessment was to determine the overall assessment score based on the guidance table below:

Table 6: Overall Assessment Score Matrix

Magnitude of impact	Biodiversity and earth heritage value				
	Very high	High	Medium	Low	Very Low
Major Negative	Large adverse	Large adverse	Moderate adverse	Slight adverse	Neutral
Intermediate Negative	Large adverse	Large adverse	Moderate adverse	Slight adverse	Neutral
Minor Negative	Slight adverse	Slight adverse	Slight adverse	Slight adverse	Neutral
Neutral	Neutral	Neutral	Neutral	Neutral	Neutral
Positive	Large beneficial	Large beneficial	Moderate beneficial	Slight beneficial	Neutral

Source: TAG Unit A3, Environmental Impact Appraisal, Table 12, May 2023

Table 6 was applied to the anticipated Magnitude of Impact by alternative (**Table 5**), resulting in the qualitative impact ratings presented below in **Table 7**. The qualitative impact rating is a function of both the magnitude of impact and the value of each resource (i.e., an intermediate adverse impact to man-modified resources results in a different qualitative rating than an intermediate adverse impact to wetland habitats due to the difference in resource value).

Table 7: Summary Table of Qualitative Impacts on Terrestrial Ecology Resources

Resource	No-Build	B1	B2	B3	B4
Man-Modified	Neutral	Slight Adverse	Slight Adverse	Slight Adverse	Slight Adverse
Coastal Habitat	Neutral	Neutral	Neutral	Neutral	Slight Adverse
Upland Habitats	Neutral	Slight Adverse	Slight Adverse	Slight Adverse	Large Adverse
Wetland Habitats	Neutral	Large Adverse	Large Adverse	Large Adverse	Slight Adverse
Parrot Habitat *(Cayman Parrot Nesting and Density)*	Neutral	Large Adverse	Large Adverse	Large Adverse	Slight Adverse
Pygmy blue butterfly	Neutral	Neutral	Neutral	Neutral	Neutral
Tea Banker	Neutral	Neutral	Neutral	Neutral	Neutral
Overall Qualitative Rating	**Neutral**	**Large Adverse**	**Large Adverse**	**Large Adverse**	**Moderate Adverse**

4.2.3.1 No-Build

The No-Build scenario received a qualitative rating of "Neutral" for all categories; therefore, the overall qualitative rating is **"Neutral"** for the identified terrestrial ecology resources.

4.2.3.2 Alternative B1

Alternative B1 is anticipated to impact a total of 289.7 acres (117.3 ha) of terrestrial habitats and 117.5 acres (47.5 ha) of important species habitats. Most of these anticipated impacts are to wetland habitats (194.3 acres (78.6 ha)), man-modified habitats (93.0 acres (37.7 ha)), and parrot nesting habitat (117.5 acres (47.5 ha)). Based on the ratings for these three habitats, "Large Adverse", "Slight Adverse", and "Large Adverse" respectively, Alternative B1 was determined to have an overall qualitative rating of **"Large Adverse"**.

4.2.3.3 Alternative B2

Alternative B2 is anticipated to impact a total of 238.6 acres (96.5 ha) of terrestrial habitats and 91.4 acres (37.0 ha) of important species habitats. Most of these anticipated impacts are to wetland

habitats (128.2 acres (51.9 ha)), man-modified habitats (108.6 acres (43.9 ha)), and parrot nesting habitat (91.4 acres (37.0 ha)). Based on the ratings for these three habitats, "Large Adverse", "Slight Adverse", and "Large Adverse" respectively, Alternative B2 was determined to have an overall qualitative rating of **"Large Adverse"**.

4.2.3.4 Alternative B3

Alternative B3 is anticipated to impact a total of 243.0 acres (98.4 ha) of terrestrial habitats and 80.1 acres (32.4 ha) of important species habitats. Most of these anticipated impacts are to wetland habitats (151.1 acres (61.1 ha)), man-modified habitats (89.5 acres (36.2 ha)), and parrot nesting habitat (80.1 acres (32.4 ha)). Based on the ratings for these three habitats, "Large Adverse", "Slight Adverse", and "Large Adverse" respectively, Alternative B3 was determined to have an overall qualitative rating of **"Large Adverse"**.

4.2.3.5 Alternative B4

Alternative B4 is anticipated to impact a total of 197.7 acres (80.0 ha) of terrestrial habitats and 15.5 acres (6.3 ha) of important species habitats. Most of these anticipated impacts are to wetland habitats (35.8 acres (14.4 ha)), man-modified habitats (137.7 acres (55.9 ha)), and upland habitat (21.9 acres (8.9 ha)). Based on the ratings for these three habitats, "Slight Adverse", "Slight Adverse", and "Large Adverse" respectively, Alternative B4 was determined to have an overall qualitative rating of **"Moderate Adverse"**.

4.3 Monetary Valuation

The monetary valuation of ecosystem services is based on the quantified direct impacts in Section 2.3.1 and the Cayman Islands Ecosystem Accounting document (**Attachment E**). Based on the 2020 Cayman Islands Ecosystem Accounting, there are currently monetized values for Fisheries, Agriculture, Carbon Sequestration, Coastal Protection, Tourism, and Amenity Value. (Economics for the Environment Consultancy Ltd (EFTEC) & Joint Nature Conservation Committee, 2022)

An evaluation of each category for applicability and application to the Cayman EWA Shortlist of Alternatives is provided as follows. The values presented within this section have been incorporated into the Shortlist Evaluation Cost Benefit Analysis (CBA). The 2020 Cayman Islands Ecosystem Accounting is not all-inclusive of ecosystem services provided on Grand Cayman. Therefore, quantitative and qualitative review of terrestrial ecology has also been provided as part of the Shortlist Evaluation.

4.3.1.1 Fisheries

Ecosystem services from fisheries include the volume in pounds per year (lbs/year) of reef fish caught in the Cayman Islands based on the 2020 Cayman Islands Ecosystem Accounting.

The Shortlist of Alternatives (No-Build scenario and four Build alternatives (B1, B2, B3, and B4)), are anticipated to have no direct impact to marine habitats, including reefs. Therefore, no direct impact to fisheries as described in the 2020 Cayman Islands Ecosystem Accounting are anticipated.

Further evaluation of impact to fisheries, including potential indirect impacts, will be completed as part of the Preferred Alternative as applicable.

4.3.1.2 Agriculture

Ecosystem services from agriculture include the reported livestock production (no./yr.) and reported arable production (t/yr.) based on the 2020 Cayman Islands Ecosystem Accounting. Impacts to agricultural production and/or businesses will be evaluated as part of the land acquisition and valuation process to be completed for the Preferred Alternative. These agricultural ecosystem services will be evaluated once further design and land acquisition information is obtained.

4.3.1.3 Carbon Sequestration

Ecosystem services from carbon sequestration include the total tonnes of CO_2e sequestered each year (tCO_2e/yr) based on the 2020 Cayman Islands Ecosystem Accounting. **Table 8** below shows the average sequestration rate by habitat type utilized within the 2020 Cayman Islands Ecosystem Accounting (**Attachment E**).

Table 8: Carbon sequestration rates by habitat type ($tCO_2e/ha/yr$)

Habitat	Murray et al. (2011); IUCN (2017)	Alongi (2014)[1]	Midpoint
Terrestrial			
Mature tropical forest	2.3	-	2.3
Marine			
Seagrass	4.4	2	3.2
Saltmarsh	8	5.5	6.8
Mangroves	6.3	6.4	6.3
Estuaries	-	1.7	1.7
Shelves	-	0.6	0.6
Table notes: [1]The values reported were converted from $gC/m^2/yr$ to $tCO_2e/ha/yr$ using the IPCC (2018) tC to tCO2e conversion factor of 3.67 gram to tonne and m2 to ha conversion factors.			

Source: (EFTEC & Joint Nature Conservation Committee, 2022)

Table 9 shows the hectares of impact, appropriate habitat sequestration rate (based on **Table 8**), and overall carbon sequestration rate for each of the shortlisted alternatives. Applicable WebTAG carbon rates will be applied and represented within the Shortlist Evaluation CBA.

Table 9: Carbon sequestration rates by Alternative

Habitat	Impact Area – Hectares (ha)					Sequestration rate* (tCO2e/ha/yr)	Impacted Sequestration rate (tCO2e/yr)				
	No-Build	B1	B2	B3	B4		No-Build	B1	B2	B3	B4
Man-modified without trees	0.0	25.7	27.5	24.9	23.7	0.0	0.0	0.0	0.0	0.0	0.0
Man-modified with trees	0.0	2.6	4.2	2.3	9.8	2.3	0.0	6.1	9.6	5.3	22.6
Agricultural	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Commercial	0.0	0.9	0.9	0.9	2.6	0.0	0.0	0.0	0.0	0.0	0.0
Disturbed land	0.0	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0

Habitat	Impact Area – Hectares (ha)					Sequestration rate* (tCO2e/ha/yr)	Impacted Sequestration rate (tCO2e/yr)				
	No-Build	B1	B2	B3	B4		No-Build	B1	B2	B3	B4
Institutional	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mining	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pasture	0.0	5.9	5.9	5.9	5.9	0.0	0.0	0.0	0.0	0.0	0.0
Residential	0.0	1.0	1.9	1.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0
Roads	0.0	1.0	1.1	0.8	5.3	0.0	0.0	0.0	0.0	0.0	0.0
Man-made pond	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Coastal shrubland	0.0	0.0	0.0	0.0	0.9	2.3	0.0	0.0	0.0	0.0	2.2
Dry forest and woodland	0.0	0.0	0.0	0.0	2.4	2.3	0.0	0.1	0.0	0.1	5.6
Dry shrubland	0.0	0.2	0.0	0.2	4.8	2.3	0.0	0.5	0.0	0.6	11.1
Invasive species - casuarina	0.0	0.1	0.1	0.1	1.5	2.3	0.0	0.3	0.3	0.3	3.4
Palm Hammock	0.0	0.6	0.6	0.6	0.2	2.3	0.0	1.4	1.4	1.4	0.4
Ponds, pools and mangrove lagoons	0.0	0.8	0.9	0.5	0.6	6.3	0.0	4.9	5.8	3.4	3.5
Seasonally flooded mangrove forest and woodland	0.0	43.5	23.4	32.3	13.3	6.3	0.0	270.1	147.5	203.7	83.7
Seasonally flooded mangrove shrubland	0.0	0.0	0.0	0.0	0.1	6.3	0.0	0.0	0.0	0.0	0.6
Seasonally flooded / saturated semi-deciduous forest	0.0	0.6	0.6	0.6	0.6	2.3	0.0	1.4	1.4	1.4	1.4
Seasonally flooded mangrove forest (low density)	0.0	33.7	26.9	27.7	0.0	5.0**	0.0	168.7	134.7	138.4	0.0
Total (tCO2e/yr)	**0.0**	**117.3**	**96.6**	**98.4**	**80.0**		**0.0**	**453.5**	**300.7**	**354.6**	**134.5**

**Only coastal and forest ecosystems are valued for carbon sequestration within the 2020 Cayman Islands Ecosystem Accounting. Inclusion of additional habitats, as applicable, will be evaluated as part of the Preferred Alternative.*
***The identified low density habitat was estimated at 80% of the standard sequestration rate*

Further evaluation of impact to carbon sequestration will be completed as part of the Preferred Alternative CBA.

4.3.1.4 Coastal Protection

Ecosystem services for coastal protection are represented by the per hectare coastal protection value of coral reefs based on the 2020 Cayman Islands Ecosystem Accounting. These values correspond to avoided damages to residential and commercial properties due to the presence of nearby coral reefs (Guzman et al., 2017).

The Shortlist of Alternatives (No-Build scenario and four Build alternatives (B1, B2, B3, and B4)), are anticipated to have no direct impact to marine habitats, including coral reefs. Therefore, no direct impacts to coastal protection as described in the 2020 Cayman Islands Ecosystem Accounting are anticipated.

Further evaluation of impact to coastal protection, including potential indirect impacts, will be completed as part of the Preferred Alternative.

4.3.1.5 Tourism

Ecosystem services from tourism are measured in reported visitor arrivals (stay-over and cruise ships; visitors/yr.) based on the 2020 Cayman Islands Ecosystem Accounting. The tourism category is broken into three categories:

- Total tourism added value attributed to marine ecosystems,
- Remaining tourism expenditure not attributed to ecosystems, and
- Total willingness to pay to prevent decline in quality of coral reefs from medium to low levels.

Based on the 2020 Cayman Islands Ecosystem Accounting (**Attachment E**), the value to tourism is evaluated based on the quality and value of coral reef areas (marine ecosystems) (Guzman et al., 2017).

The Shortlist of Alternatives (No-Build scenario and four Build alternatives (B1, B2, B3, and B4)), are anticipated to have no direct impact to marine habitats, including coral reef areas. Therefore, no direct impacts to tourism as described in the 2020 Cayman Islands Ecosystem Accounting are anticipated.

Further evaluation of impact to tourism, including potential indirect impacts, will be completed as part of the Preferred Alternative.

4.3.1.6 Amenity Value

Ecosystem services from amenity value are measured in the number of houses and correlating amenity value to mangroves based on the 2020 Cayman Islands Ecosystem Accounting. **Figure 37** below depicts the amenity value of mangroves in USD/ha on Grand Cayman.

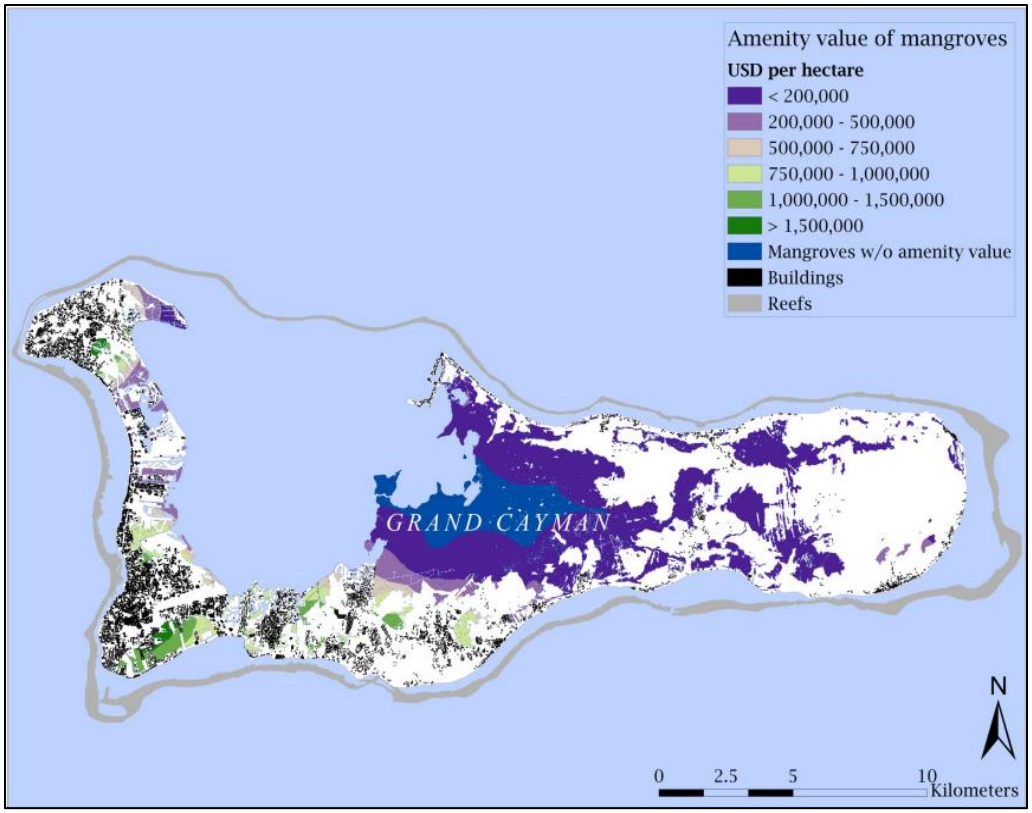

Figure 37: "Amenity value of mangroves on Grand Cayman per hectare. Source data for mangroves is obtained from the DoE habitat map"
Source: Guzman et al., 2017

The amenity value of mangroves is depicted in **Figure 37**, which was determined by Guzman et al (2017); they spatially applied hedonic pricing to estimate the amenity value of mangroves based on their location in Grand Cayman. The spatial data amenity value data obtained from Guzman et al. was overlayed with each shortlisted Build alternative (B1, B2, B3, and B4). Where each alternative intersected the amenity values shown on the map, the intersected area was calculated and the value per hectare was determined. **Table 10** provides the estimated hectares of impact within each range of amenity values and the total estimated amenity value for each shortlisted Build alternative. Amenity value is not calculated on a yearly basis and is considered a one-time cost at the time of construction.

Further evaluation of impacts to amenity value will be completed as part of the Preferred Alternative.

Table 10: Amenity Value of Mangroves by Alternative (based on Figure 37)

	No-Build	B1	B2	B3	B4
Mangrove impact within <$200,000 USD zone (CI$168,000) *(valued at $100,000USD/ha) (CI$84,000/ha)*	0	57 ha $5,700,000 USD *(CI$4,788,000)*	32 ha $3,200,000 USD *(CI$2,688,000)*	40 ha $4,000,000 USD *(CI$3,360,000)*	1.6 ha $160,000 USD *(CI$134,000)*
Mangrove impact within $200,000-$500,000 USD zone (CI$ 168,000-420,000) *(valued at $350,000USD/ha) (CI$294,000/ha)*	0	5.9 ha $2,065,000 USD *(CI$1,734,600)*	5.9 ha $2,065,000 USD *(CI$1,734,600*	5.9 ha $2,065,000 USD *(CI$1,734,600*	4.1 ha $1,435,000 USD *(CI$1,205,400*
Mangrove impact within $500,000-$750,000 USD zone (CI$ 420,000-630,000) *(valued at $625,000USD/ha) (CI$525,000/ha)*	0	1.2 ha $750,000 USD *(CI$630,000)*	1.2 ha $750,000 USD *(CI$630,000)*	1.2 ha $750,000 USD *(CI$630,000)*	0.9 ha $562,500 USD *(CI$472,500)*
Mangrove impact within $750,000-$1,000,000 USD zone (CI$ 630,000-840,000) *(valued at $825,000USD/ha) (CI$693,000/ha)*	0	1.4 ha $1,155,000 USD *(CI$970,200)*	1.4 ha $1,155,000 USD *(CI$970,200)*	1.4 ha $1,155,000 USD *(CI$970,200)*	1.4 ha $1,155,000 USD *(CI$970,200)*
Mangrove impact within $1,000,000-$1,500,000 USD zone (CI$ 840,000-1,260,000) *(valued at $1,250,000USD/ha) (CI$1,050,000/ha)*	0	0.3 ha $375,000 USD *(CI$315,000)*	0.3 ha $375,000 USD *(CI$315,000)*	0.3 ha $375,000 USD *(CI$315,000)*	0.3 ha $375,000 USD *(CI$315,000)*
Mangrove impact within >$1,500,000 USD zone (>CI$ 1,260,000) *(valued at $1,500,000USD/ha) (CI$1,260,000/ha)*	0	0	0	0	0
Total Monetary Value in USD *(CI$)*	**0**	**$10,045,000 USD *(CI$8,437,800)***	**$7,545,000 USD *(CI$6,337,800)***	**$8,345,000 USD *(CI$7,009,800)***	**$3,687,500 USD *(CI$3,097,500)***

5 Shortlist Evaluation Summary

The Shortlist Evaluation included a quantitative analysis (Section 4.1), a qualitative analysis (Section 4.2), and a monetary valuation (Section 4.3) for each of the shortlisted Build alternatives along with the No-Build scenario. The listed evaluations have been compiled into Table 11 below.

For the unavoidable impacts reported, mitigation measures to aid in offsetting impacts may be possible. Mitigation measures have not been considered as part of this Shortlist Evaluation but will be investigated and identified for the Preferred Alternative and documented in the forthcoming Environmental Statement Document.

Table 11: Summary Table Terrestrial Ecology Shortlist Evaluation

Resource	No-Build	B1	B2	B3	B4
Man-Modified	Neutral	Moderate Adverse 93.0 acre (*37.7 ha*)	Moderate Adverse 108.6 acre (*43.9 ha*)	Moderate Adverse 89.5 acre (*36.2 ha*)	Moderate Adverse 137.7 acre (*55.7 ha*)
Coastal Habitat	Neutral	Neutral	Neutral	Neutral	Large Adverse 2.3 acre (*0.9 ha*)
Upland Habitats	Neutral	Slight Adverse 2.4 acre (*1.0 ha*)	Slight Adverse 1.8 acre (*0.7 ha*)	Slight Adverse 2.5 acre (*1.0 ha*)	Large Adverse 21.9 acre (*8.9 ha*)
Wetland Habitats	Neutral	Large Adverse 194.3 acre (*78.6 ha*)	Large Adverse 128.2 acre (*51.9 ha*)	Large Adverse 151.1 acre (*61.1 ha*)	Slight Adverse 35.8 acre (*14.4 ha*)
Parrot Habitat *(Cayman Parrot Nesting and Density)*	Neutral	Large Adverse 117.5 acre (*47.5 ha*)	Large Adverse 91.4 acre (*37.0 ha*)	Large Adverse 80.1 acre (*32.4 ha*)	Slight Adverse 15.5 acre (*6.3 ha*)
Pygmy blue butterfly	Neutral	Neutral	Neutral	Neutral	Neutral 0.1 acre (*0.04 ha*)
Tea Banker	Neutral	Neutral	Neutral	Neutral	Neutral 0.01 acre (*0.004 ha*)
Overall Qualitative Rating	**Neutral**	**Large Adverse**	**Large Adverse**	**Large Adverse**	**Moderate Adverse**
Overall Acres of Resource Impacts	**0.0** *(0.0 ha)*	**407.2 acre** *(164.8 ha)*	**330.0 acre** *(133.5 ha)*	**323.2 acre** *(130.8 ha)*	**213.3 acre** *(86.3 ha)*
Amenity Value Loss USD *(CI$)*	**$0**	**$10,045,000 USD** *(CI$8,437,800)*	**$7,545,000 USD** *(CI$6,337,800)*	**$8,345,000 USD** *(CI$7,009,800)*	**$3,687,500 USD** *(CI$3,097,500)*
Carbon Sequestration Loss (tCO2e/yr)	**0.0**	**453.5**	**300.7**	**354.6**	**134.5**

The following summarizes the results of the analysis for the identified terrestrial ecology resources:

- *No-Build* – The No-Build scenario is anticipated to have no direct impacts on the identified resources (0 acres) resulting in an overall **Neutral** qualitative rating, no loss of amenity value, and no loss of carbon sequestration.

- *Alternative B4* – Alternative B4 would be the least impactful of the four Build alternatives since it is qualitatively ranked as **Moderate Adverse**, results in the lowest overall acreage of resource impacts, results in the lowest monetary loss of amenity value, and results in the least amount of carbon sequestration loss.

- *Alternative B2* – Alternative B2 would be the second least impactful of the four Build alternatives. While Alternative B2 has the same overall qualitative rating as Alternative B1 and Alternative B3 (**Large Adverse**), Alternative B2 results in less monetary loss of amenity value and lower carbon sequestration loss than either alternative. Alternative B2 results in a slightly higher overall acreage of resource impacts than Alternative B3 (approximately 2% higher). However, the loss of amenity value and carbon sequestration are approximately 10% and 15% lower than Alternative B3, respectively. Therefore, it is anticipated to be less impactful than Alternative B3 overall.

- *Alternative B3* – Alternative B3 would be the third least impactful of the four Build alternatives. Alternative B3 has the same overall qualitative rating as Alternative B1 and Alternative B2 (**Large Adverse**). However, as discussed in the Alternative B2 section above, Alternative B3 is anticipated to overall be more impactful than Alternative B2 based on the higher loss of amenity value and carbon sequestration.

- *Alternative B1* – Alternative B1 would be the most impactful of the four Build alternatives. While Alternative B1 has the same overall qualitative rating as Alternative B2 and Alternative B3 (**Large Adverse**), Alternative B1 results in the highest overall acreage of resource impacts, results in the highest monetary loss of amenity value, and results in the highest amount of carbon sequestration loss.

This Terrestrial Ecology Assessment is one in a series of Technical Reports that have been prepared for the Shortlist Evaluation. The level of impacts and the identification of the least impactful alternative will differ based on the resource/feature evaluated in each of the Technical Reports. Therefore, the least impactful alternative described in this evaluation summary and in each technical document **does not** move an alternative forward to the Preferred Evaluation nor does it constitute any special weighting or extra consideration in the Shortlist Evaluation Document. The comprehensive analysis of all the resources/features evaluated along with the rationale for the identification of the Preferred Alternative are presented in the Shortlist Evaluation Document.

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Attachment A

Alternative B1 Habitat Mapping

Habitats: Alternative B1

FIGURE **A**

N

0 500 1,000 Feet

Legend

Man-modified

- Man-Modified Without trees
- Man-Modified With Trees
- Commercial
- Residential
- Roads
- Man-Made Pond

Wetland

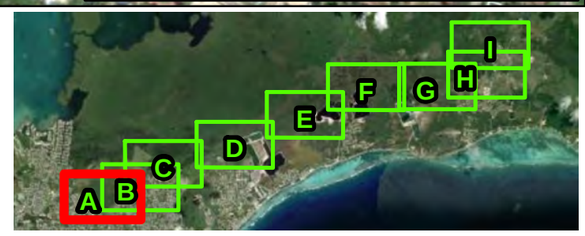
- Ponds, Pools and Mangrove Lagoons
- Seasonally Flooded Mangrove Forest and Woodland
- Seasonally Flooded/Saturated Semi-Deciduous Forest

Upland

- Invasive Species - Casuarina

Backround Source: ESRI





Habitats: Alternative B1

FIGURE

B

N

0 500 1,000 Feet

Legend

Man-modified

- Man-Modified Without trees
- Man-Modified With Trees
- Commercial
- Disturbed Land
- Pasture
- Residential
- Roads
- Man-Made Pond

Wetland

- Ponds, Pools and Mangrove Lagoons
- Seasonally Flooded Mangrove Forest and Woodland
- Seasonally Flooded/Saturated Semi-Deciduous Forest

Upland

- Invasive Species - Casuarina
- Palm Hammock

Backround Source: ESRI





Habitats: Alternative B1

FIGURE **C**

N

0 500 1,000 Feet

Legend

Man-modified

- Man-Modified Without trees
- Man-Modified With Trees
- Disturbed Land
- Pasture
- Residential
- Roads

Wetland

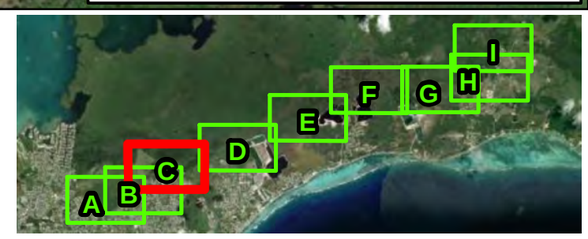
- Ponds, Pools and Mangrove Lagoons
- Seasonally Flooded Mangrove Forest and Woodland

Upland

- Invasive Species - Casuarina

Backround Source: ESRI





Habitats: Alternative B1

FIGURE **D**

N

0 500 1,000 Feet

Legend

Man-modified

- Man-Modified Without trees
- Roads

Wetland

- Ponds, Pools and Mangrove Lagoons
- Seasonally Flooded Mangrove Forest and Woodland
- Seasonally Flooded Mangrove Forest (low density)

Upland

- Palm Hammock





Backround Source: ESRI

Habitats: Alternative B1

FIGURE

E

N

0 500 1,000 Feet

Legend

Man-modified

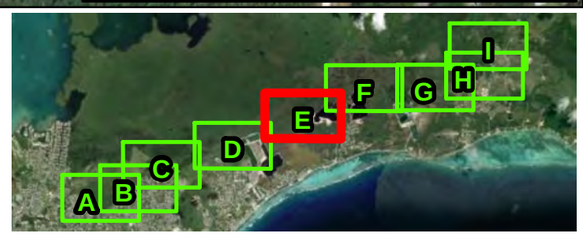
- Man-Modified Without trees
- Man-Modified With Trees

Wetland

- Ponds, Pools and Mangrove Lagoons
- Seasonally Flooded Mangrove Forest and Woodland
- Seasonally Flooded Mangrove Forest (low density)

Backround Source: ESRI





Habitats: Alternative B1

FIGURE

F

N

0 500 1,000 Feet

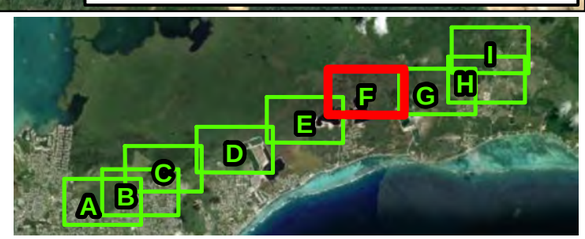
Legend

Wetland

- Seasonally Flooded Mangrove Forest and Woodland
- Seasonally Flooded Mangrove Forest (low density)

Backround Source: ESRI





Habitats: Alternative B1

FIGURE **G**

N

0 500 1,000 Feet

Legend

Man-modified

- Man-Modified Without trees
- Man-Modified With Trees
- Commercial
- Residential

Wetland

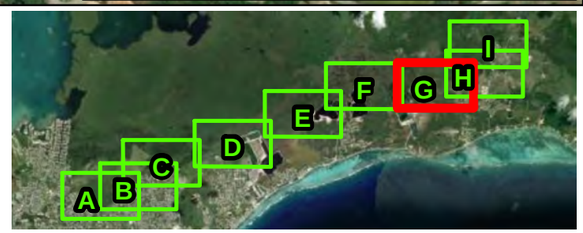
- Seasonally Flooded Mangrove Forest and Woodland
- Seasonally Flooded Mangrove Forest (low density)

Upland

- Dry Forest and Woodland
- Dry Shrubland

Backround Source: ESRI





Habitats: Alternative B1

FIGURE

H

N

0 500 1,000 Feet

Legend

Man-modified

- Man-Modified Without trees
- Man-Modified With Trees
- Commercial
- Institutional
- Residential
- Roads

Wetland

- Ponds, Pools and Mangrove Lagoons
- Seasonally Flooded Mangrove Forest and Woodland
- Seasonally Flooded Mangrove Forest (low density)





Backround Source: ESRI

Habitats: Alternative B1

FIGURE

N

0 500 1,000 Feet

Legend

Man-modified

- Man-Modified Without trees
- Man-Modified With Trees
- Commercial
- Roads

Wetland

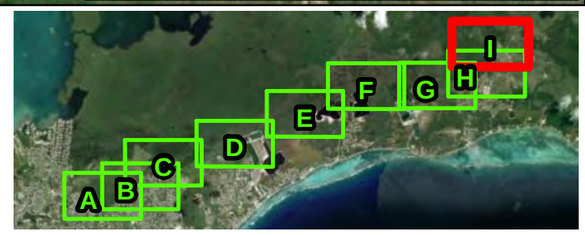
- Ponds, Pools and Mangrove Lagoons
- Seasonally Flooded Mangrove Forest and Woodland
- Seasonally Flooded Mangrove Forest (low density)

Upland

- Dry Forest and Woodland
- Dry Shrubland

Backround Source: ESRI





Attachment B

Alternative B2 Habitat Mapping

Habitats: Alternative B2

FIGURE **A**

N

0 500 1,000 Feet

Legend

Man-modified

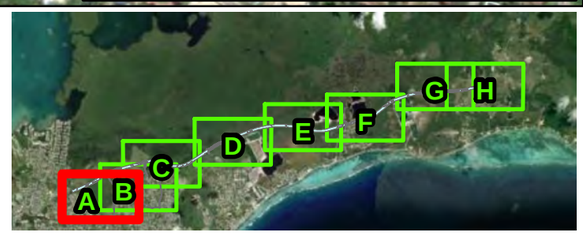
- Man-Modified Without Trees
- Man-Modified With Trees
- Commercial
- Residential
- Roads
- Man-Made Pond

Upland

- Invasive Species - Casuarina
- Ponds, Pools and Mangrove Lagoons
- Seasonally Flooded Mangrove Forest and Woodland
- Seasonally Flooded/Saturated Semi-Deciduous Forest

Backround Source: ESRI





Habitats: Alternative B2

FIGURE

B

N

0 500 1,000 Feet

Legend

Man-modified

- Man-Modified Without Trees
- Man-Modified With Trees
- Commercial
- Disturbed Land
- Pasture
- Residential
- Roads
- Man-Made Pond

Upland

- Invasive Species - Casuarina
- Palm Hammock
- Ponds, Pools and Mangrove Lagoons
- Seasonally Flooded Mangrove Forest and Woodland
- Seasonally Flooded/Saturated Semi-Deciduous Forest

Backround Source: ESRI





Habitats: Alternative B2

FIGURE **C**

N

0 500 1,000 Feet

Legend

Man-modified

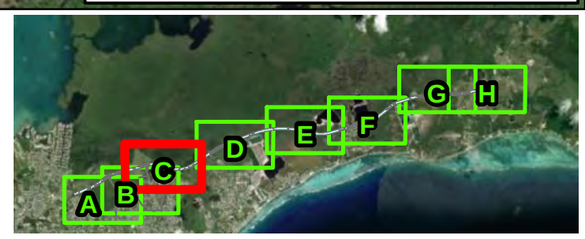
- Man-Modified Without Trees
- Man-Modified With Trees
- Disturbed Land
- Pasture
- Residential
- Roads

Upland

- Invasive Species - Casuarina
- Ponds, Pools and Mangrove Lagoons
- Seasonally Flooded Mangrove Forest and Woodland

Backround Source: ESRI





Habitats: Alternative B2

FIGURE

D

N

0 500 1,000 Feet

Legend

Man-modified

- Man-Modified Without Trees
- Roads
- Ponds, Pools and Mangrove Lagoons
- Seasonally Flooded Mangrove Forest and Woodland
- Seasonally Flooded Mangrove Forest (low density)

Upland

- Palm Hammock

Backround Source: ESRI





Habitats: Alternative B2

FIGURE

E

N

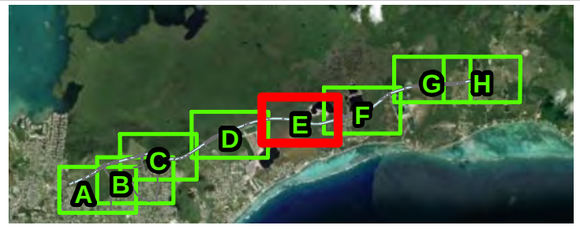
0 500 1,000 Feet

Legend

Man-modified

- Man-Modified Without Trees
- Man-Modified With Trees
- Mining
- Residential
- Roads
- Ponds, Pools and Mangrove Lagoons
- Seasonally Flooded Mangrove Forest and Woodland
- Seasonally Flooded Mangrove Forest (low density)





Backround Source: ESRI

Habitats: Alternative B2

FIGURE

F

N

0 500 1,000 Feet

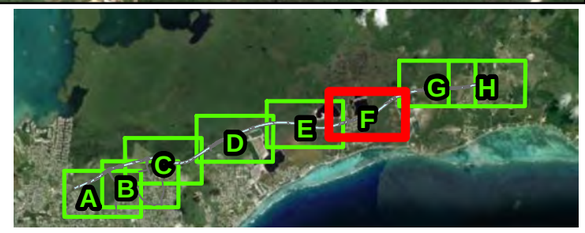
Legend

Man-modified

- Man-Modified Without Trees
- Man-Modified With Trees
- Mining
- Residential
- Roads
- Ponds, Pools and Mangrove Lagoons
- Seasonally Flooded Mangrove Forest (low density)

Backround Source: ESRI





Habitats: Alternative B2

FIGURE **G**

N

0 500 1,000 Feet

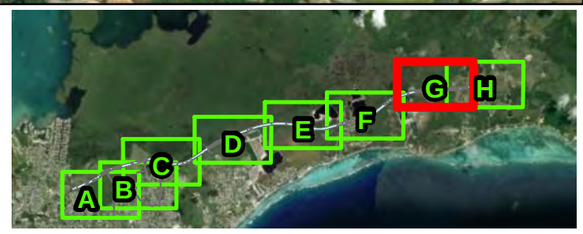
Legend

Man-modified

- Man-Modified Without Trees
- Man-Modified With Trees
- Commercial
- Residential
- Roads
- Ponds, Pools and Mangrove Lagoons
- Seasonally Flooded Mangrove Forest and Woodland
- Seasonally Flooded Mangrove Forest (low density)

Backround Source: ESRI





Habitats: Alternative B2

FIGURE **H**

N

0 500 1,000 Feet

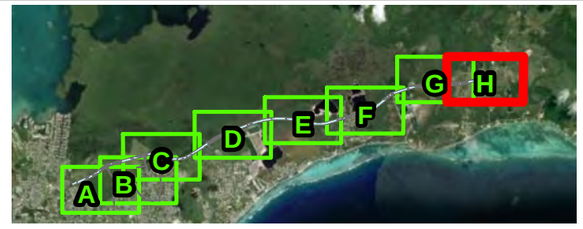
Legend

Man-modified

- Man-Modified Without Trees
- Man-Modified With Trees
- Commercial
- Institutional
- Residential
- Roads
- Seasonally Flooded Mangrove Forest and Woodland

Backround Source: ESRI





Attachment C

Alternative B3 Habitat Mapping

Habitats: Alternative B3

FIGURE **A**

N

0 500 1,000 Feet

Legend

Man-modified

- Man-Modified Without Trees
- Man-Modified With Trees
- Commercial
- Residential
- Roads
- Man-Made Pond

Upland

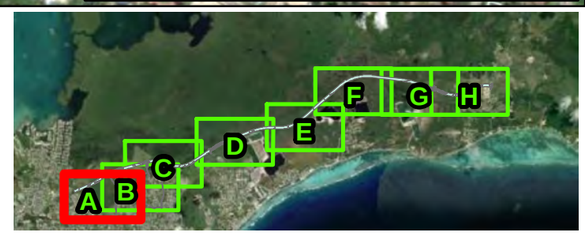
- Invasive Species - Casuarina

Wetland

- Ponds, Pools and Mangrove Lagoons
- Seasonally Flooded Mangrove Forest and Woodland
- Seasonally Flooded/Saturated Semi-Deciduous Forest

Backround Source: ESRI





Habitats: Alternative B3

FIGURE

B

N

0 500 1,000 Feet

Legend

Man-modified

- Man-Modified Without Trees
- Man-Modified With Trees
- Commercial
- Disturbed Land
- Pasture
- Residential
- Roads
- Man-Made Pond

Upland

- Invasive Species - Casuarina
- Palm Hammock

Wetland

- Ponds, Pools and Mangrove Lagoons
- Seasonally Flooded Mangrove Forest and Woodland
- Seasonally Flooded/Saturated Semi-Deciduous Forest

Backround Source: ESRI





Habitats: Alternative B3

FIGURE **C**

N

0 500 1,000 Feet

Legend

Man-modified

- Man-Modified Without Trees
- Man-Modified With Trees
- Disturbed Land
- Pasture
- Residential
- Roads

Upland

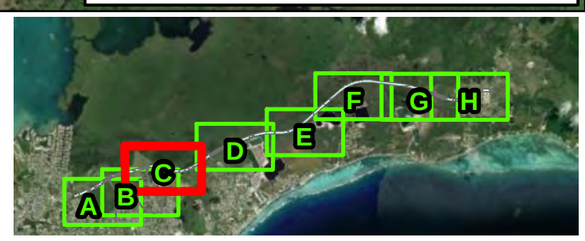
- Invasive Species - Casuarina

Wetland

- Ponds, Pools and Mangrove Lagoons
- Seasonally Flooded Mangrove Forest and Woodland

Backround Source: ESRI





Habitats: Alternative B3

FIGURE **D**

N

0 500 1,000 Feet

Legend

Man-modified

- Man-Modified Without Trees
- Roads

Upland

- Palm Hammock

Wetland

- Ponds, Pools and Mangrove Lagoons
- Seasonally Flooded Mangrove Forest and Woodland
- Seasonally Flooded Mangrove Forest (low density)





Backround Source: ESRI

Habitats: Alternative B3

FIGURE

E

N

0 500 1,000 Feet

Legend

Man-modified

- Man-Modified Without Trees
- Man-Modified With Trees

Wetland

- Ponds, Pools and Mangrove Lagoons
- Seasonally Flooded Mangrove Forest and Woodland
- Seasonally Flooded Mangrove Forest (low density)





Backround Source: ESRI

Habitats: Alternative B3

FIGURE

F

N

0 500 1,000 Feet

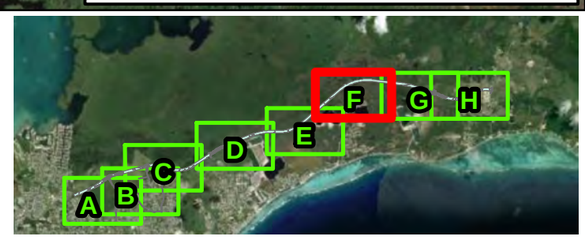
Legend

Wetland

- Seasonally Flooded Mangrove Forest and Woodland
- Seasonally Flooded Mangrove Forest (low density)

Backround Source: ESRI





Habitats: Alternative B3

FIGURE

G

N

0 500 1,000 Feet

Legend

Man-modified

- Man-Modified Without Trees
- Man-Modified With Trees

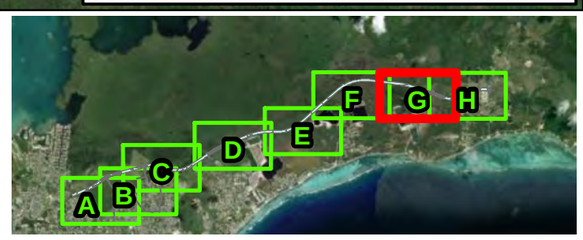
Upland

- Dry Forest and Woodland
- Dry Shrubland

Wetland

- Seasonally Flooded Mangrove Forest and Woodland
- Seasonally Flooded Mangrove Forest (low density)





Backround Source: ESRI

Habitats: Alternative B3

FIGURE

H

N

0 500 1,000 Feet

Legend

Man-modified

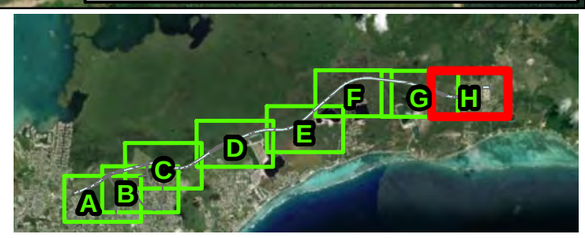
- Man-Modified Without Trees
- Man-Modified With Trees
- Commercial
- Institutional
- Residential
- Roads

Wetland

- Seasonally Flooded Mangrove Forest and Woodland

Backround Source: ESRI





Attachment D

Alternative B4 Habitat Mapping

Habitats: Alternative B4

FIGURE **A**

N

0 500 1,000 Feet

Legend

Man-modified

- Man-Modified Without Trees
- Man-Modified With Trees
- Commercial
- Residential
- Roads
- pond

Upland

- Invasive Species - Casuarina

Wetland

- Ponds, Pools and Mangrove Lagoons
- Seasonally Flooded Mangrove Forest and Woodland
- Seasonally Flooded/Saturated Semi-Deciduous Forest

Backround Source: ESRI





Habitats: Alternative B4

FIGURE

B

N

0 500 1,000 Feet

Legend

Man-modified

- Man-Modified Without Trees
- Man-Modified With Trees
- Commercial
- Disturbed Land
- Pasture
- Residential
- Roads
- pond

Upland

- Invasive Species - Casuarina
- Palm Hammock

Wetland

- Ponds, Pools and Mangrove Lagoons
- Seasonally Flooded Mangrove Forest and Woodland
- Seasonally Flooded/Saturated Semi-Deciduous Forest

ıd Source: ESRI





Habitats: Alternative B4

FIGURE **C**

N

0 500 1,000 Feet

Legend

Man-modified

- Man-Modified Without Trees
- Man-Modified With Trees
- Disturbed Land
- Pasture
- Residential
- Roads

Upland

- Invasive Species - Casuarina

Wetland

- Ponds, Pools and Mangrove Lagoons
- Seasonally Flooded Mangrove Forest and Woodland

Backround Source: ESRI





Habitats: Alternative B4

FIGURE **D**

N

0 500 1,000 Feet

Legend

Man-modified

- Man-Modified Without Trees
- Man-Modified With Trees
- Agricultural
- Residential
- Roads

Wetland

- Seasonally Flooded Mangrove Forest and Woodland

Backround Source: ESRI





Habitats: Alternative B4

FIGURE

E

N

0 500 1,000 Feet

Legend

Man-modified

- Man-Modified Without Trees
- Man-Modified With Trees
- Commercial
- Residential
- Roads

Upland

- Invasive Species - Casuarina

Wetland

- Ponds, Pools and Mangrove Lagoons
- Seasonally Flooded Mangrove Forest and Woodland

Coastal

- Coastal Shrubland

Backround Source: ESRI





Habitats: Alternative B4

FIGURE **F**

N

0 500 1,000 Feet

Legend

Man-modified

- Man-Modified Without Trees
- Man-Modified With Trees
- Commercial
- Residential
- Roads

Upland

- Dry Forest and Woodland
- Dry Shrubland
- Invasive Species - Casuarina

Wetland

- Ponds, Pools and Mangrove Lagoons
- Seasonally Flooded Mangrove Forest and Woodland

Coastal

- Coastal Shrubland

Backround Source: ESRI





Habitats: Alternative B4

FIGURE **G**

N

0 500 1,000 Feet

Legend

Man-modified

- Man-Modified Without Trees
- Man-Modified With Trees
- Residential
- Roads

Upland

- Dry Forest and Woodland
- Dry Shrubland

Wetland

- Seasonally Flooded Mangrove Forest and Woodland
- Seasonally Flooded Mangrove Shrubland

Coastal

- Coastal Shrubland

Backround Source: ESRI





Habitats: Alternative B4

FIGURE

H

N

0 500 1,000 Feet

Legend

Man-modified

- Man-Modified Without Trees
- Man-Modified With Trees
- Disturbed Land
- Residential
- Roads

Upland

- Dry Forest and Woodland
- Dry Shrubland
- Invasive Species - Casuarina

Wetland

- Seasonally Flooded Mangrove Forest and Woodland

Coastal

- Coastal Shrubland

Backround Source: ESRI





Attachment E

Cayman Islands Ecosystem Accounting

Cayman Islands Ecosystem Accounting

2020 Ecosystem Account

February 2022

Funded by UK Government

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Document evolution

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2020 Ecosystem Account

At 264 square kilometres with a population of 65,786 in 2020 (Economics and Statistics Office, 2021), the Cayman Islands is dependent on its wealth of environmental assets, in fact the environment contributes at least an estimated **CI$ 62 million** in value to the Cayman Islands in 2020 (Table 2). These environmental assets provide an abundance of benefit to the people across the Cayman Islands including the: value added to the tourism industry (CI$21 million per year); carbon sequestered by coastal and forest habitats (CI$12 million per year); amenity value due to mangroves (CI$1.3 billion); and other more difficult to measure values such as local recreation and the biodiversity that makes life richer to both local inhabitants and visitors. The economic prosperity and wellbeing of the people of the Cayman Islands are fundamentally linked to effective management of the environment, and an understanding of the value that it provides.

Ecosystem accounts provide economic evidence that supports the delivery of sustainable value from environmental assets[1]. Effective management of the environment must consider the extent and underlying condition of ecosystems over time, as well as the range of benefits they provide and the economic value of those benefits to different stakeholder groups. Specifically, the data in ecosystem accounts can help address several fundamental questions for policy and planning:

- What environmental assets are present and what state are they in? How does this change over time?
- What benefits does the environment provide? How are these received by beneficiaries?
- What is the economic value of these benefits? How is this value distributed across the population?

The environmental and socioeconomic data produced within Ecosystem Accounts provide a basis for answering these questions. Their importance is reflected in the development of the System of Environmental Economic Accounting – Ecosystem Accounts (SEEA-EA)[2], by the United Nations (UN). Officially adopted by the UN as a Statistics standard in March 2021, the SEEA-EA supports the implementation of ecosystem accounting as a part of National Accounts by National Statistics Offices around the world (see Box 1).

Development of ecosystem accounts provide indicators that compliment national economic and social indicators (such as GDP and demographic trends), and this evidence can support policy development and decision making, such as:

- Effective decision-making which impacts on the environment and the benefits it provides;
- Action on climate change, including mitigation, adaptation and resilience to impact;
- Delivery of international initiatives, such as the UN Sustainable Development Goals (SDGs)3; and
- A green post-COVID economic recovery, and in particular a sustainable tourism sector.

For ecosystem accounts to be a valuable addition to government and organisational policy and planning strategy, they should be embedded into the decision-making process, and updated on an annual basis both

[1] See Box 1 for more detail.

[2] See: https://seea.un.org/ecosystem-accounting

[3] More information is available at: https://sdgs.un.org/goals

to provide current data and to monitor trends over time. A partnership of eftec, the UK Joint Nature Conservation Committee (JNCC), the New Economics Foundation, and the Cayman Islands Department of Environment (DoE), with funding from the UK Government via the Darwin Initiative, have continued developing the ecosystem accounting process in the Cayman Islands. The aim is to embed the consistent production of national environmental statistic through ecosystem accounting within the Cayman Islands Government.

Physical flow and monetary flow

A range of benefits have been assessed within the Ecosystem Account, with estimated annual physical flow and monetary values given a confidence rating, as described in Table 1. The confidence rating is based on the robustness of the evidence and assumptions used. The Ecosystem Service Flow and Asset Accounts are presented in Table 2. The supplementary information is presented in Table 3. Note that the evidence presented in the summary table should be interpreted as a partial valuation of the total contribution of the environment to the Cayman Islands. The Cayman Islands environment provides additional benefits, such beach erosion protection and local recreation, which cannot be accurately quantified or valued at this time due to data limitations. Future iterations of the accounts should seek to address these gaps to provide a fuller valuation (see Appendix A of the Technical Report).

Table 1: Description of confidence

Confidence	Symbol	Description
Low	●	Evidence is partial and significant assumptions are made so that the data provides only order of magnitude estimates of value to inform decisions and spending choices.
Medium	●	Science-based assumptions and published data are used but there is some uncertainty in combining them, resulting in reasonable confidence in using the data to guide decisions and spending choices.
High	●	Evidence is peer reviewed or based on published guidance so there is good confidence in using the data to support specific decisions and spending choices.
No colour	●	Not assessed

Table 2: Ecosystem Service Flow and Asset Accounts

Produced at: January, 2022	Ecosystem Service Flow Accounts						Ecosystem Asset Account (PV* CI$m)
	Physical flow (unit/yr.)			Monetary value (CI$m/yr.)			
	Reporting	**Confidence**	**Physical indicator**	**Reporting**	**Confidence**	**Valuation metric**	
Fisheries	702,000	●	Volume of reef fish caught in the Cayman Islands (lbs/yr.)	3	●	Net benefit value of recreation, subsistence and small-scale commercial fishing on coral reefs	51
Agriculture	5,061	●	Total livestock production (no./yr.)	2	●	Total value of livestock production	25
	-	●	Total arable production (t/yr.)	18	●	Total value of arable production	272
Carbon sequestration	68,500	●	Total tonnes of CO_2e sequestered by coastal ecosystems (tCO_2e/yr.)	11	●	Total value of CO_2e sequestered by coastal ecosystems	272
	9,393	●	Total tonnes of CO_2e sequestered by forest ecosystems (tCO_2e/yr.)	1	●	Total value of CO_2e sequestered by forest ecosystems	37
Coastal protection	-	●	Area of coral reef (km^2)	7	●	Coastal protection value by coral reefs	112
Tourism	598,263	●	Total visitor arrivals (stay-over and cruise ships) (visitors/yr.)	21	●	Total tourism added value attributed to marine ecosystems	943
Amenity value	26,197	●	Number of houses (no.)	-	●	Amenity value of mangroves	1,306
			Total value	**62**	●	**Mix of values**	**3,020**

* The present value (PV) is the sum over 25-years. It is the total monetary value of a stream of benefits profiled over time, accounting for greater worth being placed on nearer term values than those further in the future.

Table 3: Supplementary information

Produced at: January, 2022	Ecosystem Service Flow Accounts						Ecosystem Asset Account (PV* CI$m)
	Physical flow (unit/yr.)			Monetary value (CI$m/yr.)			
	Reporting	**Confidence**	**Physical indicator**	**Reporting**	**Confidence**	**Valuation metric**	
Other exchange values							
Tourism	598,263	●	Total visitor arrivals (stay-over and cruise ships) (visitors/yr.)	59	●	Remaining tourism expenditure not attributed to ecosystems	2,706
Welfare values							
Tourism	598,263	●	Total visitor arrivals (stay-over and cruise ships) (visitors/yr.)	35	●	Total WTP to prevent decline in quality of coral reefs from medium to low levels	1,873
Non-monetised benefits							
Water supply		●			●		
Renewable energy		●			●		
Beach erosion protection		●			●		
Local recreation	378	●	Total number of diving spots (no.).		●		

* The present value (PV) is the sum over 25-years. It is the total monetary value of a stream of benefits profiled over time, accounting for greater worth being placed on nearer term values than those further in the future.

Ecosystem Extent and Condition Accounts

Spatial analysis was conducted to assess the ecosystems present within the Cayman Islands. The quantity (i.e., extent) and quality (i.e., condition) of the present ecosystems are recorded in the Ecosystem Extent Account (**Table 4**) and Ecosystem Condition Account (**Table 5**), respectively. Beyond the extent and condition of ecosystems, other indicators for spatial configuration and other forms of capital are also included in the assessment (**Table 6**). The accounts can be used to monitor changes in the environmental assets over time. The terrestrial and marine ecosystem of the Cayman Islands are mapped in **Figure 1, Figure 2** and **Figure 3.**

Table 4: Ecosystem Extent Account

IUCN Code	Ecosystem	Grand Cayman	Cayman Brac	Little Cayman	Cayman Islands
Terrestrial					
Total area (km^2)		**200**	**38**	**29**	**267**
F2.7	Permanent salt and soda lakes	-	0.1	-	0.1
MFT1.2	Intertidal forests and shrublands	62	0.1	2	64
MT1	Shorelines biome	-	0.9	0.6	2
MT2.1	Coastal shrublands and grasslands	1	1	1	4
T1.2	Tropical-subtropical dry forests and scrubs	15	12	1	29
T3.1	Seasonally dry tropical shrublands	25	7	16	47
T5.3	Sclerophyll hot deserts and semi-deserts	0.9	-	-	0.9
T7.4	Urban and industrial ecosystems	10	1	0.4	11
T7.5	Derived semi-natural pastures and old fields	17	-	-	17
TF1.1	Tropical flooded forests and peat forests	13	0.4	4	19
TF1.2	Subtropical/temperate forested wetlands	0.8	-	-	0.8
TF1.3	Permanent marshes	0.2	-	0.04	0.3
TF1.4	Seasonal floodplain marshes	0.4	0.01	0.1	0.5
Marine (benthic and lagoon shelf)					
Total area (km2)		**658**	**21**	**209**	**893**
M1.1	Seagrass meadows	80	0.2	3.2	83
M1.3	Photic coral reefs	282	13	111	406
M1.6	Subtidal rocky reefs	269	8	95	373
M1.7	Subtidal sand beds	18	0.1	0.5	21
M1.8	Subtidal mud plains	10	-	-	10

Source: See Appendix A.1 for input data sources.
Table Notes: See Appendix C for DoE and IUCN ecosystem typology comparison.

Table 5: Ecosystem Condition Account

Category	Sub-category	Grand Cayman	Cayman Brac	Little Cayman	Cayman Islands
Ecological communities and species					
Area of dry forest above 20 feet elevation (km^2)		38	-	-	38
Area of protected land (km^2)		14	1	2	17
Area of proposed protected land (km^2)		44	10	15	69
Marine protected area (km^2)		88	7	15	110
Carbon stock in habitats (MgC)	Inside MPAs	446,100	100	12,600	458,800
	Outside MPAs	2,616,800	8,200	192,000	2,817,000
Total area of species-specific habitat (km^2)		5	15	2	22

Category	Sub-category	Grand Cayman	Cayman Brac	Little Cayman	Cayman Islands
Species points by type (#)	Aegiphilia caymanensis	2	-	-	2
	Pisonia margaratae	119	-	-	119
	Sister Islands Rock Iguana Cyclura nubila caymanensis - nest locations	-	-	238	238
Land					
Total land area owned by the Crown (km^2)		162	29	84	275
Total land area owned by the National Trust (km^2)		123	15	19	157

Source: See Appendix A.2 for input data sources.

Table 6: Other indicators

Category	Sub-category	Grand Cayman	Cayman Brac	Little Cayman	Cayman Islands
Spatial configuration					
Number of caves (#)		31	25	2	58
Area of sinkholes (km^2)					0.04
Other forms of capital					
Number of public moorings (#)	Inside MPAs	88	20	40	148
	Outside MPAs	155	48	26	229

Source: See Appendix A.3 for input data sources.

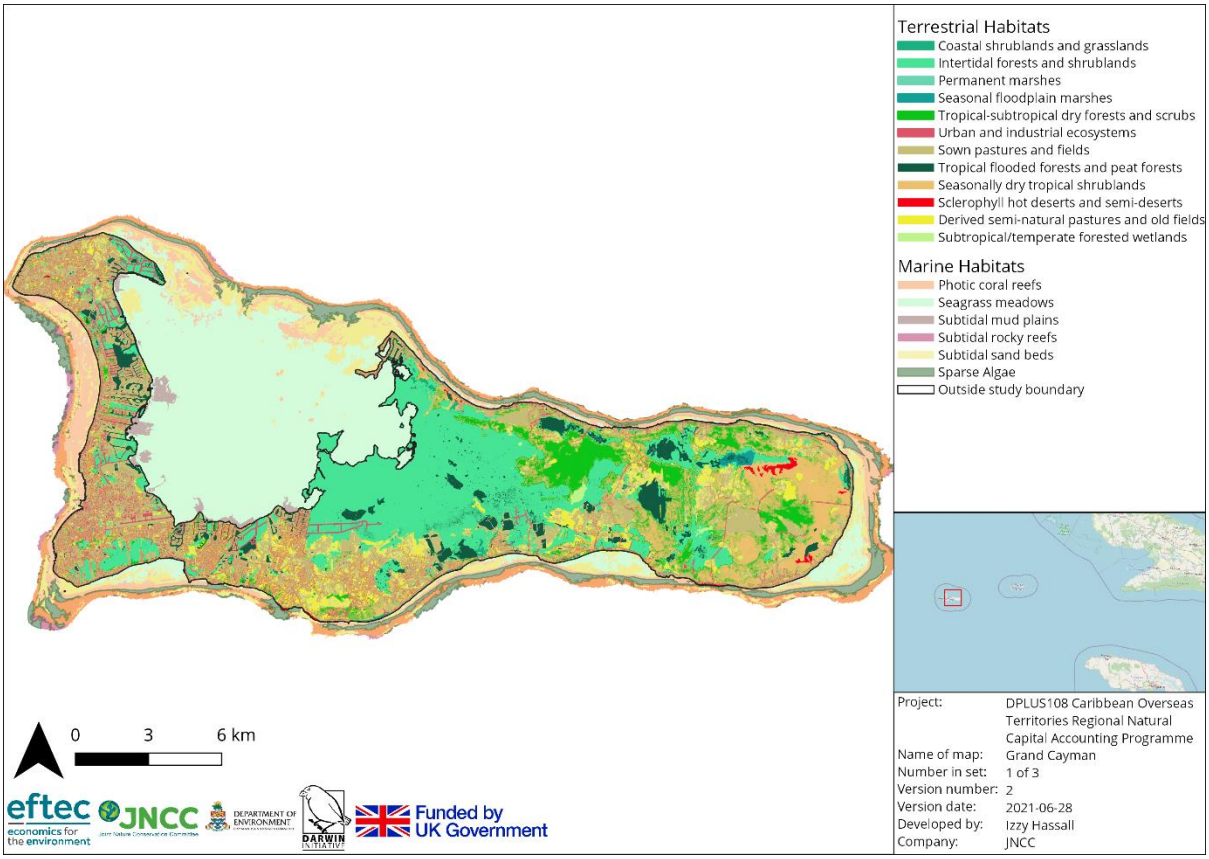

Figure 1: Grand Cayman terrestrial and marine ecosystems

Source: JNCC GIS analysis of Landcover 2013, Benthic Shelf 2008 and Lagoon Shelf (2008) from Cayman Islands DoE



Figure 2: Cayman Brac terrestrial and marine ecosystems

Source: JNCC GIS analysis of Landcover 2013, Benthic Shelf 2008 and Lagoon Shelf (2008) from Cayman Islands DoE



Figure 3: Little Cayman terrestrial and marine ecosystems

Source: JNCC GIS analysis of Landcover 2013, Benthic Shelf 2008 and Lagoon Shelf (2008) from Cayman Islands DoE

Box 1: Ecosystem accounts

The ecosystem accounting approach helps frame the interconnection between humans and the environment in economic terms. The environment can be viewed as an asset, or natural capital, that provides a revenue of ecosystem goods and services, which benefit people. This includes provisioning services, such as agricultural produce or fisheries, regulating services, such as protection from natural hazards and carbon sequestration, and cultural services, such as tourism and local recreation. These benefits can be measured and valued in a consistent and structured manner, and compiled into an accounting framework, called ecosystem accounts. Ecosystem accounts produce environmental statistics which provide an evidence base on the benefits provided by the environment.

An ecosystem account is structured as a set of component accounts, each of which require data to be consistently collected and collated in a systematic way. The main components of an ecosystem account are:

- **Ecosystem Extent and Condition Accounts** - an inventory that holds details on the state of all the ecosystem assets that are present, including their extent and condition (quality and other relevant factors). For example, the spatial area of a reef system, and its health in terms of suitable indicators.
- **Ecosystem Services Flow Account (physical terms)** – contains the flow of goods and services which are dependent on the ecosystem assets that are identified in the extent and condition accounts. This includes benefits related to the provisioning, regulating and cultural goods and services provided by ecosystems.
- **Ecosystem Services Flow Account (monetary terms)** – calculates the annual value of the estimated flow of benefits that are captured in the Ecosystem Services Flow Account (physical terms).
- **Ecosystem Asset Account** – records the net present value approach to obtain values in monetary terms for ecosystem assets based on the monetary valuation of ecosystem services.

This set of accounts therefore monitor the presence and state of different habitats, the benefits these provide, and the value that humans receive from them. When updated year on year they provide a useful means to monitor and evaluate growth or decline in any of these contributing elements, while also helping to understand the relationship between the environment, the services it provides, and how humans use and value them.

The data collection and analysis for the Cayman Islands 2020 Ecosystem Account occurred in parallel to the development and publication of the SEEA-EA standard. As such while the Cayman Islands 2020 Ecosystem Account is generally aligned with the direction and intention of the SEEA-EA standard, full compatibility should be worked towards as the implementation of the SEEA standard continues to evolve globally over time.

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1.Introduction

eftec, with project partner Joint Nature Conservation Committee (JNCC) and funding from the UK Government, have initiated *natural capital accounting* with the environment and statistics departments of the local governments of five UK Overseas Territories (OTs)[4]. The purpose is to build initial *ecosystem accounts* and to provide a foundation for data collection and processing to produce national environmental statistics in support of better decision making.

As far as possible, the ecosystem accounting work is aligned to producing UN SEEA-EA compatible accounts. The UN adopted the SEEA-EA as an internationally recognised statistical standard in March 2021. This is an important step supporting the development and integration of ecosystem accounts into national accounts, and thereby forming a basis of environmental economic evidence for policy makers. The SEEA-EA standard is new, much work is yet to be done on practical implementation. It will take time before a comprehensive and broadly applicable guidance is developed and consistently put into practice. Therefore, the accounts can be expected to evolve over time, becoming more robust and complete through subsequent iterations. The current project establishes the groundwork from which this can occur.

Ecosystem accounts are a structured way to measure and monitor the benefits provided by the natural environment. They can be produced alongside other national accounts as a basis for understanding human dependence and impact on the environment, and to inform policy and planning decisions. They should be updated annually to build up the available evidence base, to demonstrate change over time, and to improve on the methods applied.

This report gives an overview of the concepts, process and structure of ecosystem accounts, and current progress on their implementation. It provides additional context for the Ecosystem Account summarised above. The remaining sections are structured as follows:

- **Section 1:** Introduction
- **Section 2:** Background on natural capital and ecosystem accounts
- **Section 3:** Implementation of ecosystem accounting
- **Section 4:** Conclusion

[4] The OTs included in this project are: Anguilla, British Virgin Islands, Cayman Island, Montserrat and Turks and Caicos Islands.

2. Natural Capital and Ecosystem Accounts

This section presents the background and concepts of natural capital and ecosystem services, also describing the process which produces ecosystem accounts and the structure of the accounts. As the SEEA-EA is recently published, the relationship with natural capital accounting is still evolving. As applied in this report, the SEEA-EA standard for ecosystem accounting can be thought of as a subset of the broader process of natural capital accounting. They generally apply the same concepts and methods. SEEA-EA does so in a more specific way to align with the System of National Accounts (which is the internationally agreed standard set of recommendations on how to compile measures of economic activity, such as GDP).

2.1 Concepts

Natural capital is defined by the UK Natural Capital Committee as: "the elements of nature that directly and indirectly produce value or benefits to people, including ecosystems, species, freshwater, land, minerals, the air and oceans, as well as natural processes and functions". Natural capital, or ecosystem assets, provide benefits to people, through ecosystem services. The focus of ecosystem accounting is to measure and value the benefits from ecosystem services and the underlying ecosystem assets, and to present this evidence in a structured format called ecosystem accounts.

In the Common International Classification of Ecosystem Services (CICES), ecosystem services are defined as 'the contributions that ecosystems make to human well-being'. They are seen as arising from the interaction of biotic and abiotic processes and refer specifically to the 'final' outputs or products from ecological systems, specifically the things directly consumed or used by people. Ecosystem services are therefore the flows of benefits which people gain from natural ecosystems, and natural capital is the stock of ecosystems from which these benefits flow (**Figure 2.1**). Ecosystem services can be subdivided into provisioning, regulating, cultural and supporting services (**Box 2.1**).

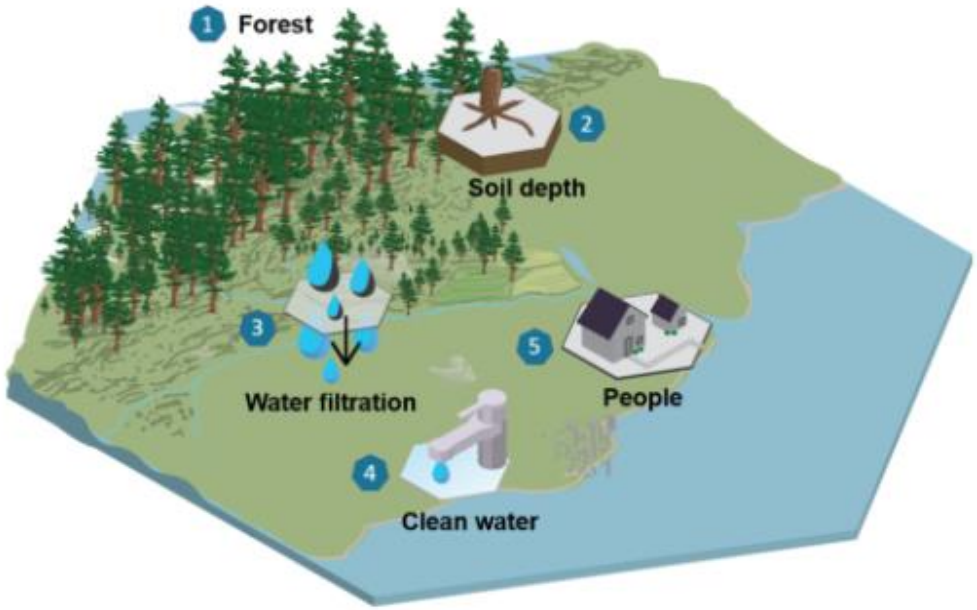

Figure 2.1: How ecosystem assets generate ecosystem services to beneficiaries in a spatial relationship
Source: UN (2021)

Viewing the environment through the lens of natural capital is an effective means to consider its value in the language of economics. Using the concept of capital and expressing the value of ecosystem services in monetary terms helps to integrate the natural environment into decision-making, in which it can otherwise be invisible.

Box 2.1: Types of ecosystem services

The most widely used definition of ecosystem services is from the Millennium Ecosystem Assessment: "the benefits people obtain from ecosystems". It further categorised ecosystem services into four types:

- **Provisioning services**: material outputs from nature (e.g., seafood, water, fibre, genetic material).
- **Regulating services:** indirect benefits from nature generated through regulation of ecosystem processes (e.g., mitigation of climate change through carbon sequestration, water filtration by wetlands, erosion control and protection from storm surges by vegetation, crop pollination by insects).
- **Cultural services:** non-material benefits from nature (e.g., spiritual, aesthetic, recreational, and others)
- Provisioning, regulating and cultural services are referred to as final ecosystem services and are underpinned by **Supporting services**. These are the fundamental ecological processes that support the delivery of other ecosystem services (e.g., nutrient cycling, primary production, soil formation).
- Analysis of benefits from natural capital also includes **abiotic services**, the benefits arising from fundamental geological processes (e.g., the supply of minerals, metals, oil and gas, geothermal heat, wind, tides, and the annual seasons).

2.2 The ecosystem accounting process

Ecosystem accounting is a process of compiling and linking data on the quantity and quality of ecosystem assets and physical and monetary data on the benefits they provide. The data are presented in a consistent framework, which should as far as possible align with the SEEA-EA standards for producing ecosystem accounts. These accounts present evidence to measure and monitor benefits from ecosystems consistently over time to inform policy and planning decisions. In the same way that the structured recording of other national statistics in conventional national accounts informs and improves a country's economic and social decisions, ecosystem accounts can inform better management of a country's ecosystem assets.

Ecosystem accounts are structured as a set of interrelated component accounts that record the value that is provided by a country's ecosystem assets. The aim of these accounts is to answer the following key questions:

- What ecosystem assets do we have? -> An Ecosystem Extent and Condition Account (together sometimes referred to as an *asset register)* is an inventory that holds details of the stocks of ecosystem assets that are present within the geographical boundary of the country. For example, a coral reef may contain a variety of species and the quality of this diversity may be measured by the number of species recorded on the site for a few selected taxa (e.g., fish, coral). The asset

register helps track trends in the quantity and quality of ecosystems.

- What benefits do these assets provide? -> An Ecosystem Services Flow Accounts (physical terms) contains the flow of goods and services which are dependent on the ecosystems that are identified in the extent and condition accounts. This account provides information on the benefits provided by ecosystems, with the flows measured in different physical units (e.g., number of recreational visits or visitors, weight of produce).
- What is the value of these benefits? -> An Ecosystem Services Flow Accounts (monetary terms) calculates the annual value of the estimated flow of goods and services that are captured in the Ecosystem Services Flow Accounts (physical terms). The Ecosystem Asset Account measures the aggregate value of flows of goods and services into the future.

2.2.1 Data collection

Some relevant data will already exist, such as economic data for natural resources, the tourism sector, and utilities and infrastructure data. Additional data can be collected through social research including surveying, economic and econometric analysis, and monitoring of environmental outputs and levels of usage. Geo-referenced socio-economic data along with infrastructure maps can be compared with habitat maps to help identify and measure location specific use.

In practice, secondary data in a readily useable format may be limited, especially with regards to regulating services. Resource and time constraints can further limit primary data collection. This may require an innovative approach with what is available, clearly caveated with assumptions and further inferences to fill remaining gaps and making use of modelling where possible. In such cases, it is important to prioritise the most material benefits in the given context and to focus on where the most value is being provided.

2.3 Structure of ecosystem accounts

This section provides more detail on the component accounts which together make up the ecosystem account. **Figure 2.2** presents the links between the components of ecosystem accounts.

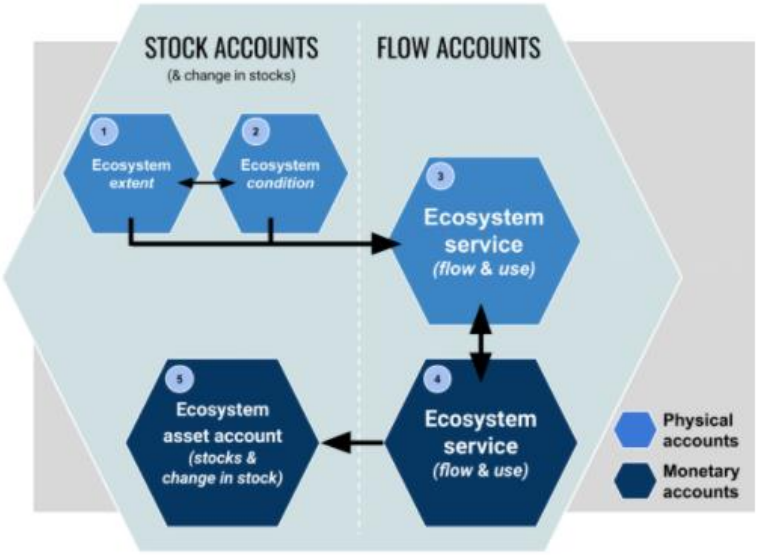

Figure 2.2: Ecosystem accounts and how they relate to each other
Source: UN (2021)

2.3.1 Ecosystem Extent and Condition Accounts

The extent and condition accounts (or asset register) record the quantity and quality of all of the ecosystem assets in a given area. The asset register therefore acts as an inventory that holds details of the stocks of ecosystem assets that are relevant to the accounts, along with information on their quality, functionality, and other relevant factors.

The foundation for an asset register is the distribution and condition of ecosystems which are present within the accounting area. Ecosystem extent can be determined and mapped by desk-based analysis, such as with data available from existing surveys and obtained through existing remote sensing techniques such as Earth Observation (EO) and processed using Geographic Information Systems (GIS). The combination of remote sensing and on-the-ground techniques provides a strong evidence base from which to build the spatial basis for an asset register.

2.3.2 Ecosystem Service Flow Accounts - Physical Terms

The Ecosystem Service Flow Accounts - Physical Terms account records the flow of goods and services from ecosystems in the asset register. They provide a physical measure of the quantity of benefits provided on an annual basis and include information on the variety of ways that the environment provides value to people. These benefits include the provisioning, regulating and cultural services provided by ecosystems, such as fisheries, sea surge protection and locations for tourism.

Not all physical flows from ecosystems will be significant or material for evaluating. The most relevant flows of benefits should be identified and prioritised for inclusion in an account. Once the prioritised benefits that are possible to quantify are identified, the annual flows should be measured. The approach to measuring the benefits provided within the OTs will vary between territories by type of ecosystem service and benefit.

2.3.3 Ecosystem Service Flow Accounts – Monetary Terms and Ecosystem Asset Accounts

The Ecosystem Service Flow Accounts - Monetary Terms measures the monetary value of the flows of benefits that are captured in the Ecosystem Service Flow Accounts - Physical Terms. It aims to measure the exchange value of both market and non-market ecosystem services through different economic valuation techniques. This applies to both the annual value of ecosystem services and the ecosystem asset value, measured as the aggregate value of the expected annual stream of benefits over the defined assessment period (set out in the Ecosystem Asset Account).

As the monetary accounts measures value in a common metric, money, it allows for comparison between different benefits within the accounts, and between different accounts. Importantly, it also allows for comparison across many other factors which may act as inputs to decision making, such as: national economic accounts; the financial cost of an intervention; replacement costs for critical infrastructure; the price paid for public provision of alternative services; and income revenue streams from traditional capital assets. Monetary values help assess trade-offs across these factors, and to justify allocation of resources to environmental management and protection.

2.3.4 Account summary

Physical flows and monetary flows should be recorded separately, and then reported together. This creates added value by showing the links between ecosystems, ecosystem services and the value of benefits to people. Where monetary valuations are uncertain, but suggest certain benefits are important, physical flow indicators might be the best measure. In the context of the OTs, it may be likely in some cases that producing Ecosystem Service Flow Accounts - Physical Terms is more feasible than monetary valuations, but even so the aim should be to build monetary accounts to guide the collection of the most important data for the Ecosystem Service Flow Accounts - Physical Terms. Results should always be expressed with appropriate caveats to ensure that the monetary units applied reflect the value as accurately as possible. A traffic light system can be used to indicate uncertainties in data or methods applied in the Ecosystem Account (see **Table 1**).

Table 1: Presenting uncertainty in the physical and monetary terms of ecosystem services

Level of confidence	Symbol	Description of confidence
High	●	Evidence is peer reviewed or based on published guidance so there is good confidence in using the data to support specific decisions.
Medium	●	Science-based assumptions and published data are used but there is some uncertainty in combining them, reasonable confidence in using the data to guide decision.
Low	●	Evidence is partial and significant expert judgement-based assumptions are made so that the data provides only order of magnitude estimates of physical quantity or monetary value.

3.Implementation of ecosystem accounting

This section outlines the implementation of the ecosystem accounts, covering progress and next steps of the current ecosystem accounting activities, and areas to explore for applying the ecosystem accounts to policy and planning.

3.1 Current progress and next steps

The current project has initiated and developed ecosystem accounts in the five Caribbean UK OTs. Further embedding them involves engagement with government departments and other stakeholders to gain an understanding of key issues, discuss the concepts and uses of the accounts, and identify and collect available data.

Ideally, the process should be embedded in national statistics outputs through annual updates of the accounts, building more reliable data systems and methodologies with each iteration. Data collection and management systems will need to be developed further to ensure the quality of outputs is of an appropriate level to inform policy and planning. This may involve the use of standardised protocols and knowledge about data handling and processing; however, adoption of these broader protocols must also be applicable to the specific local context. These data collation processes should be led by the statistics departments of each OT, who have expertise in generating accurate and consistent data sets, and can align to the SEEA-EA statistics guidance.

While progress needs to be made, it does not necessarily have to be resource intensive once accounting systems are set up, which can then evolve over time rather than requiring significant investment in any one time period. Updates can be streamlined so that as new data is generated, it is fed into the ecosystem accounting system as a matter of routine. While the accounts should be produced on an annual basis, it is not necessary to update every element of them every year – so long as it is transparent what is updated and what is not.

The frequency of updates needs to take into account how sensitive different variables are to change, and aspects of the accounts which would not be expected to change much year on year, or for which resource intensive primary research is needed, may be updated less regularly. However, a significant benefit of the accounts is their ability to monitor trends and provide up to date information to decision makers, and as such they should be reproduced regularly. Any progress or improvement, even if incomplete, will add value to the overall process, and its ability to effectively feed into decision making. As the accounts become increasingly complete records of the value that ecosystems provide, they should become further embedded in the OTs policy and planning systems and a vital component of government statistics and public record.

In the context of sustained pressure to develop, and focus on economic growth in the OTs, it is especially critical to understand what impacts development has on the environment and its ability to provide ecosystem services which benefit people. By initiating and building on the Ecosystem Accounts in the OTs, it is hoped that additional information will be generated that will directly contribute to this understanding and improved management of the economy and environment for the sustainable prosperity and well-being of the people of the OTs.

3.2 Use of ecosystem accounts

The ultimate purpose of ecosystem accounts is to facilitate improved management of the economy and environment. Better evidence leads to better informed decisions, but those decisions are reliant on understanding and interpretation of the evidence. A considerable advancement of ecosystem accounts is their ability to compile ecological, biophysical, socioeconomic, economic, and other diverse data and produce evidence in a readily useable format. The structure of ecosystem accounts provides a consistent means to present this evidence, but it can also be adapted to specific uses, producing indicators and other information fit for purpose.

There are many areas that the evidence from ecosystem accounts can contribute to, such as:

- Link to progress on the SDGs
- Link to progress on domestic policy
- Inform on land use planning
- Monitor progress (growth) / deterioration (decline) over time
- Engage with the private sector
- Understand distribution of benefits (sectoral, individuals)
- Understand proportion of economy dependent / at risk
- Understand scale of potential economic impact in from specific decisions
- Identify priority areas for value provision and maintenance
- Identify targets for investment and enhancement
- Information for public awareness campaigns
- Inform industrial and economic strategy
- Understand tax base effects
- Understand resident use and benefit of environment
- Investigate future impact and sustainability
- Conduct economic planning through scenario analysis
- Consider potential climate change impacts
- Target spending for a green economic recovery
- Create indicators to track success management / highlight areas for improvement
- Improve data management and flow across departments and sectors creating efficiencies
- *Many other specific uses are possible

Future work should aim to link the ecosystem accounts to relevant policy aims and initiatives. The next phase of the current project will begin to explore this by working with the local government departments to establish priority areas for further development.

4. Conclusion

The 2020 ecosystem accounts represent progress towards establishing an evidence base on the value that the environment provides. However, it should not be considered a one-off assessment, but rather a part of an ongoing process of data collection, methodological improvement and policy and planning implementation that should occur annually. As the SEEA-EA becomes more widely adopted, ecosystem accounts will increasingly inform government policy and planning internationally. The OTs are at the forefront of this process with the current set of accounts but will need to commit to their ongoing development and uptake to maintain this position as the practice evolves.

Specifically, future effort to further develop ecosystem accounting can focus on:

- **Stakeholder engagement** – presenting the approach and results to a wide range of stakeholders to build awareness and support.
- **Capacity building** – support for the continued development of the technical skills required to compile and update Ecosystem Accounts.
- **National Statistics Offices** – working with government statisticians to embed the SEEA-EA in National Accounts.
- **Policy and planning implementation** – develop and promote the use of Ecosystem Accounts to support policy and planning aims and objectives.
- **Draw on regional ecosystem accounting practitioners** – share knowledge and experiences across the OTs, including data, methodologies and applications of Ecosystem Accounts.
- **Link with regional and international organisations and initiatives** – make connections with Caribbean regional and international organisations with an environmental, national statistics, or ecosystem accounting focus.
- **Continued alignment with evolving SEEA guidance** – update the accounts alongside the recommendations of SEEA on methodological development and emerging good practice.

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Appendix A - Methodology

This annex sets out the input data and methods used to develop the Cayman Islands 2020 Ecosystem Account (Cayman-Island-EA-2020-January2022.xls) and provides guidance on how to update each component of the account.

For each component, a description of the input data, its source and a workbook reference for where it is applied are provided, along with how often the data should be updated (definitions for frequency are described in Table A.1).

Table A.1: Definitions of frequency of input data updates

Frequency	Definition
Annually	The underlying source should be updated on an annual basis
As source is updated	The underlying source is expected to be updated in the future (i.e., sources that are not updated annually). The accounts should be updated when new data from the same source is available.
As new evidence becomes available	The underlying source is not expected to be updated; a new source would be required to update this input

The remainder of this section is structured as follows:

- Ecosystem Extent Account (Section A.1)
- Ecosystem Condition Account (Section A.2)
- Ecosystem Service Flow and Asset Accounts and Supplementary Information (Section A.3); and
- Input tabs (Section A.4).

A.1 Ecosystem Extent Account

The Ecosystem Extent Account records information on the area of terrestrial and marine ecosystems within the ecosystem accounting area, i.e., the Cayman Islands' terrestrial and marine boundary. Table A.2 sets out the data sources used to estimate the terrestrial and marine ecosystem extent, which have been applied by GIS specialists at JNCC using GIS modelling software QGIS. The Ecosystem Extent Account should be updated when the source GIS layers are updated. The Ecosystem Extent Account is within the tab: **'A1. Asset Register'** of the ecosystem accounting workbook.

Table A.2: Input data for the Ecosystem Extent Account

Description	Source	Frequency	Workbook reference
Terrestrial habitat map	Landcover 2013 (DoE, 2013).	As source is updated	A1. Asset register tab
Shelf benthic habitat map	Shelf Benthic classification 2008 (DoE, 2008)	As source is updated	A1. Asset register tab
Lagoon benthic habitat map	Lagoon Benthic classification 2008 (DoE, 2008)	As source is updated	A1. Asset register tab

A.2 Ecosystem Condition Account

The Ecosystem Condition Account records information on the quality of ecosystems within the ecosystem accounting area. Condition indicators can be associated with ecological communities and species, freshwater, land or soil elements of ecosystems. Table A.3 provides an overview of the data used within the Ecosystem Condition Account of the Cayman Islands. The Ecosystem Condition Account is set within the tab: '**A1. Asset Register**'.

Table A.3: Input data for the Ecosystem Condition Account

Description	Source	Frequency	Workbook reference
Ecological communities and species			
Area of dry forest above 20ft elevation	Derived from GC Dry Forest Above 20ft Elevation_WGS84UTM.shp	As source is updated	A1. Asset register tab
Area of protected land	Combination of sources listed in workbook	As source is updated	A1. Asset register tab
Area of proposed protected land	Combination of sources listed in workbook	As source is updated	A1. Asset register tab
Area of Marine Protected Areas (MPAs)	Combination of sources listed in workbook	As source is updated	A1. Asset register tab
Total carbon stock (in and outside MPAs)	Guzman et al. (2017)	As new evidence becomes available	A1. Asset register tab
Area of species habitats by type	Combination of sources listed in workbook	As source is updated	A1. Asset register tab
Species points	Combination of sources listed in workbook	As source is updated	A1. Asset register tab
Land			
Land area owned by The Crown	Combination of sources listed in workbook	As source is updated	A1. Asset register tab
Land area owned by the National Trust	Combination of sources listed in workbook	As source is updated	A1. Asset register tab

A.1.1 Other indicators

Beyond extent and condition of ecosystems, other details on environmental assets have been included in the Cayman Islands 2020 account. These reflect details of spatial configuration which could reflect sinkholes and caves, as well as other forms of capital such as renewable energy generation sites, areas of accessible greenspace as well as public moorings. Table A.4 provides an overview of the data sources used to generate these other indicators for the Cayman Islands, which are set within the tab: **'A1. Asset Register'**.

Table A.4: Input data for other indicators

Description	Source	Frequency	Workbook reference
Spatial configuration			
Number of caves		As source is updated	A1. Asset register tab
Area of sinkholes		As source is updated	A1. Asset register tab
Other forms of capital			
Number of public moorings (inside and outside MPAs)		As source is updated	A1. Asset register tab

A.3 Ecosystem Service Flow and Asset Accounts

This section covers the ten benefits included in the 2020 Ecosystem Account. For quantified and monetised benefits, it outlines the methods used to value each benefit and the input data that needs to be updated for future accounts. For unquantified or non-monetised benefits, a summary of the existing data, sources and next steps are outlined.

A scope and materiality[5] assessment was conducted to show which benefits are likely to be provided by these ecosystems, and which have been possible to include in this account and which not. The scope and materiality assessment should be updated as new benefit are added or when new ecosystems are included in the Ecosystem Account. This assessment is set within the tab: **'Scope & materiality assessment.'**

Within the accompanying Excel workbook (Cayman-Island-NCA-2020-January2022.xls), each benefit has a separate calculation tab, with all estimates of annual flows summarised within the Ecosystem Service Flow Account – Physical Terms (tab **'A2. Physical terms'**) and the Ecosystem Service Flow Account – Monetary Terms (tab **'A3. Monetary terms'**). The monetary account tab also presents an estimate of the monetary ecosystem asset value[6] (Ecosystem Asset Account) expressed as a present value of the estimated flow of benefits over the accounting period (25 years).

This section starts with an overview of the physical flow and monetary valuation metrics and the profiling assumptions applied for each benefit.

A.1.2 Overview

An overview of the physical flow and monetary valuation metrics and methods are provided in Table A.5. The benefits are split into the following sections:

- **Ecosystem Service Flow Account and Asset Accounts –**approach to monetary valuation aligns with the System of Environmental Economic Accounting- Ecosystem Accounting (SEEA-EA) standard which applies exchange values[7] to be comparable to other national accounts (e.g., as applied in the System of National Accounts (SNA)).

  Monetary values based on data from previous years have been inflated to 2020 prices (Economics and Statistics Office, 2021; U.S. BEA, 2021; HM Treasury, 2022). The monetary values of benefits are calculated per year and summed and discounted over time to estimate present value of benefits using a declining discount rate (starting at 3.5%) (HM Treasury, 2020) and a 25-year study period. **Table A.6** describes the assumptions used to estimate the future flows of benefits over this assessment period. These assumptions should be revisited as new evidence becomes available.

- **Supplementary information** – The SEEA-EA guidance recognises that exchange values do not capture all information useful for decision makers. This section includes additional information outside the scope of the Ecosystem Account, under the following categories:

  - **Other exchange values –** Additional monetary benefits based on exchange values but are outside the scope of the Ecosystem account, e.g., remaining visitor expenditure attributed to

[5] An impact or dependency on natural capital is material if considering it, as part of the set of information used for decision making, has the potential to alter that decision.

[6] One of the five core accounts in SEEA EA, this account records information on stocks and changes in stocks (additions and reductions) of ecosystem assets, as well as accounting for ecosystem degradation and enhancement (UN, 2021).

[7] Exchange values are equivalent to the price as set by a market (i.e., the price at which supply equals demand) or the price at which an exchange would occur in a hypothetical market. Notably this differs from welfare values which include the surplus value created in addition to the exchange value (i.e., the consumer surplus).

ecosystems. This includes economic values which is dependent on ecosystems, but which might not be entirely attributable to ecosystems within the SEEA-EA framework. For example, expenditure on some activities may not be feasible without the support of ecosystem assets, but only a subset of this expenditure would be attributable to ecosystems within SEEA-EA, as labour and other capitals might also contribute to the production of the good or service

- **Welfare values –** Monetary benefits that are based on welfare value metrics such as willingness to pay values. Note that this value includes the consumer surplus that is additional to the exchange value as adopted in the SEEA-EA framework, which also makes it an extension of the value reported with the SNA.
- **Non-monetised benefit –** There are two types of non-monetised benefits. Firstly, where data for quantifying the physical flow is available and is useful to monitor over time, but there is currently insufficient data nor an appropriate methodological approach to conduct monetary valuation. Secondly, where material benefits exist that are not feasible or not desirable to monetise (e.g., biodiversity, spiritual value, iconic species).

Table A.5: Overview of benefits

Benefit	Physical indicator	Monetary valuation metric and method
Ecosystem Service Flow and Asset Accounts		
Fisheries	Volume of output	Market prices
Agriculture	Volume of output	Value added by production
Carbon sequestration	Tonnes of CO_2e sequestered	Non-traded central carbon value BEIS (2019), £/tCO_2e
Coastal protection	-	Coastal protection value by coral reefs
Local recreation	Recreational visits	Recreational expenditure
Tourism	Tourist visits	Tourist expenditure (value added to tourism industry attributed to ecosystems)
Amenity value	Number of houses	Property uplift value attributed to mangroves
Supplementary information		
Other exchange values		
Tourism	Tourist visits	Remaining visitor expenditure attributed to ecosystems
Welfare values		
Tourism	Tourist visits	Willingness to pay to prevent decline in quality of coral reefs
Non-monetised benefits		
Water supply	-	-
Renewable energy	-	-
Beach erosion	-	-
Local recreation	Number of diving spots	-

Table A.6: Benefit profile assumptions over time

Benefit	Physical terms	Monetary terms
Ecosystem Service Flow and Asset Accounts		
Fisheries	No change in volume of fish caught compared to the baseline year.	Assumed constant economic value of benefit over time.
Agriculture	Average number of goats, cattle, pigs and poultry (2015-2020).	Average detailed value added by livestock production (2015-2019)[1].
	-	Average detailed value added by arable production (2015-2019).

Benefit	Physical terms	Monetary terms
Carbon sequestration	No change in sequestration rates over time.	Value of carbon emissions increase over time in line with BEIS (2019).
Coastal protection	-	Assumed constant economic value of benefit over time.
Tourism	Average number of tourists (2016-2020).	Average expenditure per person per night (2016-2020).
Amenity value	No change in number of houses compared to the baseline year.	Assumed constant economic value of benefit over time.
Supplementary information		
Other exchange values		
Tourism	Average number of tourists (2016-2020).	Assumed constant economic value of benefit over time.
Welfare values		
Tourism	Average number of tourists (2016-2020).	Assumed constant economic value of benefit over time.
Non-monetised benefits		
Water supply	-	-
Renewable energy	-	-
Beach erosion	-	-
Local recreation	-	-

Table notes:

[1] Updated figure not available. Will be available as part of SNA update.

A.1.3 Fisheries

The marine ecosystems surrounding the Cayman Islands provide habitat for a variety of species of fish and other sea life. This in turn supports commercial, subsistence and recreational fishing activities across the Cayman Islands. It should be noted that within the context of the Cayman Islands commercial fishing is small-scale[8]. The inclusion of fisheries in the accounts helps to track the annual value that marine natural capital contributes through this benefit.

Method overview

Guzman et al. (2017) produce estimates of the economic value of reef fish, as this is attributed to local marine ecosystems. Catch of pelagic species was beyond the scope of the study, as these species "rely on foreign ecosystems for most of their lives" (p.18). The study estimates that in 2016, the number of reef fish caught was 390,000. To produce an estimate of weight (lbs), this is multiplied by the assumed average weight of reef fish of 1.8 lbs/fish (Williams and Ma, 2013) to generate an estimated annual volume of reef fish landings. Recent records of fish landings are not available for the Cayman Islands, therefore the 2016 estimated in Guzman et al. (2017) is assumed to be representative of current and future years.

The study estimates the value of artisanal fishing for recreation, subsistence and small-scale commercial purposes using a net factor income approach[9]. As such, the value of reef fish is treated as a production factor, and Guzman et al. (2017) also include labor costs in the total value as they are a benefit to the Cayman Islands economy.

[8] This is based on evidence from Meier et al. (2011) and Henshall (2009) cited in the Guzman et al., 2017).

[9] Market-based valuation method that estimates the net benefit of fishing by taking into account costs of other production factors and revenue generated.

Following the approach set out in Guzman et al. (2017), total annual revenue from the relevant fishing activities is estimated by multiplying the estimated volume of reef fish caught by the average price, CI$7.5/lbs. Resulting in an estimate of total annual revenue of recreation, subsistence and small-scale commercial fishing equal to CI$5.3 million, in 2020 prices. Total annual costs are estimated as 44%[10] of total revenue which is CI$2.3 million. The annual net benefit is estimated as the difference between total revenue and total cost, just below CI$3 million in 2020 prices. After 2020, it is assumed that revenues and costs remain constant therefore the 2020 value is representative of future years. Note that this is an estimate for the Cayman Islands and has not been disaggregated to the three Islands.

How to update the account

The benefits are estimated in the tab: **'S1. Fisheries'**. Table A.7 provides an overview of the input data for the benefit, including the frequency data should be updated and the workbook reference in the account.

Table A.7: Input data for the fisheries benefits

Description	Source	Frequency	Workbook reference
Physical terms			
Estimated number of reef fish caught in the Cayman Islands	Guzman et al. (2017)	As new evidence becomes available	1.1a
Average weight of reef fish, lbs/fish	Williams and Ma (2013)	As new evidence becomes available	1.1b
Monetary terms			
Average price of reef fish species in the Cayman Islands, US$/lbs	Guzman et al. (2017)	As new evidence becomes available	1.2a
Estimated total annual value of recreational, subsistence and small-scale commercial fishing on coral reefs	Guzman et al. (2017)	As new evidence becomes available	1.2b
US GDP deflator	US BEA (2021)	Annually	1.2c
Exchange rate: US$ to CI$	Economics and Statistics Office (2021)	As source is updated	1.2d
Fishing costs as proportion of total annual revenue	Schep et al. (2012) in Guzman et al. (2017)	As new evidence becomes available	1.2e

The method applied in the 2020 account can be refined using up to date data on the quantity of landings across the three Islands, as an understanding of the breakdown of catch by purpose (i.e., recreational vs commercial vs subsistence). This would help identify beneficiaries more clearly within the account. In addition to the catch, updated evidence on average price as well as costs would allow for monitoring of changes in the fishing industry in the Cayman Islands. Finally, accurate data and approaches to estimation of the contribution of other factors of production (e.g., physical capital and labour) to the overall economic value would allow for a more refined estimation of the contribution that is directly attributable to ecosystems.

[10] Based on evidence in Schep et al. (2012) looking at artisanal fishing in Caribbean coral reef ecosystems.

A.1.4 Agriculture

Agricultural activities in the Cayman Islands include livestock (goats, pigs, cattle and poultry) and non-livestock production. A break down of non-livestock production is not reflected in the 2020 account, as this data was not available.

Method overview

For each livestock type, the Department of Agriculture records total count for various age groups (e.g., kids <2months, calf 6-12 months). The number of goats, pigs, cattle and poultry are included in the Statistics Compendium (Economics and Statistics Office, 2021). For each livestock type, annual production is set equal to the 2020 figures in these evidence bases. Future production levels for goats, pigs, cattle and poultry are estimated as a five-year average (2015-2020). Note that poultry production is an estimate for the Cayman Islands and has not been disaggregated to the three Islands, whilst remaining livestock production can be disaggregated to Grand Cayman and Cayman Brac.

Farm gate prices for agricultural outputs were not readily available to be included in the 2020 account. As an alternative measure, the detailed value added for 'growing of agricultural crops' and 'farming of animals' in the Cayman Islands latest National Accounts (Economics and Statistics Office, 2020) has been used. For each category, the accounting year is set equal to the 2019 detailed value inflated to 2020 prices, with the future monetary value estimated as a five-year average (2015-2020) (Economics and Statistics Office, 2020). Once the detailed value for 2020 is available it can be added to the Ecosystem Account.

How to update the account

The benefits are estimated in the tab: **'S2. Agriculture'**. Table A.8 provides an overview of the input data for the benefit, including the frequency data should be updated and the workbook reference in the account.

Table A.8: Input data for agricultural benefits

Description	Source	Frequency	Workbook reference
Physical terms			
Grand Cayman total number of goats	Economics and Statistics Office (2021)	As source is updated	2.1a
Grand Cayman total number of pigs	Economics and Statistics Office (2021)	As source is updated	2.1b
Grand Cayman total number of cattle	Economics and Statistics Office (2021)	As source is updated	2.1c
Cayman Brac total number of goats	Economics and Statistics Office (2021)	As source is updated	2.1e
Cayman Brac total number of pigs	Economics and Statistics Office (2021)	As source is updated	2.1f
Cayman Brac total number of cattle	Economics and Statistics Office (2021)	As source is updated	2.1g
Sister Islands total poultry	Department of Environment (2020)	Source has been superseded by updated source	2.1h
Cayman Islands total poultry production	Economics and Statistics Office (2021)	As source is updated	2.1i
Monetary terms			
Detailed value added by industry - Agriculture	Economics and Statistics Office (2020)	As source is updated	2.2a

The Cayman Islands GHG inventory (Department of Environment, 2020) does indicate that there is non-livestock farming. Production (e.g., tonnes of crops) and the value (e.g., farmgate price) should be included in the next iteration of the account. The monetary value of non-livestock or arable production is currently captured within the detailed value added of the industry for growing of agricultural crops (Economics and Statistics Office, 2020). A better understanding of data collected through agricultural surveys that feed into the Cayman Islands annual national accounts is necessary.

Future iterations of the account could estimate the contribution of other factors of production (e.g., physical capital and labour) to the overall economic value to allow for a more refined estimation of the contribution that is directly attributable to ecosystems.

A.1.5 Water supply

Based on Cayman Islands 2010 census, the main source of water supply to households in the Cayman Islands (approx. 88%) is from mains (city water or desalinated water), this is followed by cistern, rain or trucks (7%) and wells (5%) (Economics and Statistics Office, 2021). Production of potable water is from desalination and groundwater abstractions, with non-potable water being distributed through trucks and pipelines. It is therefore dependent on natural capital stocks.

Method overview

Water Authority Cayman and Cayman Water Company have provided statistics on production in Grand Cayman, supply in Cayman Brac as well as desalinated water consumption by consumer group over time (Economics and Statistics Office, 2021). A monetary value has not been identified, which is a data gap in the 2020 account.

How to update the account

The benefits are estimated in the tab: **'S3. Water supply'**. Table A.9 provides an overview of the input data for the benefit, including the frequency data should be updated and the workbook reference in the account.

Table A.9: Input data for water supply

Description	Source	Frequency	Workbook reference
Physical terms			
Water production in Grand Cayman, 2015-2020	Economics and Statistics Office (2021)	As source is updated	3.1a
Water supply in Cayman Brac, 2015-2020	Economics and Statistics Office (2021)	As source is updated	3.1b
Desalinated water consumption by consumer group, 2015-2020	Economics and Statistics Office (2021)	As source is updated	3.1d
Main source of water supply	Economics and Statistics Office (2021)	As source is updated	3.1e

The 2020 account does not provide a quantified estimate for water supply. Further research is required to determine available data on the Cayman Islands to develop an appropriate valuation approach. For example, on the difference in costs associated with desalination and purification of groundwater could be as an estimate of the value of water supply dependent on the water filtration provision of the ecosystem

service.

A.1.6 Renewable energy

With increasing pressure to move towards a low carbon society, renewable energy is an ever-growing sector. On the Cayman Islands, the Caribbean Utilities Company ltd launched the Consumer Owned Renewable Energy (CORE) programme in 2009 (Department of Environment, 2020). The programme allows consumers in Grand Cayman to connect private solar systems or wind turbines to the national grid system. In doing so, consumers generate their own electricity whilst also reducing their own energy bills.

Method overview

The CUC CORE programme is divided into two sub-groups: Feed-in-Tariffs (FIT) structure and the distributed energy resources (DER) programme. The number of customers and kilowatt rated capacity is reported in the Cayman Islands Greenhouse Gas Inventory data (Department of Environment, 2020). The GHG inventory data does include the CUC's CORE Programme tier rate systems as CI$/kW for residential and commercial instalments.

The Cayman Islands GHG inventory (Department of Environment, 2020) does also provide a count of the number of approved applications and number of planning permit applications for the instalment of solar panels or solar farms. Further disaggregation of this data would be useful to include in the account, in order to establish how many approved applications for solar farms there are across the Cayman Islands. Solar panels on buildings would not be included in the Ecosystem Account.

How to update the account

The benefits are estimated in the tab: **'S4. Renewable energy'**. Table A.10 provides an overview of the input data for the benefit, including the frequency data should be updated and the workbook reference in the account.

Table A.10: Input data for renewable energy

Description	Source	Frequency	Workbook reference
Physical terms			
Summary of CUC CORE FIT programme	Department of Environment (2020)	As source is updated	4.1a
Summary of CUC DER programme	Department of Environment (2020)	As source is updated	4.1b
Solar panel or solar farms applications	Department of Environment (2020)	As source is updated	4.1c
Monetary terms			
CUC's Core programme rate tier	Department of Environment (2020)	As source is updated	4.2a

The data presented within the 2020 account provides a starting point for the next iteration of the account, where energy generated from these renewable energy sources can be valued using the CUC's core programme rate tier system. This would require additional data on distinguishing residential and commercial generation, as well as the correct application of the tier system rates.

A.1.7 Carbon sequestration

Carbon sequestration refers to the ability of the natural environment (both terrestrial and marine) to remove carbon from the atmosphere. This benefit contributes towards global climate regulation. It is estimated using the sequestration rates for each habitat (tonnes CO_2 equivalent per hectare), the extent of each habitat, and the non-traded price of carbon.

Method overview

Guzman et al. (2017) estimated carbon sequestration (Megagram carbon per year) potential in seagrass and mangroves in the Cayman Islands as part of the economic analysis for the expansion of marine protected areas (MPAs). These estimates have been converted to tonnes of carbon dioxide equivalent using a tC[11] to tCO_2e conversion factor of 3.67 (IPCC, 2018). These estimates of coastal ecosystem carbon sequestration are used in the 2020 account. For mangroves, an average rate of approximately 10.2 tCO2 per hectare has been used in Guzman et al. (2017), which is slightly higher than the estimated midpoint rate applied in the other Caribbean overseas territories (6.3 tCO2e/ha/yr) as shown in Table A.11.

Table A.11 shows the global average per hectare carbon sequestration rates for terrestrial and marine habitats. Two main sources are used as the basis of the carbon sequestration rate estimates – Murray et al. (2011); as cited in IUCN (2017) and Alongi (2014). The midpoint sequestration rates between the two sources are used in the analysis.

Table A.11: Carbon sequestration rates by habitat type (tCO_2e/ha/yr)

Habitat	Murray et al. (2011); IUCN (2017)	Alongi (2014)[1]	Midpoint
Terrestrial			
Mature tropical forest	2.3	-	2.3
Marine			
Seagrass	4.4	2.0	3.2
Saltmarsh	8.0	5.5	6.8
Mangroves	6.3	6.4	6.3
Estuaries	-	1.7	1.7
Shelves	-	0.6	0.6

Table notes:

[1] The values reported were converted from $gC/m^2/yr$ to tCO_2e/ha/yr using the IPCC (2018) tC to tCO2e conversion factor of 3.67, gram to tonne and m2 to ha conversion factors.

The total amount of CO_2 equivalent sequestered is estimated by multiplying these per hectare rates with the total hectare area of the respective habitat type, as recorded in the Ecosystem Extent Account. For the Cayman Islands, the tCO_2e sequestered by forest ecosystems is considered additional to the figures produced by Guzman et al. (2017). Table A.12 summarises the assumed carbon sequestration rate for each ecosystem type.

Table A.12: Assumed carbon sequestration rate for each ecosystem type

Ecosystems in the Ecosystem Extent Account	Applied sequestration rate
Seagrass beds	Seagrass
Seasonally flooded mangrove shrubland	Mangroves
Seasonally flooded mangrove forest and woodland	Mangroves

[11] 1 MgC = 1 tC

Tidally flooded mangrove forest and woodland	Mangroves
Tidally flooded mangrove and shrubland	Mangroves
Ponds, pools and mangrove lagoons	Mangroves
Seasonally flooded/saturated semi-deciduous forest	Forest
Xeromorphic semi-deciduous forest	Forest
Dry forest and woodland	Forest
Invasive species – casuarina	Forest
Coastal mahogany forest	Forest

The amount of CO_2e sequestered by coastal and forest ecosystems is then valued following the BEIS (2019) guidance. The economic value of carbon sequestration is estimated using the non-traded central price, £75 per tonne of CO_2e in 2020. The UK carbon prices were multiplied by the relative GDP per capita in the Cayman Islands as compared to the UK (Economics and Statistics Office, 2021; ONS, 2021) and then converted to Cayman Island dollars (HMRC, 2021). The carbon price is then multiplied by the estimated tonnes of CO_2e sequestered by coastal and forest ecosystems.

How to update the account

The benefits are estimated in the tab: **'S5. Carbon sequestration'**. Table A.13 provides an overview of the input data for the benefit, including the frequency data should be updated and the workbook reference in the account.

Table A.13: Input data for carbon sequestration benefits

Description	Source	Frequency	Workbook reference
Physical terms			
Ecosystem extent	Asset register tab (A1)	As new evidence becomes available	5.1a
Carbon sequestration potential in coastal ecosystems in the Cayman Islands	Guzman et al. (2017)	As new evidence becomes available	5.1b
Terrestrial and marine carbon sequestration rates	Murray et al. (2011), as cited in IUCN (2017); Alongi (2014)	As new evidence becomes available	5.1d, 5.1e
Monetary terms			
Cayman Islands GDP per capita at current basic prices	Economics and Statistics Office (2021)	As source is updated	5.2c
UK GDP per capita at current market prices	ONS (2021)	Annually	5.2d
UK Carbon prices	BEIS (2019)	As source is updated	5.2e; UK Carbon prices full tab
GBP to CI$ exchange rate	HMRC (2020)	Annually	5.2i;
UK GDP deflator	HM Treasury (2021)	Annually	UK GDP deflators tab

Data inputs for the physical flow can be updated as science and understanding of carbon sequestration rates of ecosystems improves. The 2020 Ecosystem Account for the Cayman Islands applies UK carbon values as per BEIS (2018). The UK carbon values were updated in September 2021 to reflect the UK's net zero policy commitment. Future iterations of the account could be aligned to the updated UK values and/or to voluntary carbon market exchange values. The values used should reflect Cayman Islands climate policy, abatement technologies and other context from the accounting year.

A.1.8 Coastal protection

The natural capital of the Cayman Islands marine coastal habitats provides protection to the Cayman Islands from damage and flooding due to sea surge from storms and other adverse weather events. Reefs, sand bars, mangrove stands, dunes and even seagrass beds all help to absorb energy and mitigate the impact of waves and rising waters. This can have the significant effect of defending vulnerable built infrastructure on the Cayman Islands.

Method overview

Guzman et al. (2017) estimated the coastal protection value of coral reefs in the marine protected areas of the Cayman Islands using an avoided damage approach. GIS is used to determine the flood damages that occur during a 1-in-25-year return time storm event[12], as well as modelling the proportion[13] of these damages that are prevented by nearby coral reefs. Coastal protection value can be assessed both through direct effects (e.g., property damage) and indirect effects (e.g., infrastructure damage, business interruption). The indirect avoided damages are not included in this analysis.

Based on the values estimated by Guzman et al. (2017), the total annual coastal protection value by coral reefs in the Cayman Islands of approximately CI$6.6 million, in 2020 prices. This was attributed across the Cayman Islands based on proportions in Guzman et al. (2017)[14]. As the estimates only reflect the direct avoided damages to properties it is a "lower-bound estimate of the actual economic value of this service" (Guzman et al., 2017, p,24).

How to update the account

The benefits are estimated in the tab: **'S6. Coastal protection'**. Table A.14 provides an overview of the input data for the benefit, including the frequency data should be updated and the workbook reference in the account.

Table A.14: Input data for coastal protection benefits

Description	Source	Frequency	Workbook reference
Monetary terms			
Estimated annual coastal protection value by coral reefs in the Cayman Islands	Guzman et al. (2017)	As new evidence becomes available	6.2a
Estimated attribution of coastal protection value to coral reefs by island	Guzman et al. (2017)	As new evidence becomes available	6.2b
US GDP deflator	US BEA (2021)	Annually	6.2c
Exchange rate: US$ to CI$	Economics and Statistics Office (2021)	Annually	6.2d
Relative reef contribution	Guzman et al. (2017)	As new evidence becomes available	6.2e

The approach requires GIS analysis and the specified data inputs with which to model the impact. The

[12] The characteristics of this event are based on data from Hurricane Ivan (Category 4) in 2004. This was provided by the Cayman Island DoE.

[13] This represents the relative reef contribution (RRC) that mitigates damage and is calculated for each coastal transect. See Burke et al. (2008) for more detail on this method.

[14] Should be noted that the estimated attribution proportions do not sum to 100%. This needs to be investigated further to refine the calculation.

modelling can be updated with the most up-to-date infrastructure and habitat maps as they are produced. Doing so on a regular basis will track changes in development and vegetative cover which can help monitor the change in the risk of damage from sea surge due to changing land use, as well as to identify high risk flooding areas for future development planning. Property value and damage cost estimates should also be updated as available.

A.1.9 Beach erosion prevention

Coastal vegetation, such as seagrass, coral reefs, mangroves and other shoreline habitats, prevents sand loss as a result of wave backwash both during storm events and high-water levels. Some beach movement is normal over time, however in the absence of the existing coastal habitats dunes. Coastal erosion poses a significant threat to beaches in the Cayman Islands, particularly the important tourist hotspot Seven Mile Beach, Grand Cayman.

The prevention of erosion contributes to benefits in marine ecosystems and maintaining the aesthetic quality of coastal habitats that attract tourists and recreational users. However, the tourism aspects of this service are captured in the assessment of the tourism benefit (see Section A.1.11). The focus here would be more specifically on the avoidance of beach erosion as a benefit to infrastructure protection.

How to update the account

The quantification and monetisation of avoided beach erosion attributed to coastal ecosystems across the Cayman Islands requires an understanding of the current rate of erosion. The Cayman Islands DoE have access to satellite imagery that could be used to generate an average rate of beach area loss. As well as the rate of erosion in the absence of ecosystems, such as reefs and mangroves, that provide protection to beach erosion (akin to modelling coastal protection or surface flooding).

Beach erosion risk depends on many factors, including sea level rise, wave energy, coastal slope, beach width and height among others. Understanding wave dynamics is key to identifying vulnerable areas and potential mitigation strategies. Evidence will be available in the future to align with ongoing work by Wood Group UK Limited generating storm surge risk estimates by using the same model to produce beach erosion risk outputs. The SWAN model is a third-generation wave model developed by Delft University of Technology that simulates wave parameters in coastal areas. SWAN accounts for many physical processes such as wave generation, propagation, dissipation, whitecapping, and bottom friction.

The proposed beach erosion modelling will use outputs from the SWAN model, such as wave height and wave force, to estimate beach erosion risk. A baseline model will be compared to different bottom roughness and depth scenarios to predict the impact of historical coral reefs and potential areas of coral restoration on beach erosion risk, with a focus on Seven Mile Beach.

Further research is required to identify an appropriate monetary unit value, as there is a risk of double-counting with other benefits such as tourism and local recreation which rely on the beach as an ecosystem to support use. As such, avoiding beach erosion can be viewed as an intermediary regulating service, which is 'capitalised' as a benefit to people in other benefits.

A.1.10 Local recreation

'Local recreation' is a relatively broad term and encompasses a wide variety of cultural activities that natural capital provides to local residents. This can include opportunities for physical interaction with the natural environment such as recreation. However, while evidence exists on tourist use of the environment, local recreational use of the environment is less well understood.

Method overview

The natural environmental is important for recreational use by residents on the Caymans Islands. Existing evidence on recreational activities undertaken by locals has been assessed as part of Schutter et al. (2014) which through a survey identified the types of activities undertaken by residents (born on the Cayman Islands and born elsewhere). In addition, there are approximately 378 diving spots across the Cayman Islands (Guzman et al., 2017) utilised by both residents and tourists[15], although the number of divers has not been identified. The total number of diving spots is reported as a non-monetised benefit.

How to update the account

The benefits are estimated in the tab: **'S9. Local recreation'**. Table A.15 provides an overview of the input data for the benefit, including the frequency data should be updated and the workbook reference in the account.

Table A.15: Input data for local recreation benefits

Description	Source	Frequency	Workbook reference
Physical terms			
Recreational activities undertaken by local residents	Schutter et al. (2014)	As new evidence becomes available	8.1a
Number of dives spots per area	Guzman et al. (2017)	As new evidence becomes available	8.1b

Further research into and the collection of more data, such as via surveys, on local recreation use (e.g., number of divers) and expenditure patterns is required to assess the value of this benefit across the Cayman Islands.

A.1.11 Tourism

Tourism is a major contributor to the economic prosperity of the Cayman Islands. Popular attractions include the pristine beaches across the Cayman Islands, sting rays, caving, and diving tours amongst other elements of the marine and coastal environment of the Cayman Islands. The tourism value of the Cayman Islands was one of the ecosystem services assessed as part of the Guzman et al. (2017) analysis. For the purposes of this study, the same general approach[16] has been applied, but using updated figures for visitor numbers and expenditure.

Method overview

The Caymans Islands Immigration Department and the Department of Tourism record visitor arrivals (stay-over and cruise ship) to the Cayman Islands, with annual figures by mode of travel (air or sea) reported in

[15] Diving activities by tourists is captured under the Tourism in tab S9 (see A.1.11).

[16] Note that Guzman et al. (2017) estimated consumer and producer surplus to generate a net benefit of tourism activities. In this study, consumer and producer surplus are kept separate, where consumer surplus is reported as supplementary information and the producer surplus is included in the ecosystem account.

the Cayman Islands' Compendium of Statistics (Economics and Statistics Office, 2021). Visitor arrivals are adjusted to exclude air arrivals visiting the Cayman Islands for business, this is done by multiplying the proportion of air arrivals visiting for business (7% in 2020) by the current year's recorded air arrivals, with the product subtracted from the 2020 total stay-over arrivals (Economics and Statistics Office, 2021). Cruise ship visitors are set equal to the latest total figures of number of landed visitors (Economics and Statistics Office, 2021). Landed cruise ship in 2020 is currently not available, therefore has been estimated using the ratio between actual cruise ship arrivals to landed visitors multiplied by the 2020 actual arrivals (Economics and Statistics Office, 2021). Note when this information is available it can be used to update the 2020 account. Future number of arrivals are estimated as a five-year average (2016-2020) for each visitor type (Economics and Statistics Office, 2021).

Guzman et al. (2017) further sub-divided visitors into divers and non-divers using the estimated proportion of stay-over tourists that are divers (13%) from 2016 data provided by the Cayman Islands Department of Tourism. This proportion is assumed to remain constant over time and visitor type and is therefore applied to the annual number of tourist arrivals (stay-over and cruise ship) and the five-year average.

The value of arrivals in the account is estimated using the reported average expenditure per visitor per night (i.e., no distinction between visitor types) (Economics and Statistics Office, 2021), multiplied by the estimated proportion of expenditure across 11 categories[17] for each visitor type (stay-over or cruise ship) and diver/non-diver (Guzman et al., 2017). For each visitor type and spend category, total annual tourism expenditure is estimated using average daily tourist spend, the assumed average length of stay[18] and the annual estimated number of visitors. Following the approach set out in Guzman et al. (2017), total annual tourism expenditure in each category for each visitor is multiplied by the assumed proportion (100% for donations and 25% for all other categories) of total spend that corresponds to added value of the tourism industry (Schep et al., 2012). The value added is then multiplied by an assumed factor of ecosystem dependence for each expenditure category (Guzman et al., 2017). This produces the total annual tourism added value attributed to marine ecosystems. For the future monetary flow, the five-year average (2016-2020) total tourism expenditure is estimated (Economics and Statistics Department, 2021), and the same approach is followed where the proportions applied remain constant and the five-year average length of stay of stay-over tourist is estimated (Economics and Statistics Office, 2021).

The remaining annual and five-year visitor expenditure by visitor type (i.e., remaining 75% of total expenditure) is adjusted for ecosystem dependence as well (Guzman et al., 2017). These values are reported as supplementary information to the Ecosystem Account.

The benefit of tourism activities can also be captured in welfare value terms. Guzman et al. (2017) estimate consumer surplus of local ecosystems in the Cayman Islands based on the willingness to pay (WTP) of tourists to prevent the decline in quality of coral reefs from medium to low levels. This uses a value transfer of average WTP per tourist per day of CI$30, in 2020 prices, derived through a choice experiment (Van Beukering et al., 2014). This was applied to the number of stay-over and cruise ship visitors in 2020. In future years, the average WTP to prevent reef quality decline remains constant with the value varying in line with future visitor assumptions (i.e., estimated four-year average). As the ecosystem accounting

[17] Expenditure categories identified by Guzman et al. (2017) include: airfare, accommodation, local transportation, diving, snorkelling, fishing, other water-based activities, land-based activities, food and beverage, shopping and donations.

[18] Stay-over visitors' average length of stay is reported as number of nights in the Cayman Islands' Compendium of Statistics (Economics and Statistics Office, 2020a), whilst cruise ship visitors are assumed to not stay beyond one day (Guzman et al., 2017).

framework prefers the use of exchange values, this welfare value is included as a supplementary indicator.

How to update the account

The benefits are estimated in the tab: **'S9. Tourism'**. Table A.16 provides an overview of the input data for the benefit, including the frequency data should be updated and the workbook reference in the account.

Table A.16: Input data for tourism benefits

Description	Source	Frequency	Workbook reference
Physical terms			
Visitor arrivals in the Cayman Islands	Economics and Statistics Office (2021)	Annually	9.1a
Cruise ship visitor arrivals	Economics and Statistics Office (2021)	Annually	9.1b
Visitor air arrivals by purpose of visit	Economics and Statistics Office (2021)	Annually	9.1c
Visitor air arrivals by accommodation type	Economics and Statistics Office (2021)	Annually	9.1d
Tourist accommodation	Economics and Statistics Office (2021)	Annually	9.1e
% of stay-over tourists that are divers	Guzman et al. (2017)	As new evidence becomes available	9.1f
Monetary terms			
Stay over visitor expenditure	Economics and Statistics Office (2021)	Annually	9.2a
Cruise ship visitor expenditure	Economics and Statistics Office (2021)	Annually	9.2b
Average willingness-to-pay per tourist per day to prevent decline in quality of coral reefs from medium to low levels	Van Beukering et al. (2014)	As new evidence becomes available	9.2c
Proportion of expenditure on each category	Guzman et al. (2017)	As new evidence becomes available	9.2d
Factors of ecosystem dependence by expenditure category	Guzman et al. (2017)	As new evidence becomes available	9.2e
Net ecosystem benefits in the tourism industry	Guzman et al. (2017)	As new evidence becomes available	9.2f
Total annual value of local ecosystems for tourism in the Cayman Islands	Guzman et al. (2017)	As new evidence becomes available	9.2g
US GDP deflators	US BEA (2021)	Annually	9.2h
Exchange rate: US$ to CI$	Economics and Statistics Office (2021)	Annually	9.2i
Average length of stay of cruise ship visitors (days)	Guzman et al. (2017)	As new evidence becomes available	9.2j
% of total spend that corresponds to added value of tourism industry	Guzman et al. (2017)	As new evidence becomes available	9.2k

Tourism data should be updated annually in regard to tourist numbers for each type of visit, while average

expenditure data should be updated when relevant survey data is published in order to capture trends, and no more than every five years to capture changing patterns of use and perceived value. Other data inputs should be updated as new evidence becomes available (e.g., dependence factors).

A.1.12 Amenity value

Accessibility and proximity to green and blue space can be capitalised into real estate prices (see Nafilyan and Lorenzi (2019) for UK example). In the context of the Cayman Islands this could refer to the value that ecosystems such as coral reefs and mangroves potentially add to real estate prices.

Method overview

Guzman et al. (2017) undertook a hedonic pricing analysis to assess the effect that proximity to coral reefs and mangroves, in comparison to other attributes of residential properties, has on real estate prices. This was only applied to houses on Grand Cayman, as usable observations from the CIREBA database were only available for Grand Cayman. The study[19] found that marine ecosystems contribute to higher property values and provides a framework for extrapolating the mean amenity value per house in the study sample to the total number of residential buildings in Grand Cayman.

Average amenity value per house is estimated by dividing the modelled amenity value of mangroves (US$26 million, in 2016 prices) by the number of usable observations in the CIREBA dataset (686). The unit amenity value is inflated to 2020 prices and converted to Cayman Island dollars, as it is assumed that property prices in 2016 (and therefore the monetary unit value) are representative of the current year. As an approximation of the overall value, the average amenity value per house is extrapolated to Grand Cayman by multiplying by the total number of residential properties on the Island, approximately 26,200 on Grand Cayman in 2020 (Economics and Statistics Office, 2021). The estimated amenity value of mangroves represents a stock value and is therefore not recorded as an annual flow.

How to update the account

The benefits are estimated in the tab: **'S10. Amenity value'**. Table A.17 provides an overview of the input data for the benefit, including the frequency data should be updated and the workbook reference in the account.

Table A.17: Input data for amenity value

Description	Source	Frequency	Workbook reference
Physical terms			
Number of households on the Cayman Islands	Economics and Statistics Office (2021)	As source is updated	10.1a
Monetary terms			
Modelled amenity value of mangroves for houses in the dataset following the hedonic pricing function	Guzman et al. (2017)	As new evidence becomes available	10.2a
CIREBA dataset sample	Guzman et al. (2017)	As new evidence becomes available	10.2b
US GDP Deflator	US BEA (2021)	Annually	10.2c; US GDP deflators tab

[19] For more details on the hedonic pricing analysis used please see Guzman et al. (2017).

US$ to CI$ exchange rate	Economics and Statistics Office (2021)	As source is updated	10.2d

A.4 Input data tabs

There are several input tabs that are linked throughout the workbook as background information (e.g., ecosystem classification) and as inputs to calculations (e.g., CPI index, discount factors) across multiple benefits. Table A.18 provides an overview of these input tabs and the frequency that these data sources should be updated.

Table A.18: Input data tabs

Tab name	Description	Source	Frequency
Cayman Islands ecosystem classification	Ecosystem classification alignment between Cayman Islands extent layers and IUCN Global Ecosystem typology	Ecosystem Extent Account data (Table A.2); IUCN GET (v1.01)	As account is updated
UK Discount Factors	UK discount factors used throughout the workbook.	HM Treasury (2020)	As source is updated
Cayman Islands CPI	Cayman Islands annual CPI used throughout workbook	Economics and Statistics Office (2021)	Annually
US GDP deflators	US GDP deflators used throughout the workbook.	US BEA (2021)	Annually
UK GDP deflators	UK GDP deflators used throughout the workbook.	HM Treasury (2021)	As source is updated[1]
UK Carbon prices full	BEIS modelled carbon prices (£) used throughout the workbook.	BEIS (2019)	As source is updated[2]
Cayman Islands population statistics	Cayman Islands population statistics (people, households, average household size) used throughout the workbook.	Economics and Statistics Office (2021)	Annually

Table notes:

[1] The HM Treasury released updated UK GDP deflators every quarter as well as part of the Spring or Autumn budget.

[2] The UK carbon values were updated in September 2021 to reflect the UK's net zero policy commitment. Future iterations of the account could be aligned to the updated UK values and/or to voluntary carbon market exchange values. The values used should reflect Cayman Islands climate policy, abatement technologies and other context from the accounting year.

Appendix B - Changes in account values

Table B.1 and Table B.2 sets out the value estimated in the previous Cayman Islands Ecosystem Accounts and notes key reasons for the changes in values. All monetary values are presented in the reporting year price year, e.g., 2020/21 account values are reported in 2020. Sources GDP deflators in the Cayman Islands and the UK have been updated, which impacts the monetary value across all benefits.

Table B.1: Changes in Ecosystem Service Flow and Asset Account values

Produced at: January 2022	**2019/20**			**2020/21**			**Notes on changes**
	Ecosystem Service Flow Account		**Ecosystem Asset Account (PV25 CI$m)**	**Ecosystem Service Flow Account**		**Ecosystem Asset Account (PV25 CI$m)**	
	Physical terms	**Monetary terms (CI$m)**		**Physical terms**	**Monetary terms (CI$m)**		
Fisheries	702,000	3	50	702,000	3	51	Data inputs have remained the same, with monetary unit value inflated to current price year.
Agriculture	26,204	2	22	5,061	2	25	Monetary unit value inflated to current price year. **Input data change:** Poultry production (physical flow) reported for Cayman Islands within the latest Statistics Compendium (2021). However, similar figures are not available disaggregated.
	-	16	244	-	18	275	Data inputs have remained the same, with monetary unit value inflated to current price year.
Carbon sequestration	68,500	11	257	68,500	11	272	Data inputs have remained the same, with monetary unit value inflated to current price year.
	9,393	1	35	9,393	1	37	
Coastal hazard protection	-	6	111	-	7	112	Data inputs have remained the same, with monetary unit value inflated to current price year.
Tourism	2,119,533	71	1,089	598,263	21	943	Data inputs have remained the same, with monetary unit value inflated to current price

Produced at: January 2022	2019/20			2020/21			Notes on changes
	Ecosystem Service Flow Account		Ecosystem Asset Account (PV25 CI$m)	Ecosystem Service Flow Account		Ecosystem Asset Account (PV25 CI$m)	
	Physical terms	Monetary terms (CI$m)		Physical terms	Monetary terms (CI$m)		
							year. Note 2020 expenditure data is currently not available.
Amenity value	27,667	-	1,362	26,197	-	1,306	Data inputs have remained the same, with monetary unit value inflated to current price year.
	Total	**110**	**3,170**	**Total**	**62**	**3,020**	

Table B.2: Changes in Supplementary Information

Produced at: January 2022	2019/20			2020/21			Notes on changes
	Physical terms	Monetary terms (CI$m)	Ecosystem Asset Account (PV25 CI$m	Physical terms	Monetary terms (CI$m)	Ecosystem Asset Account (PV25 CI$m	
Other monetary values							
Tourism	2,119,533	206	3,140	598,263	59	2,706	Data inputs have remained the same, with monetary unit value inflated to current price year. Note 2020 expenditure data is currently not available.
Welfare values							
Tourism	2,119,533	134	127	598,263	35	1,873	Data inputs have remained the same, with monetary unit value inflated to current price year.
Non-monetised benefits							
Water supply	-	-	-	-	-	-	
Renewable energy	-	-	-	-	-	-	
Beach erosion	-	-	-	-	-	-	
Local recreation	378	-	-	378	-	-	Data inputs have remained the same.

Appendix C - Ecosystem service classification comparison

The Common International Classification of Ecosystem Services (CICES) was chosen as a reference point for ecosystem service typology to enable comparison of ecosystem services between accounts (EEA, 2018). CICES is a globally recognised classification of ecosystem services and referenced within the SEEA EA guidance (UN, 2021). The typology structure consists of four levels – section, division, group and class. See EEA (2018) for more guidance on using CICES.

Table C.1 compares the benefit typology used in this account with the CICES class.

Table C.1: Ecosystem services typology comparison

Shorthand	CICES Class
Fisheries	Animals reared by in-situ aquaculture for nutritional purposes
Agriculture	Animals reared for nutritional purposes; Cultivated terrestrial plants (including fungi, algae) grown for nutritional purposes
Water supply	Surface water for drinking
Renewable energy	Wind energy, Solar energy; Geothermal energy
Carbon sequestration	Regulation of temperature and humidity, including ventilation and transpiration
Coastal protection	Hydrological cycle and water flow regulation (Including flood control, and coastal protection)
Beach erosion protection	Control of erosion rates
Local recreation	Characteristics of living systems that that enable activities promoting health, recuperation or enjoyment through active or immersive interactions
Tourism	Characteristics of living systems that that enable activities promoting health, recuperation or enjoyment through active or immersive interactions
Amenity value	Characteristics of living systems that enable aesthetic experiences
Water quality	Filtration/sequestration/storage/accumulation by micro-organisms, algae, plants, and animals

Appendix D - Ecosystem classification comparison

To allow the national accounts to be aggregated with other Overseas Territory accounts and compared between countries, the International Union for Conservation of Nature (IUCN) Global Ecosystem Typology (GET) Ecosystem Functional Groups (EFG) was cross-referenced with the terrestrial and marine ecosystem typology used within the Department of Environment (DoE). The IUCN GET is a global typological framework that applies an ecosystem process-based approach to ecosystem classification for all ecosystems around the world. The typology structure consists of six levels. The top three levels – realm, biome and ecosystem functional group - are aligned with the System of Environmental Economic Accounting (SEEA) Ecosystem Type reference (UN, 2021, s*ee Section 3.4 – Classifying ecosystem assets for more guidance*).

Table D.1 sets out the alignment between the habitat classifications completed by eftec and JNCC. Note that all lagoon benthic habitats have been classified as marine shelf biome habitats, as there are no intertidal equivalents, and while the lagoon will have a brackish influence, the areas neighbour the marine shelf.

Table D.1: Ecosystem classification comparison

Terrestrial/ benthic	Cayman Islands classifications	IUCN GET			Notes on alignment
		Realm	Biome	Ecosystem functional group	
Terrestrial	Xeromorphic semi-deciduous forest	Terrestrial	T1 Tropical–subtropical forests	T1.2 Tropical-subtropical dry forests and scrubs	
Terrestrial	Coastal shrubland	Marine-Terrestrial	MT2 Supralittoral coastal systems	MT2.1 Coastal shrublands and grasslands	
Terrestrial	Seasonally flooded mangrove shrubland	Terrestrial-Freshwater	TF1 Palustrine wetlands	TF1.1 Tropical flooded forests and peat forests	Deep peat is characteristic of these communities. They are not intertidal; however, despite being dominated by mangroves.
Terrestrial	Dry shrubland	Terrestrial	T3 Shrublands & shrubby woodlands	T3.1 Seasonally dry tropical shrublands	This is at 0.5-5m height.
Terrestrial	Dwarf vegetation and vines	Marine-Terrestrial	MT2 Supralittoral coastal systems	MT2.1 Coastal shrublands and grasslands	
Terrestrial	Seasonally flooded grasslands V.A.1.N.g	Terrestrial-Freshwater	TF1 Palustrine wetlands	TF1.4 Seasonal floodplain marshes	Not intertidal and not near coast.
Terrestrial	Semi-permanently flooded grasslands V.A.1.N.h	Terrestrial-Freshwater	TF1 Palustrine wetlands	TF1.3 Permanent marshes	Refers to standing water near urban areas (not coastal or intertidal)

Terrestrial/ benthic	Cayman Islands classifications	IUCN GET			Notes on alignment
		Realm	Biome	Ecosystem functional group	
Terrestrial	Ponds, pools, and mangrove lagoons	Terrestrial-Freshwater	TF1 Palustrine wetlands	TF1.1 Tropical flooded forests and peat forests	Note mangrove lagoons have highly organic (peat rich) sediments and probably store and sequester carbon. Area-wise they probably dominate this class, so perhaps we should lump them in TF1.1?
Terrestrial	Urban	Terrestrial	T7 Intensive land-use	T7.4 Urban and industrial ecosystems	
Terrestrial	Dry lakebed	Freshwater	F2 Lakes	F2.7 Permanent salt and soda lakes	This is rarely dry Only on Cayman Brac - looks to be (possibly seasonally) dry part of mangrove lagoon
Terrestrial	Shoreline	Marine-Terrestrial	MT1 Shorelines biome	n/a	Classified as Biome rather than Group as Cayman Islands classification relates to all shoreline.
Terrestrial	Man-modified	Terrestrial	T7 Intensive land-use	T7.2 Sown pastures and fields	
Terrestrial	Seasonally flooded mangrove forest and woodland	Marine-Freshwater-Terrestrial	MFT1 Brackish tidal	MFT1.2 Intertidal forests and shrublands	Not on the coast, buffered by tidally flooded mangroves. Classified these areas as "MFT1.2 Intertidal forests and shrublands" after confirming mangrove cover roughly matched Global Mangrove Watch.
Terrestrial	Man-modified with trees	Terrestrial	T7 Intensive land-use	T7.5 Derived semi-natural pastures and old fields	
Terrestrial	Tidally flooded mangrove forest and woodland	Marine-Freshwater-Terrestrial	MFT1 Brackish tidal	MFT1.2 Intertidal forests and shrublands	
Terrestrial	Dry forest and woodland	Terrestrial	T1 Tropical–subtropical forests	T1.2 Tropical-subtropical dry forests and scrubs	
Terrestrial	Seasonally flooded / saturated semi-deciduous forest	Terrestrial-Freshwater	TF1 Palustrine wetlands	TF1.2 Subtropical/temperate forested wetlands	Not intertidal, but directly next to mangroves not mangrove vegetation. This is under the 'Forest and Woodland' section of habitat classes.
Terrestrial	Invasive species - casuarina	Terrestrial	T1 Tropical–subtropical forests	T1.2 Tropical-subtropical dry forests and scrubs	In carbon terms it is a forest, even though invasive. Casuarina is an evergreen tree.
Terrestrial	Tidally flooded mangrove shrubland	Marine-Freshwater-Terrestrial	MFT1 Brackish tidal	MFT1.2 Intertidal forests and shrublands	
Terrestrial	Salt tolerant succulents	Marine-Terrestrial	MT2 Supralittoral coastal systems	MT2.1 Coastal shrublands and grasslands	Succulent forb veg, coastal/tidal areas, edges of wetlands/mangroves
Terrestrial	Sparsely vegetated rock	Terrestrial	T5 Deserts and semi-deserts	T5.3 Sclerophyll hot deserts and semi-deserts	
Terrestrial	Black candlewood	Terrestrial	T3 Shrublands & shrubby woodlands	T3.1 Seasonally dry tropical shrublands	This is a flowering evergreen, drought and salt tolerant

Terrestrial/ benthic	Cayman Islands classifications	IUCN GET			Notes on alignment
		Realm	Biome	Ecosystem functional group	
Terrestrial	Man-modified without trees	Terrestrial	T7 Intensive land-use	T7.2 Sown pastures and fields	
Terrestrial	Coastal mohagany forest	Terrestrial	T1 Tropical–subtropical forests	T1.2 Tropical-subtropical dry forests and scrubs	Only on Little Cayman, not intertidal
Terrestrial	Tidal tropical or subtropical annual forb vegetation	Marine-Freshwater-Terrestrial	MFT1 Brackish tidal	MFT1.2 Intertidal forests and shrublands	Succulent forb veg, coastal/tidal areas, edges of wetlands/mangroves
Shelf benthic	Aggregated patch reef	Marine	M1 Marine Shelfs	M1.3 Photic coral reefs	
Shelf benthic	Uncolonised hardbottom	Marine	M1 Marine Shelfs	M1.6 Subtidal rocky reefs	Pavement, dominated by algae with coral/sponge cover <10%
Shelf benthic	Spur and groove	Marine	M1 Marine Shelfs	M1.3 Photic coral reefs	Hard coral cover (dead and alive), grooves - sand/hardbottom
Shelf benthic	Sand	Marine	M1 Marine Shelfs	M1.7 Subtidal sand beds	Uncolonised sand
Shelf benthic	Rubble	Marine	M1 Marine Shelfs	M1.6 Subtidal rocky reefs	Dead unstable coral rubble and rocks, colonised often by algae
Shelf benthic	Reef crest	Marine	M1 Marine Shelfs	M1.3 Photic coral reefs	
Shelf benthic	Individual patch reef	Marine	M1 Marine Shelfs	M1.3 Photic coral reefs	
Shelf benthic	Colonised hardbottom	Marine	M1 Marine Shelfs	M1.6 Subtidal rocky reefs	Pavement coral cover 10-70%, rock colonised by algae/soft corals
Shelf benthic	Beach rock	Marine	M1 Marine Shelfs	M1.7 Subtidal sand beds	Cemented sand, flat rock-like substrate *Unsure what else to classify as, but could be M1 Marine shelf biome if wanted wider
Shelf benthic	Aggregate reef	Marine	M1 Marine Shelfs	M1.3 Photic coral reefs	
Lagoon benthic	Beach rock	Marine	M1 Marine Shelfs	M1.7 Subtidal sand beds	This refers to cemented sand, flat rock-like substrate. Closest match to the IUCN habitat classification is M1.7 Subtidal sand beds.
Lagoon benthic	Backreef	Marine	M1 Marine Shelfs	M1.3 Photic coral reefs	Dead unstable coral rubble/rocks landward of reef crest, colonised by algae
Lagoon benthic	Vegetated sand	Marine	M1 Marine Shelfs	M1.1 Seagrass meadows	Vegetated sediment - assigned if algae is dominant over seagrass beds - however "seagrass meadows" does include algae in description
Lagoon benthic	Hardbottom	Marine	M1 Marine Shelfs	M1.6 Subtidal rocky reefs	Low relief pavement/rubble, colonised by algae
Lagoon benthic	Seagrass beds	Marine	M1 Marine Shelfs	M1.1 Seagrass meadows	
Lagoon benthic	Sediment	Marine	M1 Marine Shelfs	M1.7 Subtidal sand beds	Unvegetated sand

Terrestrial/ benthic	Cayman Islands classifications	IUCN GET			Notes on alignment
		Realm	Biome	Ecosystem functional group	
Lagoon benthic	Lagoonal coral	Marine	M1 Marine Shelfs	M1.3 Photic coral reefs	
Lagoon benthic	Vegetated peat	Marine	M1 Marine Shelfs	M1.8 Subtidal mud plains	Vegetated sediment
Lagoon benthic	Silt	Marine	M1 Marine Shelfs	M1.8 Subtidal mud plains	Bare or sparsely vegetated sediment

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Appendix E, Attachment G – Cultural & Natural Heritage – Assessment of Alternatives

Environmental Statement
East-West Arterial Extension:
Section 2 (Woodland Drive – Lookout Road)
Section 3 (Lookout Road – Frank Sound Road)



Cultural and Natural Heritage
FINAL

Assessment of Alternatives
Grand Cayman East-West Arterial Extension

NRA
NATIONAL ROADS AUTHORITY

January 23, 2024

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List of Terms

CMW	Central Mangrove Wetland
DEH	Department of Environmental Health
DoE	Department of Environment
EIA	Environmental Impact Assessment
IEMA	Institute of Environmental Management and Assessment
IFC	International Finance Corporation
NCA	National Conservation Act
NEA	National Ecosystem Assessment
NRA	National Roads Authority
NT	National Trust
PS	Performance Standard
ToR	Terms of Reference
WebTAG	UK Department for Transport "Transport Analysis Guidance"

1 Introduction

The East-West Arterial (EWA) Extension Environmental Impact Assessment (EIA) is proposed to evaluate an alternative east-west travel route on Grand Cayman. The Terms of Reference (ToR) for the proposed EWA Extension EIA was finalized on April 4, 2023. Since then, five Build alternatives (B1, B2, B3, B4, and C1), in addition to the No-Build scenario, were developed and assessed as part of the Longlist Alternatives Evaluation. A separate Longlist Evaluation Document has been prepared to document this analysis.

As a result of the Longlist Alternatives Evaluation, four Build alternatives (B1, B2, B3, and B4) and the No-Build scenario were advanced to the shortlist evaluation. This report focuses on the assessment of cultural and natural heritage resources for these shortlisted alternatives. Information from this report will be incorporated within the Shortlist Alternatives Evaluation Document and Environmental Statement.

2 Shortlist Evaluation

Grand Cayman is home to numerous cultural and natural heritage resources. These features include resources that are protected by legislation and sites that are of cultural, historical, archaeological, and architectural interest at the local and/or national level. Please refer to Section 4.6 of the Final ToR for additional information regarding the Cultural and Natural Heritage assessment.

The Assessment of Alternatives specifically concentrates on analysing direct impacts since these impacts can be more accurately assessed and quantified based on the project's level of design. The potential for possible indirect and cumulative effects has been discussed where applicable; however, since these impacts are less defined due to numerous variables outside of the project's design process, they have only been noted and qualitatively described. Further evaluation of indirect and cumulative effects will occur as part of the analyses which will be carried out for the Preferred Alternative.

To avoid double-counting, elements such as ecosystem services are not considered in this stage of the assessment, but they are discussed in the Terrestrial Ecology Assessment of Alternatives.

The Shortlist of Alternatives includes the No-Build scenario and four Build Alternatives (B1, B2, B3, and B4) as depicted in **Figure 1.** As shown in **Figure 1,** the four Build Alternatives all share the same common section beginning at the western terminus, near Woodland Drive, and continuing east to near Lookout Road. They also share the same common improvements to the local roadway network referred to as the Will T Connector. Additional details describing the Shortlist of Alternatives including full descriptions of each alternative along with typical design sections can be found in the Shortlist Evaluation Document.

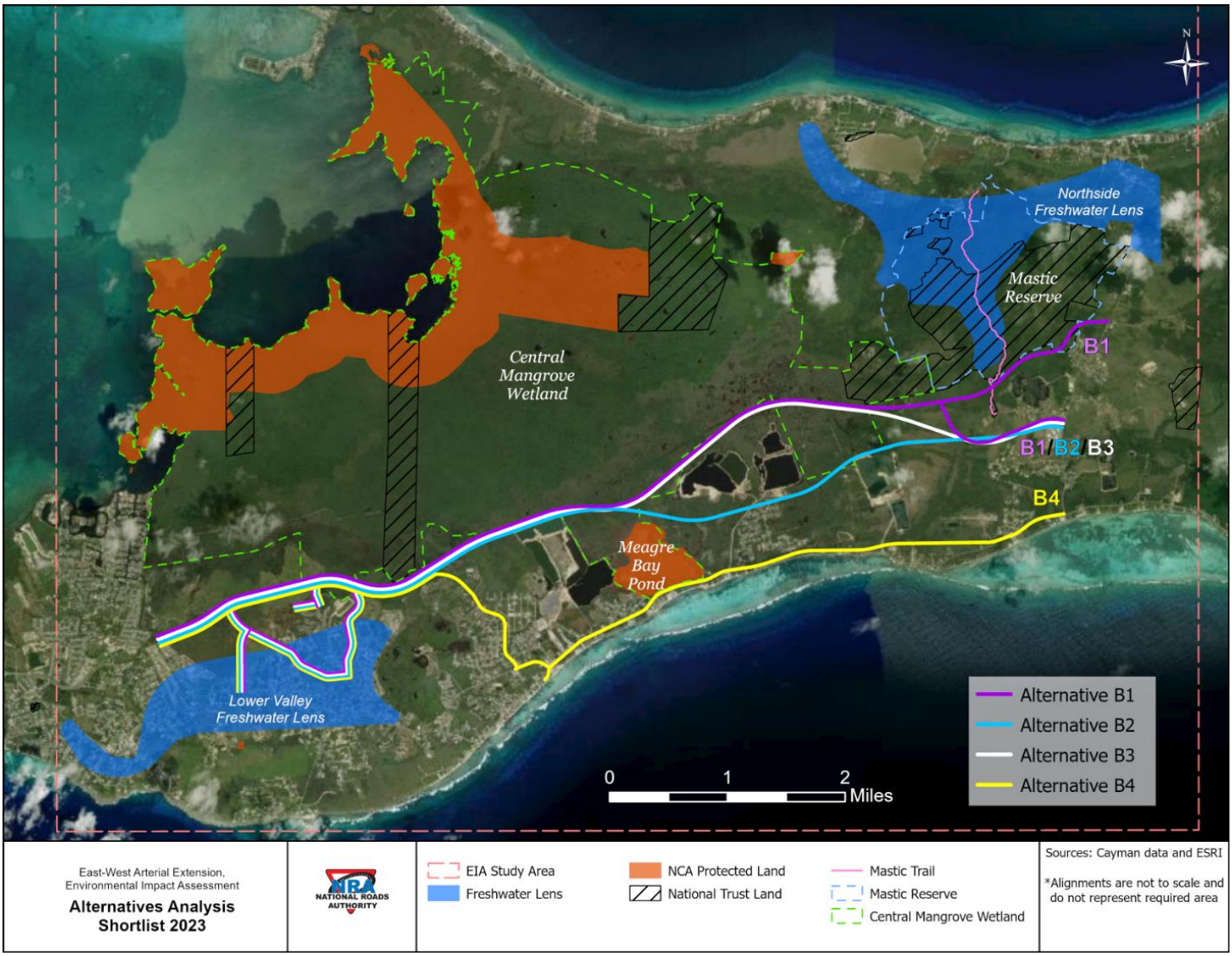

Figure 1: Shortlist of Build Alternatives

3 Baseline Conditions

3.1 Data Sources Evaluated

3.1.1 Desktop Review

A desktop review of cultural and natural heritage sites was completed to identify the sites that may be impacted by the Shortlist of Alternatives. Resources for desktop review included:

- Lands protected under the National Conservation Act (NCA) of 2013 (*.shp shapefile provided by the Cayman Islands Department of Environment (DoE) in November of 2022).
- Lands owned by the Cayman Islands National Trust (NT) (*.shp shapefile provided by DoE in November of 2022).
- Central Mangrove Wetland (CMW) (*.shp shapefile provided by DoE on July 19, 2023).
- Mastic Reserve and Mastic Trail (*.shp shapefile provided by DoE on July 19, 2023).

- List of parcels and inalienability status of National Trust lands (provided by NT on July 24, 2023).
- Cemeteries (*.shp shapefile provided by Cayman Islands National Roads Authority (NRA) on July 31, 2023).
- Heritage Register (obtained from NT web database in July of 2023).
- NT draft document: "Historic Built Heritage Policy Recommendations" (provided by NT during on-island meeting on July 26, 2023; Attachment A).

3.1.2 Stakeholder Consultation

A kick-off meeting was held with the DoE and NT to discuss Terrestrial Ecology and Cultural and Natural Heritage on July 19th, 2023. The project study team provided an overview of the project goals and objectives, discussed data requests for the DoE and NT, collected project information from the agencies, and presented study methodology proposed for the project. Regarding Cultural and Natural Heritage, the NT discussed the lands that are Trust property, how the National Trust Law (2010 Revision) outlines the process of declaring these properties inalienable, and the process under the same law of alienating currently inalienable properties. The NT also presented their concerns surrounding direct primary habitat impacts, habitat fragmentation, induced development, and wildlife roadkill. For unavoidable impacts that would result from the project, the NT proposed conserving additional primary habitat as a possible mitigation measure. Based on the resources identified for potential direct impacts, the NT and DoE were noted as the applicable stakeholders to consult at this stage of the project. Please see **Attachment A** for meeting minutes.

Another meeting between the project study team and the NT took place on July 26th, 2023. Topics discussed included NT-owned parcels of natural land, current entries to the Heritage Register and future updates, the historic importance of the Mastic Trail, and the historic overlay zones. The NT shared its draft "Historic Build Heritage Policy Recommendations" document with the project study team. Please see **Attachment A** for the draft "Historic Build Heritage Policy Recommendations" document.

3.1.3 Field Visit

A field verification of identified cultural and natural heritage sites took place from Monday, July 24th through Thursday, July 27th, 2023. Sites visited throughout the study area included:

- Heritage Register listings
- Cemeteries
- Meagre Bay Pond
- Portions of the CMW
- The Mastic Trail
- Other cultural facilities including public parks and places of worship.

Go-Pro camera footage of the areas throughout the study area was also collected as part of the field effort.

3.2 Central Mangrove Wetland

The CMW is an 8,655-acre ecosystem hydrologically connected to Little Sound. Three species of mangrove (red, black, and white) dominate the system. This wetland provides habitat for several native birds, including the Grand Cayman Parrot. The CMW may potentially meet the criteria for designation as a Ramsar Site according to local environmental organizations, though there are no current plans to submit it for consideration. The Ramsar Convention on Wetlands is the sole international mechanism with a focus on protecting globally important wetlands; the Convention on Biological Diversity also allows for protection. Ramsar sites are known for containing rare, representative, or unique wetland types or for their importance in conserving biological diversity.

Within the CMW, 1,500 acres receive legal protection under the NCA; much of this buffers Little Sound in north-central Grand Cayman (**Figure 2**). The NCA allows the Cabinet to designate portions of Grand Cayman's terrestrial or marine environments as protected areas. Meagre Bay Pond is also NCA protected land. To create a CMW Reserve, the NT has been purchasing acreage in the CMW (**Figure 2**). To date, the NT owns 1,032 acres of CMW (parcel data provided by NT).

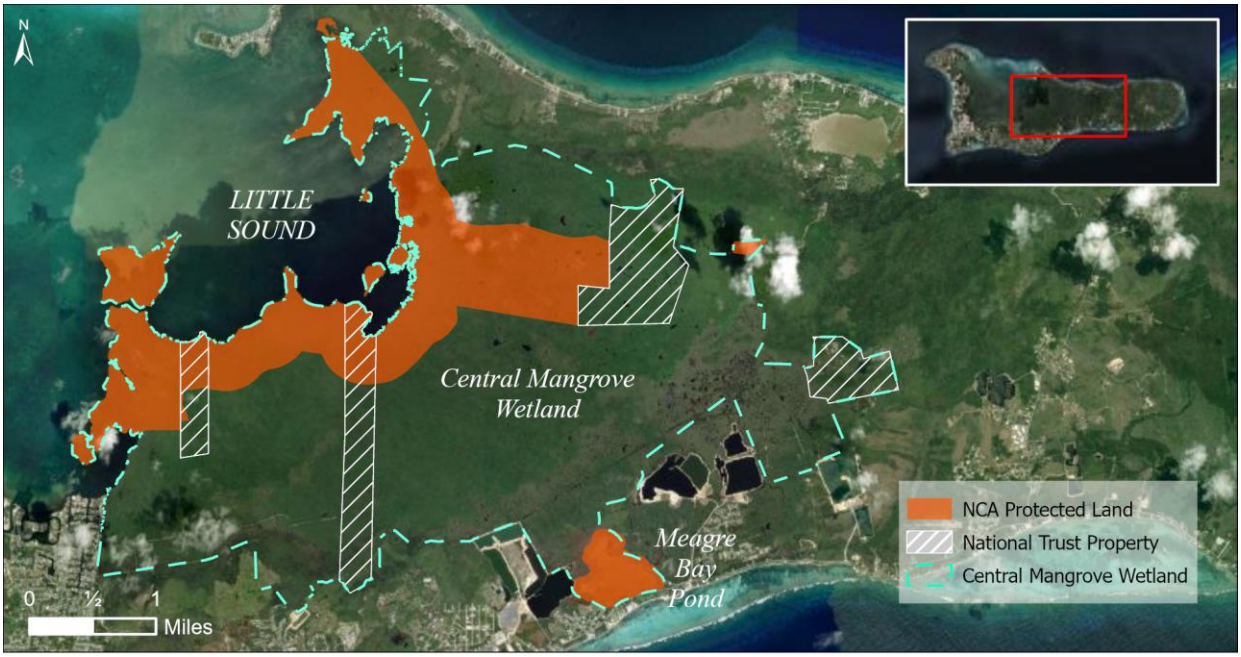

Figure 2: CMW full extent per DoE shapefile, including NCA protected areas and NT-owned parcels.
Source: DoE, Esri

3.3 Mastic Reserve

The Mastic Reserve, a 1,329-acre ecosystem[1], is classified as "forest and woodland" by the Cayman National Biodiversity Action Plan of 2009. This ecosystem type has cultural importance for the Cayman Islands: it houses several species that have contributed to the development and the identity of the Cayman Islands, including the national bird (Cayman Parrot), the national tree (Silver Thatch Palm), the national flower (Banana Orchid), and endemic species like the black

[1] Calculated geospatially with shapefile data provided by DOE.

mastic tree and the white-crowned pigeon. It also offers cultural importance for local and visiting naturalists as it boasts some of the most unique habitat on Grand Cayman.

To date, the NT owns 46 parcels of Mastic Reserve (**Figure 3**). This amounts to 845 acres of land protected under the NT Act (except parcel 11 in block 54A, of which the Trust has 25% ownership, according to parcel ownership data provided by NT).

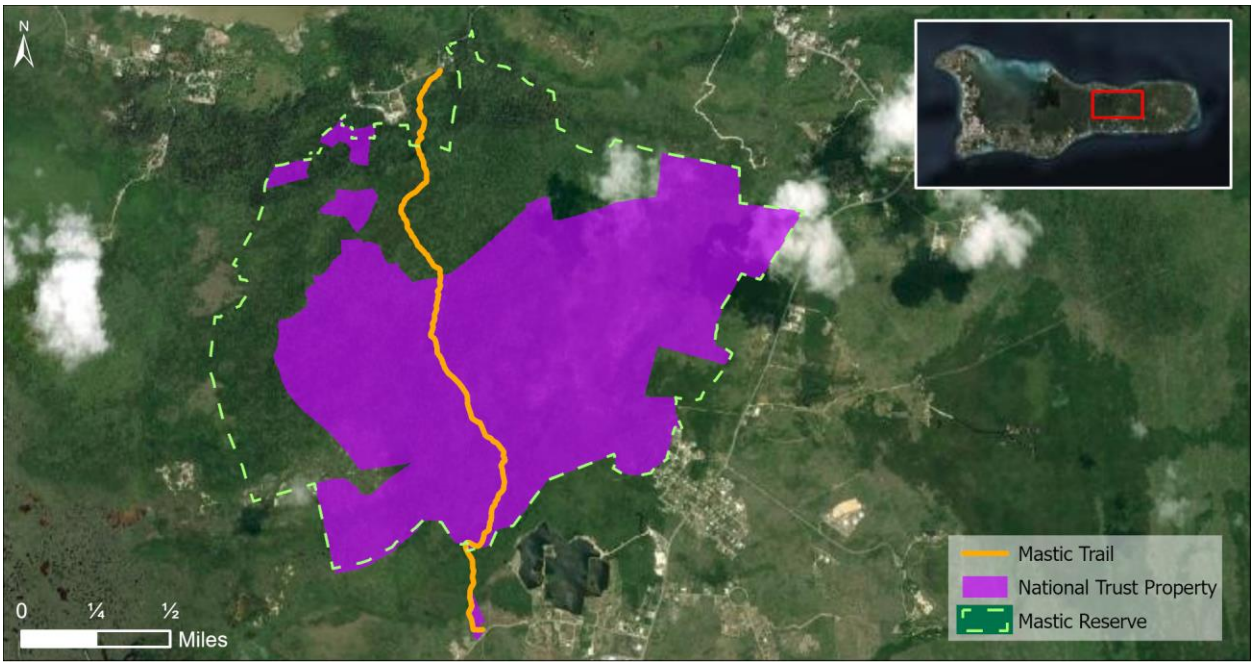

Figure 3: The Mastic Reserve, the Mastic Trail, and National Trust-owned parcels.
Source: DoE, Esri

3.4 Mastic Trail

The Mastic Trail is a 2.3-mile hiking trail that traverses north to south through the Mastic Reserve (**Figure 3**). The NT reports that the Mastic Trail's history goes back further than a century, when the trail served as a major walking trail that modern roads have since supplanted. In 1994, the Rotary Club located the original trail and removed forest overgrowth to restore it; in 1995, the trail was officially dedicated and opened to the public. Since the trail is within the public right of way, it is protected by the Public Lands Law (2020 Revision).

The Mastic Trail offers visitors a look into some of the oldest habitat on Grand Cayman and a view of culturally important species like the Banana Orchid (**Figure 4**), and guided tours of the trail can be booked via the NT. The trail is a popular hiking destination for residents and visitors to the Cayman Islands and has received write-ups in travel journals including Frommer's and U.S. News Travel. The Mastic trail received an estimated 1,772 visitors in 2015 (Childs et al., 2015).



Figure 4: An Endemic Banana Orchid (*Myrmecophila thomsonia*)
Source: seen on the Mastic Trail during July 2023 field visit.

3.5 Meagre Bay Pond

Located in Bodden Town near the southern coast, Meagre Bay Pond is one of Grand Cayman's oldest protected areas (**Figure 5**). In 1976, the pond and the 300-foot-wide band of mangroves around it received protection as an Animal Sanctuary. In 2013, Meagre Bay Pond received designation as a protected area under the NCA. The pond occupies one Crown-owned land parcel. Some of the surrounding wetland in adjacent parcels is also owned by the Crown. Other surrounding wetland area (approximately 76 acres) is privately owned and makes up portions of adjacent parcels.



Figure 5: Meagre Bay Pond
Source: photo from field visit July 2023

The southern limit of the protected area is Bodden Town Road. To the north are several quarries and the CMW. Meagre Bay Pond has a seasonal hydrologic connection to the CMW. In addition, Meagre Bay Pond may potentially meet the criteria necessary to be listed as a Ramsar Site

according to local environmental organizations, though no plans exist to submit it for consideration.

On February 15th, 2022, the DoE's "Protected Area Management Plan for Meagre Bay Pond" was approved by the Cabinet under section 10(7) of the NCA. Part of this Management Plan focuses on allowing access to this natural heritage resource so that the public can experience the natural landscape and the numerous bird species of Meagre Bay Pond. The Management Plan also outlines constructing a small boardwalk and viewing platform (i.e., for no more than 12 persons at one time) to facilitate the experience of bird watchers and naturalists, and to provide educational opportunities for school groups. A boat launching point is planned for kayaking (i.e., possible during high water times), however the Management Plan emphasizes a limited amount of boating activity, meaning large-scale commercial operations would not be permitted.

3.6 Cemeteries

The Cayman Islands Department of Environmental Health (DEH) is responsible for managing public cemeteries, which includes creating cemetery capacity reports, overseeing vault construction, and other projects. The DEH also monitors private cemeteries. The Public Health Act (2021 Revision) regulates the DEH's management of cemeteries. Cemeteries provide cultural and natural heritage as sacred spaces, urban green spaces, and objects of community history (Sallay *et al.*, 2023).

Bodden Town Cemetery

Bodden Town Cemetery (Block 43D, Parcel 147) is located southeast of Bodden Town Road, across from the Bodden Town Bypass intersection, with a boundary adjacent to Bodden Town Road (**Figures 6 and 7**). According to cemetery parcel data provided by the NRA, this cemetery is Crown-owned and is designated "closed." Google Earth aerial imagery from March 3rd, 2023 shows most of this cemetery is full of grave sites (**Figure 6**).



Figure 6: Bodden Town Cemetery aerial view
Source: Google Earth Pro, Imagery Date 6/3/2023



Figure 7: Bodden Town Cemetery view from road
Source: still image from July 2023 GoPro video

Bodden Town New Cemetery

In September of 2014, two new cemetery parcels (Block 43D Parcel 8, and Block 43D Parcel 2, both owned by the Crown) opened in Bodden Town a short distance along Bodden Town Road from Bodden Town Cemetery (**Figure 8**). Titled "Bodden Town New Cemetery" in parcel data provided by the NRA, this cemetery land is meant to provide additional burial space in Bodden Town.



Figure 8: Bodden Town New Cemetery aerial view
Source: Google Earth Pro, Imagery Date (6/3/2023)

The northwestern parcel opened with 20 vaults already constructed, and Cayman iNews reported that the new acreage has space for 500 additional vaults.

The northwestern vaults are located away from Bodden Town Road, and the parcel contains a parking lot between the vaults and the road (**Figure 9**). The southeastern parcel is currently marked as "vacant" in the parcel data and is yet undeveloped.



Figure 9: Bodden Town New Cemetery northwest parcel wall view from the road
Source: still image from July 2023 GoPro video)

Watler or Wood Family Cemetery

On the southeastern side of Bodden Town road, less than a mile from Bodden Town Cemetery, is a privately-owned family cemetery, designated in the parcel data as "Watler or Wood Family Cemetery" (**Figure 10**).



Figure 10: Watler or Wood Family Cemetery aerial view
Source: Google Earth Pro (6/3/2023)

The cemetery (Block 43D Parcel 61) is adjacent to Bodden Town road and contains a few above ground vaults which are close to the road (**Figure 10**). Aerial imagery from March 3rd, 2023 (**Figure 10**) shows little development of the parcel farther back from the road.



Figure 11: Watler or Wood Family Cemetery view from the road
Source: still image from July 2023 GoPro video

4 Assessment Methodology

4.1 Laws and Standards

Relevant Cayman Islands laws, United Kingdom (UK) standards/guidelines, and international standards were reviewed to determine the methodology to be used to assess heritage resources. The laws, policies, and standards assessed included:

Cayman Law

- National Trust Act 2010 Revision
- National Conservation Act 2013
    - Species conservation plans
    - Management plans
- Directive for Environmental Impact Assessments (EIA)
- Public Lands Law 2020 Revision
- Development and Planning Act 2021 Revision

Cayman Plans and Frameworks

- National Environmental Policy Framework 2002
- National Biodiversity Action Plan 2009

UK Standards

- UK Greenbook
- UK Department for Transport "Transport Analysis Guidance" (WebTAG)
    - Unit A3 – Environmental Impact Appraisal

International Standards

- International Finance Corporation (IFC) Performance Standards (PS)s on Environmental and Social Sustainability (2012)
    - PS 1, 6, and 8
- World Heritage Resource Manual: Guidance and Toolkit for Impact Assessments
- Institute of Environmental Management and Assessment (IEMA) Principles of Cultural Heritage Impact

4.2 Steps of Analysis

The standards and guidance documents that were assessed to determine the evaluation methodology for Grand Cayman's Cultural and Natural Heritage resources included policies and standards listed in the ToR and in Section 4.1 of this document. As a result, the following three-step process (**Figure 12**) was developed and undertaken to evaluate cultural and natural heritage resources and the potential impacts of the project on these resources.

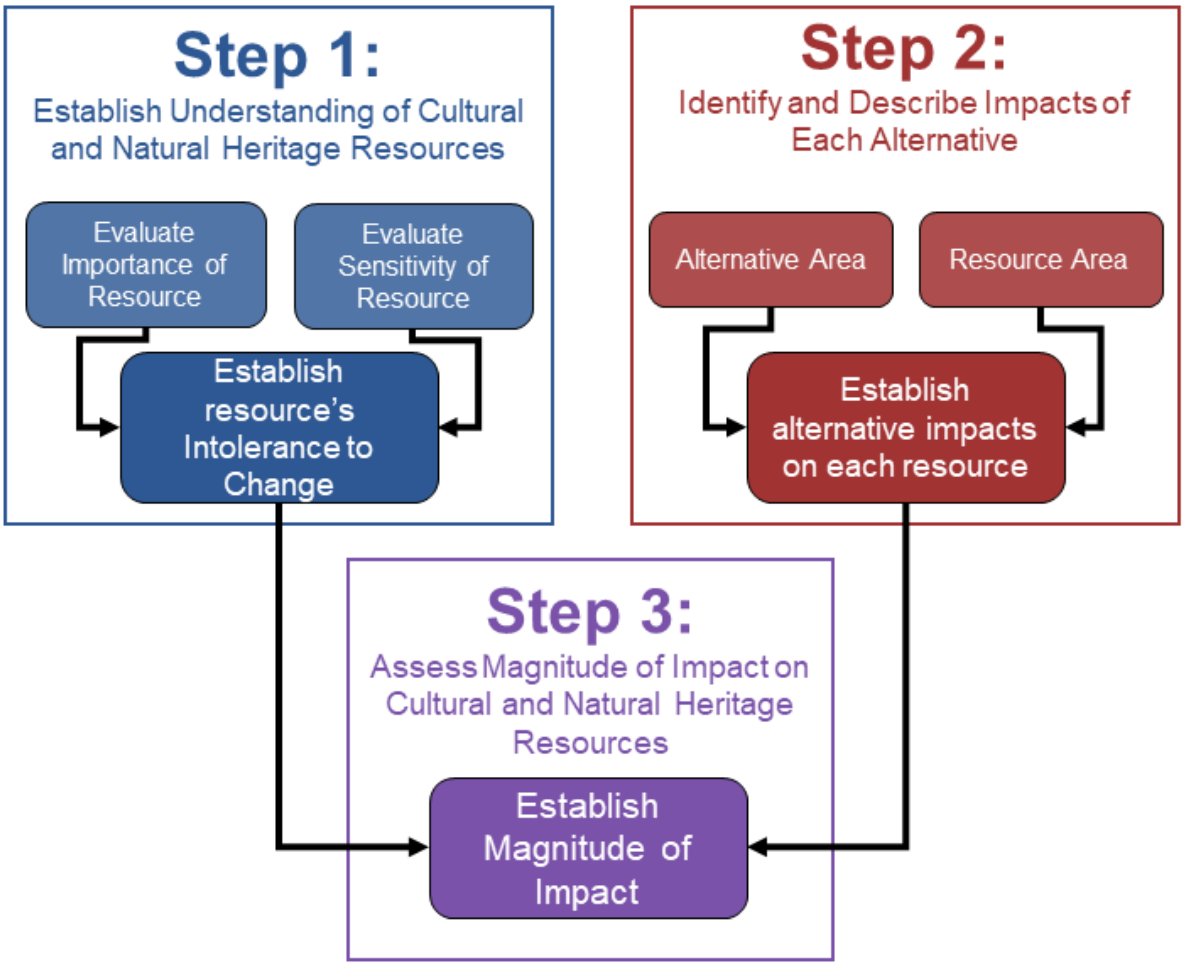

Figure 12: Shortlist Evaluation Steps of Analysis

Step 1 involves establishing an understanding of cultural and natural heritage resources, which encompasses evaluating the Importance of Resource and the Sensitivity of Resource. These two evaluations are combined to understand the resource's Intolerance to Change.

Step 2 involves quantifying the direct impact each alternative will have on each resource. The impacts are quantified via criteria set forth in WebTAG Unit A3. While indirect impacts are acknowledged, a focus on direct impacts was adopted based on the available level of detail, consistent with WebTAG Unit A3 Section 1.2.

Step 3 combines the results of Step 1 (Intolerance to Change) and Step 2 (Impacts of Alternatives) to determine the Magnitude of Impact each alternative will have on each cultural and natural heritage resource. The Magnitude of Impact is reported on a 1-7 scale established in WebTAG Unit A3.

4.2.1 Step 1: Establish Understanding of Cultural and Natural Heritage Resources

Identifying, describing, and understanding the importance of the cultural and natural heritage resources is a key step in the study process. These elements are outlined in the following sources:

- The "IFC Performance Standards on Environmental and Social Sustainability" document, under Performance Standard 8, discusses cultural heritage objects as being both tangible (*e.g.*, properties or natural features) and intangible (*e.g.*, local knowledge).
- The UK National Ecosystem Assessment (NEA) ascribes cultural services to natural systems and defines these services as "the non-material benefits people obtain from ecosystems" (UK NEA).
- The IEMA's "Principles of Cultural Heritage Impact," presents recommendations for understanding these resources including describing the resources, assigning significance to them, and attaching importance.
- The UK's WebTAG Unit A3 describes the "Historic Environment" as including heritage resources such as parks, public landscapes, and a "sense of identity and place," and outlines a process for describing and evaluating the sensitivity of these resources (p. 66). WebTAG also describes evaluating "Landscape" and "Biodiversity." Because several cultural and natural heritage resources on Grand Cayman are natural in nature, all three of these sections were applied to this evaluation.

In addition, Cayman Islands laws, plans, and frameworks offer insight into identifying and describing natural and cultural heritage resources. The National Conservation Act of 2013 (NCA) sets forth a legal precedent for protecting areas of land on the Cayman Islands, including for cultural value. In tandem with the NCA, species conservation plans and ecosystem management plans were consulted. The National Trust Act, 2010 Revision, describes the process by which the NT obtains property of natural and cultural importance, and describes the 'inalienable' designation the NT may place on those properties. The National Biodiversity Action Plan of 2009 describes species and ecosystems that contribute to the cultural identity of the islands.

The UK and international standards recommend using qualitative evaluation matrices rather than monetising cultural or natural resources. Specifically, Unit A3 of UK's WebTAG proposes using a 7-point scale when evaluating heritage resources. The following evaluation matrix (**Table 1**) was developed and utilized for this study. It describes each resource by two metrics: Importance of Resource and Sensitivity of Resource and uses these two metrics to define the resource's Intolerance to Change.

Table 1: Intolerance to Change Scoring Matrix

Intolerance to Change		**Importance of Resource**				
		Very High	**High**	**Medium**	**Low**	**Very Low**
Sensitivity of Resource	**Very High**	Very High	Very High	High	Medium	Low
	High	Very High	High	Medium	Low	Very Low
	Medium	High	High	Medium	Low	Very Low
	Low	High	Medium	Low	Low	Very Low
	Very Low	Medium	Medium	Low	Very Low	Very Low

Unit A3 of WebTAG (Table 8, p. 77 and Table 9, p. 79) contains a scale for evaluating biodiversity and earth heritage. The Cayman Islands National Conservation Council "Directive for Environmental Impact Assessments" highlights the importance of considering the sensitivity of

the environmental resource as part of the Environmental Statement. These sources were utilized to describe and evaluate the importance of natural heritage resources. For each resource, a score from "Very Low" to "Very High" was determined and assigned.

As referenced, **Tables 2 and 3** below describe the criteria for Importance of Resource scoring and Sensitivity of Resource scoring.

Table 2: Importance of Resource

Importance of Resource	Criteria	Examples
Very High	High importance and rarity, international scale and limited potential for substitution	Internationally designated sites
High	High importance and rarity, national scale, or regional scale with limited potential for substitution	Nationally designated sites Regionally important sites with limited potential for substitution
Medium	High or medium importance and rarity, local or regional scale, and limited potential for substitution	Regionally important sites with potential for substitution Locally designated sites
Low	Low or medium importance and rarity, local scale	Undesignated sites of some local biodiversity and earth heritage interest
Negligible	Very low importance and rarity, local scale	Other sites with little or no local biodiversity and earth heritage interest

Source: WebTAG Unit A3, Table 8, p.77

Table 3: Sensitivity of Resource

Sensitivity of Resource	Criteria	Examples
Very High	High fragility or vulnerability to change, international scale. No potential for substitution	Internationally protected sites. Resource is complex or unique and has no potential for substitution.
High	High fragility or vulnerability to change, national scale. Limited potential for substitution	Nationally protected sites, unique regional sites with high fragility and complexity, and limited or no potential for substitution.
Medium	High or medium fragility or vulnerability to change, local or regional scale	Regional sites with some potential for substitution, exhibits differences between sites
Low	Low or medium fragility or vulnerability to change, local scale	Resource is relatively common and exhibits small variation between sites
Very Low	Very low fragility or vulnerability to change, no rarity, local scale	Resource is common and exhibits little variation between sites

Source: WebTAG Unit A3, section 8.2.5

4.2.2 Step 2: Identify and Describe Impacts of Each Alternative

Step 2 is to evaluate the potential impacts the project is anticipated to have on the cultural and natural heritage resources described in Step 1. Step 2 provides an assessment of the degree of

impact each alternative is likely to have on each cultural and natural heritage resource. Step 2 differentiates between areas of protected status and the effect of the project's area of influence.

The following sources were consulted in developing the evaluation criteria for Step 2:

- The Cayman Islands Directive for EIAs, published in 2016, outlines an impact prediction scale and information on rating and scaling direct impacts. These scales and ratings standards were used for the evaluation of the project's potential impacts on cultural and natural heritage resources.
- The NCA and National Biodiversity Action Plan were consulted to evaluate potential impacts and actions relating to conservation and management plans, *e.g.,* the DoE's "Protected Area Management Plan: Meagre Bay Pond, Grand Cayman" (approved in 2022).
- IFC Performance Standard 6 recommends that any development due to the project must be legally permitted, and that any actions should work in tandem with any management plans set forth by the local government.
- The UK's WebTAG Unit A3 details a similar stepwise approach to evaluating the impacts on heritage resources. After describing the resource and assessing its significance and its sensitivity to change, Unit A3 delves into evaluating impacts in both magnitude and over time, including the "worst-case" scenario. These impacts could be either adverse or beneficial.

Overall, Step 2 evaluates the impacts of the proposed project compared to baseline conditions by quantitatively assessing the direct adverse or beneficial effect the project is likely to have. Major, intermediate, minor, neutral, and positive impacts are assessed based on the direct impacts to the resource (**Table 4**). WebTAG Unit A3's Table 10 (reproduced with alterations in **Table 4** below) originally applies to biodiversity. It has been adapted in line with WebTAG Unit A3's "Impacts on the Historic Environment" to create a set of criteria appropriate for cultural and natural heritage sites specific to this project, given that most cultural and natural heritage assets discussed in this appendix are tied to the natural environment.

Table 4: Criteria for Determining Impact

Impact	Criteria
Major negative	The proposal (either on its own or with other proposals) may adversely affect the integrity of the key heritage resource, in terms of the coherence of its structure and function, across its whole area, that enables it to remain for future generations.
Intermediate negative	The key environmental resource's integrity will not be adversely affected, but the effect on the resource is likely to be significant in terms of its heritage objectives.
Minor negative	Neither of the above apply, but some minor negative impact is evident.
Neutral	No observable impact in either direction.
Positive	Impacts which provide a net gain overall.

Source: WebTAG Unit A3, section 8.2.5, and Table 10, p. 81

4.2.3 Step 3: Assess Magnitude of Impact on Cultural and Natural Heritage Resources

The "Magnitude of Impact" scoring matrix considers both the "Intolerance to Change" described in Step 1 and the impacts evaluated in Step 2 (**Table 5**). The "Magnitude of Impact" scoring matrix was designed to equate the magnitude of each impact to WebTAG Unit A3's 7-point scale for determining an "Overall Assessment Score." Therefore, impact magnitudes are reported on a 7-point qualitative scale.

Table 5: Magnitude of Impact Scoring Matrix

Magnitude of impact	Intolerance to Change				
	Very high	**High**	**Medium**	**Low**	**Very Low**
Major negative	Large adverse	Large adverse	Moderate adverse	Slight adverse	Neutral
Intermediate negative	Large adverse	Large adverse	Moderate adverse	Slight adverse	Neutral
Minor negative	Slight adverse	Slight adverse	Slight adverse	Slight adverse	Neutral
Neutral	Neutral	Neutral	Neutral	Neutral	Neutral
Positive	Large beneficial	Large beneficial	Moderate beneficial	Slight beneficial	Neutral

Source: WebTAG Unit A3, Table 11, p. 83

Unit A3's 7-point scale allows the results of the cultural and natural heritage assessment to be reported in the Appraisal Summary Table for the Shortlist Alternatives Evaluation. **Table 6** defines how the 7-point scale is applied to the impacts of projects on heritage resources.

Table 6: Definitions of Assessment Scores

Score	Definition
Large beneficial (positive) effect	The scheme would: • Provide potential, through removal, relocation or substantial mitigation of very damaging or discordant existing impacts (direct or indirect) on the historic environment, for very significant or extensive restoration or enhancement of characteristic features or their setting • Make a major contribution to government policies for the protection or enhancement of the historic environment • Remove or successfully mitigate existing visual intrusion, such that the integrity, understanding and sense of place of a highly valued area, a group of sites or features of national or regional significance is re-established
Moderate beneficial (positive) effect	The scheme would: • Provide potential, through removal, relocation or mitigation of damaging or discordant existing impacts on the historic environment, for significant restoration of characteristic features or their setting • Contribute to Regional or Local policies for the protection or enhancement of the historic environment • Enhance existing historic landscape/townscape character through beneficial landscaping/mitigation and good design
Slight beneficial (positive) effect	The scheme: • Is not in conflict with national, regional or local policies for the protection of the historic environment • Restores or enhances the form, scale, pattern, or sense of place of the historic environmental resource through good design and mitigation • Removes or mitigates visual intrusion (or other indirect impacts) into the context of locally or regionally significant historic environmental features, such that appreciation and understanding of them is improved
Neutral effect	The scheme: • Is not in conflict with, and does not contribute to policies for the protection or enhancement of the historic environment • Maintains existing historic character in a landscape/townscape • Has no appreciable impacts, either positive or negative, on any known or potential historic environmental assets • Is a combination of slight positive and negative impacts, on locally significant aspects of the historic environment • Does not result in severance or loss of integrity, context or understanding with in a historic landscape
Slight adverse (negative) effect	The scheme would: • Be in conflict with local policies for the protection of the local character of the historic environment • Have a detrimental impact on the context of regionally or locally significant assets, such that their integrity is compromised and appreciation and understanding of them is diminished • Damage locally significant historic environmental features for which adequate mitigation can be specified • Not fit well with the form, scale, pattern and character of a historic landscape/townscape area

Score	Definition
Moderate adverse (negative) effect	The scheme would: • Be out of scale with, or at odds with the scale, pattern or form of the historic environmental resource • Be intrusive in the setting (context), and will adversely affect the appreciation and understanding of the characteristic historic environmental resource • Be in conflict with local or regional policies for the protection of the historic environment • Be damaging to nationally significant historic environmental assets, resulting in loss of features such that their integrity is compromised, but not destroyed, and adequate mitigation has been specified • Be a major direct impact on regionally or locally significant historic environment, resulting in loss of features such that their integrity is substantially compromised, but adequate mitigation can be specified
Large adverse (negative) effect	The scheme would: • Have a major direct impact on nationally significant historic environmental assets such that they are lost or their integrity is severely damaged • Have a moderate direct impact on or compromise the wider setting of multiple nationally or regionally significant historic environmental assets, such that the cumulative impact would seriously compromise the integrity of a related group or historic landscape/townscape • Have a major direct impact on regional historic environmental assets, such that their integrity is lost and no adequate mitigation can be specified • Be highly intrusive and would seriously damage the setting of the historic environment, such that its context is seriously compromised and can no longer be appreciated or understood • Be in serious conflict with government policy for the protection of the historic environment, as set out in PPG 15 and PPG 16 • Be strongly at variance with the form, scale and pattern of a historic landscape/townscape

Source: WebTAG Unit A3, Table 7, p. 73

5 Anticipated Project Impacts

5.1 Establish Understanding of Cultural and Natural Heritage Resources

The cultural and natural heritage resources within the footprint of the Shortlist of Alternatives are identified and described in Section 3: Baseline Conditions. To understand how a project may affect these resources, an Intolerance to Change must be established for each resource. Intolerance to Change describes cultural and natural heritage resources on a qualitative scale (**Table 1**). This scale ranks the resource for its relationship with Grand Cayman culture. To avoid double-counting, elements such as ecosystem services are not considered in this section of the evaluation, but they are discussed in the Terrestrial Ecology Assessment of Alternatives. **Table 7** provides a summary of Intolerance to Change scores.

Intolerance to Change: Central Mangrove Wetland

Most of the CMW along North Sound is protected under the 2013 NCA. Additional southwestern and southeastern parcels of the wetland are owned by the NT. The NCA protected areas make up 26% of the total wetland parcels designated in data sent by DoE in November of 2022, and the NT-owned land makes up 12%. Public comments received during the ToR review process indicate that residents of the Cayman Islands see the CMW as a valued natural heritage resource. For these reasons, the CMW is considered a nationally designated site with limited potential for substitution, and therefore it receives a score of **"High"** rating on the Importance of Resource scale.

As the only large mangrove forest on Grand Cayman, the CMW is a unique national site with significant complexity and therefore it receives a **"High"** rating on the Sensitivity of Resource scale.

As a result of the **"High"** rating received for the previous scales, the CMW receives a **"High"** rating on the Intolerance to Change matrix.

Intolerance to Change: Meagre Bay Pond

Meagre Bay Pond is protected under the 2013 NCA. Because of its status as nationally protected under the NCA and the limited potential for substitution, Meagre Bay Pond receives a rating of **"High"** on the Importance of Resource scale.

Various development is adjacent to Meagre Bay Pond. To the north and west of Meagre Bay Pond are several active quarries, and to the south is Bodden Town Road. The Meagre Bay Pond Management Plan describes that, due to planning error, a small amount of subdivision development occurred on portions of parcels that were within protected boundaries. The land-use encroachment into the buffer zone adds fragility to the Meagre Bay Pond area and combined with its status as a destination for birdwatching, Meagre Bay Pond receives a rating of **"High"** on the Sensitivity of Resource scale.

As a result of the **"High"** rating received for the previous scales, Meagre Bay Pond receives a **"High"** rating on the Intolerance to Change matrix.

Intolerance to Change: Mastic Reserve

The Mastic Reserve offers habitat for many culturally important species, including the endangered Blue Iguana and the Grand Cayman Parrot. It is also culturally important as a tourism destination, as the Mastic Reserve sits on Grand Cayman's highest point and offers visitors views of exposed limestone bedrock along with views of the oldest forest ecosystem on the island. In total, 64% of the Mastic Reserve has been purchased by the NT and it has high importance and rarity on the national scale. For these reasons, the Mastic Reserve receives a rating of **"High"** on the Importance of Resource scale.

The Mastic Reserve is an ecosystem unique to the Cayman Islands. It occupies a small land area that has the highest elevation on the island with no potential for substitution. For these reasons it receives a rating of **"High"** on the Sensitivity of Resource scale.

As a result of the **"High"** rating received for the previous scales the Mastic Reserve receives a **"High"** rating on the Intolerance to Change matrix.

Intolerance to Change: Mastic Trail

The Mastic Trail is a unique local feature on Grand Cayman, offering access to view a variety of the island's natural resources. This defined trail allows people to view the ecosystem from the path rather than entering the ecosystem, and therefore helps protect the Mastic Reserve as a whole. As reported by the NT, it also contributes to Grand Cayman's history. The Mastic Trail, like the Mastic Reserve, has high national importance and rarity with limited potential for substitution. Therefore, it receives a rating of **"High"** in the Importance of Resource category.

As with the Mastic Reserve, the Mastic Trail is a unique national feature on Grand Cayman that cannot be replicated or moved. It also represents an important piece of Grand Cayman history. Therefore, in the Sensitivity of Resource category, the Mastic Trail receives a rating of **"High."**

As a result of the **"High"** rating received for the previous scales the Mastic Trail receives a score of **"High"** on the Intolerance to Change matrix.

Intolerance to Change: Cemeteries

Cemeteries provide local cultural significance as memorials to passed loved ones and as records of some of the people who lived in the area. The cultural significance of a cemetery evolves and strengthens over time as it ages. Cemeteries are human-made features that have some potential for substitution or relocation and have local or regional importance. Therefore, cemeteries in Grand Cayman receive a rating of **"Medium"** in the Importance of Resource category.

Depending on their content, context, and location, cemeteries can be fragile or vulnerable to change. Both the Bodden Town Cemetery and the Watler or Wood Family Cemetery are adjacent to existing main roadways while New Bodden Town Cemetery is set further back from the road. Due to these conditions and the nature of this land use, cemeteries receive a rating of **"Medium"** on the Sensitivity of Resource scale.

As a result of the "Medium" rating received for the previous scales the cemeteries receive a rating of "Medium" on the "Intolerance to Change" matrix.

Table 7: Summary Table of Resources' Intolerance to Change

Resource	Importance of Resource	Sensitivity of Resource	Intolerance to Change
CMW	High	High	High
Mastic Reserve	High	High	High
Mastic Trail	High	High	High
Meagre Bay Pond	High	High	High
Cemeteries	Medium	Medium	Medium

5.2 Identify and Describe Impacts of Each Alternative

The anticipated direct impacts each of the four shortlist Build alternatives (B1, B2, B3, and B4) and the No-Build would have on cultural and natural heritage resources are quantified and summarized in **Table 8** below. A discussion of direct impacts and potential indirect impacts are included below. Further evaluation of indirect impacts to cultural and natural heritage resources, including impacts of mitigation measures, will occur during evaluation of the Preferred Alternative, per the ToR. An analysis of hydrological connectivity and noise impact for applicable resources can be found in the Hydrology & Drainage and Noise Assessment of Alternatives reports.

5.2.1 No-Build

The No-Build scenario is not anticipated to have a direct impact on the cultural and natural heritage of the CMW, the Mastic Reserve, the Mastic Trail, Meagre Bay Pond, or the cemeteries, therefore, the impact is neutral. Potential indirect impacts, such as noise levels and access, will be evaluated further as part of the Preferred Alternative.

5.2.2 Alternative B1

Central Mangrove Wetland

The NCA protected portion of the CMW (the buffer around Little Sound) is not within the area needed for Alternative B1 and therefore, no impacts are anticipated. The area needed for Alternative B1 is located south of NT-owned parcels of the CMW and no direct impacts are anticipated.

This alternative is anticipated to directly impact approximately 76 acres (*31 hectares*) of unprotected CMW parcels (**Figure 13**). This represents an estimated <1% of the total CMW (per geospatial data provided by DoE). The size of the resource is part of its cultural heritage value, so any action that alters the resource's size, even in a small way, has an impact on the integrity of the heritage resource. Alternative B1 will likely have indirect impacts to the cultural heritage of the CMW, including noise levels, visual intrusion, hydrological connectivity, and habitat fragmentation which will be further evaluated as part of the Preferred Alternative. Based on the overall physical size of the CMW (8,655 acres) and location of Alternative B1 near the southern,

developed border, Alternative B1 is expected to have a **minor negative impact** to the cultural and natural heritage of the CMW.

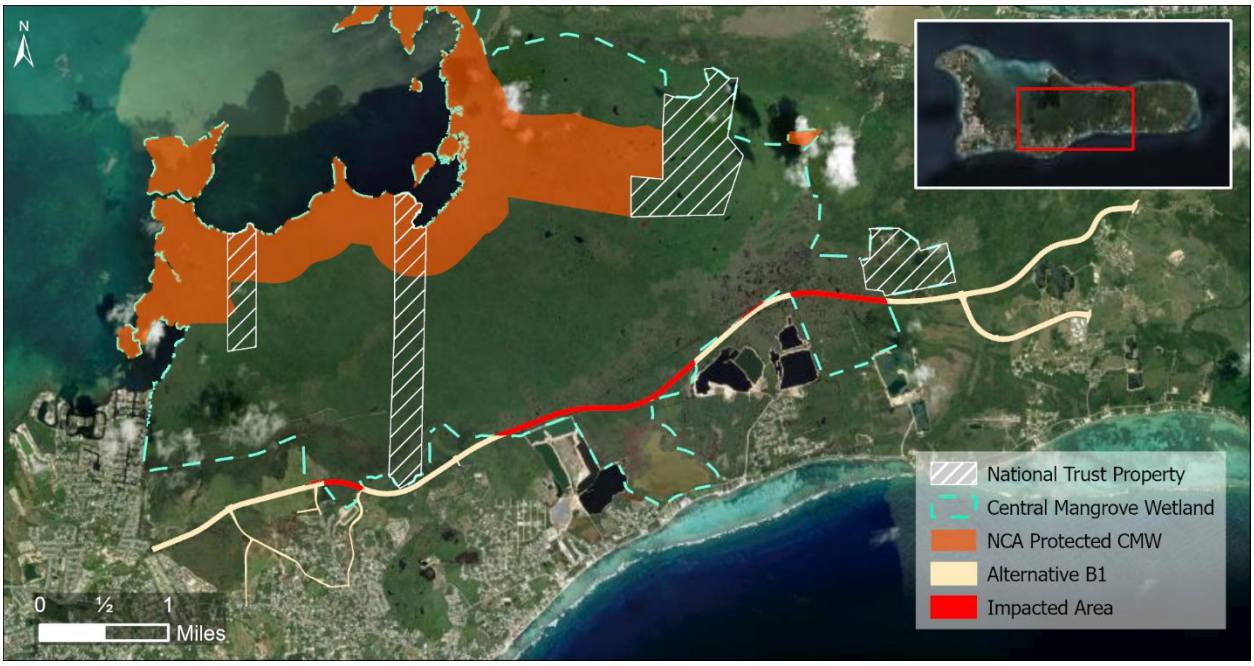

Figure 13: Alternative B1 Central Mangrove Wetland Impacts.
Source: DoE, Esri

Mastic Reserve

Alternative B1 would travel through the edge of several Mastic Reserve parcels owned by the National Trust. This alternative is anticipated to directly impact approximately 8 acres (3 hectares) of these parcels (**Figure 14**). This accounts for approximately <1% of the NT-owned Mastic Reserve parcels (per geospatial data provided by DoE), and an estimated <1% of the total Mastic Reserve Area (per geospatial data provided by DoE). The size of the resource is part of its cultural heritage value, so any action that alters the resource's size, even in a small way, has an impact on the integrity of the heritage resource. Alternative B1 will likely have indirect impacts to the cultural heritage of the Mastic Reserve, including noise levels, visual intrusion, hydrological connectivity, and habitat fragmentation which will be further evaluated as part of the Preferred Alternative. Public usage of the Mastic Reserve will be addressed with the Mastic Trail since the Trail is the only public access point to the Reserve.

Based on the overall physical size of the Mastic Reserve (1,329 acres) and location of Alternative B1 near the southern, developed border, Alternative B1 is expected to have a **minor negative impact** to the cultural and natural heritage of the Mastic Reserve.

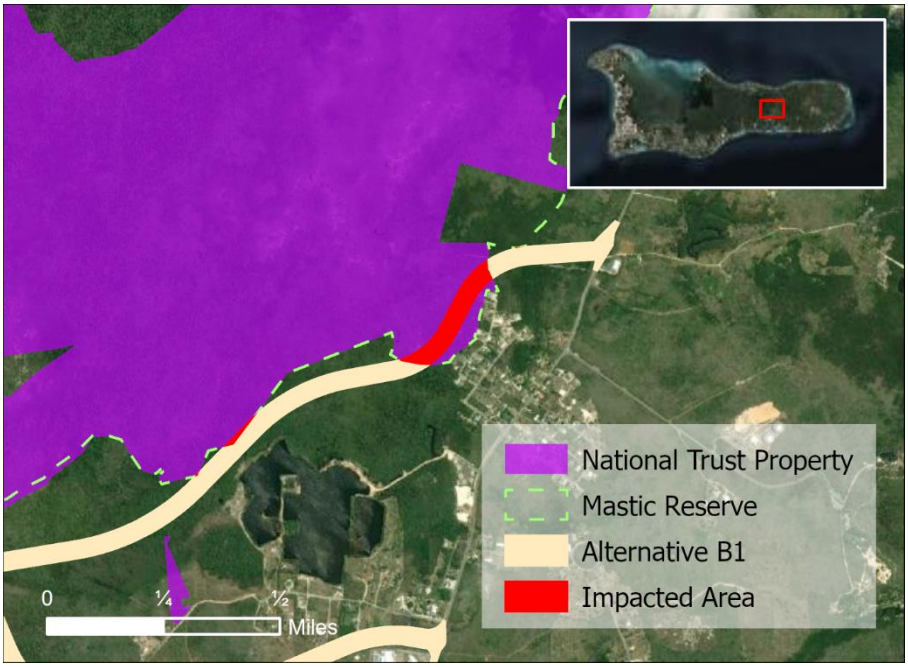

Figure 14: Alternative B1 Mastic Reserve Impacts
Source: DoE, Esri

Mastic Trail

Alternative B1 would bridge approximately 271 linear feet (83 meters) of the southern portion of the Mastic Trail, leaving the trail intact at ground level as an underpass (**Figure 15**). This bridging accounts for <5% of the overall trail length and would not directly impact the trail's length. Alternative B1 will likely have indirect impacts to the cultural heritage of the Mastic Trail, including noise levels and visual intrusion which will be further evaluated as part of the Preferred Alternative.

Though a disruption to the trail's length is not anticipated due to the bridging, traversing an underpass while using the trail changes the character of this cultural and natural heritage resource from its original state and creates visual intrusion as described in WebTAG. Therefore, Alternative B1 is expected to have a **minor negative impact** to the cultural and natural heritage of the Mastic Trail.

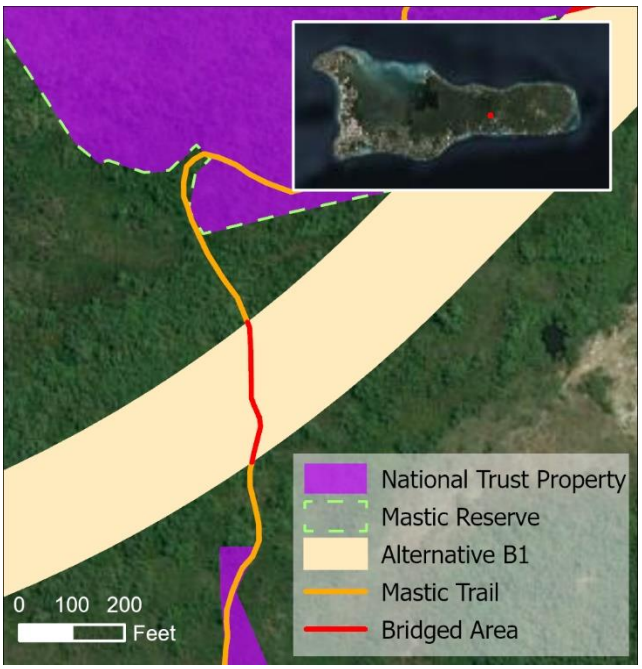

Figure 15: Alternative B1 Mastic Trail Bridging
(Source: DoE, Esri)

Meagre Bay Pond and Cemeteries

Based on its location, Alternative B1 is not anticipated to directly impact the cultural and natural heritage of Meagre Bay Pond or any of the identified cemeteries. Therefore, the impact is **neutral**. Potential indirect impacts, such as noise levels, visual intrusion, hydrological connectivity, and access, will be evaluated further as part of the Preferred Alternative.

5.2.3 Alternative B2

Central Mangrove Wetland

The NCA protected portion of the CMW (the buffer around Little Sound) is not within the area needed for Alternative B2 and therefore, no impacts are anticipated. The area needed for Alternative B2 is located south of NT-owned parcels of the CMW and no direct impacts are anticipated.

This alternative is anticipated to directly impact approximately 57 acres (23 hectares) of unprotected CMW parcels (**Figure 16**). This represents an estimated <1% of the total CMW. The size of the resource is part of its cultural heritage value, so any action that alters the resource's size, even in a small way, has an impact on the integrity of the heritage resource. Alternative B2 will likely have indirect impacts to the cultural heritage of the Central Mangrove Wetland, including noise levels, visual intrusion, hydrological connectivity and habitat fragmentation which will be further evaluated as part of the Preferred Alternative. Based on the overall physical size of the CMW (8,655 acres) and location of Alternatives B2 near the southern, developed border, Alternative B2 is expected to have a **minor negative impact** to the cultural and natural heritage of the CMW.

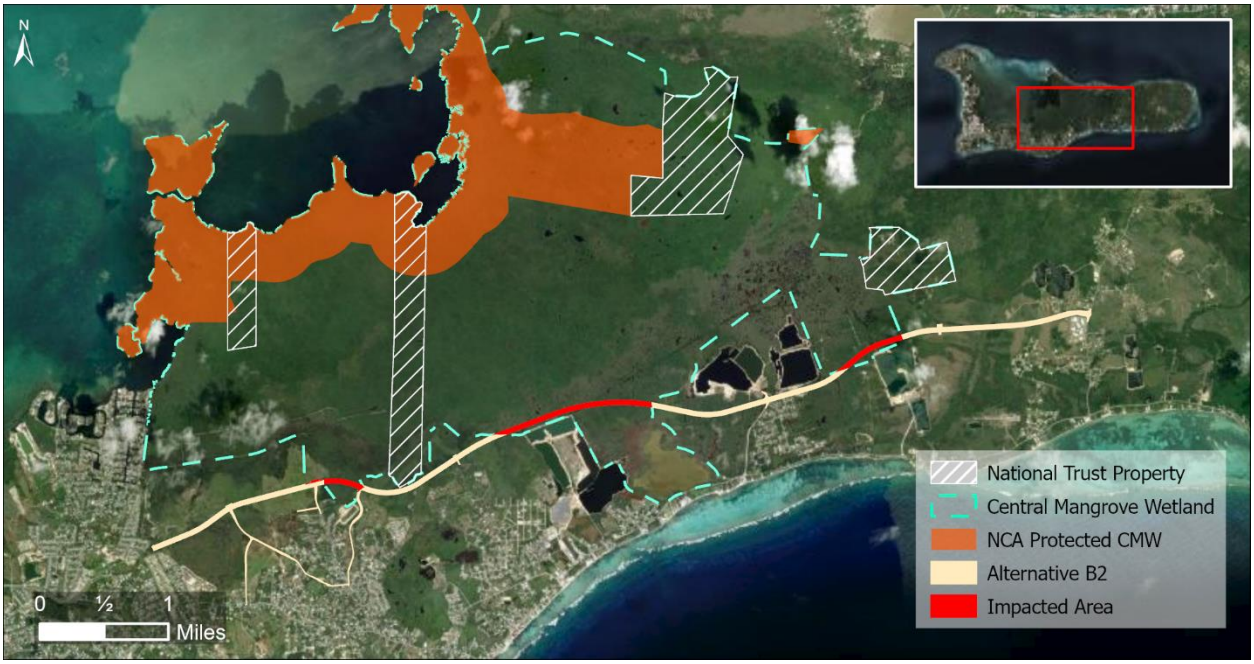

Figure 16: Alternative B2 Central Mangrove Wetland Impacts.
Source: DoE, Esri

Mastic Reserve, Mastic Trail, Meagre Bay Pond, and Cemeteries

Based its location, Alternative B2 is not anticipated to directly impact the cultural and natural heritage of the Mastic Reserve, the Mastic Trail, Meagre Bay Pond, or any of the identified cemeteries. Therefore, the impact is **neutral**. Potential indirect impacts, such as noise levels, visual intrusion, hydrological connectivity, and access, will be evaluated further as part of the Preferred Alternative.

5.2.4 Alternative B3

Central Mangrove Wetland

The NCA protected portion of the CMW (the buffer around Little Sound) is not within the area needed for Alternative B3 and therefore, no impacts are anticipated. The area needed for Alternative B3 is located south of National Trust-owned parcels of the CMW and no direct impacts are anticipated.

This alternative is anticipated to directly impact approximately 76 acres (31 hectares) of unprotected CMW parcels (**Figure 17**). This represents an estimated <1% of the total CMW. The size of the resource is part of its cultural heritage value, so any action that alters the resource's size, even in a small way, has an impact on the integrity of the heritage resource. Alternative B3 will likely have indirect impacts to the cultural heritage of the Central Mangrove Wetland, including noise levels, visual intrusion, hydrological connectivity, and habitat fragmentation which will be further evaluated as part of the Preferred Alternative. Based on the overall physical size of the CMW (8,655 acres) and location of Alternatives B3 near the southern, developed border, Alternative B3 is expected to have a **minor negative impact** to the CMW.

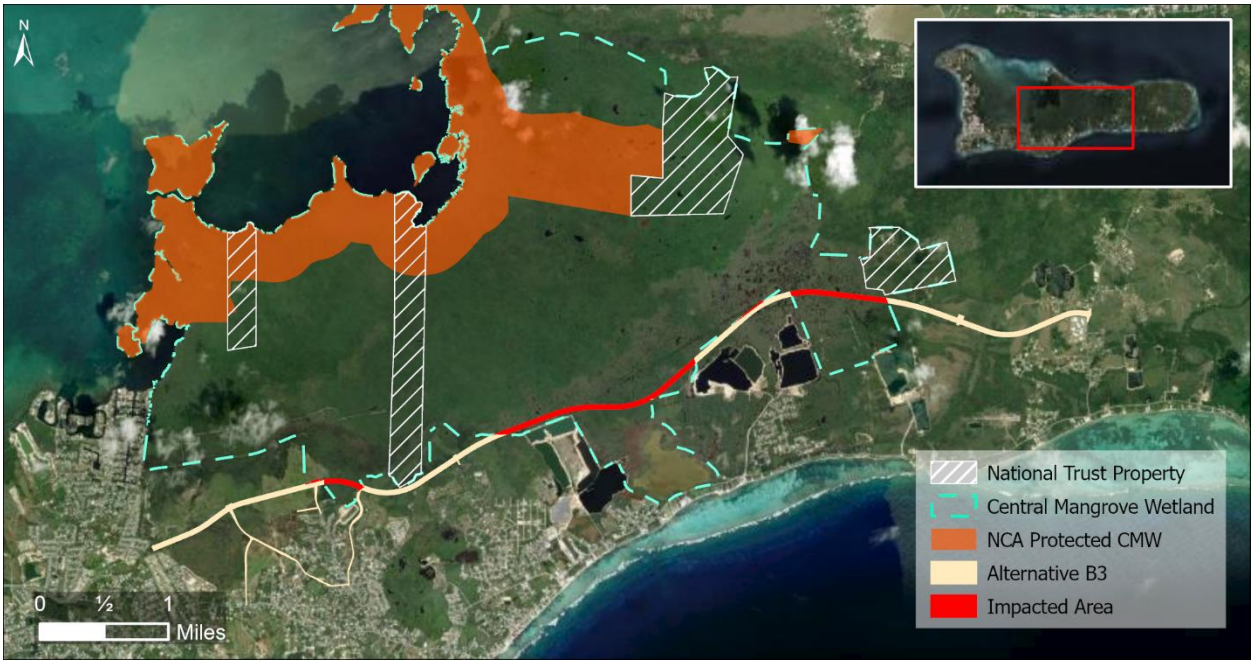

Figure 17: Alternative B3 Central Mangrove Wetland Impacts
Source: DoE, Esri

Mastic Reserve, Mastic Trail, Meagre Bay Pond, and Cemeteries

Based on its location, Alternative B3 is not anticipated to directly impact the cultural and natural heritage of the Mastic Reserve, Mastic Trail, Meagre Bay Pond, or any of the identified cemeteries. Therefore, the impact is **neutral**. Potential indirect impacts, such as noise levels, visual intrusion, hydrological connectivity, and access, will be evaluated further as part of the Preferred Alternative.

5.2.5 Alternative B4

Central Mangrove Wetland

The NCA protected portion of the CMW (the buffer around Little Sound) is not within the direct area needed for Alternative B3. Therefore, no impacts are anticipated. The area needed for Alternative B3 is located south of NT-owned parcels of the CMW and no direct impacts are anticipated. B3 is anticipated to directly impact approximately 10 acres (*4 hectares*) of unprotected CMW parcels (**Figure 18**). This represents an estimated <1% of the total CMW. The size of the resource is part of its cultural heritage value, so any action that alters the resource's size, even in a small way, has an impact on the integrity of the heritage resource. Alternative B4 will likely have indirect impacts to the cultural heritage of the Central Mangrove Wetland, including noise levels, visual intrusion, hydrological connectivity, and habitat fragmentation which will be further evaluated as part of the Preferred Alternative. Based on the overall physical size of the CMW (8,655 acres) and location of Alternatives B4 near the southern, developed border, Alternative B4 is expected to have a **minor negative impact** to the cultural and natural heritage of the CMW.



Figure 18: Alternative B4 Central Mangrove Wetland Impacts.
Source: DoE, Esri

Mastic Reserve and Mastic Trail

Based on its location, Alternative B4 is not anticipated to directly impact the cultural and natural heritage of the Mastic Reserve, or the Mastic Trail. Potential indirect impacts, such as noise levels, visual intrusion, hydrological connectivity, and access, will be evaluated further as part of the Preferred Alternative in the Environmental Statement.

Meagre Bay Pond

The area needed for Alternative B4 is adjacent to Meagre Bay Pond without encroaching on the Meagre Bay Pond parcel (**Figure 19**). Because the Meagre Bay Pond parcel would not be disturbed by Alternative B4, the alternative is not anticipated to have a direct impact on the cultural and natural heritage of Meagre Bay Pond. Therefore, the impact is **neutral**. Potential indirect impacts, such as noise levels, visual intrusion, hydrological connectivity, and access, will be evaluated further as part of the Preferred Alternative.

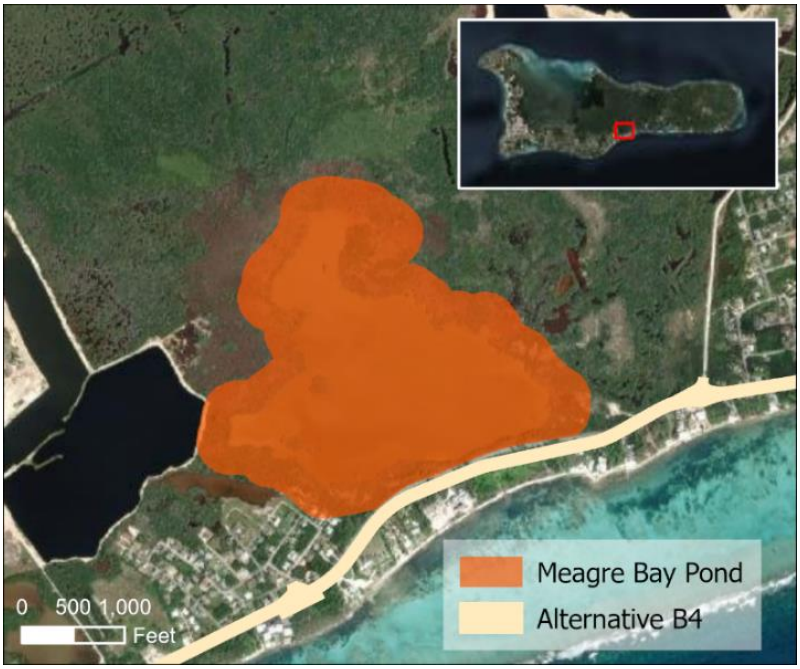

Figure 19: Alternative B4 Impacts to Meagre Bay Pond
Source: DoE, Esri

Cemeteries

The area needed for Alternative B4 is adjacent to both the Bodden Town Cemetery and the Watler or Wood Family Cemetery. The alternative is not anticipated to encroach on either cemetery parcel past the current boundaries of Bodden Town Road. However, Alternative B4 would travel through New Bodden Town Cemetery resulting in impacts to approximately 0.24 acres (*0.10 hectares*) of New Bodden Town Cemetery (<4% of total cemetery area along Alternative B4) (**Figure 20**). Alternative B4 would likely have indirect impacts to the cultural heritage of the cemeteries, including noise levels, visual intrusion, and access which will be further evaluated as part of the Preferred Alternative. Based on the area of impact and location along an existing roadway network, the anticipated impact to the cultural and natural heritage of the cemeteries it is a **minor negative impact**.

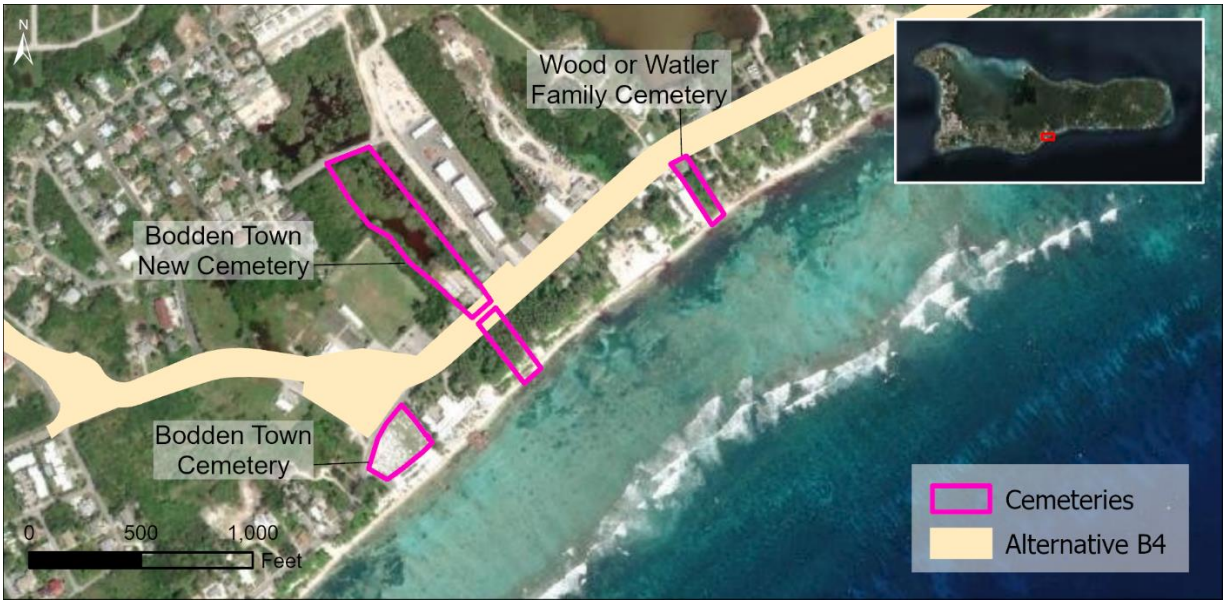

Figure 20: Alternative B4 Impacts to Cemeteries
Source: DoE, Esri

In summary**, Table 8** demonstrates the area that would be directly impacted by each Build Alternative, including the percent of the whole that would be impacted. The level of possible impact is also included. **Table 9** summarizes each of the identified cultural and natural heritage resource's intolerance to change and the anticipated impact by Alternative.

Table 8: Cultural Resource Directly Impacted by Each Alternative

Resource	Impact Acres				
	No-Build	B1	B2	B3	B4
CMW (8,655 acres)	Neutral	Minor 76 (<1%)	Minor 57 (<1%)	Minor 76 (<1%)	Minor 10 (<1%)
Mastic Reserve (1,329 acres)	Neutral	Minor 8 (<1%)	Neutral	Neutral	Neutral
Mastic Trail (2.3 miles)	Neutral	Minor	Neutral	Neutral	Neutral
Meagre Bay Pond (173 acres)	Neutral	Neutral	Neutral	Neutral	Neutral
Cemeteries (7 acres)	Neutral	Neutral	Neutral	Neutral	Minor 0.24 (<4%)

Table 9: Summary Table of Intolerance to Change and Alternative Impacts

Resource	Intolerance to Change	Anticipated Impact by Alternative				
		No-Build	B1	B2	B3	B4
CMW	High	Neutral	Minor	Minor	Minor	Minor
Mastic Reserve	High	Neutral	Minor	Neutral	Neutral	Neutral
Mastic Trail	High	Neutral	Minor	Neutral	Neutral	Neutral
Meagre Bay Pond	High	Neutral	Neutral	Neutral	Neutral	Neutral
Cemeteries	Medium	Neutral	Neutral	Neutral	Neutral	Minor

5.3 Assess Magnitude of Impact on Cultural and Natural Heritage Resources

To determine the Magnitude of Impact on the resources described in this Cultural and Natural Heritage Assessment (see **Table 5** in Section 4.2.3 of this document), the resource's Intolerance to Change (Step 1, **Table 1**) was assessed in tandem with the anticipated impact of each alternative to each resource (Step 2, **Table 4**). Each resource received an assessment score per alternative. A cumulative score was then assessed for each alternative (see **Table 8** for a summary of scoring). The Magnitude of Impact assessment scores correspond with the WebTAG Unit A3 7-point qualitative scale. **Table 9** summarizes the estimated direct impact of each alternative on the identified cultural and natural heritage resources, along with the overall qualitative rating per WebTAG Unit A3.

5.3.1 Central Mangrove Wetland

No-Build – The CMW has an Intolerance to Change score of **"High,"** and the No-Build is anticipated to have a **neutral** effect. Therefore, the No-Build's effect on the CMW receives a score of **"Neutral"** on the Magnitude of Impact scale.

Alternative B1- The CMW has an Intolerance to Change score of **"High,"** and Alternative B1 is anticipated to have a **minor negative** effect. Therefore, Alternative B1's effect on the CMW receives a score of **"Slight Adverse"** on the Magnitude of Impact scale.

Alternative B2- The CMW has an Intolerance to Change score of **"High,"** and Alternative B2 is anticipated to have a **minor negative** effect. Therefore, Alternative B2's effect on the CMW receives a score of **"Slight Adverse"** on the Magnitude of Impact scale.

Alternative B3- The CMW has an Intolerance to Change score of **"High,"** and Alternative B3 is anticipated to have a **minor negative** effect. Therefore, Alternative B3's effect on the CMW receives a score of **"Slight Adverse"** on the Magnitude of Impact scale.

Alternative B4- The CMW has an Intolerance to Change score of **"High,"** and Alternative B4 is anticipated to have a **minor negative** effect. Therefore, Alternative B2's effect on the CMW receives a score of **"Slight Adverse"** on the Magnitude of Impact scale.

5.3.2 Mastic Reserve

No-Build – The Mastic Reserve has an Intolerance to Change score of **"High,"** and the No-Build is anticipated to have a **neutral** effect. Therefore, the No-Build's effect on the Mastic Reserve receives a score of **"Neutral"** on the Magnitude of Impact scale.

Alternative B1- The Mastic Reserve has an Intolerance to Change score of **"High"** and Alternative B1 is projected to have a **minor negative** effect. Therefore, Alternative B1's effect on the Mastic Reserve receives a score of **"Slight Adverse"** on the Magnitude of Impact scale.

Alternative B2- The Mastic Reserve has an Intolerance to Change score of **"High"** and Alternative B2 is projected to have a **neutral** effect. Therefore, Alternative B2's effect on the Mastic Reserve receives a score of **"Neutral"** on the Magnitude of Impact scale.

Alternative B3- The Mastic Reserve has an Intolerance to Change score of **"High"** and Alternative B3 is projected to have a **neutral** effect. Therefore, Alternative B3's effect on the Mastic Reserve receives a score of **"Neutral"** on the Magnitude of Impact scale.

Alternative B4- The Mastic Reserve has an Intolerance to Change score of **"High"** and Alternative B4 is projected to have a **neutral** effect. Therefore, Alternative B4's effect on the Mastic Reserve receives a score of **"Neutral"** on the Magnitude of Impact scale.

5.3.3 Mastic Trail

No-Build – The Mastic Trail has an Intolerance to Change score of **"High,"** and the No-Build is anticipated to have a **neutral** effect. Therefore, the No-Build's effect on the Mastic Trail receives a score of **"Neutral"** on the Magnitude of Impact scale.

Alternative B1- The Mastic Trail has an Intolerance to Change score of **"High"** and Alternative B1 is projected to have **minor negative** effect. Therefore, Alternative B1's effect on the Mastic Trail receives a score of **"Slight Adverse"** on the Magnitude of Impact scale.

Alternative B2- The Mastic Trail has an Intolerance to Change score of **"High"** and Alternative B2 is projected to have a **neutral** effect. Therefore, Alternative B2's effect on the Mastic Trail receives a score of **"Neutral"** on the Magnitude of Impact scale.

Alternative B3- The Mastic Trail has an Intolerance to Change score of **"High"** and Alternative B3 is projected to have a **neutral** effect. Therefore, Alternative B3's effect on the Mastic Trail receives a score of **"Neutral"** on the Magnitude of Impact scale.

Alternative B4- The Mastic Trail has an Intolerance to Change score of **"High"** and Alternative B4 is projected to have a **neutral** effect. Therefore, Alternative B4's effect on the Mastic Trail receives a score of **"Neutral"** on the Magnitude of Impact scale.

5.3.4 Meagre Bay Pond

No-Build – Meagre Bay Pond has an Intolerance to Change score of **"High,"** and the No-Build is anticipated to have a **neutral** effect. Therefore, the No-Build's effect on the Meagre Bay Pond receives a score of **"Neutral"** on the Magnitude of Impact scale.

Alternative B1- Meagre Bay Pond has an Intolerance to Change score of **"High"** and Alternative B1 is projected to have a **neutral** effect. Therefore, Alternative B1's effect on Meagre Bay Pond receives a score of **"Neutral"** on the Magnitude of Impact scale.

Alternative B2- Meagre Bay Pond has an Intolerance to Change score of **"High"** and Alternative B2 is projected to have a **neutral** effect. Therefore, Alternative B2's effect on Meagre Bay Pond receives a score of **"Neutral"** on the Magnitude of Impact scale.

Alternative B3- Meagre Bay Pond has an Intolerance to Change score of **"High"** and Alternative B3 is projected to have a **neutral** effect. Therefore, Alternative B3's effect on Meagre Bay Pond receives a score of **"Neutral"** on the Magnitude of Impact scale.

Alternative B4- Meagre Bay Pond has an Intolerance to Change score of **"High"** and Alternative B4 is projected to have a **neutral** effect. Therefore, Alternative B4's effect on Meagre Bay Pond receives a score of **"Neutral"** on the Magnitude of Impact scale.

5.3.5 Cemeteries

No-Build – Cemeteries have an Intolerance to Change score of **"Medium,"** and the No-Build is anticipated to have a **neutral** effect. Therefore, the No-Build's effect on the Meagre Bay Pond receives a score of **"Neutral"** on the Magnitude of Impact scale.

Alternative B1- Cemeteries have an Intolerance to Change score of **"Medium"** and Alternative B1 is projected to have a **neutral** effect. Therefore, Alternative B1's effect on cemeteries receives a score of **"Neutral"** on the Magnitude of Impact scale.

Alternative B2- Cemeteries have an Intolerance to Change score of **"Medium"** and Alternative B2 is projected to have a **neutral** effect. Therefore, Alternative B2's effect on cemeteries receives a score of **"Neutral"** on the Magnitude of Impact scale.

Alternative B3- Cemeteries have an Intolerance to Change score of **"Medium"** and Alternative B2 is projected to have a **neutral** effect. Therefore, Alternative B3's effect on cemeteries receives a score of **"Neutral"** on the Magnitude of Impact scale.

Alternative B4- Cemeteries have an Intolerance to Change score of **"Medium"** and Alternative B4 is projected to have a **minor negative** effect on New Bodden Town Cemetery and a neutral effect on the other cemeteries assessed. Therefore, Alternative B4's effect on cemeteries receives a score of **"Slight Adverse"** on the Magnitude of Impact scale.

6 Shortlist Evaluation Summary

This Shortlist Evaluation includes a quantitative analysis (**Table 8**), a resource's intolerance to change analysis (**Table 9**), and a qualitative impacts analysis (**Table 10**) for each of the shortlisted Build alternatives along with the No-Build scenario. A monetary assessment is not applicable for cultural and natural heritage resources. For the unavoidable impacts reported, mitigation measures to aid in offsetting impacts may be possible. Mitigation measures have not been considered as part of this Shortlist Evaluation but will be investigated and identified for the Preferred Alternative and documented in the forthcoming Environmental Statement Document.

Table 9: Summary Table of Qualitative Impacts on Cultural and Natural Resources

Resource	No-Build	B1	B2	B3	B4
CMW	Neutral	Slight Adverse	Slight Adverse	Slight Adverse	Slight Adverse
Mastic Reserve	Neutral	Slight Adverse	Neutral	Neutral	Neutral
Mastic Trail	Neutral	Slight Adverse	Neutral	Neutral	Neutral
Meagre Bay Pond	Neutral	Neutral	Neutral	Neutral	Neutral
Cemeteries	Neutral	Neutral	Neutral	Neutral	Slight Adverse
Overall Qualitative Rating	**Neutral**	**Moderate Adverse**	**Slight Adverse**	**Slight Adverse**	**Slight Adverse**

The following summarizes the results of the analysis for the identified cultural and natural heritage resources:

- *No-Build* – The No-Build scenario is anticipated to have no direct impacts on the identified cultural and natural heritage resources (0 acres) resulting in an overall **Neutral** qualitative rating.

- *Alternative B2* – Alternatives B2 would be the least impactful of the four Build alternatives since it is anticipated to have a direct minor impact on one cultural and natural heritage resource: the CMW (57 acres), resulting in an overall **Slight Adverse** impact on cultural and natural heritage resources. While Alternative B2 has the same overall qualitative rating as Alternative B3, Alternative B2 results in less acreage of impact to the CMW in comparison to Alternative B3, with 57 acres and 76 acres, respectively.

- *Alternative B3* – Alternatives B3 would be the second least impactful of the four Build alternatives since it is anticipated to have a direct minor impact on one cultural and natural heritage resource: the CMW (76 acres), resulting in an overall **Slight Adverse** impact on cultural and natural heritage resources.

- *Alternative B4* – Alternative B4 would be the third least impactful of the four Build alternatives since it is anticipated to have direct minor impacts on two cultural and natural heritage resources: the CMW (10 acres) and Cemeteries (0.24 acre) resulting in an overall **Slight Adverse** rating on cultural and natural heritage resources. Although this alternative would impact two resources the level of impact on the CMW would be 10 acres compared to 57 acres with Alternative B2 and 76 acres with Alternative B3; all of which affect less than one percent of the total CMW acreage.

- *Alternative B1* – Alternative B1 would be the most impactful of the four Build alternatives since it is anticipated to have direct minor impacts to the CMW (76 acres) and the Mastic Reserve (8 acres). In addition, Alternative B1 would include a bridge that would carry the new roadway over the Mastic Trail allowing for the continued use of the trail but changing the character of the trial as users pass under the bridge section. Based on these impacts Alternative B1 results in a **Moderate Adverse** rating on the identified cultural and natural heritage resources.

This Cultural and Natural Heritage Assessment is one in a series of Technical Reports that have been prepared for the Shortlist Evaluation. The level of impacts and the identification of the least impactful alternative will differ based on the resource/feature evaluated in each of the Technical Reports. Therefore, the least impactful alternative described in this evaluation summary and in each technical document **does not** move an alternative forward to the Preferred Evaluation nor does it constitute any special weighting or extra consideration in the Shortlist Evaluation Document. The comprehensive analysis of all the resources/features evaluated along with the rationale for the identification of the Preferred Alternative are presented in the Shortlist Evaluation Document.

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Attachment A

Stakeholder Consultation

MEETING MINUTES

Date: July 19, 2023

From: Monica Del Real, WRA

Invitees: WRA, NRA, DoE, National Trust, RES, TYLin

Subject: Kick-off Meeting - Terrestrial & Cultural

Project: Cayman EWA EIA

Agenda Topics:

Introductions: **(Monica – 5 minutes)**

- Lindsey Ulizio, WRA – Project Manager
- Monica Del Real, WRA – Environmental Studies Coordinator; Document Lead
- Taylor Sprenkle, WRA – Terrestrial Ecology Lead
- Nick Nies, WRA – Cultural and Natural Heritage Lead
- Justin Freedman, RES – Project Manager – Terrestrial Ecology
- Alexandra Shostak, WRA – Environmental Scientist and GIS Analyst
- Jeffry Marcus, TYLin – Environmental Sciences Group Leader
- Paul Archibald, TYLin – Project Director
- Sara Gutekunst, TYLin – Senior Scientist

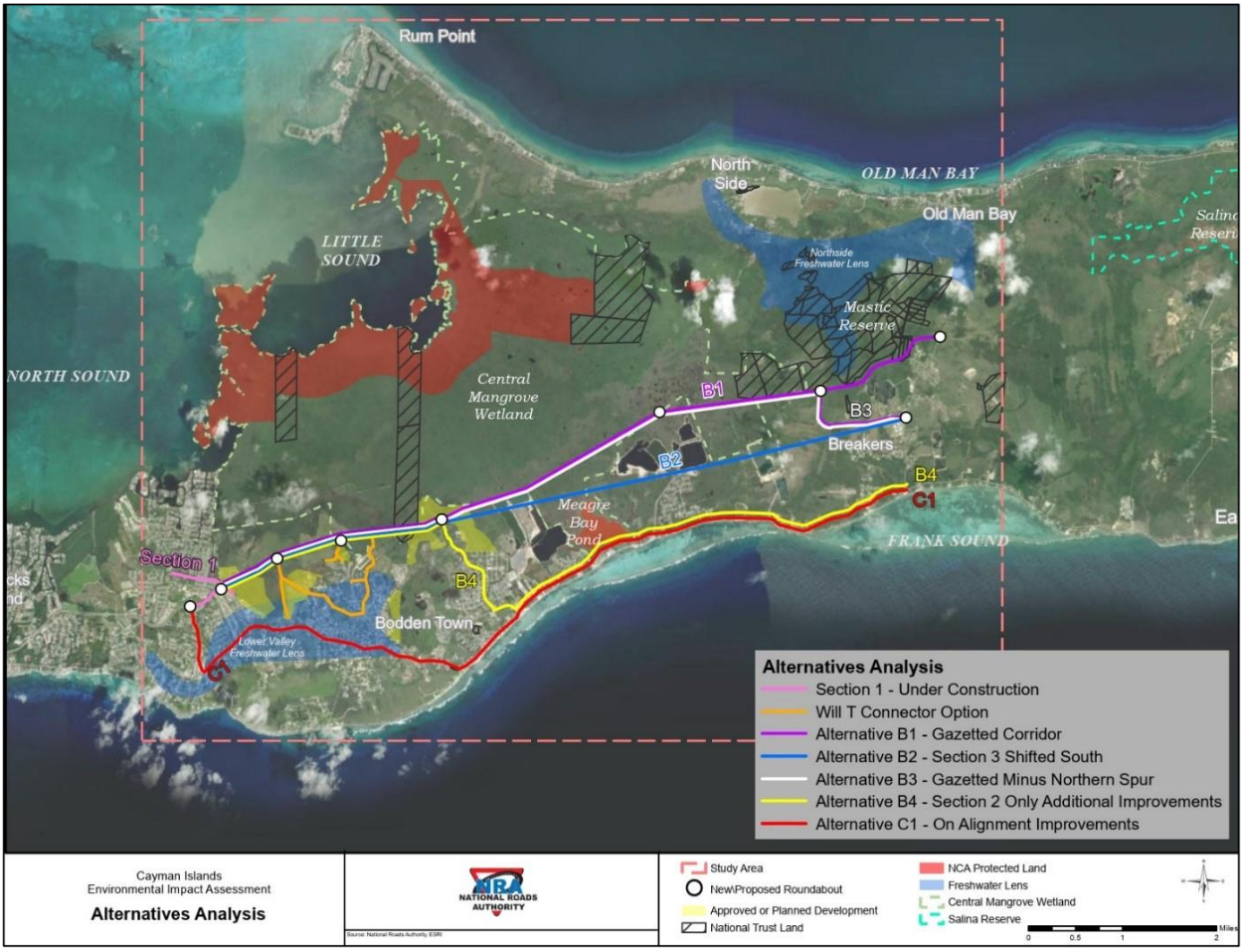
- National Roads Authority Participants:
  - Denis Thibeault

- Department of Environment (DoE) Participants:
  - Gina Ebanks-Petrie – Director
  - Frederic Burton – Manager, Terrestrial Resource Unit
  - Jeremy Olynick – Senior GIS Systems Officer
  - Tim Austin - Deputy Director of Research and Assessment

- National Trust Participants:
  - Frank Roulstone - Executive Director
  - Catherine Childs – Environmental Programmes Manager
  - Andrew “AJ” McGovern - Environmental Officer

Project Overview: **(Monica – 5 minutes)**

- WRA is providing engineering and environmental services for the NRA on the East-West Arterial (EWA) Extension Environmental Impact Assessment (EIA).
- The Final Terms of Reference was approved in April 2023.
- In June the EIA was approved to move forward and extends from Woodland Drive to Frank Sound Road.
- Assessing different alternatives
- Map of potential alternatives is below:



Data Requests: **(Taylor – 10 minutes)**

- WRA appreciates the large amount of data that has been provided to date
- Can methodology be provided for how the 2018 Landcover Habitat shapefile was produced? How much ground truthing was done?
    - Gina – the rate of change is quite rapid
    - Jeremy – methodology can be provided. Original classification done in 2006. Update with aerial photography run from Land and Survey.
    - Denis – new LiDAR may be flown in August of this year
- Any additional data available?
    - Terrestrial Ecology: Critical species habitats, DoE habitat assessment points
    - Cultural and Natural Heritage: Location of heritage sites
        - Frank – no street addresses on Cayman

Critical Concerns: **(Nick – 10 minutes)**

- What are the biggest concerns of the DoE and National Trust?
    - Fred – primary habitat impacts (forest or wetland, etc.); indirect impacts (road kill, habitat fragmentation, infrastructure for development).
        - Parrot nesting habitat; fly low across roads

- Gina – gazetted corridor would bisect Mastic Trail
  - Hydrological connectivity of Mastic Reserve
- Frank – fragmentation, Meagre Bay Pond
  - Hydrological connectivity
  - Will open up parcels for development. Not limited access.
- Cathy – local situations, speed of development
  - Hydrological connectivity, pipes tend to get clogged quickly

General Methodology: **(Taylor – 15 minutes)**

- The initial longlist of alternatives will be evaluated utilizing provided geospatial data, field verification, and critical concerns identified.
- Field verification will be completed for the longlist of alternatives next week
  - Extent of field verification will depend on property access
  - Spot checking of the different habitat communities and qualities
  - Utilizing a combination of UK and US standards as applicable:
    - Uniform Mitigation Assessment Method (UMAM)
    - Biodiversity Metric 3.1 Calculation Tool
- Additional field effort will be completed for the Preferred Alternative and potential mitigation sites.

- DoE – could potentially fly drone footage for the EIA efforts
- Denis – NRA has used Gary Green for drones in the past
- Jeremy – Section 1 and 2 land cover is course. There has been some growth in the previously cleared areas.

Mitigation: **(Justin – 10 minutes)**

- Avoid, minimize, mitigate
- Conservation, Enhancement, and Creation – Risk level increases
- Any properties that the DoE or National Trust have been looking to acquire?
- Any properties that the DoE or National Trust currently own that could be enhanced? (mangrove planting, invasive species removal, etc.)
- Other mitigation ideas (environmental education plaques along Mastic Trail, wildlife crossings, etc.)

- Gina – agencies previously identified “wish list” of protected areas.
  - No compulsory acquisition for protected areas
  - DoE could provide the wish list boundaries
- Fred – Protection of primary habitat. Limited restoration opportunities.
- Frank – National Trust cannot accept payment for land which is degraded
  - “Inalienable”
- Fred – no history of roadway mitigation on the Island.
- Frank – how do we control mitigation for other roads which will connect
- Cathy – the only meaningful mitigation would be protecting primary habitat. Does not see enhancement as meaningful. Does not see environmental education as something that they need. Wildlife crossings should be automatically required.
- Gina – crab impacts with roadway crossing
- Fred – interface of dry and wet land is prime crab habitat
- Jeffry – Fencing is one way to avoid mortality. However is also creates a barrier and fragmentation. Species migration will be important.
- Fred – fresh water turtle crossings

Action Items: **(Monica – 5 minutes)**

- Provide any additional geospatial data (critical habitats, cultural sites, etc.)
- Provide additional Natural and Cultural Heritage contacts (Cayman Islands National Museum, Cayman Islands National Archive, etc.)
    - Gina – no other sources needed
- WRA – email the Alternatives Alignments to National Trust so that they can check for build heritage sites
- Jeremy (DoE) – email the methodology for the original 2006 Land Habitat Coverage and "wish-list" of properties for protection

National Trust for the Cayman Islands
HISTORIC BUILT HERITAGE POLICY RECOMMENDATIONS



Overview of Historic Built Heritage

The ***National Trust for the Cayman Islands*** **(NTCI)** was established by statute passed by the Parliament (then the Legislative Assembly) on 14th September, 1987. A significant part of its mandated mission is *"the preservation of the historic, natural and maritime heritage of the Islands through the preservation of areas, sites, buildings, structures and objects of historic or cultural significance"*. This is the basis for the NTCI's efforts to preserve the built heritage of the three Cayman Islands, for present and future generations.

The extracts below from the ***Modern Heritage Matters*** website provide helpful information as to What is Built Heritage? « Modern Heritage Matters -

> *"Our built heritage, as the physical evidence of our cultural development, is one of our most important cultural assets. Built heritage helps us to understand where we have come from and who we are today. It allows us to maintain a link with the past, defining a sense of place and identity for communities, both urban and regional."*
>
> *"Built heritage is not only about beautiful buildings and monuments of exceptional value but also includes small modest vernacular buildings that embody other equally important historical, social or even archaeological values rendering them just as significant."*
>
> *"The significance of heritage places can change over time as community values evolve. Conservation does not require them to be preserved in their original condition or use, only that*

any alteration or development for contemporary use and enjoyment retains it original heritage features. In addition to regular maintenance, conservation may include preservation, restoration, reconstruction, adaptation and interpretation."

"Balance needs to be achieved. It is essential to conserve significant buildings that promote identity and continuity of place, without impeding development that meets the current needs of communities. It is important to remember that the most significant elements of this modern layer of development will eventually form part of the built heritage of future generations."

Definition of Cayman's Built Heritage

Cayman's built heritage may conveniently be defined by quoting another extract from the ***Modern Heritage Matters*** website, What is Heritage? - Heritage Council –

"Our heritage is what we have inherited from the past, to value and enjoy in the present, and to preserve and pass on to future generations."

However, for the purpose of this paper, built heritage will be defined, but not limited to, any existing structure or building constructed prior to 1950. This would include structures such as forts, house-shaped graves/tombs, monuments, stone walls, step wells as well as houses built in the traditional vernacular Cayman style using local materials such as wattle, daub, and ironwood.

The historical significance of sites and structures would be determined by but not limited to:

- tangible links to important events in Caymans history (e. g. Fort George, Pedro St. James),
- links to people or periods of historic significance (e.g. The Mission House, Dr. Roy's Ironshore; The Eldermire House),
- architectural significance in terms of design and representative of traditional built heritage (wattle and daub/cottage, cabin, bungalow, mansion/upstairs homes in each island),
- houses owned or lived in by persons of significance to the community or because it played a significant role in some important aspect of Caymanian heritage (e.g. the Roland Bodden home in GT which was built by and for the well-known builder of ships, as well as the location of this family's shipyard; Mr. Arthur's House, shop and printshop; Capt. Allie's home and turtle net making under the seagrape trees across the street from the home; homes that form an integral part of historic overlay or heritage preservation overlay zones)

Background

Following the invitation from the Cayman Islands Government for the NTCI to give input and advice for policies to strengthen the preservation of our built heritage, a sub-committee of the Historic Advisory Committee was formed. The sub-committee included the NTCI Director and the Historic Programmes Manager; representatives from the Districts of Bodden Town, Cayman Brac, George Town and West Bay; an architect; and NTCI Council members representing Heritage Preservation and Government. They began by identifying and reviewing the existing legislation found within the National Trust Law and Bye Laws; Regulations or Frameworks for the Planning Department and the Lands and Survey Department (see Appendix A for relevant excerpts).

The existing legislation for heritage preservation identified includes:

1. The NTCI has a legal remit which includes heritage as outlined in the National Trust Act (2010 Revision). This includes the creation of a National Heritage Register. Work began on this

Register in 1992 (paper) and progressed to the creation of a public database in 2006 (Digital). Updating is ongoing every 1-2 years.

2. The 1997 Development Plan has identified two Historic Overlay Zones, one including Bodden Town and Manse Road and a second including Elizabeth Street, Church Street and Boggy Sand Road, all in West Bay. These zones were created from NTCI Heritage Register data.

3. The draft National Planning Framework (PlanCayman) called for the designation of Heritage Preservation Overlays in section 4.3 but the framework has not yet been adopted by Cabinet.

Recommendations

The NTCI requests that the following recommendations are considered and implemented in the shortest time frame possible, recognising the high risk and urgent threat to our historic built heritage.

Recommendation 1: The government should establish a joint entity, which includes the NTCI as well as other bodies with a similar remit, with the purpose of reviewing and strengthening existing laws to identify loopholes and aspects that need to be addressed to further protect Cayman's built heritage. Ultimately this should lead to the creation of a National Heritage Preservation Council (reference may be made to legal framework used to create the National Conservation Council)

The National Heritage Preservation Council should include organisations such as the Cayman Islands National Museum, the Cayman Islands National Gallery, the Tourism and Attractions Board and the Cayman National Cultural Foundation. These organisations are all custodians of historic and cultural assets. It could also include representatives from National Trust District Committees, CIREBA and other government entities.

The National Heritage Preservation Council should undertake the development of a National Built Heritage Preservation Plan which is underpinned by a public education campaign that will lead to the establishment of built heritage protection immediately using existing laws, as well as to the introduction of new legislation within the next 2-3 years maximum.

Based on the advice and recommendations of the National Heritage Preservation Council, the Government should develop a law which protects heritage buildings and streetscapes; similar to Conservation Areas in many countries that maintain special architectural or historic interest, the character and the appearance of an area, while still allowing development in keeping with the area. The law should:

- Protect character and streetscapes in the Historic Overlay Zone,
- Require guidelines for future development in Historic Overlay Zones,
- Give further legal status to the Heritage Register,
- Protect properties on the Heritage Register which could be designated as National Landmarks.

Recommendation 2: Referencing the Heritage Register, the Department of Planning should update and expand the existing Historic Overlay Zones to include, but not necessarily be limited to, South

Church Street, areas of Central George Town, North Church Street, as well as Cayman Brac and Little Cayman.

There are gaps in the existing Historic Overlay Zones and many of the remaining important buildings and streetscapes are not protected. The first undertaking should be a public consultation with owners to educate them and increase their awareness and appreciation of the historic significance of their homes or assets (e.g. stone walls).

The government could also consider, in the medium to long term, incentives for homeowners who chose to maintain and retain historic properties. This can be done through formalised plaques for these sites, grant funding and waiving of stamp duties. A heritage fund can also be established through Government to which a percentage of planning/development fees go to this fund to support incentives, or these funds could go directly to the Historic Preservation Fund launched by the NTCI. This action could be linked to corporate responsibility and ESG (Environmental, Social and Governance).

Other incentives include permissions for owners of historic properties to earn rental income on these properties once they adhere to restriction on structural changes that might impact the character and historic relevance of said property.

Recognising the impact that removal/or relocation of any single structure within an overlay zone has on the integrity of Historic Overlay Zones, the CPA should require the retention and inclusion of said structures into any planned developments in these zones while diligently enforcing the requirement that a new development reflects the historic aesthetic of the zone (see Recommendation #7). Removal or relocation should always be a last resort.

Recommendation 3: The Department of Planning should immediately adopt a policy considering the NTCI as a Section 7 Consultee, and consult with the NTCI on planning applications which involve any structure listed on the NTCI's Heritage Register or within a Historic Overlay Zone.

Section 7 of the Development and Planning Act states,

> *"The [Central Planning] Authority or [Development Control] Board, as the case may be, shall, to greatest possible extent consistent with the performance of its duties under this Act, consult with departments and agencies of the Government having duties or having aims or objects [sic] related to those of the Authority or Board]."*

Section 7 is the mechanism used by the Department of Planning to consult with bodies like the National Roads Authority and Water Authority. Although the National Trust would not be considered a department or agency of the Government, Section 4(1) of the National Trust Act states,

"The purposes of the Trust are – (a) the preservation of the historic natural and maritime heritage of the Islands through the preservation of areas, sites, buildings, structures and objects of historic or cultural significance."

Section 4(2) states,

"The Trust has the power to carry out the following activities –
(f) the provision of information, advice and assistance to the Government and other appropriate persons or bodies for the furtherance of the purposes of the Trust."

Therefore, the NTCI has legal duties and aims, which are related to that of the Central Planning Authority (CPA) and Development Control Board (DCB) and it would be appropriate for the CPA and the DCB to consult with the NTCI under Section 7. At present, the NTCI is not consulted on planning applications unless they are a landowner within a certain radius, however if the NTCI is consulted, it will have an opportunity to make recommendations and be aware of relevant planning applications before a decision is made.

Recommendation 4a[1]: The Department of Planning should include as a requirement to consult with NTCI, as part of processing a Demolition Permit, particularly if the structure is on the NTCI's Heritage Register or within a Historic Overlay Zone.

A Demolition Permit should be required if two or more structural members are to be removed. No planning permission is currently required to demolish a structure. The Department of Planning should be required to consult with NTCI before considering and/or approving the grant of a Demolition Permit for any structure on the Heritage Register or within a Historic Overlay Zone. Consulting with the NTCI would give the NTCI an opportunity to salvage any particular materials from the site, and/or take photos, videos and/or create a written record of the built heritage.

Recommendation 4b: The Department of Planning should require planning permission to demolish a structure on the NTCI's Heritage Register or within a Historic Overlay Zone.

Currently, no planning permission is required to demolish a structure on the NTCI's Heritage Register. The planning process allows consultation with other government bodies, an opportunity for objections by neighbours, and an opportunity for democracy in the decisions made by the CPA and DCB. Demolishing a structure on the NTCI's Heritage Register or within a Historic Overlay Zone should require planning permission because that process will provide more opportunity for input.

Recommendation 5: The Lands and Survey (L&S) Department should include the Heritage Register on Cayman Land Info. L&S should introduce a unique icon which clearly identifies a building or site

[1] Recommendations 4a and 4b are two proposed options to address the demolition of heritage structures without the NTCI being notified.

of historic significance on their maps and which automatically triggers a link to the NTCI Heritage Register as a reference document for buyers or sellers.

Cayman Land Info is the GIS database that is owned and maintained by the Lands and Survey Department. It is heavily relied upon by real estate agents, developers, architects etc., who otherwise work in a 'buyer beware' market. If the Heritage Register were included on Cayman Land Info, it would be better known and more easily accessible by the professional development community. Displaying the location of the properties on the Heritage Register via Cayman Land Info would alert people to the presence of a heritage structure on site before they buy or chose to develop.

Recommendation 6: The Department of Planning should publish the Historic Overlay Zone maps on their website more prominently.

Although the page on legislation references the Historic Overlay Zone, there do not appear to be maps of the location of the Historic Overlay Zones on the planning website. The Zones are provided on Cayman Land Info but that website is behind a paywall and the maps do not appear to be available in pdf or image format for free. The maps of the Historic Overlay Zones should be freely available from Planning.ky without needing to pay for a subscription to Cayman Land Info.

Recommendation 7: The CPA should more stringently apply the rules of the Historic Overlay Zone.

There is a significant level of discretion available to the CPA when making decisions on development within Historic Overlay Zones. The Development and Planning Regulations state,

> *"16. (1) In an Historic Overlay zone, the Authority shall have a duty to promote and encourage the preservation of historic buildings and conserve their historic architectural heritage.*
>
> *(2) In considering any application for permission to develop within an Historic Overlay zone, the Authority shall, in its discretion, ensure that the development —*
>
> > *(a) conforms to the traditional workmanship, design, scale, massing, form, materials, decoration, colour and methods of construction of the buildings and the location of windows and doors in them; and*
> >
> > *(b) in its setting, reflects the historic pattern of development in the Islands."*

The CPA should apply the rules much more stringently and thus control development more tightly, in line not only with the discretion they are afforded under, but in accordance with the historic criteria specified in, the Development and Planning Regulations. The CPA should consult with Advisory District Councils (refer to the CI Constitution Order 2009) as well as the NTCI District Committees on how they want their District or community to 'look', the image they wish to retain, the story they wish to preserve and to communicate to present and future generations, so that informed decisions can be made around heritage sites and streetscapes. This should include evidence of architectural plans to retain and reflect historic aesthetics in any new planned development in these zones.

Timeline & Measures of Success

To facilitate action on these recommendations, the following timeline and measures of success are outlined. Not every recommendation will be actionable immediately, but the ones outlined would demonstrate to the community and stakeholders a willingness to properly develop, monitor and report on policies that effectively protect our national built heritage.

Recommendation	Timeline	Success Indicators	Stakeholders	Notes
Establishment a joint entity	Immediate – 3 months	Establishment of a functioning Council. Launch of public consultation of policy recommendations	As outlined under recommendation 1.	
The NTCI appointed as a Section 7 Consultee	Immediate – 3 months	An NTCI representative appointed to each of the Central Planning Authority and the Development Control Board	Ministry of Planning, Department of Planning, Central Planning Authority, Development Control Board, National Trust for the Cayman Islands	If there is an NTCI representative on the Central Planning Board and Development Board, then this facilitates recommendations 4 and 7.
Heritage Register on Cayman Land Info	Immediate – 6 months	Heritage Register included on the L&S system	Lands & Survey, National Trust for the Cayman Islands, CIREBA, individual buyers or sellers	This can be accomplished either through link to the NTCI Heritage Register online or built into the GIS system.
Publish the Historic Overlay Zone maps	Immediately and on an ongoing basis	Included on the L&S system and Cayman Land Info	Ministry of Planning, Department of Planning, Central Planning Authority, Development Control Board, CIREBA, members of the public, National Trust for the Cayman Islands	

Medium Term				
Update and expand the existing Historic Overlay Zones	6 months – 1 year	Call for public consultation on the current zones and recommendations for additional areas. Updated areas are reflected in the development plan. Adoption of the development plan.	Ministry of Planning, Department of Planning, Central Planning Authority, Development Control Board, CIREBA, members of the public, National Trust for the Cayman Islands	
Drafting and enactment of The National Built Heritage law	2-4 years	Implementation and enforcement of The National Built Heritage law	Ministry of Planning, Department of Planning, Central Planning Authority, Development Control Board, CIREBA, members of the public, National Trust for the Cayman Islands	

Conclusion

The preservation of a nation's built heritage is a very important aspect of a country's broader commitment to heritage and culture. Nationally and internationally, it is recognised that preservation of built heritage contributes to building national pride and identity. This process involves (among other steps) identifying, protecting, or enhancing buildings, sites or objects of historical and cultural significance.

As this is done, many benefits occur including:

- A sense of national pride and pride in one's community can be developed.
- Economic growth based on showcasing the unique character and heritage of individual districts.

Therefore, historic preservation should be viewed as a positive, rather than a negative undertaking, and one from which all interested parties will benefit and thrive.

We appreciate having been afforded this opportunity, as a sub-committee of the Historic Advisory Committee of the NTCI, to provide input and advice for policies to strengthen the preservation of the built heritage of the Cayman Islands. We hope that the Government will find our recommendations of assistance as they move forward to progress the objectives envisaged by proposed enhancement

of the Development and Planning Act and the Development and Planning Regulations. However, we will remain ready and willing to offer further assistance should it be required.

In the meantime, may we reiterate an earlier quote: *"Our heritage is what we have inherited from the past, to value and enjoy in the present, and to preserve and pass on to future generations."*

Appendix A

1. **NT Law, Section 4**
2. **The Development Plan 1977 (extract 3.11 Historic Overlay Zones)**
3. **The Development & Planning Regulations (Historic Overlay Zones, 16.1, 2a, 2b)**
4. **The Lands and Survey maps showing historic overlay zones**
5. **National Planning Framework 4.3 (Heritage Preservation Overlay)**

National Planning Framework 4.3 (Heritage Preservation Overlay)

4.3 Heritage Preservation Overlay (HPO)

The purpose of the Heritage Preservation Overlay (HPO) is to promote and encourage the preservation, acquisition, redevelopment and/or replication of historically significant features, including but not limited to the following:

- Historic sites, areas, and trails;
- Historic buildings and structures;
- Rights-of-way, including access to the sea;
- Ship launching sites;
- Lighthouses;
- Shipwrecks;
- Cemeteries; and
- Archaeological sites.

The overarching goals of the HPO are to;

- Preserve and protect the established historical, architectural, or cultural character of the area;
- Preserve and promote a sense of place by incorporating traditional design and development patterns; and
- Preserve any significant aspect, appearance, vista or view of the area.



Figure 4.4: Historic sites and buildings would be protected with the application of the Heritage Preservation Overlay.

Goal 1:
Preserve and protect the Island's historical heritage sites and structures.

Objective 1: Ensure the long-term protection of the Island's unique historic areas that help define the history of the Island.

Action Items

- Identify areas in Grand Cayman with particular architectural and historic interest where there is a special character and identifiable sense of place.
- Rename the existing Historic Overlay Zone to "Heritage Preservation Overlay" (HPO) to better reflect the intent of protecting not only the historical structures, but also other heritage elements of the Island.
- Modify and expand the scope of the HPO in order to protect the integrity of the Island's heritage sites and structures for future generations.
- Create a description of allowable uses within the zone, acceptable alterations to heritage structures, and acceptable uses on the remainder of subject parcels.
- Identify any views and vistas that should be protected
- Incorporate a heritage review into all development applications within the Heritage Preservation Overlay with input from appropriate agencies such as the National Trust and National Museum.

Objective 2: Ensure the long-term protection of individual historic buildings, sites and properties throughout Grand Cayman.

Action Items

- Expand the application of the Heritage Preservation Overlay, ensuring that it addresses National Trust designated properties, as well as other heritage sites throughout Grand Cayman.
- Identify buildings worthy of preservation due to their historic, architectural, traditional or other interest.
- Identify acceptable alterations and extensions to historic buildings.

2. THE DEVELOPMENT PLANS OF 1977 AND 1997

In the original 1977 Development Plan there is quite literally no reference whatsoever to the built heritage of the Cayman Islands

In the 1997 version of the Development Plan there is the first reference to Historic Overlay Zones which is mentioned in the latter part of the Development priorities.

THE DEVELOPMENT PLAN 1997 FOR THE CAYMAN ISLANDS

PLANNING STATEMENT

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Extract:

3.11 HISTORIC OVERLAY ZONE

The purpose of the Historic Overlay Zone is to promote and encourage the perpetuation of historic buildings and structures with the underlying zone remaining in effect. Development will be strictly controlled to conserve the Cayman Islands historical and architectural heritage.

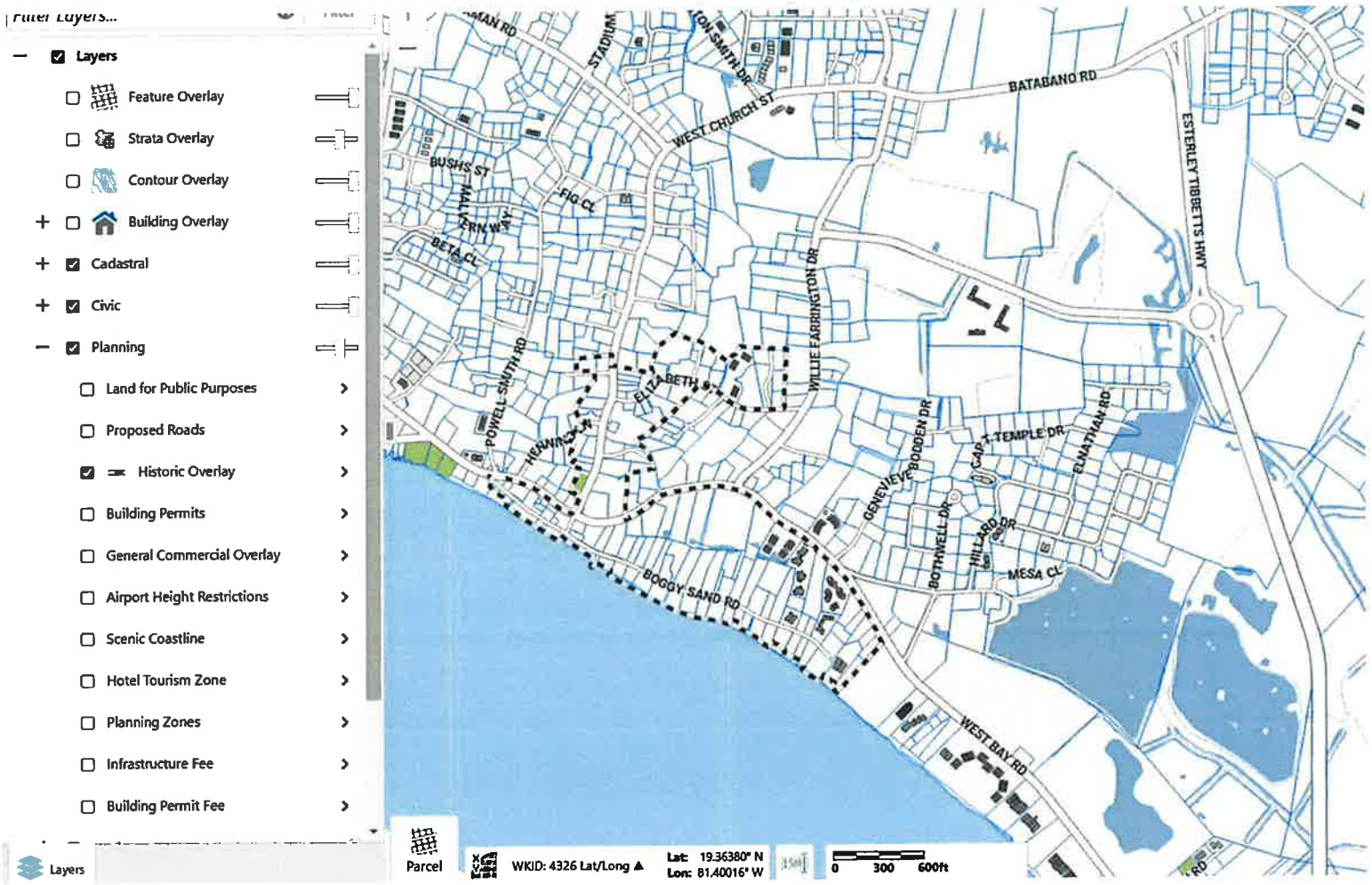
Subject to the Development and Planning Law and Regulations, the Authority shall apply the Historic Overlay Zone provisions and other relevant provisions of the Statement in a manner best calculated to -

(a) preserve and protect the established historical, architectural or cultural character of the area;
(b) preserve any significant aspect, appearance or view of the area; and
(c) preserve and protect any prospect or view, being an environmentally important prospect or view, from any public area.

4. LAND AND SURVEY MAPS

Amongst the maps held by Lands and Survey Department are two zones that have been designated as Historic Overlay Zones, being illustrated in the following maps and comprising:

- West Bay – area loosely defined as Boggy Sand Road, Four Way Stop, Church Street and Elizabeth Street
- Bodden Town – the "main street" section of Bodden Town Road including Manse Road



Existing Historic Overlay in West Bay (shown dotted)



Existing Historic Overlay Zone in Bodden Town (shown dotted)

Currently, Historic Overlay Zones do not include George Town, Savannah, North Side, East End or Little Cayman and Cayman Brac.

Purposes and power of trust

4. (1) The purposes of the Trust are-

(a) the preservation of the historic, natural and maritime heritage of the Islands through the preservation of areas, sites, buildings, structures and objects of historic or cultural significance;

(b) the conservation of lands, natural features and submarine areas of beauty, historic or environmental importance which the Trust may have acquired through gift, bequest, purchase, lease or other means; and

(c) the protection of native flora and fauna.

(2) The Trust has the power to carry out the following activities -

(a) the identification, investigation, classification, protection and preservation of any place, building, area of beauty, or of historic, cultural or environmental significance and the creation and maintenance of a Heritage Register thereof;

(b) the acquisition of any property by gift, bequest, purchase, lease or other means and the maintenance, sale or leasing of any such land or thing;

(c) the provision of access for the public to Trust property, the regulation of the conduct of the public thereon and the charging of a fee for such access:

Provided that different provisions may be made for different Trust property;

(d) the engagement in programmes for the preservation and propagation of wildlife;

(e) the raising of funds for the furtherance of the purposes of the Trust and the investment of such funds;

(f) the provision of information, advice and assistance to the Government and other appropriate persons or bodies for the furtherance of the purposes of the Trust;

(g) the fostering of public interest in the purposes of the Trust through public information and public education;

(h) the management and control over such submarine property as may be granted to the Trust by the Governor; and

(i) such other activities as are necessary for the purposes of the Trust.

Appendix E, Attachment H – Hydrology & Drainage – Assessment of Alternatives

Environmental Statement
East-West Arterial Extension:
Section 2 (Woodland Drive – Lookout Road)
Section 3 (Lookout Road – Frank Sound Road)



Hydrology and Drainage FINAL

Assessment of Alternatives
Grand Cayman East-West Arterial Extension

NRA
NATIONAL ROADS AUTHORITY

April 25, 2024

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List of Terms

ac	Acre
Baird	W.F. Baird and Associates Coastal Engineers, LTD
°C	Degree Celsius
cm	Centimetre
CMW	Central Mangrove Wetland
Defra	Department for Environment Food and Rural Affairs
DEH	Department of Environmental Health
DMRB	Design Manual for Road and Bridges
DoE	Department of Environment
EIA	Environmental Impact Assessment
ERP	Environmental Resource Permit
EWA	East West Arterial
°F	Degree Fahrenheit
FDOT	Florida Department of Transportation
ft	Foot
ha	Hectare
hr	Hour
IDF	Intensity-Duration-Frequency
in	Inch
K	Horizontal hydraulic conductivity
km	Kilometre
kph	Kilometres per hour
LiDAR	Light detection and ranging
m	Metre
mi	Mile
mm	Millimetre
mph	Miles per hour
NCA	National Conservation Act
NRA	National Roads Authority
NT	National Trust

Plan	Meagre Bay Pond Management Plan
Pond	Meagre Bay Pond
RVE	Remington & Vernick Engineers
SFWMD	South Florida Water Management District
SuDS	Sustainable Drainage Systems
WebTAG	UK Department for Transport "Transport Analysis Guidance"
WMD	Water Management District
WRA	Whitman, Requardt & Associates, LLP

1 Introduction

The East-West Arterial (EWA) Extension Environmental Impact Assessment (EIA) is proposed to evaluate an alternative east-west travel route on Grand Cayman. The Terms of Reference (ToR) for the proposed EWA Extension EIA was finalized on April 4, 2023. Since then, five Build alternatives (B1, B2, B3, B4, and C1), in addition to the No-Build scenario, were developed and assessed as part of the Longlist Alternatives Evaluation. A separate Longlist Alternatives Evaluation Document has been prepared to document this analysis.

As a result of the Longlist Alternatives Evaluation, four Build alternatives (B1, B2, B3, and B4) and the No-Build scenario were advanced as a shortlist for evaluation. This report focuses on the assessment of hydrology and drainage for these shortlisted alternatives. Information from this report will be incorporated within the Shortlist Alternatives Evaluation Document and Environmental Statement.

2 Shortlist Evaluation

Hydrology and drainage are important processes on Grand Cayman and within the EWA EIA study area (**Figure 1**). These processes support the health and safety of residents and natural resources. Applicable governmental standards were reviewed, and baseline conditions were assessed for the Island's hydrology and drainage processes, including the influences of topography, climate, tropical storms and hurricanes, and storm surge and flood risk. In addition, hydrologic and drainage functions of natural resources, including the Central Mangrove Wetland (CMW) and Mastic Reserve have been considered, as well as the hydrologic interaction of the Meagre Bay Pond.

A field assessment was conducted in July 2023 to observe hydrology and drainage processes on Grand Cayman and the natural resources within the EIA study area. Technical studies and analyses were also requested by the NRA and performed by W. F. Baird & Associates Coastal Engineers, LTD (Baird) and Remington & Vernick Engineers (RVE) in support of this EIA and included rainfall analysis, hydrology and hydraulic analysis, water budget analysis for the CMW, and a coastal risk study. In addition, a groundwater mounding analysis of the freshwater lenses was requested by the National Roads Authority (NRA) and performed by Whitman, Requardt & Associates, LLP (WRA). Potential impacts for each of the shortlist alternatives, including the No-Build scenario and Build alternatives (**Figure 1**), were assessed based on the baseline conditions, field assessment, and the studies performed utilizing the proposed 2074 roadway design for each alternative. Additional evaluation will occur as part of the upcoming Preferred Alternative assessment in order to refine the Preferred Alternative design and conceptually design features such as the stormwater conveyance and treatment systems, bridge openings, and erosion control designs.

The Shortlist of Alternatives includes the No-Build scenario and four Build alternatives (B1, B2, B3, and B4) as shown in **Figure 1.** The four Build alternatives share the same common section beginning at the western terminus, near Woodland Drive, and continuing east to near Lookout Road (**Figure 1**). They also share the same common improvements to the local roadway network referred to as the Will T Connector. Additional details describing the

Shortlist of Alternatives including full descriptions of each alternative along with typical design sections can be found in the Shortlist Evaluation Document.

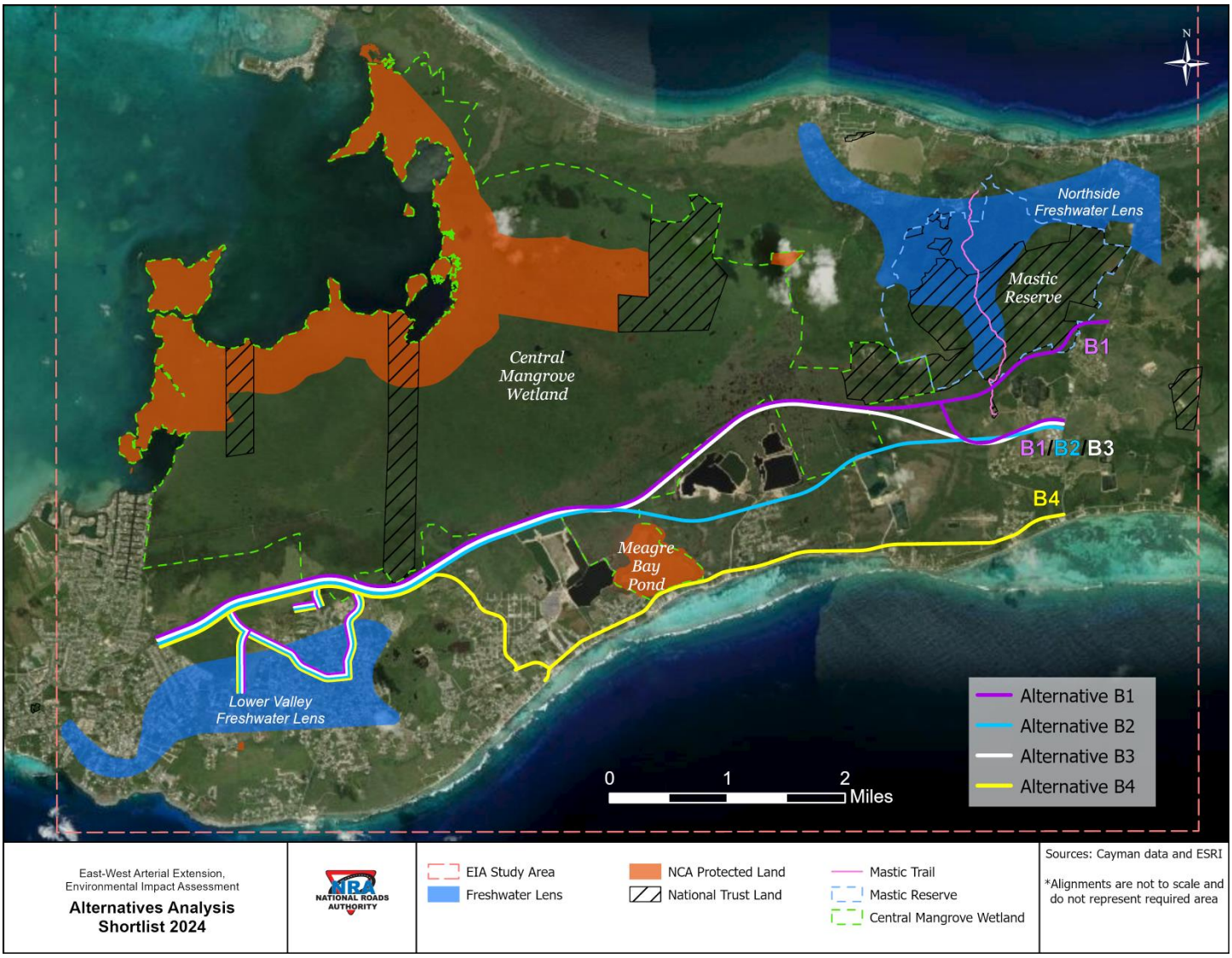

Figure 1: Shortlist of Build Alternatives

3 Data Sources Evaluated

A variety of sources of information were evaluated throughout the study process and applicable standards of various national and international governmental entities were assessed. Technical reports and papers, in addition to data provided by the Cayman Islands government, were used to develop baseline conditions for the overall hydrology and drainage processes and specifically for selected natural resources. The data sources utilized are listed in the References section, including the sources listed below.

There are limitations to the data provided for evaluation. The reports provided by Baird and RVE and listed below detail limitations to their modelling results. These limitations include the absence of the northern spur in the Alternative B1 modelling, the inability to include community-level

drainage design and analysis at the scale of the modelling provided, a need for refined ground topography through areas such as the CMW where tree cover affects the accuracy of the ground readings, in addition to other limitations. However, the results of this data are sufficient to complete the comparative analysis required for this stage of the EIA process. Additional study is recommended for more refined design analysis in the future.

The following spreadsheets, files and data were provided by the Cayman Islands Department of Environment (DoE):

- Provided November 2022:
  - Lands protected under the National Conservation Act (NCA) of 2013 (*.shp shapefile)
  - Lands owned by the Cayman Islands National Trust (NT) (*.shp shapefile)
- Provided July 2023:
  - Central Mangrove Wetland (CMW) (*.shp shapefile)
  - Mastic Reserve and Mastic Trail (*.shp shapefile)

The following geospatial datasets were provided by the Cayman Islands government and other sources:

- Provided by the Cayman Islands Land and Survey Department on August 4, 2023:
  - Light detection and ranging (LiDAR) LAS geospatial data
- "Drain Well" shapefile provided by the National Roads Authority (NRA) on August 4, 2023
  - Note: Shapefile is not a comprehensive list of all drain wells in the area and does not include areas within private developments.
- Satellite imagery from Google Earth Pro dated between June 5, 2023 to September 15, 2023

The following reports were provided by Baird and RVE:

- Provided by Baird on April 3, 2024:
  - Cayman East-West Arterial Extension, Flood Modeling and Roadway Drainage Openings – Final Report.
- Provided by RVE in March, 2024:
  - Hydraulic and Hydrologic Studies of Proposed East-West Arterial Roadway Expansion, Hydraulic Modelling – Alternatives Assessment
- Provided by RVE in April, 2024:
  - Hydraulic and Hydrologic Studies of Proposed East-West Arterial Roadway Expansion, Memorandum 3 – Water Budget Analysis
- Provided by RVE on August 11, 2022:
  - Hydraulic and Hydrologic Studies of Proposed East-West Arterial Highway Expansion, Memorandum 1 – Preliminary Rainfall Analysis
- Provided by RVE in March, 2024:
  - Hydraulic and Hydrologic Studies of Proposed East-West Arterial Highway Expansion, Memorandum 2 – Hydrology and Hydraulic (H&H) Analysis

4 Review of Applicable Standards

The Cayman Islands have limited existing regulations that cover a variety of hydrology and drainage topics. However, there are several international standards and regulations that were considered for this evaluation. For the topics that are not included in the Cayman Island regulations, international standards from the UK, Canada, United States of America (US), and global standards were utilized. Specifically, there are no Cayman Island regulations covering environmental water quality for roadway stormwater runoff. Coordination with the Cayman Island DoE, Water Authority (WAC), and Department of Environmental Health (DEH) is suggested as part of the Preferred Alternative assessment to determine the applicable governing standards for environmental water quality.

4.1 Cayman Islands

The Cayman Islands have some existing documents covering hydrology and drainage in general; however, there are no specific regulations handling this subject matter. One such document is the Planning Department's Grand Cayman Stormwater Management Guidelines. This document discusses general requirements for stormwater runoff and suggestions for small scale alternative environmental water quality treatment methods.

The Cayman Islands also enacted the EIA Directive which was issued in accordance with the NCA and contains requirements and directives regarding the development of EIAs.

4.2 International (UK, US, Canada, General International)

Various international standards were researched and considered regarding their application in the Cayman Islands. One such standard is the General Environmental Health and Safety Guidelines endorsed by the International Finance Corporation and World Bank Group. This document covers standards involving ambient environmental water quality and contamination. The document sets forth target levels to achieve reductions in certain contaminates. The document also lists general standards regarding construction activities.

Numerous Canadian standards were also researched and reviewed. The Ontario Stormwater Management Planning and Design Manual covers topics such as environmental water quality and quantity requirements and design recommendations for water treatment and conveyance facilities. British Columbia's Stormwater Planning Guidebook was also reviewed. This document covers methods for developing water protection strategies and provides details related to the design of stormwater treatment features. In addition, the City of Moncton Design Criteria Manual for Municipal Services was also reviewed. This document covers design of stormwater conveyance, management systems, and stormwater treatment requirements for the City of Moncton in New Brunswick, Canada.

UK standards were also researched and reviewed including the Department for Environment Food and Rural Affairs (Defra) River Basin Management Plans. These documents cover regulations for specific water bodies and detail environmental water quality and protection requirements in the basins of interest. The documents also provide discussion related to highway runoff treatment and the use of Sustainable Drainage systems (SuDS). The Defra Non-Statutory Technical Standards for Sustainable Drainage Systems was analysed; it covers design methods and considerations for

SuDS. Another document that was reviewed was the Design Manual for Road and Bridges (DMRB) LA 113 Road Drainage and the Water Environment. This document covers environmental water quality and flood risk requirements for roadways.

US standards considered included several nationwide sources such as the US Department of Agriculture Natural Resources Conservation Service National Engineering Handbook, as well as standards developed by the State of Florida. The standards for the state of Florida were considered because of the geographical proximity to the Cayman Islands as well as the fact that the state standards cover the regulations for the Florida Keys, which have a similar topography and tropical weather conditions to the Cayman Islands. Tropical insular nation standards were reviewed but none of the locations reviewed contained sufficient detail on hydrology and drainage topics. The most similar location standards identified were the local regulations for the Florida Keys.

Regarding environmental water quality, the state of Florida environmental water quality regulations are governed by five Water Management Districts (WMDs) as well as the Florida Department of Environmental Protection. The WMDs developed a two-part Environmental Resource Permit (ERP) Applicants Handbook that details the environmental water quality regulations for the state. All of the WMDs share the same version of Volume 1 of this manual which covers topics such as the legal basis for environmental water quality regulation, special basin criteria, wetland impacts, and operation and maintenance requirements. Volume 2 of the Applicants Handbook is specific to each WMD. For this application, the version developed by the South Florida WMD (SFWMD) was analysed because this is the district that governs environmental water quality in the Florida Keys. Volume 2 of the ERP Applicants Handbook details environmental water quality treatment requirements and states that the treatment requirements are based on the treatment system used. The Handbook also details additional treatment for discharges to environmentally sensitive or compromised water bodies.

Chapter 62-777 of the Florida Administrative Code was also reviewed for applicability. This regulation details contaminants of concern, as well as target levels to achieve cleanup of sites affected by these contaminants. This document is currently used on Grand Cayman for general reference and guidance in environmental water quality matters.

Florida Department of Transportation (FDOT) regulations and guidance documents were also reviewed. The FDOT Drainage Manual sets forth drainage design standards for roadway projects and addresses sea level rise considerations and how they factor into drainage design. This manual also covers design requirements for open channels, storm drains, cross drains, stormwater management systems, and pipe materials among other items. The FDOT also uses the FDOT Drainage Design Guide to provide further clarification and design details for the Drainage Manual. This guide covers the topics mentioned above in the Drainage Manual and provides additional design guidance. FDOT also uses the FDOT Bridge Scour Manual for evaluating and designing for scour at bridges. One other manual that the FDOT employs is the State of Florida Erosion and Sediment Control Manual. This manual discusses design methods for the prevention of erosion associated with construction activities.

Finally, another document reviewed was the US Department of Agriculture Natural Resources Conservation Service National Engineering Handbook. This document covers physical processes and design guidance regarding topics related to erosion control, hydraulic structures, and hydrology among other topics.

4.3 Conclusions

After review of the above listed standards and manuals, there are several standards and manuals that are recommended for application on this project. The Grand Cayman Planning Department's Grand Cayman Stormwater Management Guidelines is recommended for general design of drainage system features. The Defra Non-Statutory Technical Standards for Sustainable Drainage Systems is recommended for guidance in selecting alternative environmental water quality treatment features. FDOT documents, including the Drainage Manual, Drainage Design Guide, Bridge Scour Manual, and State of Florida Erosion and Sediment Control Manual, are recommended for design detail of drainage and erosion control features and scour design at bridge openings. Finally, Volume 2 of the ERP Applicants Handbook for the SFWMD is recommended for detailing environmental water quality treatment requirements, in addition to Chapter 62-777 of the Florida Administrative Code that is currently in use on Grand Cayman.

As mentioned at the beginning of this section, coordination with other government departments is suggested during the Preferred Alternative assessment in order to gain concurrence on utilizing the above listed standards and manuals.

5 Baseline Conditions

5.1 Topography

Grand Cayman is irregularly shaped with an approximate area of 76 mi^2 (197 km^2). It is approximately 22 mi (35 km) long by 9 mi (14 km) wide at its widest point. The island is relatively flat, low-lying, and has limited concentrated drainage patterns generated by topographic relief (e.g. valleys and rolling terrain). A recent estimate of the maximum land surface elevation at Grand Cayman is approximately 56 feet (17 metres) above sea level, from the book "Geology of the Cayman Islands" by Dr. Jones, which was published by Springer in November 2022. The low-lying topography is vulnerable to winds and flooding caused by hurricanes and tropical storms.

5.2 Climate

Grand Cayman has a tropical climate that is typically hot and humid throughout the year, with some cooler temperatures during dry season months. The prevailing wind direction is generally south-easterly from May to October and north-easterly from December to April (Cayman Islands Government, 2013). Since it is located in the northwest Caribbean, Grand Cayman is affected in the dry season by cold fronts. In the wet season, weather conditions are influenced by tropical waves, tropical storms, and hurricanes with very intense rainfall. The dry, relatively cold months are from late November to mid-April. Dry season cold fronts generate cooler temperatures, stronger winds and rough sea swells known locally as 'Nor-westers', which occur suddenly and can be severe, with sustained wind speeds of up to 46 miles per hour (mph) [74 kilometres per hour (kph)] and gusts up to 69 mph (111 kph). The warm, rainy wet season spans from mid-May through October. In July to November, low pressure systems moving west across the Caribbean

frequently bring weather conditions ranging from weak tropical waves to hurricanes. A table of Grand Cayman climate variables are shown in **Table 1.**

Table 1: Climate Variables

Variable	Average (min/max)
Average Annual Temperature (2012-2021)[1]	82.7°F (80.6°F/83.5°F), 28.1°C (27.0°C/28.6°C)
Highest Daily Temperature (2012-2021) [1]	92.5°F (91.5°F/93.2°F), 33.6°C (33.1°C/34.0°C)
Lowest Daily Temperature (2012-2021) [1]	67.4°F (64.0°F/70.8°F), 19.7°C (17.8°C/21.6°C)
Average Daily Temperature in Wet Season[2]	84.4°F (88.9°F high daily/77.4°F low daily), 29.1°C (31.6°C high daily/25.2°C low daily)
Average Daily Temperature in Dry Season[2]	80.8°F (84.2°F high daily/73.4°F low daily), 27.1°C (29.0°C high daily/23.0°C low daily)
Average Annual Relative Humidity (2011-2021)[1]	79% (75%/81%)
Average Total Annual Precipitation (1982-2021) [3]	55 in (139 cm)
Average Total Annual Precipitation (2012-2021) [1]	52.91 in (41.92 in/60.78 in), 134.39 cm (106.48 cm/154.38 cm)
Average Monthly Rainfall Total in Wet Season[2]	5.7 in, 14.48 cm
Average Monthly Rainfall Total in Dry Season [2]	2.5 in, 6.35 cm
Number of Days in a Year with at Least 0.01 Inches of Rain (2012-2021)[1]	150 days (119 days/184 days)
24-hour Rainfall Intensitities[3]	0.32 in/hr (0.13 in/hr / 0.81 in/hr)[4], 8.15 mm/hr (3.22 mm/hr / 20.49 mm/hr)[4]

[1] The Economics and Statistics Office, 2022
[2] Wood, 2021
[3] Razzaghmanesh and Gause, 2022
[4] 0.81 in/hr (20.57 mm/hr) is an extreme event that corresponds to Hurricane Ivan in 2004

The overall average temperature between 2012 and 2021 was 82.7°F (28.1 °C) and the average annual relative humidity between 2011 and 2021 was 79% (Economics and Statistics Office, 2022). In 2021, the annual average relative humidity was 75% and ranged from 71% (April) to 79% (May) (**Figure 2**). In 2021, temperatures were cooler in January to March then increased from April to October and were then cooler in November and December (**Figure 3**). Overall, temperatures remain relatively consistent through the year. Between 2012 and 2021, the difference between the highest daily temperature and the lowest daily temperature was 29.2°F (16.2°C) (The Economics and Statistics Office, 2022). The region has increasing higher average and extreme temperature events as average temperatures have increased approximately 3.9°F (2.2°C) over the past 40 years, at a rate of around 0.09°F (0.06 °C) annually (Pinnegar et. Al, 2022). In addition, the Caribbean Sea has warmed by around 2.7°F (1.5°C) over the last 100 years (Cayman Islands Government, 2013).

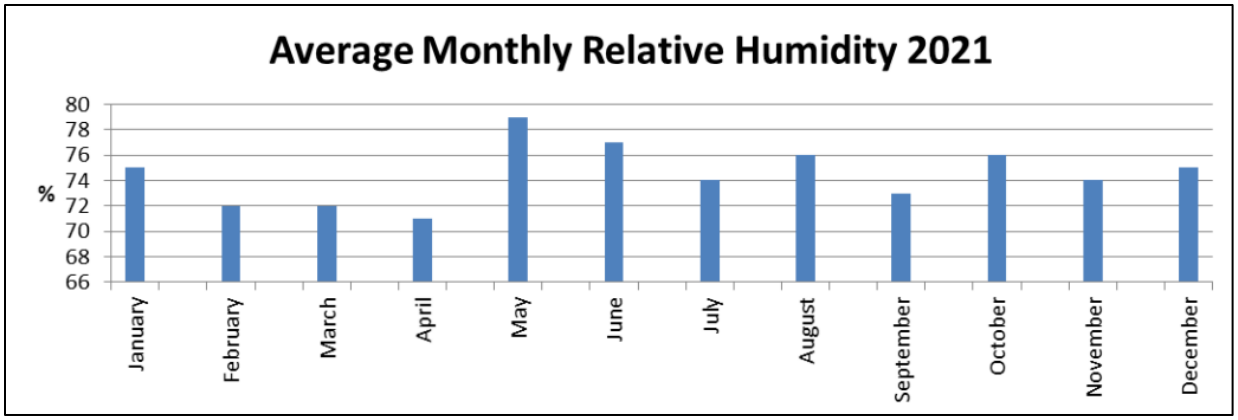

Figure 2: Average Monthly Relative Humidity 2021
Source: Economics and Statistics Office, 2022, and National Weather Service

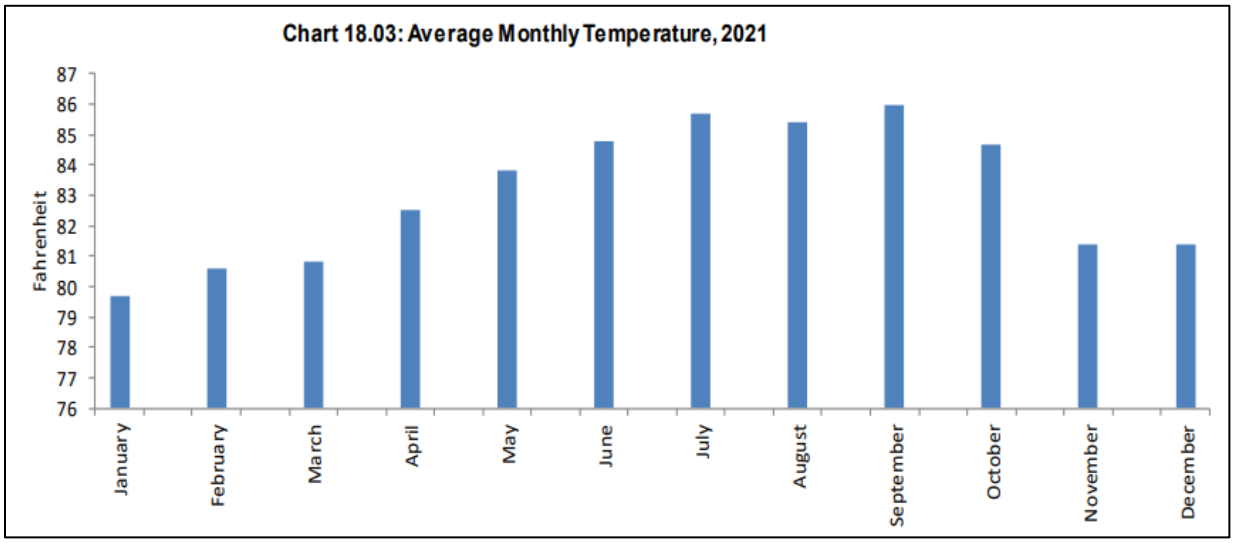

Figure 3: Average Monthly Temperature 2021
Source: Economics and Statistics Office, 2022, and National Weather Service

The wettest months are typically September and October, while March is the driest month (Razzaghmanesh and Gause, 2022). During wet season months, rainfall is typically the result of tropical thunderstorms or localised rain. Some of the rain is generated from the evaporation of water in the CMW. In the dry season months, occasional surges of cooler air from continental North America are the major producers of rainfall although precipitation is of much shorter duration and lesser amount than the wet season. Typically, heavy showers are interspersed by long dry spells during the wet season, which leads to periodic flooding in low-lying areas and depressions as well as a moisture deficiency which is accentuated by shallow soil depth and low water holding capacities.

The average total precipitation from 1982-2021 was 55 in (139 cm) a year (Razzaghmanesh and Gause, 2022), with rainfall amounts increasing from east to west due to the evaporation of water in the CMW that is deposited as rainfall in the western side of Grand Cayman. The calculated 24-

hour rainfall intensities have an average of 0.32 in/hr (8.15 mm/hr) (Razaghmanesh and Gause, 2022). Between 2012 and 2021, the most rain in a 24-hour period was 11.5 in (29.2 cm) on June 5, 2015 (Economics and Statistics Office, 2022). In 2021, George Town had a total of 53.7 in (136 cm) of rain, with August having the highest amount of rainfall (12.6 in or 32 cm) and January having the lowest amount of rainfall (0.3 in or 0.76 cm) (**Figure 4**). Recent precipitation records show that the Cayman Islands also have experienced multiple drought periods over the last 55 years (1958, 1960, 2003 and 2004) which occurred during the regular dry season (Government of the Cayman Islands, 2013).

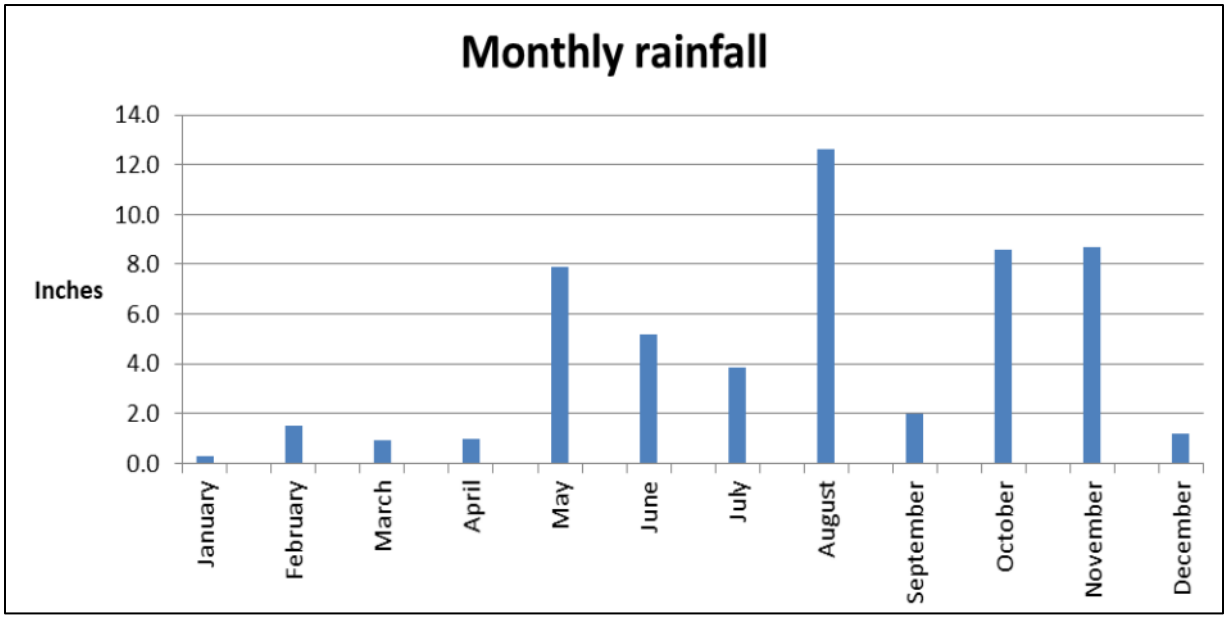

Figure 4: Average Monthly Rainfall in George Town in 2021
Source: Economics and Statistics Office, 2022, and National Weather Service

Climate and land use changes could affect the hydrology and drainage patterns and geo-environmental conditions within the project area in the future. Climate change could affect the amount, intensity, and duration of rainfall, temperature, and evapotranspiration, as well as the occurrence of extreme weather (e.g., hurricanes). Observational trends appear to show a decrease in total precipitation but an increase in rainfall intensity resulting in an increased occurrence of flood and drought events. Fewer but more severe rain events in recent years were observed from rainfall data collected at the Owen Roberts International Airport (Pinnegar et. Al, 2022). In addition, it has been predicted that the Cayman Islands may experience a decrease of between 0.4 and 2 in (10 and 50 mm) in annual rainfall totals between 2011 and 2099 (National Climate Change Committee, 2011). The Intergovernmental Panel on Climate Change predicts that there will likely be a decrease in rainfall during the wet season in the Caribbean and that this drying trend will likely continue in the coming decades (Arias et al., 2021). Between December 2021 and November 2022, the rainfall monthly totals were 4.9% lower than the 30-year average (Cayman Islands National Weather Service, 2022). The change in rainfall patterns, increased evaporation, and extreme weather could impact the hydrology and drainage patterns and the recharging of the island's freshwater lenses.

5.3 Tropical Storms and Hurricanes

Hurricanes are a major climatic factor because the Cayman Islands are located within the Caribbean hurricane belt, a region of the Atlantic Ocean that extends from the Gulf of Mexico to north of the Lesser Antilles where hurricanes are most likely to form (**Figure 5**). The months of September, October, and November are typically the most active for hurricanes, when storms tend to form in the southern Caribbean and move north. The intense tropical storms and hurricanes are typically accompanied by intense rainfall. Storm surges combined with wave action are responsible for much of the damage typically caused by hurricanes, especially in large, low-lying coastal settlements.

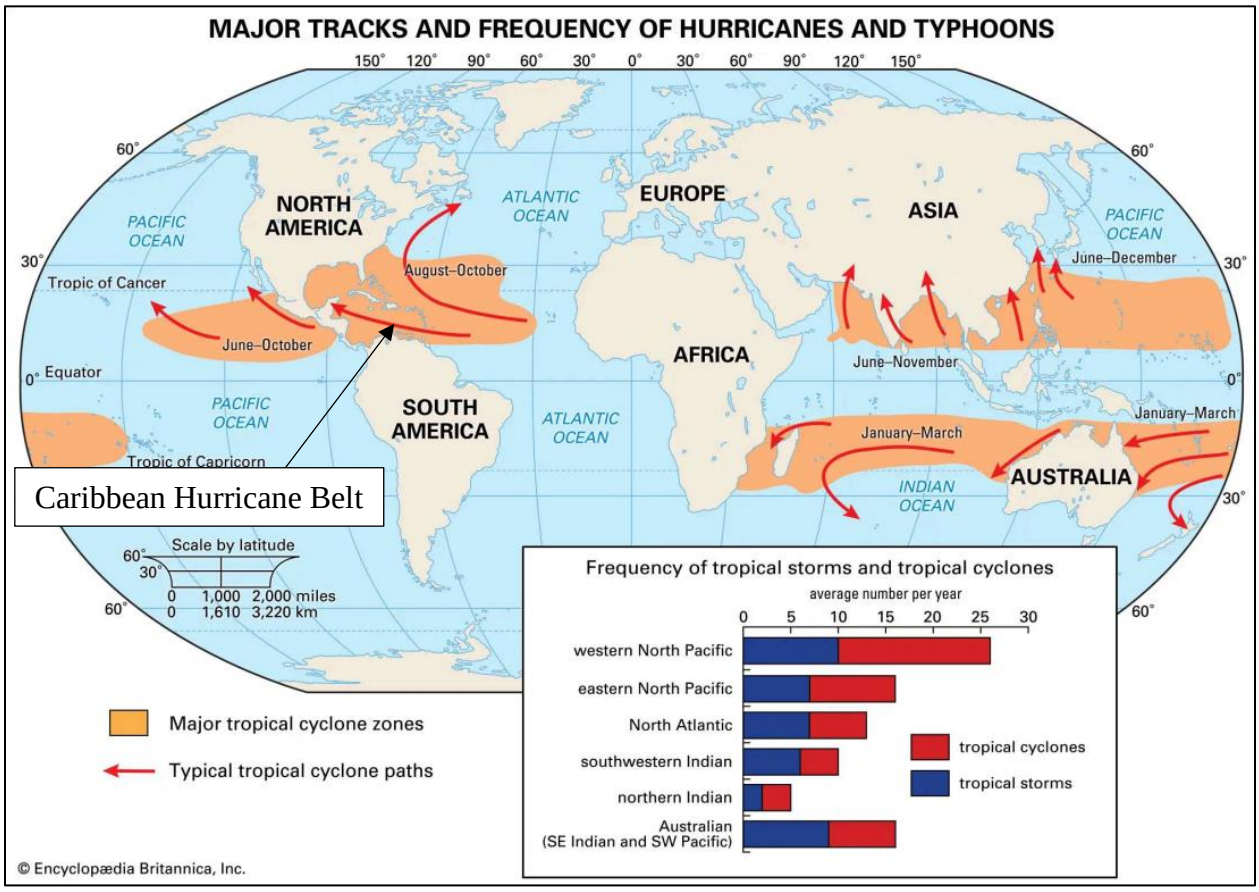

Figure 5: Caribbean Hurricane Belt

Source: Encyclopaedia Britannica, Inc., 2024

The Cayman Islands have experienced 74 tropical storms and hurricanes over 156 years (1852-2008), with nine major storms (Category three or higher). On average, the Cayman Islands are affected by passing hurricanes every 2.23 years and directly hit by hurricanes every 9.06 years. Also on average, the Cayman Islands are affected by Categories 1 and 2 hurricanes every 2.23 years, Category 3 hurricanes every 9.06 years, and Categories 4 and 5 hurricanes every 100 years (Young, 2004).

More recently, hurricanes have increased in intensity and rainfall, which is potentially a result of warming ocean temperatures and more moisture in the air. Hurricanes have been noted to be more

active in the North Atlantic Ocean since the 1980s, and on average, the quantity, strength, and number of hurricanes that intensify has increased (Colbert, 2022). Between 1979 and 2017, the global increase in major hurricanes (aka "tropical cyclones") exceedance probability was approximately 8% per decade (Kossin et al., 2020). There have been significant increases in tropical cyclone intensification rates, specifically in the Atlantic basin (Bhatia et al., 2019). The proportion of very intense tropical cyclones (Category 4 and 5) is anticipated to increase globally with increased warming (IPCC, 2021). There is high confidence that rainfall rates in hurricanes will increase by at least 7% per degree of planet warming (Seneviratne e. al., 2021). The proportion of very intense tropical cyclones (Category 4 and 5) is anticipated to increase globally with increased warming (IPCC, 2021).

Hurricane Ivan was a Category 5 Atlantic hurricane that passed southwest of Grand Cayman on September 12th, 2004, and is considered one of the most impactful hurricanes recorded in the Caribbean region. It sustained winds of 160 mph (257 kph) and gusts of up to 217 mph (349 kph), producing storm surges of 8 to 10 ft (2.4-3.0 m) and wave heights of 20-30 ft (6.1-9.1 m) while in the area of Grand Cayman. The storm wave action flooded large portions of the coastal areas and deposited major amounts of sand over roads, houses, and utilities infrastructure. Most of Grand Cayman's low-lying areas were under water during and following the storm (**Figure 6**) and widespread property damage resulted. It is estimated that this hurricane caused US $3.4 billion (CI $2.86 billion) in damages across the Cayman Islands, equivalent to over 180% of gross domestic product (Pinnegar et. al, 2022).

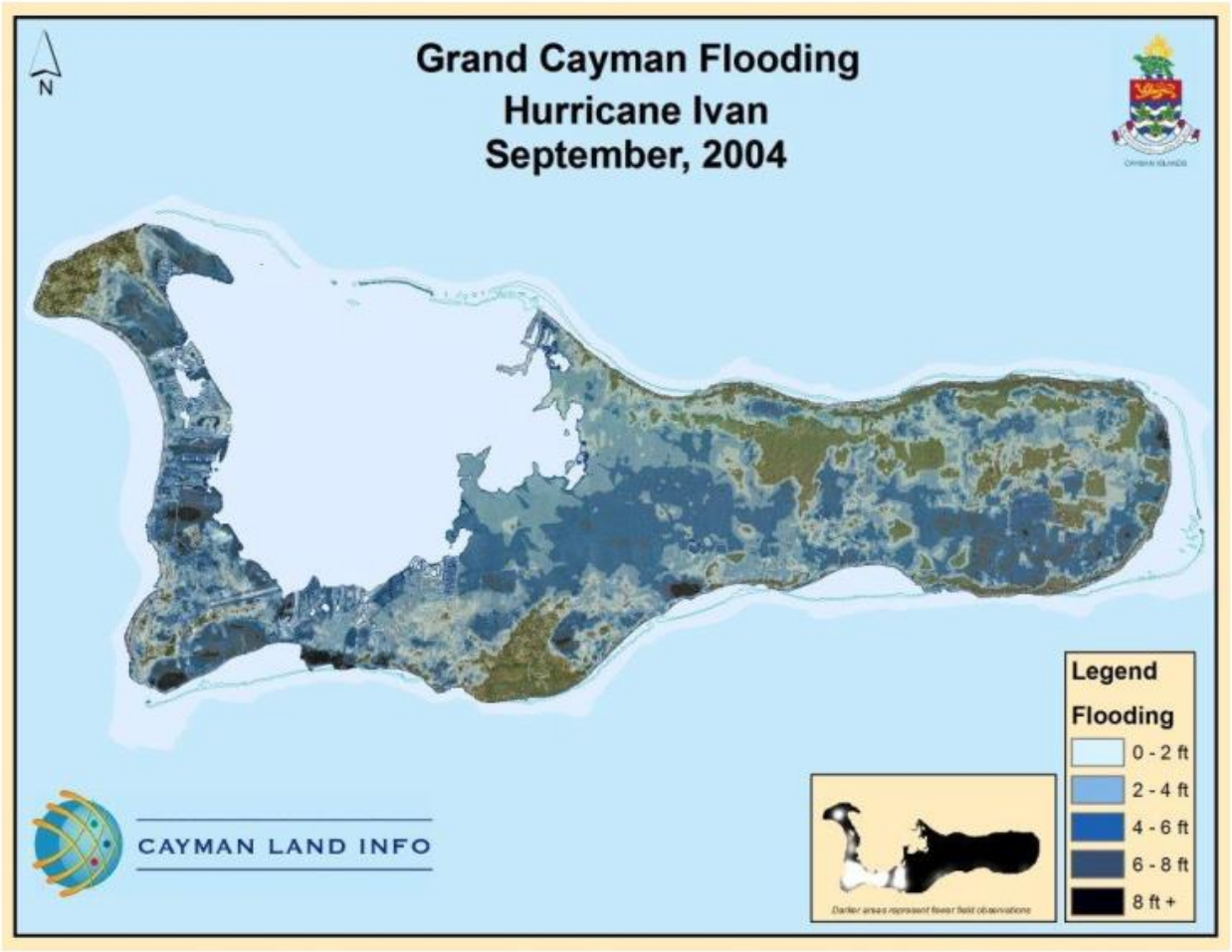

Figure 6: Grand Cayman Rainfall Distribution
Source: Simpson, Robson & Smith, 'Sea Level Rise and its impact on The Cayman Islands', 2009

5.4 Storm Surge and Flood Risk

There are two main categories of flooding that impact Grand Cayman, coastal and surface water. Coastal flooding has caused much damage in the Cayman Islands with both the intensity of tropical storms and their frequency. Coastal flooding occurs because of the combined increase in water level from storm surge and waves on an elevated sea level. Due to the overall low elevation of Grand Cayman, coastal flooding extends to large areas of the island even in less severe storms (Category 3). Storm surges combined with wave action are responsible for much of the damage usually caused by hurricanes, especially in large, low-lying, developed coastal areas.

Surface water flooding typically occurs when a tropical depression settles over the island, depositing extreme amounts of rainfall over several days. Due to the generally low elevation and unconcentrated nature of drainage patterns on the island, there are few surface water flow paths, and surface water flooding is typically widespread and of low velocity. Surface water flooding varies on Grand Cayman, generally depending on the underlying bedrock formation and other physical features, such as topographic depressions, which may isolate surface water over subsurface geologic formations. Specifically, areas with underlying rock formations characterized by high permeability, such as the Cayman Formation and Pedro Castle Formation, typically do not

flood unless they occur at the interface with the water table. Rainfall either evaporates, percolates, or accumulates in depressions for shorter durations than areas with more impermeable formations. Areas with underlying Ironshore Formation are much less permeable and are highly prone to surface water flooding. Much of the Ironshore Formation surface, when unbroken, is "case hardened" and only allows water to percolate down sinkholes, which are variable in spacing and distribution across Grand Cayman (Jones, 1994). Sinkholes, like deep wells, cease to function in lower lying areas when the groundwater horizon surges during prolonged and heavy rainfall events. Even with the case-hardened surface broken, the Ironshore rocks are quite clay-like and are not as permeable as the Cayman and Pedro Castle formations. Developed and undeveloped areas with low elevation and/or soil, peat, or cap rock with low permeability are also prone to frequent flooding. Additional information on geology can be found in the Geo-Environmental Assessment of Alternatives report.

No generally accepted, delineated floodplain and watershed mapping exists for the Cayman Islands; however, the EIA study area, like much of Grand Cayman, contains low-lying areas vulnerable to tidal flooding and hurricane/tropical storm-associated activity. Novelo-Casanova and Suarez (2010) delineated flood zones resulting from hurricanes according to hurricane categories on the Saffir-Simpson Scale (**Figure 7**).

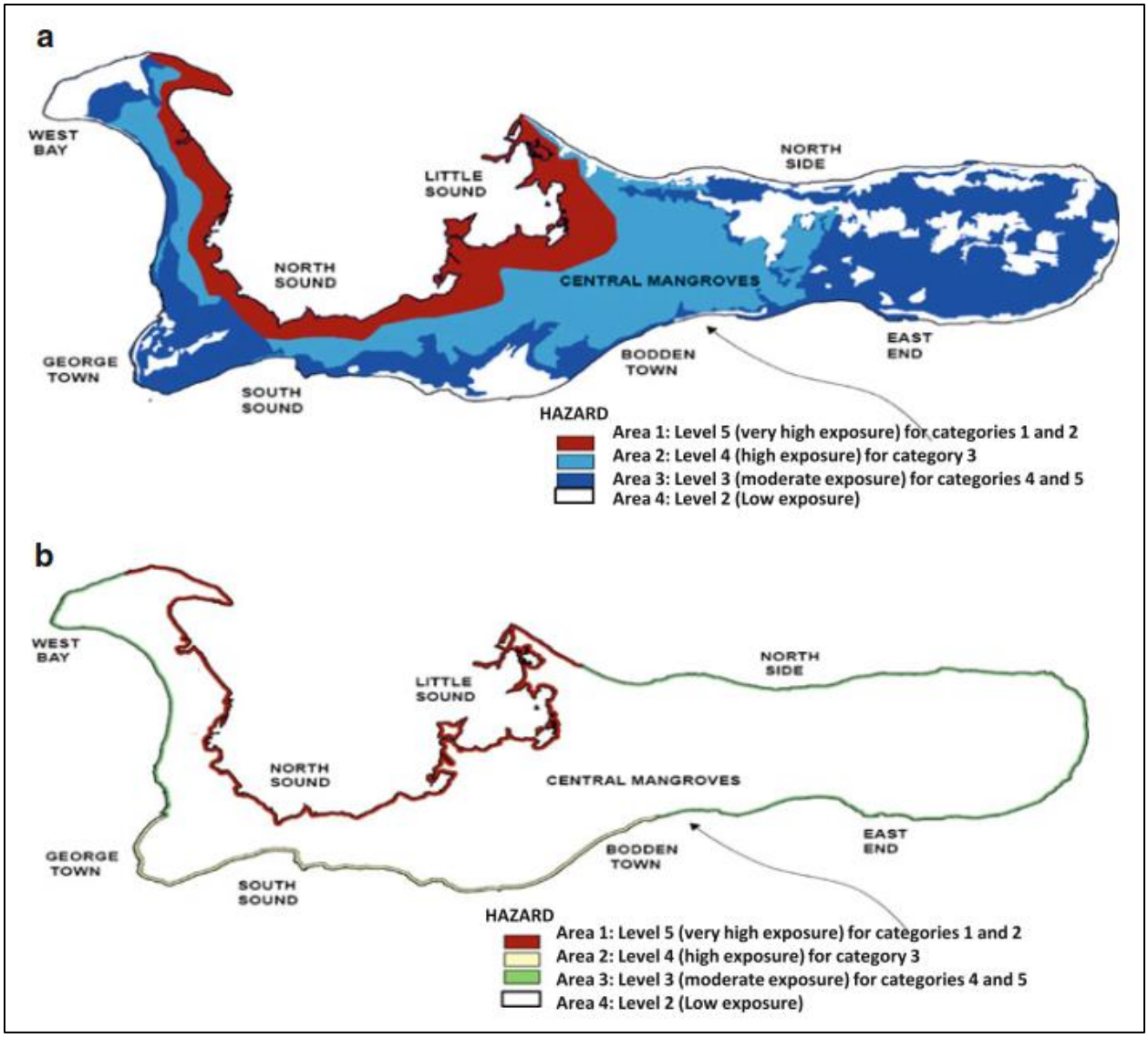

Figure 7: Flood (a) and Storm Surge Areas (b)

Source: Novelo-Casanova and Suarez (2010). Note that the arrow indicates the typical direction hurricane approach.

Another consideration which impacts the effects of storm surge and flooding is the dense vegetation on Grand Cayman which provides flood protection by intercepting and absorbing rainwater before it reaches the ground runoff conditions, holding back water temporarily. The dense vegetation also appears to act as a source of friction against moving water, resulting in a reduction of wave heights and peak flows. In addition, mangrove roots trap sediments and soil cohesion is increased by the mangrove root systems, which reduces sediment load in flood waters (Alongi, 2012; Wood Environment & Infrastructure Solutions UK, 2021; Global Nature Fund, 2007).

In reviewing these considerations, it was determined that the level of exposure to hurricanes and associated flooding and storm surge varies along the proposed alternatives (No-Build, B1, B2, B3, and B4). The location of the proposed Build alternatives in the western area near the CMW are within an area of high exposure and the proposed eastern roadway sections are within an area of

moderate exposure, based on the delineations shown in **Figure 7** for a hurricane approaching from the southeast. There is additional discussion regarding storms approaching from different directions and maximum storm surge impacts later on in this report, as well as in the Baird coastal flooding study (Baird and Associates, 2024). Storm surges combined with wave action are responsible for much of the damage usually caused by hurricanes, especially in large, low-lying developed coastal areas where the ability to convey or infiltrate water is affected by the conditions described above.

The coastal storm surge and wave overtopping analysis performed by Baird further demonstrates the impact anticipated from storm surge and wave action (Baird and Associates, 2024). The analysis discusses the effects of a storm surge driving water into the CMW through the North Sound and the widespread flooding and extended drawdown that would ensue. This effect was one of the driving factors in the analysis of the roadway bridge openings in order to effectively convey this surge flow without creating significant increases in the peak or duration of floodwaters. The analysis also discussed the wave overtopping impacts along the southern shore, specifically covering the impacts from Hurricane Ivan in 2004. The analysis referred to aerial imagery from this time showing the massive movement of sand from the beach and up onto the existing Bodden Town Road. This movement of sand and the time required to clear it creates a major concern for the accessibility of coastal roadways following a storm event, as discussed in later sections.

5.5 Central Mangrove Wetland (CMW)

Mangroves are important for both the terrestrial and marine ecology of Grand Cayman as they provide a variety of ecosystem services, such as influencing hydrology and water movement patterns; protection of beaches and coastlines from storm, wave, and flood action; reduction of progressive beach and soil erosion; pollution absorption; providing nursery grounds, food, shelter, and habitat for a wide range of aquatic species; and carbon sequestration.

Studies have shown that mangroves provide a natural protection from strong waves, acting as a natural buffer. It is estimated that an approximate 650-ft (200 m) width buffer of mangroves can reduce the power of a marine surge up to 75% (Global Nature Fund, 2007).

Mangroves also prevent erosion by acting as buffers and catching alluvial materials, thereby stabilizing land elevation by sediment accretion that balances sediment loss. In addition, mangroves functionally act as natural water treatment systems by retaining heavy metals, trapping sediments, and providing chemical buffering and water quality maintenance of both rainfall and tidal inundation.



Figure 8: Mangroves along North Sound (February 2023)

Mangroves are flow-through ecosystems. Runoff flows begin at the terrestrial edge of the inland side from ground water, springs, and stormwater runoff and continue to the sea. Tidally affected areas facilitate the exchange of tidal waters in and out of the mangrove area. Tidal fluctuation brings saltwater into the mangroves against the outflow of freshwater, and transports sediments, nutrients, and clean water into the mangrove habitat, which is important for mangrove distribution. When tidal flow in the mangroves is disturbed, a mangrove may dry out and die over time.

The normal hydrologic patterns that influence the distribution and growth of existing natural mangrove plant communities include depth, duration, and frequency of tidal inundation and tidal flooding because the hydroperiod (flooding frequency, duration, and depth) regulates biogeochemical processes such as gas exchange (oxygen and carbon dioxide) between plants and the environment, metabolic turnover rates, and the accumulation of sulphide in soil. For the CMW, the tidal pattern is mixed, primarily semi-diurnal, and the average tidal range is approximately 14 to 24 in (35 to 60 cm) (Rigby and Roberts, 1976). Brackish water during high tides influences much of the island, and more than 31 mi^2 (80 km^2) of the island's surface was once covered by mangrove swamp, which is still most extensive around North Sound within the CMW (Woodroff, 1981).

Mangroves are also sensitive to many environmental factors. They prefer low wave energy and are very sensitive to soil modifications, mainly due to shifts in substrate elevation relative to water level. The normal hydrologic patterns, including depth, duration, and frequency of tidal inundation and tidal flooding, influence the distribution and growth of existing natural mangrove plant communities. They grow best with low wave energy because high waves limit the accumulation

of fine sediments. They have extended buttress roots that slow the tidal flow and promote the deposition of mud and silt. In addition, a change in salinity can result in a change or loss of mangrove species.

The salinity of water is also important for mangroves. Mangroves can grow in freshwater conditions, but normally, the competition with freshwater species is too high; in areas with higher salinity, they can outcompete the freshwater species. In addition, variation of salt concentration influences the distribution of mangrove species in the mangrove forest because different species have varying degrees of success in coping with the excessive salinity levels. A change in salinity can change the vegetation species that can grow in that location.

The CMW is part of a large-scale, water flow system which filters and conditions the surface water and shallow ground water that flows into the North Sound while providing a constant flow of nutrients, which form the base of a complex food chain for both terrestrial and marine wildlife (**Figure 9**). In addition, the CMW has an important role in the evapotranspiration/precipitation cycle of Grand Cayman, including rainfall generation. An estimated 40% of the rainfall in western districts of the island is believed to be due to evapotranspiration in the CMW (Bradley et al, 2004). The evaporation of water from mangrove swamps creates a seaward hydraulic gradient for the regional flow regime (Ng et al., 1992). The evaporative loss for Grand Cayman is estimated to be approximately 75% to 85% (Ng et al., 1992).



Figure 9: Central Mangrove Wetland (July 2023)

The hydrologic and drainage patterns of the CMW change throughout the year. During the wet season months of April through October, the CMW is typically fully inundated with overflows into the North Sound. During the dry season months of November to March, a draw-down of the water surface can occur unless heavy or sustained rainfall or sea water inundation is received. The Lower Valley Freshwater Lens and North Side Freshwater Lens feed into the CMW year-round.

Over time, the plant community has adapted to the changing water and salinity conditions in the CMW.

5.6 Mastic Reserve

The Mastic Reserve, a 1,329-acre (538 ha) ecosystem, contains the largest contiguous area of primary dry forest remaining on Grand Cayman and represents one of the last remaining examples of Caribbean subtropical, semi-deciduous dry forests (National Trust, 2022). In 1992, the Mastic Reserve was founded following the donation of 145 acres (58 ha) of land to the NT for the purpose of protection and conservation of the old-growth forest and has since grown to 845 acres (342 ha). Prior to its establishment, the area was historically used as a passageway to traverse the many wetlands on the Cayman Islands. In 1995, the passageway was re-established as an official trail, the Mastic Trail, allowing users to experience the natural, undisturbed areas of Grand Cayman (National Trust, 2022). A field evaluation of the Mastic Reserve, from the Mastic Trail, was completed in July 2023 and is documented in **Figures 10** and **11** below, as well as **Attachment A**.

The Mastic Reserve serves as primary habitat to a variety of plants, birds, reptiles, and insects. The Mastic Reserve provides habitat for threatened and near-threatened bird species such as the Vitelline Warbler, the White-crowned Pigeon, and the Grand Cayman Parrot. These bird species live in the endemic Silver Thatch Palms, Royal Palms, Mahogany, or Cedars. The Reserve is also home to several endemic species, including four reptile species, five butterfly species, and ten plant species, and has the highest level of endemism in the Cayman Islands (Bradley et al., 2004).



Figure 10: Mastic Trail (July 2023)

The Mastic Reserve is part of a precipitation/runoff catchment area, absorbing rainfall and gradually releasing it, helping to regulate water flow. Pools and seasonal ponds support diverse aquatic life, including fish, turtles, crustaceans, and waterfowl. The Mastic Reserve is also significant for its role in groundwater recharge. Rainfall is absorbed by the soil, replenishing

underground aquifers (North Side Freshwater Lens), and maintaining the island's freshwater supply.



Figure 11: Mastic Trail – Boardwalk (July 2023)

5.7 Meagre Bay Pond

Meagre Bay Pond (the "Pond") was designated as an Animal Sanctuary in 1976 to protect seasonally feeding flocks of herons and egrets and other resident and migratory birds and then transitioned to a Protected Area designation under the 2013 NCA. The Pond is surrounded with a 300-ft (91 m) buffer zone along all sides except the side that borders Bodden Town Road. The Pond has recorded over 104 different species of migratory birds that stop and eat fish that are stranded in the Pond. Other species observed include fiddler crabs, mosquito fish, pygmy blue butterfly, and the alien invasive species tilapia (cichlid fish) and green iguanas. The Pond is surrounded by black mangrove (endangered), white mangrove (vulnerable), red mangrove, buttonwood (vulnerable), and the *Blutaparon vermiculare* succulent.



Figure 12: Meagre Bay Pond, facing North from access off Bodden Town Road (July 2023)

The Pond is situated on limestone of the Ironshore Formation, which creates a perched water table and has little or no connection to the underlying groundwater. Through the wide beach ridge, the Pond has a highly damped and attenuated connection to sea water. Therefore, the water level of the Pond fluctuates due to the seasonality of rainfall. From May to November, rainfall exceeds evapotranspiration and so the Pond water elevation is higher. In the most arid months of March and April, Pond water levels are at their minimum and water salinity is at its maximum. Sea spray generated by waves breaking on the fringing reef and carried in by southerly winds deposits salt into the Pond year-round. Salt is flushed out of the Pond when prolonged and heavy rains result in surface sheet flow across the CMW to the North Sound.

The natural and manmade factors that can affect the Pond include climate change, storms/hurricanes, development, and roadway and quarry expansion. The surrounding mangrove forest, which affords protection to the Pond, is currently rebounding from Hurricane Ivan in 2004, which caused extensive damage and mortality to the surrounding mangroves. In addition, storm surges can change the Pond's sedimentary composition by carrying sand from the south side beach and mixing the sand with the organic peat, which forms from decomposition ofthe mangroves' foliage. Regarding developmental impacts, a residential subdivision was constructed to the immediate south-west of the Pond within the protected area, which resulted in landfilling and home building. The proximity of the Pond to the existing coastal roadway (Bodden Town Road) provides little space for mangroves to expand and create a wider buffer for the Pond. In addition, the existing mangrove buffer between the Pond and road may be impacted by the ongoing maintenance and utility work.

The adjacent quarries have also impacted the hydrology of the Pond. The quarry to the west of the Pond is not active, but the quarry to the northeast of the Pond is still active. By 2004, the quarry

west of the Pond had been excavated below the Pond water level, and in 2008, the expansion of this extended into the 300-ft (91 m) buffer zone of the Pond. The quarry water mixes with brackish groundwater and sea water influenced by marine tides. The interconnection of the quarry water threatens the salinity of the Pond when high tides spill large volumes of brackish quarry water into the Pond. This occurs whenever the water level in the quarry exceeds the elevation of the quarry rim road. This condition potentially inhibits the seasonal dry-down of the Pond and, with repeated inputs of brackish water, may increase salinity during the dry season. In addition, the quarry development around the Pond could disconnect the Pond from the CMW, which could limit the periodic salt flushing during heavy and prolonged rainfall events. Pollutants in the closed, flooded quarry, such as lubricating oil and hydraulic fluid from quarry machinery, can enter the protected area when the water level is high. Non-native tilapia cichlid fish from the closed quarry have also migrated to the Pond, which may adversely impact the Pond's native biodiversity.



Figure 13: Active Quarry located northeast of Meagre Bay Pond (July 2023)

Meagre Bay Pond Management Plan (the "Plan") was developed to restore and maintain key ecological functions and facilitate sustainable public use. The Plan was approved by the Cayman Islands Cabinet in 2022. Its focus is the maintenance of seasonal hydrology and salinity cycles and facilitating sustainable public use. In addition to maintenance of hydrology and salinity, targeted resources include mangrove surface water and forest, as well as seasonal heron and egret feeding aggregations. The DoE plans to establish a long-term water level and salinity monitoring program in the Pond to better characterise the current hydrological regime and assess the success of management.

Specific Goals of the Plan include:

- Separate the protected area waters and the adjacent submerged quarries
- Maintain the ability of the protected areas water levels to overflow and discharge after extreme rain events
- Facilitate natural regeneration of black mangrove forest and wetland communities around the Pond
- Establish protected area zoning
- Provide appropriate public access

Key Strategies identified in the Plan include:

- To work with quarries and landowners to create and maintain hydrological separation between quarry water, the protected area, and Meagre Bay Pond.
- Land acquisition to ensure a hydrological connection is maintained between Meagre Bay Pond and the CMW.
- Installation of culvert connections with weirs and flap gates to restore a hydrological regime equivalent to the pre-quarry state, if ultimately deemed necessary
- Restoration of seasonal pond draw-down to limit survival of tilapia and to restore seasonally concentrated food resources for herons and egrets.
- Demarcate and ensure the integrity of the protected area boundary adjacent to Bodden Town Road.

The Plan proposes continued study of factors controlling Pond hydrology, including water level monitoring, Pond hydrology dynamics modeling, and effects of management policies.

6 Assessments and Studies

6.1 Overview

A field assessment and groundwater mounding analysis has been performed by WRA and various analyses by Baird and RVE were completed to provide additional information on the hydrologic and drainage processes on Grand Cayman in order to evaluate the potential impacts on the shortlisted alternatives. These assessments included: 1) an analysis of rainfall intensity, extreme event identification, and rainfall distribution (Razzaghmanesh and Gause, 2022); and 2) a water budget analysis for the CMW to assess potential hydrologic impacts of the Build alternatives (Gause and Razzaghmanesh, 2024). Two-dimensional hydraulic analyses modelled existing and the proposed conditions for each of the Build alternatives (B1, B2, B3, and B4) to preliminarily identify water surface elevations and flooding conditions resulting from various rainfall storm events (Gause, 2024). In addition, a coastal flooding study was performed to assess storm surge and wave overtopping for each of the Build alternatives (B1, B2, B3, and B4) in existing and proposed conditions for various synthetic and historic (i.e. Hurricane Ivan) hurricane events (Baird and Associates, 2024). **Figure 14** includes the modelled bridge openings along each of the Build alternatives (B1, B2, B3 and B4) used for the hydraulic modelling. The coastal risk study used very similar bridge openings (Baird and Associates, 2024).

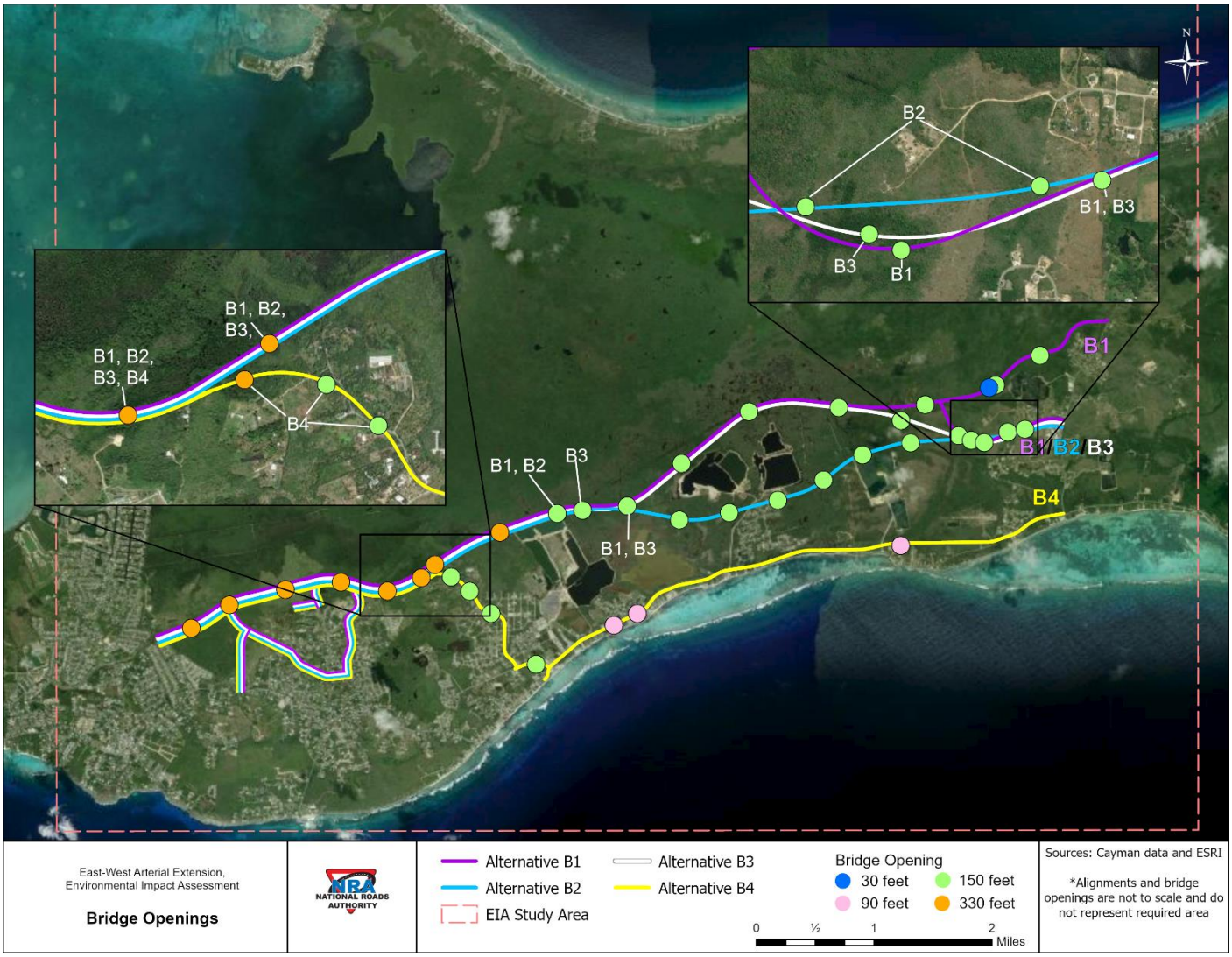

Figure 14: Modelled Bridge Openings

The modelled bridge openings were preliminarily identified as part of the RVE hydrology and hydraulic analysis (Razzaghmanesh and Gause, 2024); the openings were placed based on minor variations in the local topography. The opening locations were then further refined, as modelling progressed, to be located in areas of specific flooding concerns (Baird and Associates, 2024; and Gause, 2024). Overall, the modelling effort performed was at a proof-of-concept level. The opening configuration and model details will require further refinement in the Preferred Alternative and final design analysis (Gause, 2024).

Another significant consideration for the bridge opening configuration is arranging the configuration to ensure that natural water flows are maintained, and no negative environmental impacts ensue, such as hydrologic disconnection of wetlands or isolation of Meagre Bay Pond. These concerns were considered when placing the current configuration of structure locations to ensure the larger conveyances are maintained, such as locating an opening along the historic northern flow path from Meagre Bay Pond to the CMW.

Locations of hydrologic isolation of wetlands and other areas will need to be identified as part of the Preferred Alternative and final design analysis; however, these smaller magnitude flows could be accommodated with smaller, piped culvert crossings that could be placed in later stages of design.

The analysis provided was deemed sufficient to capture the appropriate, large scale hydraulic and hydrological components of the roadway alternatives in order to aid in the selection of the Preferred Alternative.

6.2 Field Assessment

A field assessment was conducted to observe hydrology and drainage processes on Grand Cayman along with the natural ecological resources within the EIA study area. Hydrology and drainage field investigation efforts included observation and collection of information regarding existing drainage conveyance structures (pipes, inlets, manholes, etc.) along the No-Build and Build alternatives (B1, B2, B3, and B4), observations of the only existing on-island bridge in the Seven Mile Beach Area, field views of the natural ecological resources (CMW, Meagre Bay Pond, Mastic Reserve/Mastic Trail) and mosquito canals, and a field observation of one of the active quarry operations. The existing roadways and areas along the proposed Build alternatives were viewed to assess existing conditions and observe drainage patterns. The existing inlets and drainage systems were measured, mapped, and photographed. A rainfall event was also observed and photographed. Observations of the rainfall event included localized temporary flooding along Bodden Town Road. Flow patterns along the Savannah Gully were also assessed. The archaic mosquito canals were walked and periodically measured. Exposed bedrock was also mapped and photographed. Details regarding the findings of the field assessment are included in **Attachment A**.

6.3 Rainfall Analysis

A rainfall analysis, including intensity analysis, extreme event identification, and rainfall distribution analysis was completed for the EWA EIA study area by RVE (Razzaghmanesh and Gause, 2022). A summary is provided as follows.

Daily (24-hour) rainfall data collected by sixteen WAC rain gauges between 1982 and 2021 was used to determine the maximum daily (average 24-hour) rainfall intensity and identify extreme events. Hourly data from four weather stations was used to create events for the rainfall distribution analysis (**Figure 15**) to develop Intensity-Duration-Frequency (IDF) curves (**Figure 16**). The associated rainfall intensities and return periods were calculated for the generated time series durations, including 5 minutes, 10 minutes, 15 minutes, 30 minutes, 1 hour, 6 hours, 12 hours, and 24 hours and used to develop the IDF curves.

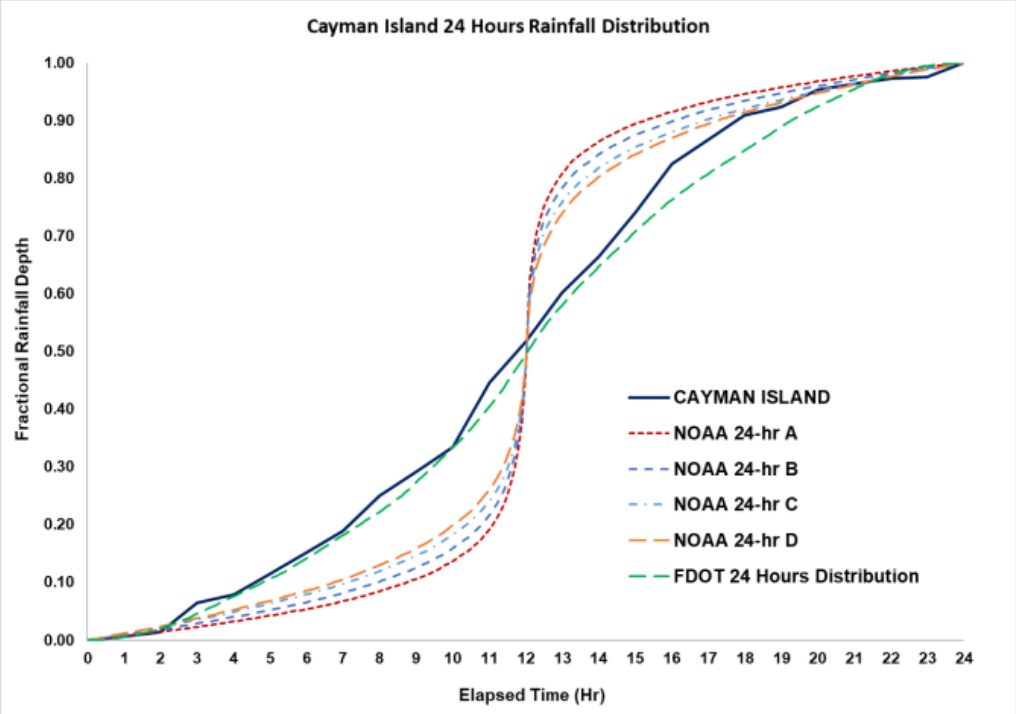

Figure 15: Grand Cayman Rainfall Distribution
Source: Razzaghmanesh and Gause, 2022

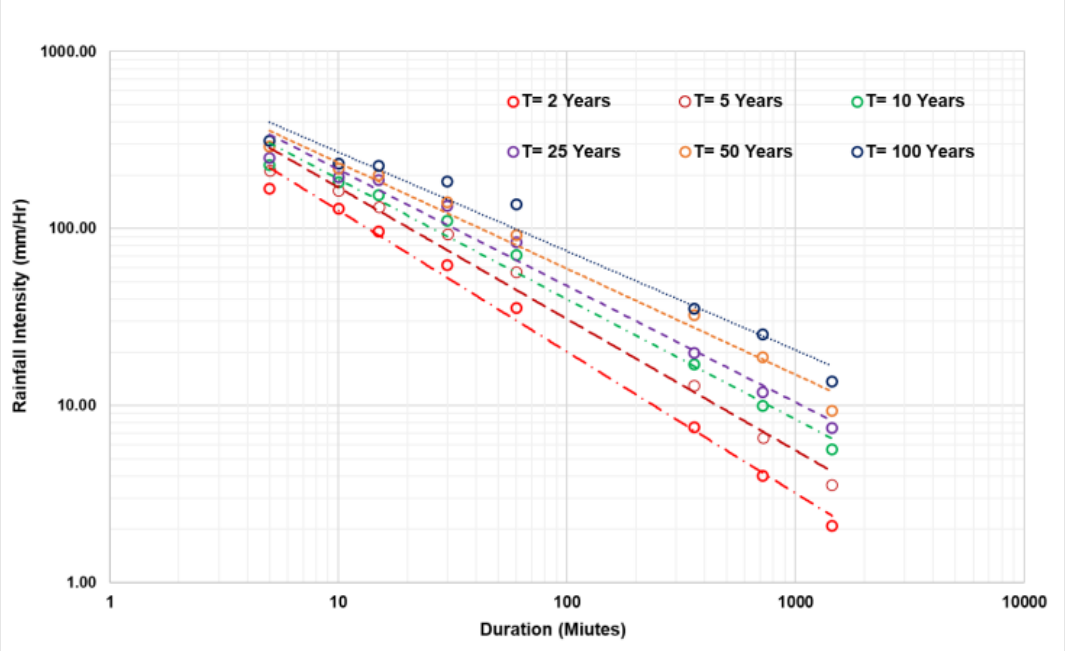

Figure 16: Intensity-Duration-Frequency (IDF) Curves
Source: Razzaghmanesh and Gause, 2022

6.4 Rainfall Hydrology and Hydraulic Analysis

A hydrology and hydraulic analysis was completed for the shortlist of Build alternatives (B1, B2, B3, and B4) by RVE (Razzaghmanesh and Gause, 2024; and Gause, 2024). A summary is provided as follows.

Analysis of the No-Build scenario is associated with the existing baseline conditions. All analyses used the results of the rainfall analysis described above, land use data and terrain modelling to develop a two-dimensional hydraulic model and prepare inundation flood maps for various rainfall events. The Hydrologic Engineering Center River Analysis Program (HEC-RAS 2D) was used to develop two-dimensional flood maps using the diffusion wave equation and various inputs, including delineated drainage area, hydrographs, land use, infiltration, and Manning's coefficients. Rainfall scenarios included 2-year, 10-year, 25- year, 50-year, and 100-year for a 24-hour event and the 2004 Hurricane Ivan. Existing conditions and the proposed conditions for each shortlist alternative were modelled.

The results of this effort are generally referred to rainfall flooding and show similar results for all of the Build alternatives (B1, B2, B3 and B4) on the western end of the project corridor and similar results for Alternatives B1 through B3 on the eastern end of the corridor. The results show minor differential rainfall flooding or what is described as roadway embankment impounding for the smaller storms, such as the 2-year storm and impoundment differentials of 1 to 2 feet (0.3 to 0.6 m) for larger storms, such as the 50-year and 100-year storms. The largest areas of potential floodwater impoundment occur on the western end of the alternatives where topography channelized rainfall would runoff towards the proposed new road with only the opening under the road as an outlet location. This impoundment situation can potentially be mitigated by the location(s) and size(s) of the roadway openings in this area of the proposed new roadway. The portion of Alternative B4 that runs along the existing roadway corridor of Bodden Town Road located along the southern coast is mostly located on a ridge and does not experience appreciable rainfall runoff impoundment. However, this area that contains the proposed new road for Alternative B4 is subject to other factors, such as wave overtopping, that are discussed in later sections.

6.5 Water Budget Analysis for Central Mangrove Wetland (CMW)

A water budget analysis was completed for the CMW in the vicinity of the EWA alignment alternatives by RVE (Gause and Razzaghmanesh, 2024). A summary is provided as follows.

The assessment included runoff, pooled water, and soil moisture fluctuations for shorter precipitation time frames. Monthly time intervals and total rainfall per month were used to analyse CMW pool water fluctuations over a 10-year time frame to identify potential impacts of the Build alternatives (B1, B2, B3 and B4) on the CMW. Extreme rainfall and flood events were not included in the analysis but are addressed in the Rainfall Hydrology and Hydraulic Analysis section previously provided.

The study found that the wetland pool occasionally draws down when the monthly precipitation is lower than normal, particularly in the dry season. The pool likely shrinks from the higher ground towards the deeper areas along the North Sound. In the past, drought periods have caused extensive

drawdowns in the CMW. In addition, large storm events have resulted in saltwater flooding and waves along with high winds. The wetland habitat and species have evolved during these periods of dryness and disturbance wherein the CMW sustains damages and then recovers.

Under existing conditions, the study notes that most rainfall within the CMW study drainage area is consumed by evapotranspiration. Of the 33.9 inches (86.1 cm) of average annual rainfall, 11.4 inches (28.9 cm) becomes runoff, 0 inches (0 cm) is infiltrated from the Lower Valley Lens into the CMW, and 71.4 inches (181.4 cm) is utilized by evapotranspiration in the study drainage area of the CMW.

The proposed conditions were modelled by estimating the proposed build-out roadway cross section area and corresponding runoff curve number for the roadway through the CMW. It was determined that the CMW pool and water level would not be significantly impacted by the proposed new roadway despite the small increase in the total runoff curve number for the drainage area analysed. The overall size of the watershed is so great that the increase in runoff from the Build alternatives is not reflected within the accuracy of the analysis. Accordingly, proposed conditions are anticipated to be identical to existing conditions wherein of the 33.9 inches (86.1 cm) of average annual rainfall, with 11.4 inches (28.9 cm) becoming runoff, 0 inches (0 cm) is infiltrated, and 71.4 inches is (181.4 cm) consumed by evapotranspiration in the CMW study drainage area in proposed conditions.

6.6 Coastal Storm Surge and Wave Overtopping Analyses

A Coastal Risk Study was completed for the shortlist of Build alternatives, including Alternatives B1, B2, B3 and B4 by Baird (Baird and Associates, 2024). This study includes the results of storm surge (originating in the North Sound) and the wave overtopping (along the southern shoreline) analyses. The No-Build scenario is associated with the existing conditions presented within the surge analysis. Extreme flooding due to tropical storms and hurricanes, including the effects of tide, storm surge, waves, and rainfall, were numerically modelled. Baird did not model sea level rise for this study but recommended that sea level rise be considered during the final design of the road. A summary of the surge analysis is provided as follows.

The proposed new roadway conditions were modelled using the proposed new roadway alternative designs in addition to the existing roadway conditions which were modelled with the current island topo bathymetry without the proposed roadway corridors in place. For each scenario, the surge analysis simulated a suite of seven synthetic tropical storms and hurricanes that represent the results of 484 synthetic storms that were simulated. The simulations were completed using the Telemac model with wind fields developed using a modified version of the Holland et al. (2010) wind profile and rainfall developed using Bader's 2019 framework. The selected synthetic storms were modelled to pass north of Grand Cayman to create a surge in North Sound since north-passing storms have resulted in a larger surge response near the proposed Build alternatives via the CMW than the south-passing storms. Flood level return periods modelled include 20-year, 25-year, 30-year, 40-year, 50-year, 75-year, and 100-year. Maximum flood level and flood duration comparison tables and water surface profiles were developed to display the spatial extent and severity of flooding for selected return periods and synthetic storms. The study also analysed floodwater reduction and impoundment.

Model results indicate that Build alternatives B1, B2 and B3 would be affected in a similar manner; mostly by storm surge coming from the North Sound. The model results indicate that the roadway alternative profiles, with a modelled low-profile elevation close to 6 ft (1.8 m) above mean sea level, would not be overtopped by a moderate storm event (25-year) but would be overtopped by larger events (100-year). The model also demonstrates that the floodwaters would behave similarly to the existing conditions model run with a slight reduction in peak flood elevations in some locations and a slight increase in the length of time required to drain the floodwater in some locations. Alternative B4 is shown to receive some effects from the storm surge coming from the North Sound but considered to be most affected by extreme weather in the form of wave overtopping of the existing ridge along the existing southern shoreline, as discussed in later sections. The results also indicate that the western portion of the proposed new roadway that is shared by all of the Build alternatives, stretching from existing Woodland Drive to Lookout Road and referred to as Section 2, contains more topographical relief than the rest of the project area and is subject to a higher water level on the south side of the road due to the impoundment of rainfall. This water impoundment may require a number of openings along the proposed new roadway in this area to reduce flooding impacts compared to the existing conditions.

Wave overtopping was also analysed for the Alternative B4 alignment along the southern coast of the island using adjusted results from the CSHORE numerical model. The other Build alternatives B1, B2 and B3 are located further inland and were determined to not have significant effects from wave overtopping. The model results were also compared to existing imagery and data for the overtopping that occurred at this location due to Hurricane Ivan. The model results allowed wave overtopping elevations to be correlated to return periods and demonstrated that the Hurricane Ivan results were likely more than the 100-year event. The study further detailed that wave overtopping of the area containing Build alternative B4 would not only require road closure due to standing water on the road but would also involve sediment deposition on the road that would require a much longer time to clear off to re-open the road. The study recommended designing the Build alternative B4 vertical profile to a higher level than anticipated for storm surge road closure to account for the greater length of time required to clear the road after a wave overtopping event.

6.7 Groundwater Mounding Analysis

An assessment was performed to identify the impact of the stormwater modelling runoff on the upper surface of the freshwater lenses, including the Lower Valley Freshwater Lens and the North Side Freshwater Lens. Groundwater mounding is the localized rise in the groundwater table that occurs when the recharge rate is higher than the capacity of the aquifer or soil to convey the water out of the recharge zone. Detailed information regarding the Freshwater Lenses can be found in the separate Geo-Environmental Assessment of Alternatives report.

Based on the Baird modelling results, a rise in water level of 0.2 feet (0.06 metres) over a duration of 10 hours was associated with the runoff for both mounding assessments. Mounding was estimated using the method in U.S. Geological Survey Scientific Investigations Report 2010–5102 titled “Simulation of Groundwater Mounding Beneath Hypothetical Stormwater Infiltration Basins” (Carleton, 2010). This desktop method necessarily uses simplifying hydraulic assumptions

about the unconfined aquifer, and it uses values from available hydrogeologic sources. The predicted mounds represent an order-of-magnitude estimate.

Lower Valley Freshwater Lens

The input values in the mounding assessment for the Lower Valley Freshwater Lens were as follows:

- Recharge rate = 0.5 feet/day (0.15 metres/day)
- Specific yield = 0.25
- Horizontal hydraulic conductivity (K) = 356 feet/day (109 metres/day)
- Half-length of basin in both directions = 391 feet (119 metres)
- Duration of infiltration = 0.42 day
- Initial saturated thickness = 83 feet (25 metres)

The input recharge rate of 0.5 feet/day (0.15 metres/day) was 0.2 feet (0.06 metres) divided by a duration of infiltration of 10 hours multiplied by 24 hr/day.

The input specific yield of 0.25 of the aquifer was estimated based on Figure 4.30 in "Geology of the Cayman Islands: Evolution of Complex Carbonate Successions on Isolated Oceanic Islands" (Jones, 2022). The value of 0.25 is approximately in the middle of the range of reported porosities.

The input K was an average of four values in the low thousands of gallons per day per square foot (gpd/sq.ft.), from map number 5 in the report "Lower Valley Groundwater Lens Exploration" (Hukka, 1982). The values are at the high end of the range reported and are considered to be reasonably representative of the high-K karst aquifer. The averaged K data were 2,286 gpd/sq.ft., 3,744 gpd/sq.ft., 2,455 gpd/sq.ft., and 2,170 gpd/sq.ft. The average of 2,664 gpd/sq.ft. was converted to 356 feet/day (109 metres/day) by multiplying it by 1 cubic foot/7.48 gallons.

The input half-length of the receiving basin was estimated using the assumption that the impermeable surface area on the Lower Valley Lens, associated with development of the "Will T" roadway section, is a square. The square root of the impervious area of 611,638 square feet (56,823 square metres) was 782 feet (238 metres), and the half-length was 391 feet (119 metres). The assumption of a square is conservative because it tends to overestimate the height of the groundwater mound. The input initial saturated thickness of the unconfined aquifer (83 feet, approximately equal to 25 meters) was estimated based on Figure 4.31 in the aforementioned Jones book (Jones, 2022). It shows the Lower Valley Lens existing within the Ironshore Formation and the Pedro Castle Formation, which rest on low-K cap rock at a depth of 25 meters (82 feet). The analysis results in a theoretical mound of 0.7 foot (0.21 metre) at the centre of the basin for the Lower Valley Freshwater Lens.

North Side Freshwater Lens

The input values in the mounding assessment for the North Side Freshwater Lens were as follows:

- Recharge rate = 0.5 foot/day (0.15 metres/day)
- Specific yield = 0.25

- K = 359 feet/day (109 metres/day)
- Half-length of basin in both directions = 391 feet (119 metres)
- Duration of infiltration = 0.42 day
- Initial saturated thickness = 50 feet (15 metres)

The input recharge rate, specific yield, and duration of infiltration were the same as the values used for the Lower Valley Freshwater Lens mounding assessment.

The input K was the mean permeability reported for the North Side lens (2,683 gallons per day per square foot) converted to 359 feet/day (109 metres/day). The mean value was from "Further Report on the Groundwater Resources of Grand Cayman" (Richards and Dumbleton International, 1980).

To be conservative, the input half-length of the receiving basin was the same as the value used in the Lower Valley Freshwater Lens mounding assessment, although the edge of the lens is approximately 0.1 mile (0.16 kilometre) away from the closest highway alignment.

The input initial saturated thickness of the unconfined aquifer of 50 feet (15 metres) was based on the geologic section of the North Side Freshwater Lens, in figure G7 of the report by Richards and Dumbleton International (Richards and Dumbleton International, 1980).

The predicted theoretical mound for the North Side Freshwater Lens was 0.8 foot (0.24 metre) at the centre of the basin. The mound at the freshwater lens would actually be smaller than 0.8 foot (0.24 metre), because the theoretical mound is highest at the basin centre, and the edge of the lens is approximately 0.1 mile (0.16 kilometre) from the closest highway alignment.

Analysis Results

As demonstrated in the above mounding assessments, the theoretical mounds (rise in the water table) at the lenses are 0.7 foot (0.21 metre) at the centre of the basin for the Lower Valley Freshwater Lens and 0.8 foot (0.24 metre) at the centre of the basin for the North Side Freshwater Lens. Both results are less than 1 foot (0.3 metres), which is a relatively small temporary change.

7 Quantitative Impact Assessment

Potential impacts from the proposed Build alternatives B1, B2, B3 and B4 on various resources may include a change of water circulation patterns, increase of stormwater runoff volume and velocity, pollution from stormwater runoff, and impact on the ecology of natural resources. The identified resources included in the shortlist of alternatives assessment include:

- Central Mangrove Wetland
- Mastic Reserve
- Meagre Bay Pond
- Freshwater Lenses
- Developed Areas
- Drainage Wells

Based on the storm surge model prepared by Baird and the rainfall runoff model prepared by RVE, the openings provided by the proposed structures are anticipated to prevent the roadway from impounding water at any significant depth or for any significant duration, thereby allowing the corridor to function without the negative impacts associated with "damming" storm surges or runoff. The final design and construction of the roadway should be developed such that storms larger than those modelled are anticipated to overtop the roadway before complete inundation of the structure openings. The final design should also address the placement of openings under the road to avoid hydrologic disconnection of wetlands and other such impacts.

Based on the modelling results prepared by Baird and RVE and the impact evaluation analysis presented below, it was determined that hydrology is not a key differentiator between Alternatives B1, B2, and B3. However, Alternative B4 presents significant hydrological concerns, specifically in relation to the wave overtopping analysis, as discussed below.

Regarding stormwater management design and the construction of measures deemed necessary to manage roadway runoff, the following classification is offered. Due to the direct proximity of tidal waters, the management of peak runoff discharge rates (aka "stormwater quantity control") is not recommended for the project. Instead, in areas directly adjacent to developed areas, conveyance of storm flows will be designed using closed conduit (i.e. "pipe and inlet") systems to convey runoff to stable outfalls away from private properties or adjacent, habitable structures. In naturalized areas (i.e. the open-section, ditched roadway through the CMW), stormwater management is proposed to be provided in the form of linear treatment systems such as vegetated, pretreatment storage strips or other linear means, to filter roadway runoff and mitigate for the lack of the infiltration wells traditionally used on Grand Cayman.

Since the potential change of surface water flows/drainage patterns/flood risk and pollution impacts various resources, an overview is provided for these two general impacts and then resource-specific impacts are provide under each resource impact section. Resiliency to rainwater runoff, coastal surge and wave overtopping is discussed in later parts of this section.

7.1 Change of Surface Water Flows and Drainage Patterns/ Flood Risk Overview

The proposed Build alternatives B1, B2, B3 and B4 may change surface water flows and drainage patterns and locally increase flood risk on the CMW, Mastic Reserve, Meagre Bay Pond, Freshwater Lenses, and developed areas. Impacts may occur temporarily during construction by elements such as temporary storage and stockpiling of materials and during long-term operation by elements such as an increase of stormwater runoff volume and velocity from impervious surfaces (pavement). Best Management Practices can be utilized during construction to minimize these potential impacts. In addition, a potential damming or impoundment effect caused by the construction of the proposed roadway could change the existing water circulation patterns. The hydrology could be restricted to the CMW north of the proposed roadway and cause inundation of the mangroves and adjacent developed areas south of the proposed roadway. Openings in the roadway, such as bridges and culverts, could reduce the damming and impoundment effect.

Distance, increase of impervious area and storm modelling results were used to assess potential hydrologic and hydraulic impacts for each of the Build alternatives upon the applicable resource. The distance from each Build alternative to each resource was measured. This metric was used because runoff from a Build alternative is anticipated to contain more pollutants and have a greater hydrologic impact on a resource that is closer to the Build alternative than one that is farther away. In addition, since impervious surfaces can increase stormwater runoff volume and velocity, the increase of impervious surface area was compared for each of the Build alternatives for each applicable resource. Hydrologic and hydraulic modelling described in Section 6 has been used to assess the impoundment effect of the Build alternatives.

Assessment of individual alternative impacts upon the applicable resources with respect to the components previously described are provided in subsequent sections; however, the overall increase of impervious area for each roadway alternative is summarized in **Table 2**. Of the Build alternatives, Alternative B1 has the greatest increase in impervious area and Alternative B4 has the least increase of impervious area. The No-Build scenario assumes no increase in impervious area.

Table 2: Increase in Impervious Area

Alternative	Increase of Impervious Area (Acre)	Increase of Impervious Area (Hectare)
No-Build	0	0
B1	161	65
B2	132	53
B3	135	55
B4	98	40

7.2 Pollution Overview

The operations from the Build alternatives B1, B2, B3 and B4 have the potential to release contaminants that may potentially pollute sensitive habitats and the underlying aquifers. Contaminants may consist of toxic metals, suspended solids, and hydrocarbons and can be deposited onto the roads from vehicle leaks, such as crankcase oil, transmission, hydraulic, and brake fluid, antifreeze, and gasoline. Contaminants can be released directly (e.g., spillages) or indirectly (via surface water runoff).

For this analysis the future year 2074 roadway surface was used to analyse the potential for contamination and to compare potential for pollution impacts for each of the Build alternatives for each resource. The proposed year 2074 typical roadway sections showing the dimensions of the impervious areas are included in the Shortlist Evaluation document.

The results of the hydrology and hydraulic analysis were utilized to determine the potential impact of the Build alternatives on each resource by using the movement of stormwater runoff from a rainfall event. Within the study area, stormwater runoff generally flows (1) from the west to the east and then north and (2) from the east to the west and then north. The distance from the resource and the alternatives was measured for comparison purposes. In addition, the increase of impervious

area was compared to the total estimated drainage area of the resource based on the subwatershed areas developed during the hydrology and hydraulic analysis (see Section 6 and **Figure 17**). The potential pollution impact on the CMW, Mastic Reserve, Meagre Bay Pond, Freshwater Lenses, and developed areas is included in their respective section.

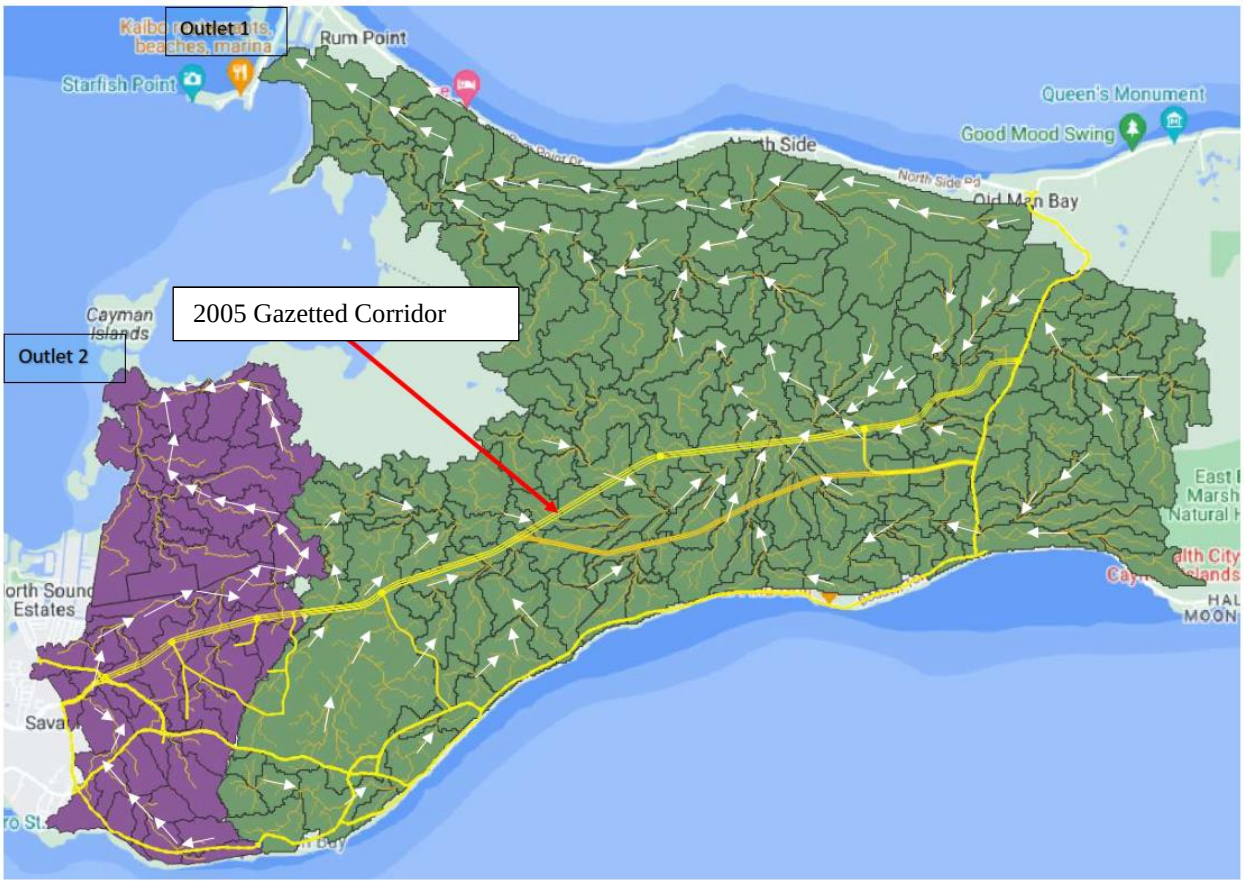

Figure 17: Subwatershed Areas Map
Source: Razzaghmanesh and Gause, 2024

7.3 Central Mangrove Wetland (CMW)

The hydraulic functions of the CMW may be impacted by each of the proposed Build alternatives. The potential impoundment effect of the proposed roadway within the CMW could change the existing water circulation patterns. The hydrology could be restricted to the CMW north of the proposed roadway and cause inundation of the mangroves and also to adjacent developed areas south of the proposed roadway. This could result in alterations of hydrology, water flow, water levels, surface drainage, salinity levels, nutrient balance, oxygen concentration or temperature that may be harmful to mangrove trees and wildlife, the ecological or aesthetic value of the area, and may exacerbate erosion. In addition, the Build alternatives have the potential to release contaminants that may potentially pollute the CMW as previously described.

The loss of mangroves reduces transpiration, may increase runoff, and could reduce floodplain roughness, which in turn could increase run-off velocity and reduce protection from tropical storms and hurricanes. In addition, the removal of or drowning of mangroves may decrease precipitation

on the western end of the island. Additional impacts to the CMW are discussed in the Terrestrial Ecology Assessment of Alternatives report.

7.3.1 Hydrology, Hydraulics and Drainage Impact Assessment

The potential hydrologic and hydraulic impacts and potential for pollution impacts were assessed for the CMW. The potential hydrologic and hydraulic impacts on the CMW were assessed using the following methods:

- Removal of CMW area
- Length of proposed roadway through CMW
- Water budget
- Rainfall runoff modelling
- Surge modelling

It is assumed that the larger the removal of the CMW, the larger the potential for hydraulic function impacts. Therefore, the extent of hydraulic impact to the CMW was determined by the area of CMW that would be removed. The CMW areas that are anticipated to be removed for each of the Build alternatives are summarized in **Table 3** and, of the Build alternatives, Alternatives B1 and B3 remove the highest amount of area of the CMW and Alternative B4 removes the lowest amount of area of the CMW. To determine the % of CMW removed for each of the Build alternatives, the CMW removed area was divided by the total area of the CMW (8,655 acres/ 3,502 ha). Overall, all of the Build alternatives would result in less than 1% CMW removal.

Table 3: Removed CMW Area

Alternative	Area of Removed CMW (Ac)	Area of Removed CMW (HA)	Total Area of CMW (Ac)	Total Area of CMW (HA)	Decrease of CMW (%)
No-Build	0	0	8,655	3,502	0%
B1	76	31	8,655	3,502	0.9%
B2	57	23	8,655	3,502	0.7%
B3	76	31	8,655	3,502	0.9%
B4	10	4	8,655	3,502	0.1%

The length of each Build alternative through the CMW was measured. This metric was used because, as the Baird and RVE modelling demonstrates, the Build alternatives cause some level of hydrologic impacts in the CMW and, therefore, a greater span across the CMW would result in overall greater level of impacts. The length of roadway through the CMW for each of the Build alternatives is summarized in **Table 4**. Of the Build alternatives, Alternatives B1 and B3 have the longest length within the CMW and Alternative B4 has the shortest length within the CMW.

Table 4: Length of Roadway Through Central Mangrove Wetland

Alternative	Length of Roadway (mile)	Length of Roadway (kilometre)
No-Build	0	0
B1	2.8	4.5
B2	2.1	3.4
B3	2.8	4.5
B4	0.7	1.1

A water budget analysis was completed for the CMW for existing and proposed conditions. The results indicate that the CMW pool and water level would not be affected by the proposed Build alternatives. See **Figure 18** and **19** for the existing and proposed water budget respectively. These figures demonstrate the negligible effects of the Build alternatives on the water budget of the CMW.

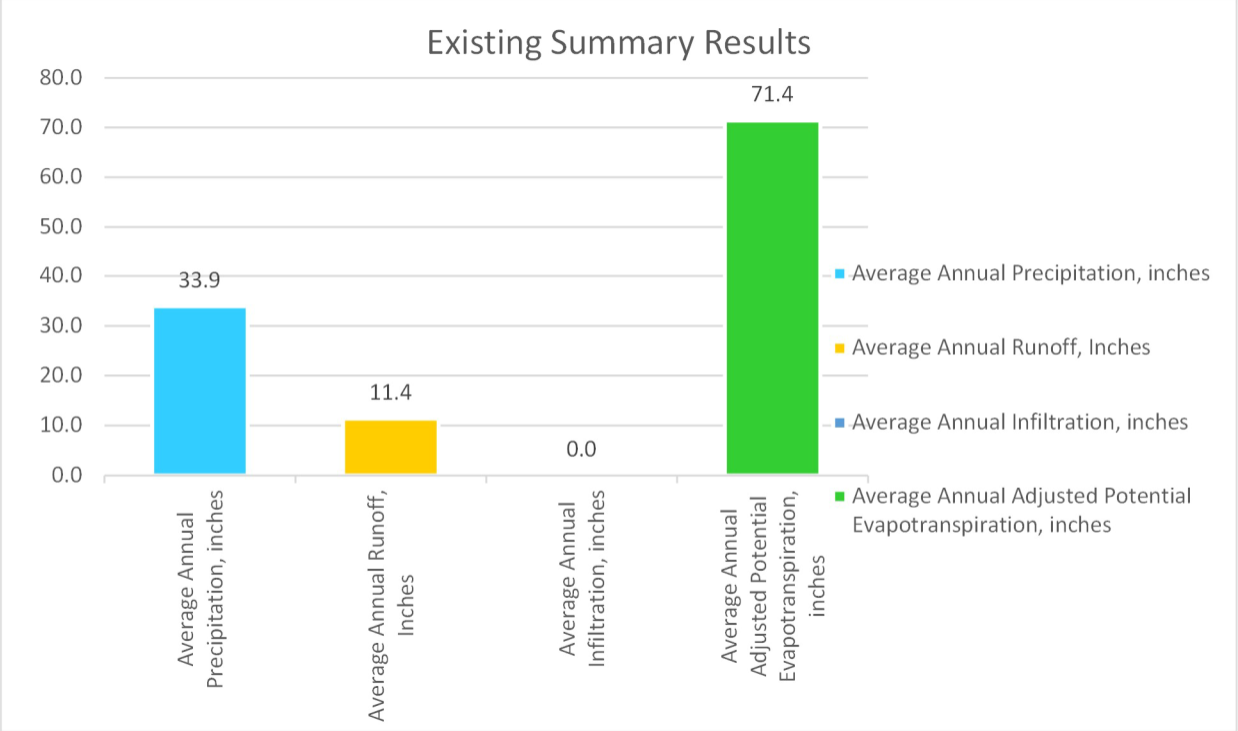

Figure 18: Existing Water Budget Summary Results
Source: Gause and Razzaghmanesh, 2024

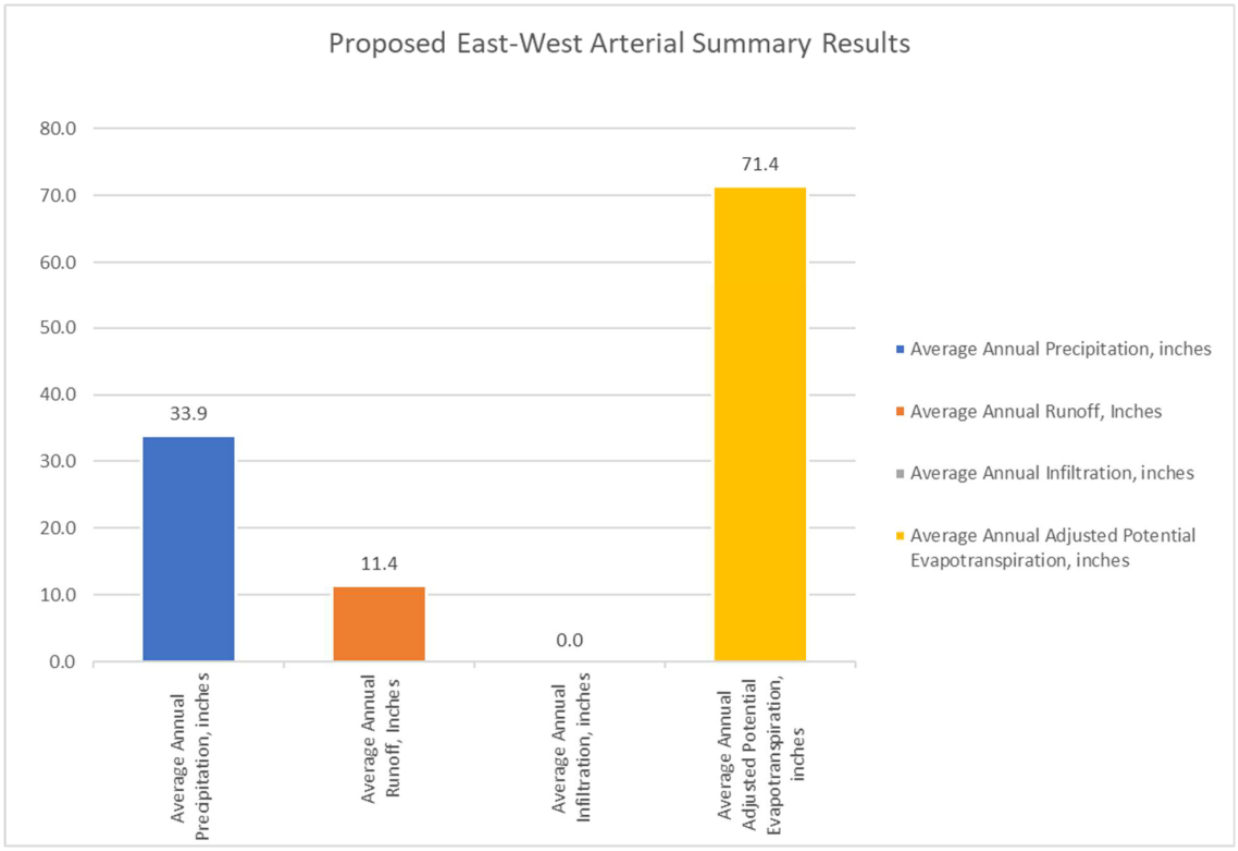

Figure 19: Proposed Water Budget Summary Results
Source: Gause and Razzaghmanesh, 2024

Rainfall modelling and surge modelling was completed by RVE and Baird respectively to assess the potential drainage impact of the Build alternatives on the CMW. This modelling included the effects of the preliminary bridge opening configurations for the different alternatives. Generally, the results for Alternatives B1, B2, and B3 showed a slight increase in flood levels in the CMW as compared to the existing condition, presumably due to the road embankment slightly limiting the floodwater's inland movement. The study also indicates that the water level in the CMW exceeded the existing condition water level for a certain length of time for these alternatives.

The hydrologic/hydraulic and storm surge/wave overtopping studies completed by RVE and Baird respectively concluded that impoundment for the portion of Alternative B4 beyond Section 2 (Woodland Drive to Lookout Road) was not included in the impoundment analysis because the portion along the coast is on a ridge and does not induce significant impoundment and the portion from Section 2 to the coast was also not anticipated to induce significant impoundment. The magnitude of impact discussion in Section 7.3 of this assessment discusses these impacts for the locations along Section 2.

The formation of an impoundment was assessed using two factors. The first factor is the difference in peak flood level between existing and proposed conditions. The second factor is the length of time that the flood level with the proposed Build alternative roadway is greater than the existing flood level by at least 0.3 ft (0.1 metres). The values reported are averages of the results from the

seven synthetic storms that were run in the model. The results of this analysis are summarized in **Table 5**.

Table 5: Floodwater (Including Surge and Rainfall) Impoundment Impacts on the Central Mangrove Wetland

Alternative	Average Duration of Impoundment in Proposed Conditions (hours)	Average Difference of Maximum Impoundment (ft/m)
No-Build	0	0
B1	2	0.2/0.07
B2	1	0.2/0.05
B3	2	0.2/0.07
B4	*	*

**Impoundment impacts for the portion of Alternative B4 within Section 2 are considered negligible due to the fact that Section 2 does not traverse a significant portion of the CMW.*

The results show slight increases in the maximum floodwater levels and duration of flooding. Based on discussions with Baird and RVE, the slight differences in floodwaters shown for the CMW and for the other resources discussed in later sections are within acceptable tolerances for the scale of storms being considered.

7.3.2 Pollution Impact Assessment

Potential for pollution from the roadway was assessed based on the increase of impervious area compared to the CMW drainage area. Most of the stormwater runoff from each of the Build alternatives eventually travels to and though the CMW. Therefore, the entire increase in impervious area was calculated for each Build alternative (B1, B2, B3 and B4). In addition, the increase in impervious area directly adjacent to the CMW was calculated by using the length of proposed roadway through the CMW and multiplying by the width of the paved roadway.

The impervious area increase for each alternative is summarized in **Table 6**. Of the Build alternatives, Alternative B1 has the greatest increase of impervious area and the most directly adjacent impervious area. Alternative B4 has the lowest increase in impervious area and the least directly adjacent impervious area. The total increase of impervious area divided by the total drainage area of the CMW ranges from 1.4% for Alternative B1 to 0.9% for Alternative B4.

Table 6: Impervious Area Increase Assessment for the CMW

Alternative	Total Increase of Impervious Area (Ac/HA)	Increase of Impervious Area Direct Discharge to CMW (Ac/HA)	Total Drainage Area to CMW (Ac/HA)	Total Increase Impervious Area/Total Drainage Area (%)
No-Build	0/0	0/0	11,172/4,521	0.0%
B1	161/65	42/17	11,172/4,521	1.4%
B2	132/53	32/13	11,172/4,521	1.2%
B3	135/55	42/17	11,172/4,521	1.2%
B4	98/40	10/4	11,172/4,521	0.9%

7.4 Mastic Reserve

The Mastic Reserve, encompasses much of the area of the Mastic Trail, is part of a catchment area and is also valued for its role in groundwater recharge. The hydrology and water quality of the Mastic Reserve could be potentially affected by the Build alternatives by converting pervious groundwater recharge areas to impervious roadway surface. A portion of Alternative B1 is located within the Mastic Reserve while Alternatives B2, B3, and B4 are not located within the Mastic Reserve. Additional information on the Mastic Reserve is included in the Terrestrial Ecology and Cultural and Natural Heritage Assessment of Alternatives reports.

7.4.1 Hydrology, Hydraulics and Drainage Impact Assessment

The potential hydrologic and hydraulic impacts and potential for pollution impacts were assessed for the Mastic Reserve. The potential hydrologic and hydraulic impacts were assessed using the following methods:

- Distance from Mastic Reserve
- Rainfall runoff modelling
- Surge modelling

The centreline distance from each Build alternative to the Mastic Reserve is summarized in **Table 7**. Of the Build alternatives, Alternative B1 is the closest (0 ft/0 m) as it crosses through the Mastic Reserve and Alternative B4 is the furthest (6,399 ft/1,950 m). Of all the Build alternatives, Alternative B1 is the only alternative that directly impacts the Mastic Reserve with a total area of impact of 8 acres (3 ha).

Table 7: Distance Between the Alternatives and the Mastic Reserve

Alternative	Distance (ft)	Distance (metre)
No-Build	6,430	1,960
B1	0	0
B2	2,058	627
B3	1,574	480
B4	6,399	1,950

Rainfall runoff modelling and storm surge modelling were completed to assess the potential drainage impacts of each of the Build alternatives (B1, B2, B3 and B4) on the Mastic Reserve. Generally, the results showed a slight decrease in the peak water level for Alternatives B1, B2, and B3; however, the study also showed that, on average, the water in the Mastic Reserve is impounded for longer than existing conditions. These conditions suggest that, while the roadway alternatives are generally not impactful when considering peak water surface elevations, the inclusion of the roadway, which would also include associated openings, would result in longer drain times for the water that is impounded. Based on discussions with Baird and RVE, the slight differences in floodwaters shown for the Mastic Reserve are within acceptable tolerances for the scale of storms being considered. Impoundment in the Mastic Reserve is measured using the same variables as were used for the CMW. The results of this analysis are summarized in **Table 8**.

Table 8: Floodwater (Including Surge and Rainfall) Impoundment Impacts on the Mastic Reserve

Alternative	Average Duration of Increased Impoundment (hours)	Average Difference of Maximum Impoundment (ft/m)
No-Build	0	0
B1	1	-0.1/-0.04
B2	1	-0.1/-0.02
B3	1	-0.1/-0.04
B4	*	*

**Impoundment impacts for Alternative B4 are considered negligible due to the fact that Alternative B4 does not traverse the Mastic Reserve nor is in relatively close proximity to this feature.*

The floodwater impoundment differences shown in the modelling results above are expected to affect a majority of the Mastic Reserve area. Generally, impacts on a region such as the Mastic Reserve would be similar over much of the area, although slightly greater impacts could occur close to the road or close to any large openings under the road.

7.4.2 Pollution Impact Assessment

The potential for pollution from the roadway was assessed based on the increase of impervious area with direct drainage to the Mastic Reserve and the distance from centreline of each of the Build alternatives to the Mastic Reserve. The Mastic Reserve is relatively higher in elevation than the surrounding area and thus is less likely to be polluted from roadways. The increase of impervious area with direct drainage to the Mastic Reserve was calculated for each alternative and is summarized in **Table 9**. Alternative B1 is the only alternative that has direct drainage to the Mastic Reserve (17 acres/7 ha). The section of Alternative B1 which would have direct drainage to the Mastic Reserve was assumed to be from the Mastic Trail east to Frank Sound Road.

Table 9: Impervious Area Increase Assessment for the Mastic Reserve

Alternative	Increase of Impervious Area with Direct Drainage (Ac/ha)	Distance from Alignment to Resource (ft/m)
No-Build	0	6,430/1,960
B1	17/7	0/0
B2	0	1,914/583
B3	0	1,455/444
B4	0	5,690/1,734

7.5 Meagre Bay Pond

The hydrology and water quality of the Meagre Bay Pond (Pond) may be potentially affected by each of the proposed Build alternatives. Alternatives B1, B2, and B3 are located between the Pond and the CMW and could potentially disconnect (hydrologically) the Pond from the CMW, which could limit the periodic salt flushing during heavy and prolonged rainfall events. In addition, due to the location of the new roadway in relation to the Pond pollutants from the roadway could be deposited in the Pond during smaller storm events with Alternative B4 and from larger storms for Alternatives B1, B2, and B3. Additional information on the Meagre Bay Pond is included in the Terrestrial Ecology and Cultural and Natural Heritage Assessment of Alternatives Report.

7.5.1 Hydrology, Hydraulics and Drainage Impact Assessment

The potential hydrologic and hydraulic impacts and potential for pollution impacts were assessed for the Meagre Bay Pond. The potential hydrologic and hydraulic impacts were assessed using the following methods:

- Distance from Meagre Bay Pond
- Rainfall modelling
- Surge modelling

The centreline distance from each Build alternative and the Meagre Bay Pond is included in **Table 10**. Of the Build alternatives, Alternative B4 is the closest (148 ft/45 m) and Alternatives B1 and B3 are the furthest (1,291 ft/394 m) from the Pond.

Table 10: Distance Between the Alternatives and the Meagre Bay Pond

Alternative	Distance (ft)	Distance (metre)
No-Build	74	22
B1	1,291	394
B2	968	295
B3	1,291	394
B4	148	45

Rainfall runoff and surge modelling were completed to assess the potential drainage impact of the Build alternatives on the Meagre Bay Pond. Overall, the results showed a slight decrease in the

peak water level for Alternatives B1, B2, and B3. The study also showed that the water level in Meagre Bay Pond exceeded the existing condition water level for a length of time for these alternatives. Based on discussions with Baird and RVE, the slight differences in floodwaters shown for Meagre Bay Pond are within acceptable tolerances for the scale of storms being considered.

Wave overtopping was not included in the impoundment analysis. Wave overtopping was modelled as part of the Alternative B4 study and did not extend to impacts from wave overtopping on Meagre Bay Pond.

Impoundment in Meagre Bay Pond is measured using the same variables as were used for the CMW. The results of this analysis are summarized in **Table 11**.

Table 11: Floodwater (Including Surge and Rainfall) Impoundment Impacts to the Meagre Bay Pond

Alternative	Average Duration of Increased Impoundment (hours)	Average Difference of Maximum Impoundment (ft/m)
No-Build	0	0
B1	8	-0.4/-0.11
B2	3	-0.3/-0.11
B3	8	-0.4/-0.11
B4	*	*

** Impoundment impacts for Alternative B4 are considered negligible due to the fact that Alternative B4 is adjacent to the existing beach ridge line in the vicinity of Meagre Bay Pond and does not significantly change the existing drainage patterns in this location.*

7.5.2 Pollution Impact Assessment

The potential pollution impacts were assessed using the increase of impervious area with direct discharge to the Meagre Bay Pond drainage area and the distance from the centreline of each of the Build alternative (B1, B2, B3 and B4) to the Meagre Bay Pond. The results of this analysis are summarized in **Table 12**. Based on this analysis only Alternative B4 would have a potential to pollute from stormwater runoff since it is located just south and adjacent to the area of the Meagre Bay Pond.

Table 12: Increase of Impervious Area Assessment for the Meagre Bay Pond

Alternative	Increase of Impervious Area with Direct Discharge (Ac/ha)	Distance from Alignment to Resource (ft/m)
No-Build	0	74/22
B1	0	855/261
B2	0	524/160
B3	0	855/261
B4	3/1	11/3

7.6 Freshwater Lenses

As demonstrated and stated in Section 6.7: Groundwater Mounding Analysis, the impact of the Build alternatives on the Freshwater Lenses is similar across all of the Build alternatives and is anticipated to produce a negligible effect on these resources. Detailed information regarding the Freshwater Lenses can be found in the separate Geo-Environmental Assessment of Alternatives report.

7.7 Developed Areas

The developed areas within the study area include existing residential, business, and commercial areas of Northward, Lower Valley, Bodden Town, and the Northwest Areas, Southeast Northward, Belfour Estates, Midland Acres, Rossini Drive, Savannah Gully, and the residential developments west of Meagre Bay Pond, and along Frank Sound (**Figure 21)**. There are also numerous additional developed areas along the existing Bodden Town Road corridor throughout the study area. The potential hydrology, hydraulics and drainage and pollution impacts on these developed areas were assessed for each alternative.

7.7.1 Hydrology, Hydraulics and Drainage Impact Assessment

For this analysis it was assumed that the longer the roadway distance through the developed areas, the more potential of the roadway to cause the impoundment of floodwaters through these areas. The impact of the Build alternatives on these developed areas has been assessed by the length of roadway within the developed areas. The results of this analysis are summarized in **Table 13**. Of the Build alternatives, Alternatives B1, B2, and B3 have the shortest length (1.9 miles/3 km) of roadway within the Developed Areas and Alternative B4 has the longest length (14.5 miles/23.3 km) of roadway within the developed areas.

Table 13: Length of Additional Roadway Through Developed Areas

Alternative	Additional Length of Roadway (mile)	Additional Length of Roadway (kilometre)
No-Build	0	0
B1	1.9	3
B2	1.9	3
B3	1.9	3
B4	14.5	23.3

Rainfall runoff and storm surge modelling was also completed to assess the potential drainage impact of the Build alternatives on the developed areas based on the same parameters as was used for Meagre Bay Pond above. Overall, the results showed a slight decrease in the peak water level for Build alternatives B1, B2, and B3. The study also showed that the water level in the developed areas exceeded the existing condition water level for a length of time for these alternatives. The results showed longer flood durations at NW Area, Will T and Rossini Drive, but these are attributed to slight local differences in shallow drainage, rather than any broad impoundment of water in the area for Alternatives B1 and B3. An example of this local shallow drainage effect for a specific location along the B2 Build alternative is shown in **Figure 20**.

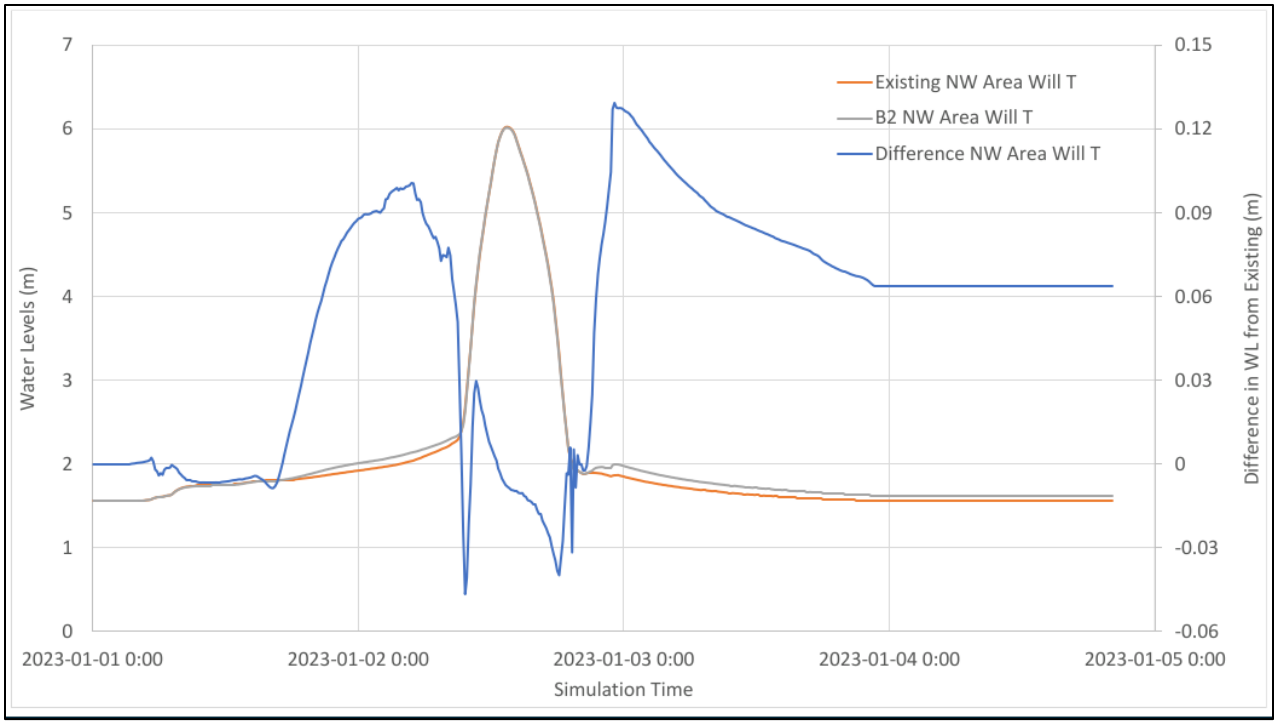

Figure 20: Example of Ponding Issue in Shallow Regions
Source: Baird and Associates, 2024

This figure shows the existing modelling results versus the proposed results for a specific location along the B2 Build alternative. The results show the water levels in the proposed condition flattening out at an elevation higher than the existing results due to localized puddling effects in the modelling (Baird and Associates, 2024).

The results also showed slightly higher values along Alternative B2. One area where this occurred was at Midland Acres. This location is approximately 0.6 miles (1.0 km) away from the nearest potential drainage opening through the Alternative B2 roadway and is shown in **Figure 21** along with some of the other locations of interest.

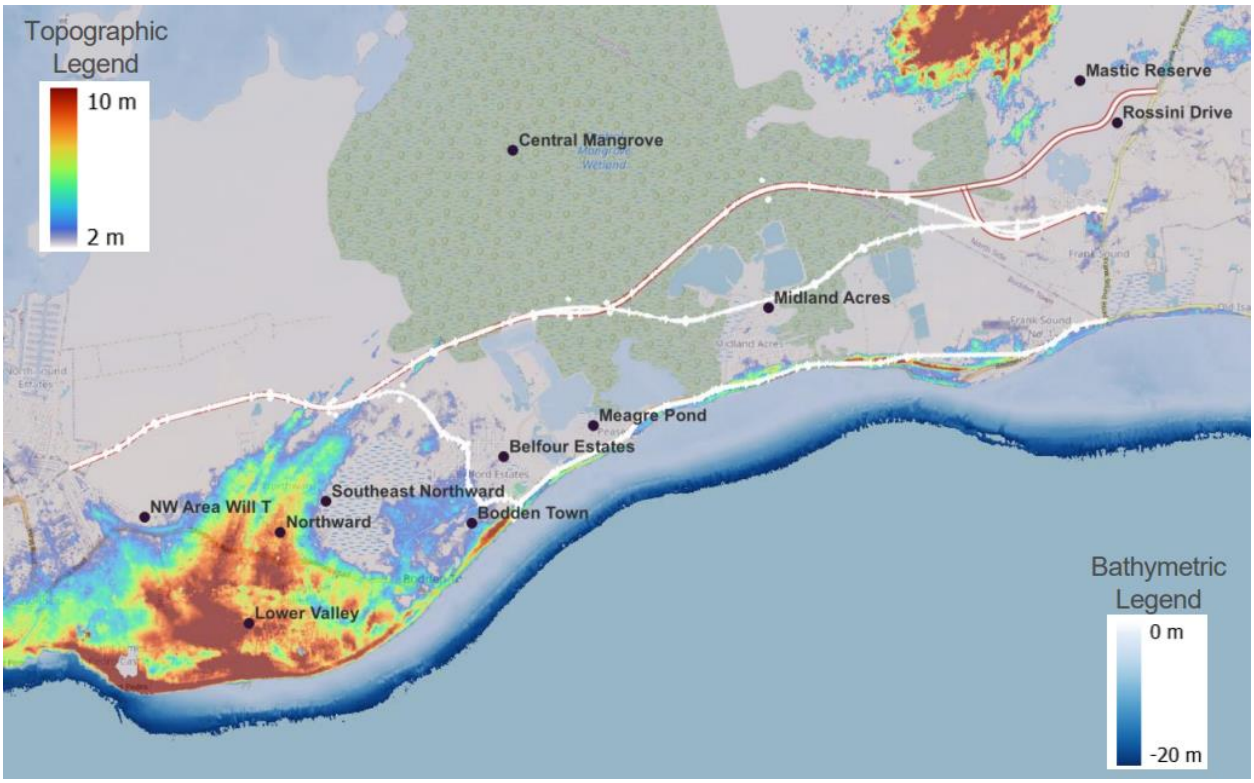

Figure 21: Developed Area Locations
Source: Baird and Associates, 2024

This distance from the drainage opening creates a longer drainage path that possibly could be mitigated by adding an opening through this section of the roadway closer to this location. As previously described for other resources areas, the results of this analysis show that there would be a slight decrease in the peak water level for Alternatives B1, B2, and B3; however, the study also showed that, on average, the water in the identified developed areas is impounded for longer than existing conditions. These conditions suggest that, while the Build alternatives are generally not impactful when considering peak water surface elevations, the configuration of the roadway and the associated openings would result in longer drain times for the water that is impounded. Based on discussions with Baird and RVE, the slight differences in floodwaters shown for the developed areas are within acceptable tolerances for the scale of storms being considered.

The amount of potential impoundment in the developed areas was measured using the same variables that were used for the CMW analysis. The results of this analysis are reported for the individual areas covered by this study. The values were averaged, and the results are summarized in **Table 14**. These averaged values were used for comparative analysis of each of the alternatives.

Table 14: Floodwater (Including Surge and Rainfall) Impoundment Impacts to Developed Areas

Alternative	Average Duration of Increased Impoundment (hours)	Average Difference of Maximum Impoundment (ft/m)
No-Build	0	0
B1	2	-0.1/-0.03
B2	2	-0.1/-0.02
B3	2	-0.1/-0.03
B4	*	*

**Impoundment impacts for Alternative B4 may generally result in a slight reduction of the peak on the SW side of the road with possible slight delays in the drainage of water following a storm (Baird and Associates 2024); however, impacts are not expected at the other locations of interest.*

7.7.2 Pollution Impact Assessment

To assess potential pollution impacts for the developed areas, the increase of impervious area along the Will T Connector was used for all Build alternatives. Due to the lack of development along the remainder of the Alternatives B1, B2, and B3, these surface areas were not included in this analysis. Numerous developed areas are located adjacent to Alternative B4 and the total impervious area along Alternative B4 was calculated and used in this comparison. The summary of the pollution potential assessment is included in **Table 15**.

Table 15: Increase of Impervious Area Assessment for Developed Areas

Alternative	Increase of Impervious Area (Ac/ha)	Distance from Alignment to Developed Areas (mile/km)
No-Build	0	0/0
B1	29/12	0/0
B2	29/12	0/0
B3	29/12	0/0
B4	80/33	0/0

7.8 Damage to Existing Drainage Infrastructure

The construction of any of the Build alternatives (B1, B2, B3 and B4) may potentially inadvertently cause damage to existing drainage infrastructure and result in subsequent flooding of neighbouring properties or infrastructure. A map of the existing drain wells was developed using data provided by the NRA and is shown in **Figure 22.**

Drain wells are one of the main drainage features used on Grand Cayman; therefore, the number of drainage wells that may be impacted was determined for each of the Build alternatives. There is one drainage well along Alternatives B1, B2, and B3 and eighteen drainage wells along Alternative B4 which potentially can be affected by construction activities. No drainage wells are anticipated to be impacted by the No-Build scenario. A summary of the number of potentially affected drainage wells for each alternative is shown in **Table 16**.

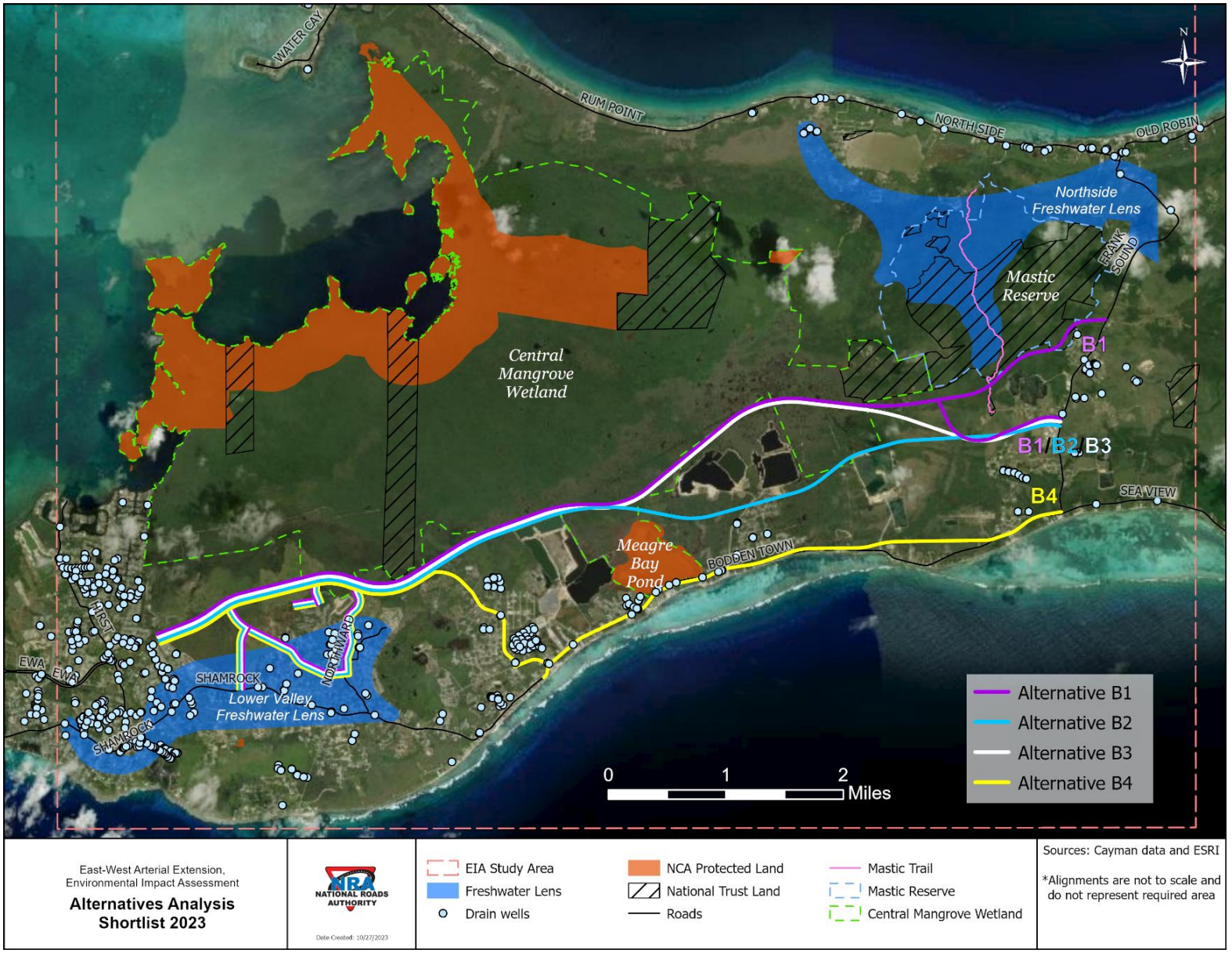

Figure 22: Drain Well Map

Table 16: Potentially Affected Drainage Wells

Alternative	Potentially Affected Drainage Wells (Each)
No-Build	0
B1	1
B2	1
B3	1
B4	18

8 Qualitative Impact Assessment

8.1 Assessment Methodology

The qualitative assessment for Hydrology and Drainage is based upon the UK Department for Transport's "Transport Analysis Guidance Unit A3: Environmental Impact Appraisal" (WebTAG). The most applicable category for Hydrology and Drainage impacts is "Impacts on the Water Environment." The completed qualitative assessment incorporates WebTAG Section 10 of Unit A3: Environmental Impact Appraisal as appropriate. The qualitative assessment also incorporates the March 2020 Design Manual for Roads and Bridges LA 113 as appropriate.

A variation from WebTAG Unit A3 is that this assessment did not include the "Very Large Adverse Impact" category since it is inconsistent with the 7-point qualitative scale assigned in the Appraisal Summary Table.

The **first step** of the qualitative assessment is to determine the importance (or value) of features based on the guidance table below:

Table 17: Estimating the Importance of Water Environment Features

Importance	Criteria	Examples
Very high	• Feature with a high quality and rarity, regional or national scale and limited potential for substitution	• Aquifer providing potable water to a large population (groundwater) • Important fish population (surface water) • Floodplain or defence protecting more than 100 residential properties (flood risk)
High	• Feature with a high quality and rarity, local scale and limited potential for substitution • Feature with a medium quality and rarity, regional or national scale and limited potential for substitution	• High status water body (surface water) • Aquifer providing potable water to a small population (groundwater) • Notable fish population (surface water) • Floodplain or defence protecting up to 100 residential properties or industrial premises (flood risk)
Medium	• Feature with a medium quality and rarity, local scale and limited potential for substitution • Feature with a low quality and rarity, regional or national scale and limited potential for substitution	• Good status water body (surface water) • Aquifer providing abstraction water for agricultural or industrial use (groundwater) • Floodplain or defence protecting up to 10 industrial premises (flood risk)

Importance	Criteria	Examples
Low	• Feature with a low quality and rarity, local scale and limited potential for substitution	• Less than good status (surface water) • Unproductive strata (groundwater) • Floodplain with limited existing development (flood risk)

Source: WebTAG Unit A3, Environmental Impact Appraisal, Table 13, November 2023

The **second step** of the qualitative assessment is to determine the magnitude of impact (positive or negative). This is based on Table 14 from WebTAG Unit A3 as depicted in **Table 18.** The ranking system and criteria from WebTAG were followed; however, some of the terminology within the magnitude of impact section was modified to ease document consistency and reader understanding. Because the subsequent step (the **third step**) in the evaluation uses the terms "Adverse" and "Beneficial," those terms in **Table 18** were changed to "Negative" and "Positive." This change in terminology is consistent with other sections of WebTAG Unit A3.

Table 18: Estimating the Magnitude of Impact

Magnitude	Criteria	Example
Major Negative	• Results in loss of feature	• Loss of important fishery • Change in water quality status • Compromise employment source • Loss of flood storage/increased flood risk • Pollution of potable source of abstraction
Moderate Negative	• Results in adverse impact on integrity of feature or loss of part of feature	• Loss in productivity of a fishery • Contribution of a significant proportion of the effluent in the receiving water body • Reduction in the economic value of the feature
Minor Negative	• Results in minor adverse impact on feature	• Measurable changes in feature, but of limited size and/or proportion
Negligible	• Results in an impact on feature but of insufficient magnitude to affect the use/integrity	• Discharges to watercourse but no significant loss in quality, fishery productivity or biodiversity • No significant impact on the economic value of the feature • No increase in flood risk
Minor Positive	• Results in minor beneficial impact on feature or a reduced risk of adverse effect occurring.	• Measurable changes in feature, but of limited size and/or proportion
Moderate Positive	• Results in moderate improvement of feature	• Enhanced productivity of a fishery • Reduction in a significant proportion of the effluent in a receiving water body • Moderate reduction in flood risk
Major Positive	• Results in major improvement of feature	• Removal of major existing polluting discharge to a watercourse • Major reduction in flood risk

Source: WebTAG Unit A3, Environmental Impact Appraisal, Table 14, November 2023

The **third step** of the qualitative assessment is to determine the overall assessment score based on the results of Step 1 and Step 2. As shown in **Table 19** the assessment scores are based on the magnitude of impact and the importance of the water environment feature. **Table 19** shows the evaluation criteria description matrix that was used to define the scores of the selected features which are presented in **Table 22**.

This step is a streamlined version of determining the Overall Assessment Score of the water resource per WebTAG Unit A3 (see paragraph 10.2.15). In addition, the terminology in **Table 19** was updated to match the terms used in Unit A3's Table 16. However, the process for using the matrix was not changed. This methodology allows for an assessment score per *resource* to be determined.

Table 19: Assessment Score by Resource

Magnitude of Impact*	Importance of Water Environment Features			
	Very High	High	Medium	Low
Major Negative	Large adverse**	Large adverse	Moderate adverse	Slight adverse
Moderate Negative	Large adverse	Moderate adverse	Slight adverse	Neutral
Minor Negative	Moderate adverse	Slight adverse	Neutral	Neutral
Negligible	Slight adverse	Neutral	Neutral	Neutral

**All identified impacts were adverse, therefore beneficial impacts are not shown within the table*
***Very Large and Large Adverse were merged to be consistent with the 7-point qualitative scale for the Appraisal Summary Table*

Source: WebTAG Unit A3, Environmental Impact Appraisal, Table 15, November 2023

An Overall Assessment Score of each alternative, that takes into account the individual assessment score for each resource, was then determined (**Table 20**). WebTAG guides project teams to also consider the number of key water resources affected by a scheme when determining the Overall Assessment Score. Therefore, both the assessment score by resource as well as the number of impacted resources were taken into account when determining the Overall Assessment Score per alternative.

Table 20: Definitions of Overall Assessment Score

Score	Comment
Large Beneficial Impact	It is extremely unlikely that any scheme incorporating the construction of a new transport route (road or rail) would fit into this category. However, a scheme could have a large positive impact if it is predicted that it will result in a 'very' or 'highly' significant improvement to a water feature(s), with insignificant adverse impacts on other water features.
Moderate Beneficial Impact	Where the scheme provides an opportunity to enhance the water environment, because it results in predicted: • Significant improvements for at least one water feature, with insignificant adverse impacts on other features; • Very or highly significant improvements, but with some adverse impacts of a much lower significance. • The predicted improvements achieved by the scheme should greatly outweigh any potential negative impacts.
Slight Beneficial Impact	Where the scheme provides an opportunity to enhance the water environment, because it provides improvements in water features which are of greater significance than the adverse effects
Neutral	Where the net impact of the scheme is neutral, because: • it has no appreciable effect, either positive or negative, on the identified features; • the scheme would result in a combination of effects, some positive and some negative, which balance to give an overall neutral impact. In most cases these will be slight or moderate positive and negative impacts. It may be possible to balance impacts of greater significance. However, in these cases great care will be required to ensure that the impacts are comparable in terms of their potential environmental impacts and the perception of these impacts.
Slight Adverse Impacts	Where the scheme may result in a degradation of the water environment, because the predicted adverse impacts are of greater significance than the predicted improvements.
Moderate Adverse Impacts	Where the scheme may result in a degradation of the water environment, because it results in predicted: • significant adverse impacts on at least one feature, with insignificant predicted improvements to other features; • very or highly significant adverse impacts, but with some improvements which are of a much lower significance and are insufficient positive impacts to offset the negative impacts of the scheme.
Large Adverse Impact	Where the scheme may result in a degradation of the water environment, because it results in predicted: • highly significant adverse impacts on a water feature; • significant adverse impacts on several water features
**Very Large Adverse Impact was eliminated from this table for consistency with the 7-point qualitative scale for the Appraisal Summary Table*	

8.2 Importance of Water Environment Features

8.2.1 Central Mangrove Wetland

As the only large mangrove forest on Grand Cayman, the CMW is a unique national site with significant complexity and limited potential for substitution. Therefore, it receives a **"Very High"** rating on the Importance of Water Environment Features scale.

8.2.2 Mastic Reserve

The Mastic Reserve is a unique national site with significant complexity and limited potential for substitution. Therefore, it receives a **"Very High"** rating on the Importance of Water Environment Features scale.

8.2.3 Meagre Bay Pond

The Meager Bay Pond is a unique national site with significant complexity and limited potential for substitution. Therefore, it receives a **"Very High"** rating on the Importance of Water Environment Features scale.

8.2.4 Freshwater Lenses

The Freshwater Lenses are unique national sites with significant complexity and limited potential for substitution. Therefore, they receive a **"Very High"** rating on the Importance of Water Environment Features scale. Detailed information regarding the Freshwater Lenses can be found in the separate Geo-Environmental Assessment of Alternatives report.

8.2.5 Developed Areas

Although not specifically a water environment feature, developed areas may potentially be hydraulically impacted by the proposed roadway and therefore, they were also included in this analysis. Bodden Town is an important residential and commercial center on Grand Cayman, along with the rest of the developed areas listed in Section 7.6. Therefore, developed areas receive a **"Very High"** rating on the Importance of Water Environment Features scale.

8.2.6 Existing Drainage Infrastructure

Existing man-made drainage infrastructure is an important feature to convey stormwater and to minimize flooding. Since this is a man-made feature it is anticipated that any drainage infrastructure affected by the construction would be replaced; therefore, it receives a **"Low"** rating on the Importance of Water Environment Features scale.

8.3 Magnitude of Impact

8.3.1 Alternative B1

Central Mangrove Wetland: Alternative B1 is anticipated to directly impact 76 acres (31 ha) of the CMW, which is less than 1% of the total CMW area (8,655 acres). Although approximately 2.8 miles (4.5 km) of Alternative B1 travel through the CMW, rainfall and surge modeling results show minimal impact to the CMW drainage patterns, flooding and impoundment durations. The water budget modeling of the CMW showed that the CMW pool and water level would not be affected by the proposed roadway. In addition, pollution from Alternative B1 is anticipated to be limited based on the relatively small percentage increase of impervious area compared to the total drainage area of the CMW (0.9%). While there is anticipated to be a measurable change to this

feature, it would be of limited size and/or proportion and therefore, Alternative B1 received a **"Minor Negative"** rating on the Magnitude of Potential Impacts scale.

Mastic Reserve: Alternative B1 is anticipated to directly impact 17 acres (7 ha) of the Mastic Reserve drainage area. Based on the rainfall and surge modeling, it is anticipated that Alternative B1 would minimally impact the drainage patterns, flooding and impoundment durations of the Mastic Reserve. In addition, pollution from Alternative B1 could possibly occur based on the stormwater runoff flow pattern and the close distance of Alternative B1 to the Mastic Reserve. Based on the rainfall and surge modeling, the existing drainage patterns, and distance between the roadway and Mastic Reserve it is anticipated that Alternative B1 would have a moderate impact on the Mastic Reserve and therefore, Alternative B1 received a **"Moderate Negative"** rating on the Magnitude of Potential Impacts scale.

Meagre Bay Pond: Based on the rainfall and surge modeling, it is anticipated that Alternative B1 would minimally impact the drainage patterns, flooding and impoundment durations of the Meagre Bay Pond. In addition, pollution from Alternative B1 is anticipated to be limited based on the stormwater run-off flow pattern and the distance of Alternative B1 from the Meagre Bay Pond (1,291 ft/ 394 m). Based on the rainfall and surge modeling, the existing drainage patterns, and distance between the roadway and Meagre Bay Pond it is anticipated that Alternative B1 would have minimal impact on Meagre Bay Pond and therefore, Alternative B1 received a **"Negligible"** rating on the Magnitude of Potential Impacts scale.

Freshwater Lenses: As demonstrated in the above mounding assessments, the theoretical mounds (rise in the water table) at the lenses are less than 1 foot (0.3 metre) at the centre of the basin for the Lower Valley Freshwater Lens and North Side Freshwater Lens. These impacts are anticipated to be temporary in nature and minimally impact the upper surface of the Freshwater Lenses. Therefore, Alternative B1 received a **"Negligible"** rating on the Magnitude of Potential Impacts scale.

Developed Areas: Although Alternative B1 travels 1.9 miles (3.0 km) through the developed areas, based on the rainfall and surge modeling, it is anticipated that Alternative B1 would minimally impact the drainage patterns and flooding of the developed areas. In addition, pollution from Alternative B1 could possibly occur based on the stormwater runoff flow pattern and the increase of impervious area directly adjacent to the developed area (14 acres/ 6 Ha). Based on the rainfall and surge modeling, the existing drainage patterns, and impervious area increase, it is anticipated that Alternative B1 would have minimal impact on developed areas and therefore, Alternative B1 received a **"Minor Negative"** rating on the Magnitude of Potential Impacts scale.

Existing Drainage Infrastructure: Alternative B1 is anticipated to directly impact one drainage well. Based on the wide distribution of this resource and insufficient magnitude of impact, it received a **"Negligible"** rating on the Importance of Water Environment Features scale.

8.3.2 Alternative B2

Central Mangrove Wetland: Alternative B2 is anticipated to directly impact 57 acres (23 ha) of the CMW, which is less than 1% of the total CMW area (8,655 acres). Although approximately 2.1 miles (3.4 km) of Alternative B2 travel through the CMW, rainfall and surge modeling results show minimal impact to the CMW drainage patterns, flooding and impoundment durations. The water budget modeling of the CMW showed that the CMW pool and water level would not be affected by the proposed roadway. In addition, pollution from Alternative B2 is anticipated to be

limited based on the relatively small percentage increase of impervious area compared to the total drainage area of the CMW (approximately 1%). While there is anticipated to be a measurable change in the feature, it would be of limited size and/or proportion and therefore, Alternative B2 received a **"Minor Negative"** rating on the Magnitude of Potential Impacts scale.

Mastic Reserve: Based on the rainfall and surge modeling, it is anticipated that Alternative B2 would minimally impact the drainage patterns of the Mastic Reserve. In addition, pollution from Alternative B2 is anticipated to be limited based on the stormwater runoff flow pattern, higher ground elevation, and the distance of Alternative B2 from the Mastic Reserve (2,058 ft/ 627 m). Based on the rainfall and surge modeling, the existing drainage patterns, and distance between the roadway and Mastic Reserve it is anticipated that Alternative B2 would have a minimal impact on the Mastic Reserve and therefore, Alternative B2 received a **"Minor Negative"** rating on the Magnitude of Potential Impacts scale.

Meagre Bay Pond: Based on the rainfall and surge modeling, it is anticipated that Alternative B2 would minimally impact the drainage patterns, flooding and impoundment durations of the Meagre Bay Pond. In addition, pollution from Alternative B2 is anticipated to be limited based on the stormwater runoff flow pattern and the distance of Alternative B2 from the Meagre Bay Pond (968 ft/ 295 m). Based on the rainfall and surge modeling, the existing drainage patterns, and distance between the roadway and Meagre Bay Pond it is anticipated that Alternative B2 would have minimal impact on Meagre Bay Pond and therefore, Alternative B2 received a **"Negligible"** rating on the Magnitude of Potential Impacts scale.

Freshwater Lenses: As demonstrated in the above mounding assessments, the theoretical mounds (rise in the water table) at the lenses are less than 1 foot (0.3 metre) at the centre of the basin for the Lower Valley Freshwater Lens and North Side Freshwater Lens. These impacts are anticipated to be temporary in nature and minimally impact the upper surface of the Freshwater Lenses. Therefore, Alternative B2 received a **"Negligible"** rating on the Magnitude of Potential Impacts scale.

Developed Areas: Although Alternative B2 travels 1.9 miles (3.0 km) through the developed areas, based on the rainfall and surge modeling, it is anticipated that Alternative B2 would minimally impact the drainage patterns, flooding and impoundment durations in developed areas. In addition, pollution from Alternative B2 is anticipated to occur based on the stormwater runoff flow pattern and the increase of impervious area directly adjacent to the developed area (14 acres / 6 ha). Based on the rainfall and surge modeling, the existing drainage patterns, and impervious area increase, it is anticipated that Alternative B2 would have minimal impact on developed areas and therefore, Alternative B2 received a **"Minor Negative"** rating on the Magnitude of Potential Impacts scale.

Existing Drainage Infrastructure: Alternative B2 is anticipated to directly impact one drainage well. Based on the wide distribution of this resource and insufficient magnitude of impact, it received a **"Negligible"** rating on the Importance of Water Environment Features scale.

8.3.3 Alternative B3

Central Mangrove Wetland: Alternative B3 is anticipated to directly impact 76 acres (31 ha) of the CMW, which is less than 1% of the total CMW area (8,655 acres). Although approximately 2.8 miles (4.5 km) of Alternative B3 travel through the CMW, rainfall and surge modeling results show minimal impact to the CMW drainage patterns, flooding and impoundment durations. The water budget modeling of the CMW showed that the CMW pool and water level would not be

affected by the proposed roadway. In addition, pollution from Alternative B3 is anticipated to be limited based on the relatively small percentage increase of impervious area compared to the total drainage area of the CMW (approximately 1%). While there is anticipated to be a measurable change in the feature, it would be of limited size and/or proportion and therefore, Alternative B3 received a **"Minor Negative"** rating on the Magnitude of Potential Impacts scale.

Mastic Reserve: Based on the rainfall and surge modeling, it is anticipated that Alternative B3 would minimally impact the drainage patterns of the Mastic Reserve. In addition, pollution from Alternative B3 is anticipated to be limited based on the stormwater run-off flow pattern, higher ground elevation, and the distance of Alternative B3 from the Mastic Reserve (1,574 ft/ 480 m). Based on the rainfall and surge modeling, the existing drainage patterns, and distance between the roadway and Mastic Reserve it is anticipated that Alternative B3 would have a minimal impact on the Mastic Reserve and therefore, Alternative B3 received a **"Minor Negative"** rating on the Magnitude of Potential Impacts scale.

Meagre Bay Pond: Based on the rainfall and surge modeling, it is anticipated that Alternative B3 would minimally impact the drainage patterns of the Meagre Bay Pond. In addition, pollution from Alternative B3 is anticipated to be limited based on the stormwater run-off flow pattern and the distance of Alternative B3 from the Meagre Bay Pond (1,291 ft/ 394 m). Based on the rainfall and surge modeling, the existing drainage patterns, and distance between the roadway and Meagre Bay Pond it is anticipated that Alternative B3 would have minimal impact on Meagre Bay Pond and therefore, Alternative B3 received a **"Negligible"** rating on the Magnitude of Potential Impacts scale.

Freshwater Lenses: As demonstrated in the above mounding assessments, the theoretical mounds (rise in the water table) at the lenses are less than 1 foot (0.3 metre) at the centre of the basin for the Lower Valley Freshwater Lens and North Side Freshwater Lens. These impacts are anticipated to be temporary in nature and minimally impact the upper surface of the Freshwater Lenses. Therefore, Alternative B3 received a **"Negligible"** rating on the Magnitude of Potential Impacts scale.

Developed Areas: Although Alternative B3 travels 1.9 miles (3.0 km) through the developed areas, based on the rainfall and surge modeling, it is anticipated that Alternative B3 would minimally impact the drainage patterns and flooding of the developed areas. In addition, pollution from Alternative B3 is anticipated to occur based on the stormwater run-off flow pattern and the increase of impervious area directly adjacent to the developed area (14 acres/ 6 ha). Based on the rainfall and surge modeling, the existing drainage patterns, and impervious area increase, it is anticipated that Alternative B3 would have minimal impact on developed areas and therefore, it received a **"Minor Negative"** rating on the Magnitude of Potential Impacts scale.

Existing Drainage Infrastructure: Alternative B3 is anticipated to directly impact one drainage well. Based on the wide distribution of this resource and insufficient magnitude of impact, it received a **"Negligible"** rating on the Importance of Water Environment Features scale.

8.3.4 Alternative B4

Central Mangrove Wetland: Alternative B4 is anticipated to directly impact 10 acres (4 ha) of the Central Mangrove Wetland, which is less than 1% of the total CMW area (8,655 acres). Approximately 0.7 miles (1.1 km) of Alternative B4 travel through the CMW. Rainfall and surge modeling results show minimal impact to the CMW drainage patterns, flooding and impoundment

durations for the portion of alternative B4 within Section 2. The water budget modeling of the CMW showed that the CMW pool and water level would not be affected by the proposed roadway. In addition, pollution from Alternative B4 is anticipated to be limited based on the relatively small percentage increase of impervious area compared to the total drainage area of the CMW (approximately 1%). While there is anticipated to be a measurable change in the feature, it would be of limited size and/or proportion and therefore, Alternative B4 received a **"Minor Negative"** rating on the Magnitude of Potential Impacts scale.

Mastic Reserve: Based on the rainfall and wave overtopping modeling, it is anticipated that Alternative B4 would not impact the drainage patterns of the Mastic Reserve. In addition, pollution from Alternative B4 is anticipated to be limited based on the stormwater run-off flow pattern, higher ground elevation, and the distance of Alternative B4 from the Mastic Reserve (6,399 ft/ 1,950 m). Based on the rainfall and surge modeling, the existing drainage patterns, and distance between the roadway and Mastic Reserve it is anticipated that Alternative B4 would have no impact on the Mastic Reserve and therefore, Alternative B4 received a **"Negligible"** rating on the Magnitude of Potential Impacts scale.

Meagre Bay Pond: Based on the rainfall and wave overtopping modeling and discussions in earlier sections of this assessment, it is anticipated that Alternative B4 would not impact the drainage patterns of the Meagre Bay Pond. In addition, pollution from Alternative B4 is anticipated to occur based on the stormwater run-off flow pattern and the close distance of Alternative B4 from the Meagre Bay Pond (148 ft/ 45 m). Based on the rainfall and surge modeling, the existing drainage patterns, and distance between the roadway and Meagre Bay Pond it is anticipated that Alternative B4 would have significant impact on Meagre Bay Pond and therefore, Alternative B4 received a **"Major Negative"** rating on the Magnitude of Potential Impacts scale.

Freshwater Lenses: As demonstrated in the above mounding assessments, the theoretical mounds (rise in the water table) at the lenses are less than 1 foot (0.3 metre) at the centre of the basin for the Lower Valley Freshwater Lens and North Side Freshwater Lens. These impacts are anticipated to be temporary in nature and minimally impact the upper surface of the Freshwater Lenses. Therefore, Alternative B4 received a **"Negligible"** rating on the Magnitude of Potential Impacts scale.

Developed Areas: Alternative B4 travels 18.1 miles (29.1 km) through the developed areas. Based on the rainfall and surge modeling, it is anticipated that Alternative B4 would minimally impact the drainage patterns and flooding of the developed areas for the portion of Alternative B4 within Section 2.Within Section 3, the wave overtopping analysis recommended some form of protective structure or raising of the road up to 22 ft (6.7 m) above mean sea level along the south coast in order to prevent significant wave overtopping from occurring and to meet the resiliency performance critical success factor identified for this project. This addition of a protective structure or change in roadway elevation would result in numerous impacts to the many developed areas along this area. In addition, pollution from Alternative B4 is anticipated to occur based on the stormwater run-off flow pattern and the large increase of impervious area directly adjacent to the developed area (98 acres/ 40 Ha). Based on the rainfall and surge modeling, wave overtopping, existing drainage patterns, and impervious area increase, it is anticipated that Alternative B4 would have significant impact on developed areas and therefore, Alternative B4 received a **"Major Negative"** rating on the Magnitude of Potential Impacts scale.

Existing Drainage Infrastructure: Alternative B4 is anticipated to directly impact 18 drainage wells, which is 3% of the total number of drainage wells within the EIA study area (604 drainage wells). Based on the magnitude of this impact, Alternative B4 received a **"Moderate Negative"** rating on the Importance of Water Environment Features scale.

8.4 Overall Assessment Score

A summary of the anticipated magnitude of impact per alternative, along with the importance of each identified feature, is shown in **Table 21**.

Table 21: Summary Table of Importance of Water Environment Features and Magnitude of Impact

Feature	Importance of Water Environment Features	Anticipated Magnitude of Impact by Alternative				
		No-Build	B1	B2	B3	B4
CMW	Very High	Negligible	Minor Negative	Minor Negative	Minor Negative	Minor Negative
Mastic Reserve	Very High	Negligible	Moderate Negative	Minor Negative	Minor Negative	Negligible
Meagre Bay Pond	Very High	Negligible	Negligible	Negligible	Negligible	Major Negative
Freshwater Lenses	Very High	Negligible	Negligible	Negligible	Negligible	Negligible
Developed Areas	Very High	Negligible	Minor Negative	Minor Negative	Minor Negative	Major Negative
Existing Drainage Infrastructure	Low	Negligible	Negligible	Negligible	Negligible	Moderate Negative

9 Monetary Impact Assessment

A Monetary Impact Assessment for water and environment features analysed for hydrology and drainage is not applicable per the WebTAG.

10 Shortlist Evaluation Summary

The importance of each water environment feature and the anticipated magnitude of impact by alternative were assessed, and the qualitative impact ratings are presented in **Table 22**. The qualitative impact rating per water environment feature is then summarized into an Overall Qualitative Rating for the No-Build scenario and each Build alternative.

Table 22: Overall Assessment Score per Alternative

Water Environment Feature	No-Build	B1	B2	B3	B4
Central Mangrove Wetland	Slight Adverse	Moderate Adverse	Moderate Adverse	Moderate Adverse	Moderate Adverse
Mastic Reserve	Slight Adverse	Large Adverse	Moderate Adverse	Moderate Adverse	Slight Adverse
Meagre Bay Pond	Slight Adverse	Slight Adverse	Slight Adverse	Slight Adverse	Large Adverse
Freshwater Lenses	Slight Adverse	Slight Adverse	Slight Adverse	Slight Adverse	Slight Adverse
Developed Areas	Slight Adverse	Moderate Adverse	Moderate Adverse	Moderate Adverse	Large Adverse
Existing Drainage Infrastructure	Neutral	Neutral	Neutral	Neutral	Neutral
Overall Qualitative Rating	**Slight Adverse**	**Large Adverse**	**Moderate Adverse**	**Moderate Adverse**	**Large Adverse**

- *No-Build* – The No-Build scenario is anticipated to have a "Slight Adverse" impact to five of the six water environment features discussed in this technical report resulting in an overall **Slight Adverse** rating.

- *Alternative B2* – Alternative B2 is anticipated to be the least impactful of the four Build alternatives on water environment features. Alternatives B2 and B3 have the same overall qualitative rating (**Moderate Adverse**) and each was assessed to have a "Moderate Adverse" impact on three water environment features (CMW, Mastic Reserve and Developed Areas.) Because Alternative B2 is anticipated to impact 57 acres (23 ha) of CMW and Alternative B3 is anticipated to impact 76 acres (31 ha) of CMW, Alternative B2 is anticipated to be slightly less impactful than Alternative B3.

- *Alternative B3* – Alternative B3 is anticipated to be the second least impactful of the four Build alternatives. As described for Alternative B2, Alternative B3 would have a slightly larger impact on the CMW by area (still less than 1% of the total area) than Alternative B2.

- *Alternative B1* – Alternative B1 is anticipated to be the third least impactful of the four Build alternatives. Alternatives B1 and B4 have the same overall qualitative rating **Large Adverse.** However, Alternative B1 has overall lower qualitative ratings for the individual resources (one Large Adverse, two Moderate Adverse, two Slight Adverse, and one Neutral versus two Large Adverse, one Moderate Adverse, two Slight Adverse, and one Neutral).

- *Alternative B4* – Alternative B4 would be the most impactful of the four Build alternatives and has the overall qualitative rating **Large Adverse**. Alternative B4 is anticipated to be more impactful than Alternative B1 due to its two "Large Adverse" impacts on Meagre Bay Pond and the Developed Areas as described in the Alternative B1 section above.

This Hydrology and Drainage Assessment is one in a series of Technical Reports that have been prepared for the Shortlist Evaluation. The level of impacts and the identification of the least impactful or most beneficial alternative will differ based on the resource/feature evaluated in each of the Technical Reports. Therefore, the most beneficial alternative described in this evaluation summary and in each technical document **does not** move an alternative forward to the Preferred Evaluation nor does it constitute any special weighting or extra consideration in the Shortlist Evaluation Document. The comprehensive analysis of all the resources/features evaluated along with the rationale for the identification of the Preferred Alternative are presented in the Shortlist Evaluation Document.

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Attachment A

Hydrology and Drainage Field Effort Summary

1 Field Effort Method

Hydrology and drainage field investigation efforts in July 2023 included observation and collection of information regarding existing drainage conveyance structures (pipes, inlets, manholes, etc.) along the No-Build and Build Alternative alignments (B1, B2, B3, and B4), observations of the existing on-island bridge, field views of the natural resources and mosquito canals, and a visit to an active quarry. The existing roadways and the proposed alternatives, when possible, were viewed to assess existing conditions and observe drainage patterns. The existing inlets and drainage systems were measured, mapped, and photographed. A rainfall event was observed and photographed. Observations of the event including localized temporary flooding along Bodden Town Road. An existing bridge in the Seven Mile Beach area was also observed. Flow patterns along the Savannah Gully were also assessed. Field views of natural resources, including the Central Mangrove Wetland, Meagre Bay Pond, and Mastic Trail were conducted. The archaic mosquito canals were walked and periodically measured. Drainage pipes and structures were mapped, characterized, and photographed. Exposed bedrock was mapped and photographed.

2 Existing Roadways, Inlets, and Bridges

During the field walk, several existing roadways were traversed including Lookout Road, Bodden Town Road, Shamrock Road, and Hirst Road. Pictures were taken to document the existing conditions of the roads. Generally, the existing roads were two lane roads with housing developments, businesses, and government buildings in close proximity to the road. There were some locations, particularly along Shamrock and Bodden Town Roads, with small (approximately 3 to 4 ft (0.9 to 1.2 m) tall) decorative walls that were only a few feet from the edge of the roadway on either side of the road (**Photo 1**). Bodden Town Road was at times close to the ocean (**Photo 2**). Bodden Town Road is also in close proximity to Meagre Bay Pond. The roads follow the existing topography with Hirst and Shamrock Roads rising along the ridge located in the Bodden Town Area and Bodden Town Road following the coastline. Bodden Town Road is located several feet above sea level for a majority of the EIA study area with only a few locations, particularly at Meagre Bay Pond, dropping closer to sea level.



Photo 1: Two-lane road in residential area with relatively short decorative walls (July 2023)



Photo 2: Bodden Town Road in close proximity to the ocean (July 2023)

The existing inlets and drainage systems in the roadways were also observed during the field view. The observed drainage systems consisted of shallow inlets located on the roadside in between the edge of the roadway and the adjacent properties (**Photo 3**). Several locations contained multiple inlets that were connected with small pipes (approximately 15-inches in diameter, maximum) (**Photo 4**). There were also several locations of kerb and gutter that contained combination kerb opening/grate inlets with grates that indicated they were manufactured in the USA (**Photo 5**). All the inlets either drained to or contained a drainage well standpipe (**Photo 6**). Most of the well standpipes were observed to be approximately 8-inches in diameter and were fabricated from Polyvinyl Chloride (PVC) pipe. The ends of the PVC standpipes were generally oriented upward with no trash racks or other screening devices. Several of the wells observed contained perforations along the raised portion of the standpipe. Water was visible within most drainage/well standpipe inlets with a few of the standpipes appearing clogged with debris (**Photo 7**). Conversation with NRA field personnel in July 2023 verified that the water table is close to the surface in most locations and that the well standpipes are cleaned out periodically to ensure they will function properly during the hurricane season.



Photo 3: Typical inlet location (July 2023)



Photo 4: Inlet on shoulder drains to inlet in centre of roadway (July 2023)



Photo 5: Made in USA inlet (July 2023)



Photo 6: Typical well- 8inch diameter PVC standpipe (July 2023)



Photo 7: Inlet clogged with sediment (left) and debris (right) (July 2023)

A rainfall event was observed during the field view. During the rainfall event, the water drained from the roadway to the roadside and ponded above the inlets. The water ponded on to the roadway surface in several locations with the worst of these locations having the water almost reach the centerline of the road (**Photos 8 and 9**). These locations were also observed approximately 1.5 hours after the rainfall stopped and the drainage wells in the inlets had drained runoff from the roadside.



Photo 8: Flooding on Bodden Town Road during rainfall event (July 2023)



Photo 9: Flooding on Bodden Town Road after rainfall event (July 2023)

Research prior to the field review identified the location of only one existing bridge on Grand Cayman in the Seven Mile Beach area. Observations during the field review indicate that the bridge was raised with a 17-foot (5-meter) clearance under the bridge. The bridge appeared to be constructed of concrete girders with embankment and retaining walls used to raise roadway approaches to the elevation of the bridge deck (**Photo 10**). No areas of erosion or stream instability were noted on the watercourse spanned by the bridge.



Photo 10: Existing Bridge in the Seven Mile Beach area (July 2023)

3 Savannah Gully

The Savannah Gully is an area of geographic relief along the south shore of Grand Cayman in the Savannah area that has been documented as a historical area of storm surge inundation and conveyance. In 2006, the Savannah Gully was flooded and a wall was designed to prevent subsequent surges from being conveyed over the gully and to the north; however, the wall was not constructed. The Savanah Gully has not been reported to have flooded since the 2006 storm event. Several photos were taken along Sandy Ground Drive in the vicinity of the gully to document the existing conditions. The relief area is easily observable along the shoreline and appears to run back along Sandy Ground Drive into the vicinity of Shamrock Road. There was an obvious increase in dense vegetation in the vicinity of the gully as well as an accumulation of plant and trash debris. **Photos 11 to 14** show the general direction of flow with red arrows.



Photo 11: Savannah Gully, facing south from Sandy Ground Drive toward ocean (July 2023)



Photo 12: Savannah Gully, facing east along Sandy Ground Drive (July 2023)



Photo 13: Savannah Gully, facing north from Sandy Ground Drive (July 2023)



Photo 14: Savannah Gully, facing west from Sandy Ground Dr. Downslope extent (July 2023)

4 Central Mangrove Wetland

The Central Mangrove Wetland is densely vegetated and was only accessible during the field review via the roads along the archaic mosquito canals, or ditches, on the west side of the wetland located off the Windward Road near Nadine Street, just south of the North Sound (**Photo 15**). The ditches along the side of the road contained two observable reinforced concrete pipes (RCP) connecting the ditches underneath the roadway; however, there did not appear to be any flow in the ditches (**Photo 16**). The RCP were round with a 42-inch (1.1 m) diameter and a 2-inch (5.1 cm) wall thickness. At the western RCP, the observed water depth was 2.5-feet (0.8 m) from the pipe crown and 1.5-feet (0.5 m) from the ditch bottom. At the eastern RCP, water depth was 2.75-feet (0.84 m) from the pipe crown and 1.75-feet (0.53 m) from the ditch bottom.

The ditches were, on average, approximately 10 feet to 15 feet (3 to 4.6 m) wide with 1.5 to 2 feet (0.5 to 0.6 m) water depth (**Photo 17**). The density and species of mangrove trees appeared to vary with proximity to the centre of the wetland. The amount of water inundating the wetland also appeared to increase towards the centre of the wetland with obvious signs of water level fluctuation visible on the vegetation. There were also multiple locations of exposed rock surface located throughout the wetland (**Photo 18**).



Photo 15: Access road with adjacent mosquito ditches (July 2023)



Photo 16: RCP drainage pipe (July 2023)



Photo 17: Drainage Canal (July 2023)



Photo 18: Bedrock outcrop in the Central Mangrove Wetland (July 2023)

5 Meagre Bay Pond

Meagre Bay Pond was accessed by a short trail off Bodden Town Road (**Photo 19**). The distance between the edge of the pond water and the edge of the roadway stripe was roughly measured to be 90 feet (27 meters). Quarry equipment was observed on the far side of the pond. The pond bottom as viewed from the bank consists mainly of sand with scattered rock outcrops and woody debris (**Photos 20 to 22**).



Photo 19: Access Trail to Meagre Bay Pond from Bodden Town Road (July 2023)



Photo 20: Meagre Bay Pond, facing Northwest. Bird in water. (July 2023)



Photo 21: Meagre Bay Pond, facing North. Sandy substrate and rock outcrops (July 2023)



Photo 22: Meagre Bay Pond, facing Northeast. Woody debris (July 2023)

6 Mastic Trail

The Mastic Trail is located on the eastern side of the island and 2.3-mile (3.7 kilometre) trail was traversed from the southern trailhead to the northern trailhead. The trail width varied with an approximate average width of 5 feet (1.5 m). Dense vegetation was noted immediately adjacent to either side of the trail. The trail transitioned from a dirt path in the south to a rocky path in the north with several wooden boardwalks located in between. The area was mostly dry with a few puddles located adjacent to the boardwalk and in the bottom of pits in the rock surface. The vegetation varied along the trail but remained dense along the length of the trail. The elevation of the trail also varied, particularly along the rock formations encountered towards the north end of the trail, with some locations climbing over approximately 6-foot-high (1.5 meter) rock outcroppings.

The two elevated boardwalks and the trail in vicinity of the Alternative B1 were measured. The southern boardwalk was 3 feet (0.9 m) wide, consisted of 2 inches by 6 inches (5 cm by 15 cm) wooden planks and was elevated up to 2 feet (0.6 m) above existing grade (**Photo 23**). The depth of existing standing water adjacent to the bridge was approximately 1.5 feet (0.5 m) in the deepest spot (**Photo 24**). The northern boardwalk was 4-feet wide, consisted of 2 inches by 6 inches (5 cm by 15 cm) wooden planks, and was elevated up to 29 inches (74 centimetres) above existing grade by PVC pipe posts (**Photo 25**). There was no standing water under or adjacent to the bridge. It appears that the existing bridge had replaced an earlier bridge. The trail in the vicinity of Alternative B1 was approximately 5 feet wide and had bedrock outcroppings (**Photo 26**).



Photo 23: Southern Boardwalk (July 2023)



Photo 24:Standing water adjacent to southern boardwalk. (July 2023)



Photo 25: Northern Boardwalk, no standing water (July 2023)



Photo 26: Trail in the vicinity of the Alternative B1 crossing. (July 2023)

7 Bedrock and Peat

Exposed bedrock formations and peat were assessed during the field effort. Bedrock formations were found in the Central Mangrove Wetland area (**Photo 27**), near the existing EWA (**Photo 28**), Savannah Gully, Alternative B4, and Mastic Trail (**Photos 29 to 32**). Access was provided by the NRA to the quarry just east of the Meagre Bay Pond. Observations were made around the perimeter of the quarry up to the northern most point of the quarry where it borders the Central Mangrove Wetland. The quarry contained large excavators that were actively being used for excavation in the quarries (**Photo 33**). The NRA personnel also indicated that blasting was being used in the excavation process. Limestone is being excavated from the quarry (**Photo 34**). The excavation areas were filled with groundwater almost up to the existing ground level. The NRA personnel mentioned that the quarries are approaching 60-feet (18.3 m) in depth. Excess material was observed piled up around the perimeter of the quarry including piles of an unknown dark material on the north end of the quarry. The portion of the Central Mangrove Wetland that could be observed from the north end of the quarry was mostly covered with pools of water at the surface level and was populated with mangrove trees, similar to the portion of the wetland along the mosquito ditches. Peat was found in conjunction with the mangroves (**Photo 35**).



Photo 27: Bedrock outcrop in the Central Mangrove Wetland area (July 2023)



Photo 28: Bedrock outcrop near the existing EWA (July 2023)



Photo 29: Limestone Pit along the Mastic Trail (July 2023)



Photo 30: Exposed bedrock along Mastic Trail (July 2023)



Photo 31: Large bedrock outcrop along the Mastic Trail (July 2023)



Photo 32: Crevice in the bedrock along the Mastic Trail (July 2023)



Photo 33: Active Quarry (July 2023)



Photo 34: Quarried rock (July 2023)



Photo 35: Peat in mangroves north of quarry (July 2023)

Appendix E, Attachment I – Greenhouse Gases – Assessment of Alternatives

Environmental Statement
East-West Arterial Extension:
Section 2 (Woodland Drive – Lookout Road)
Section 3 (Lookout Road – Frank Sound Road)



Greenhouse Gases FINAL

Assessment of Alternatives
Grand Cayman East-West Arterial Extension

NRA
NATIONAL ROADS
AUTHORITY

April 23, 2024

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Figure 2: Annual Greenhouse Gas Emissions by Sector in the Cayman Islands (1990-2022) ((Szanto, 2024)) 4

List of Terms

CH_4	Methane
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
Cu yd	Cubic Yards
DoE	Department of Environment
EPA	United States Environmental Protection Agency
ESO	Economics and Statistics Office
g/gal	grams per gallons
g/hr	grams per hour
g/veh-mi	grams per vehicle mile
GCM	Grand Cayman Travel Demand Model
GHG	Greenhouse gas
hr/day	hours per day
IPCC	Intergovernmental Panel on Climate Change
m^3	Cubic Metres
MOVES	Motor Vehicle Emission Simulator
MT	Metric tonnes
N_2O	Nitrous Oxide
NEP	National Energy Policy Unit
NRA	National Roads Authority
Ton/yr	Tons per year
ToR	Terms of Reference
UK	United Kingdom
UNFCCC	United Nations Framework Convention on Climate Change
U.S.	United States

1 Introduction

The East-West Arterial (EWA) Extension Environmental Impact Assessment (EIA) is proposed to evaluate an alternative east-west travel route on Grand Cayman. The Terms of Reference (ToR) for the proposed EWA Extension EIA was finalized on April 4, 2023. Since then, five Build alternatives (B1, B2, B3, B4, and C1), in addition to the No-Build scenario, were developed and assessed as part of the Longlist Alternatives Evaluation. A separate Longlist Alternatives Evaluation Document has been prepared to document this analysis.

As a result of the Longlist Evaluation four Build alternatives (B1, B2, B3, and B4) and the No-Build scenario were advanced to the shortlist evaluation process and Alternative C1 was dismissed. Based on the technical discipline studies, it was determined that Alternative B4 would not meet a number of the identified Critical Success Factors without resulting in significant impacts to properties and resource features along this route. Additional information regarding elimination of Alternative B4 can be found in the Shortlist Alternatives Evaluation Document. Due to these considerations Alternative B4 was not further evaluated and therefore it is not included in this Greenhouse Gases Report.

This report focuses on the assessment of greenhouse gases (GHG) for these shortlisted alternatives (B1, B2, and B3) and the No-Build scenario. Information from this report will be incorporated within the Shortlist Alternatives Evaluation Document and Environmental Statement.

2 Shortlist Evaluation

The following report outlines the procedures to calculate GHG emissions for each alternative and the critical assumptions applied for the analysis.

According to the 2022 United Kingdom (UK) Green Book, which is the Central Government Guidance on Appraisal and Evaluation, "Costs and benefits should be calculated over the lifetime of an intervention. As a guideline, a time horizon of 10 years is a suitable working assumption for many interventions. In some cases, up to 60 years may be suitable, for example for buildings and infrastructure." For this analysis a 50-year time horizon, with a horizon year of 2074, that would represent the life-cycle year for construction was used for the evaluations.

The GHG emissions were established for the following main project components:

- Construction vehicle tailpipe emissions from diesel equipment
- Tailpipe emissions from projected traffic volumes
- Habitat/peat removal
- Bulk building materials

For this analysis the baseline year is defined as year 2021 and representative of existing conditions. This baseline year was established based on the latest available census data. The initial construction phase is anticipated to be 2024-2026. The construction vehicular fleet used in the analysis was set to 2023 to ensure the most conservative emission factor distributions were predicted. The opening year was anticipated as year 2026 and the horizon year is set to 2074. Additional assumptions and methodology are included within **Section 4**.

The Shortlist of Alternatives contained in this GHG report includes the No-Build scenario and three Build alternatives B1, B2, and B3 as shown in **Figure 1.** As shown in **Figure 1,** the three Build alternatives all share the same common section beginning at the western terminus, near Woodland Drive, and continuing east to near Lookout Road. They also share the same common improvements to the local roadway network referred to as the Will T Connector. Additional details describing the Shortlist of Alternatives including full descriptions of each alternative along with typical design sections can be found in the Engineering Evaluation Document.

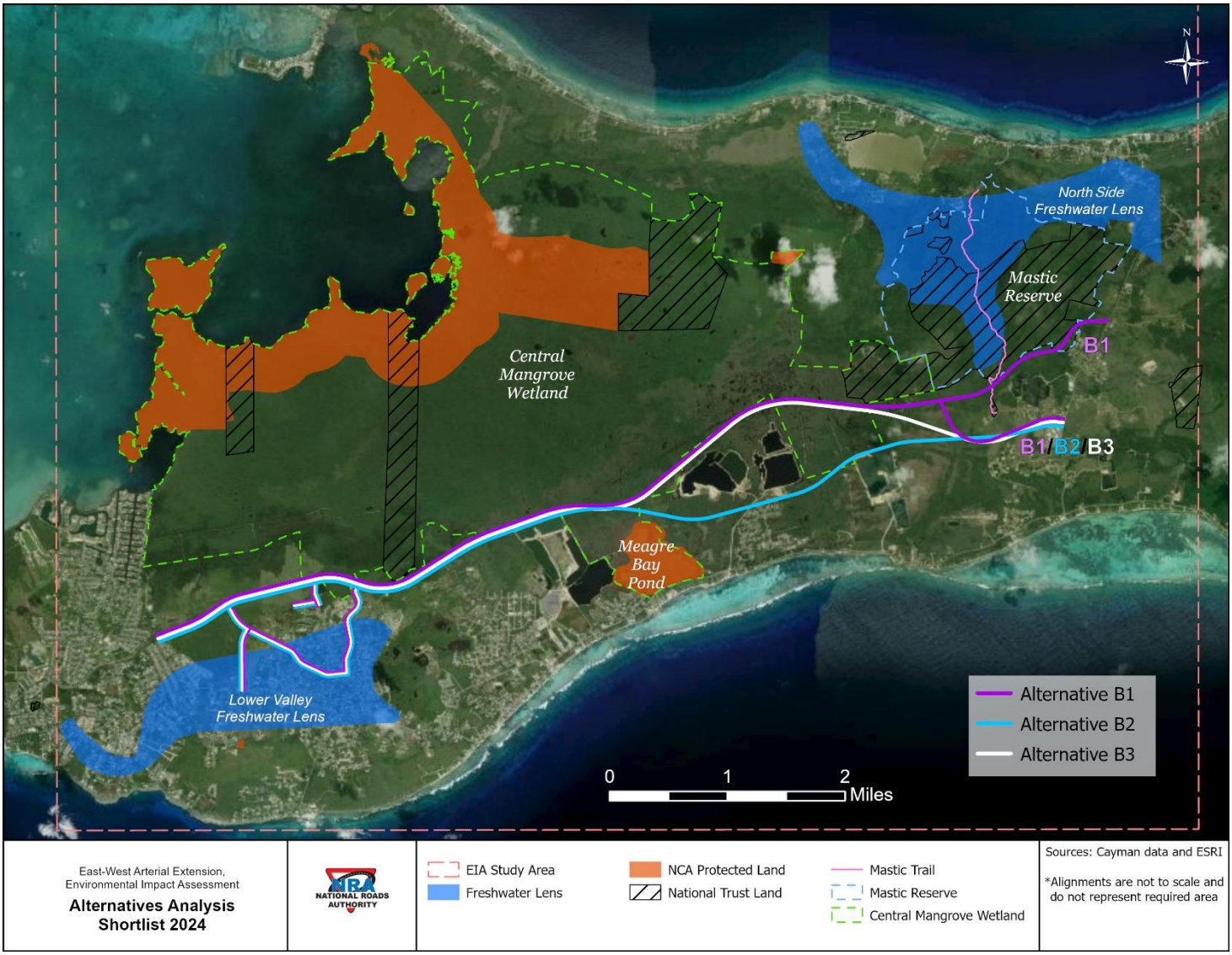

Figure 1: Shortlist of Build Alternatives

3 Baseline Conditions

In the framework of the United Nations Framework Convention on Climate Change (UNFCCC), countries are developing national emissions inventories and propose/implement actions to mitigate GHG emissions. CO_2 emissions, which are connected to global warming, are continuing to increase at world levels despite numerous climate change mitigation agreements. Reporting on GHG emissions for the Cayman Islands is undertaken by the UK as part of its GHG emissions inventory obligations under the UNFCCC and the Kyoto Protocol. As part of this agreement, GHG emissions are reported annually by the DoE to Aether Consulting in the UK for electricity generation and fuel consumption. Data is also collected and submitted to Aether Consulting in the UK on solvent use, waste management, mobile machinery, aircraft and air transport, shipping, and agriculture and forestry.

The Aether Consulting data are broken down into eight general categories including residential, industrial processes, agriculture, land use/land use change and forestry, water management, business, transportation, and energy supply which are shown in **Figure 2** from the years 1990-2022 (Szanto, 2024). GHG emissions do not have as much of a direct effect on individual body pathways (i.e. respiratory, cardiovascular systems) in the short term because the body can handle limited exposures, although they have been found to influence the body through chronic exposure (Naiyer and Abbas 2022). Additionally, GHG will create overall changes in climate over a prolonged period.

In May 2023, the Cayman Islands National Climate Change Committee issued a draft Climate Change Policy (Ministry of Sustainability and Climate Resiliency 2023), which is undergoing revisions and updates. The updated policy's goals will be incorporated into the EIA process, if available. The 2023 draft policy outlines a series of goals and objectives which include:

- Reduce vulnerability and enhance resiliency to climate change
- Promote sustainable, low or zero carbon economic activity
- Establish a governance framework for climate action which is future-focused, fair to all, accountable and transparent
- Resilient Infrastructure Networks

Additionally, the Cayman Islands National Energy Policy Unit (NEP) developed the National Energy Policy 2017-2037 (NEP, 2021). The focus is to utilise more renewable energy, promote energy efficiency/conservation measures, and reduce reliance of imported fossil fuels. As of 2014, the Cayman Islands produced 12.3 metric tons of CO_2e (Carbon dioxide equivalent)[1] per capita. The 2030 goal is to reduce that to 4.8 metric tons of CO_2e per capita. Ultimately, the policy is geared toward 62% utility solar, 3% wind, 3% waste to energy and 2% distributed solar by 2037 (NEP, 2021).

[1] Note that CO_2e is a mathematical approach that applies global warming potential values for each GHG, which were developed to allow for direct comparisons of global warming impacts of varying gases. For example, CO_2 has a multiplier or potential of 1 while methane has a potential of 25, meaning methane is 25 times more impactful from a warming perspective.

A new draft policy has been updated in late 2023 for 2030-2050 by the NEP as part of their 5-year review process. Twelve key recommendations were developed from private, public, and no-profit stakeholders. Some of which include emphasise of social equity, energy efficiency measures, public awareness campaigns and initiatives to promote electric vehicles (NEP 2023).

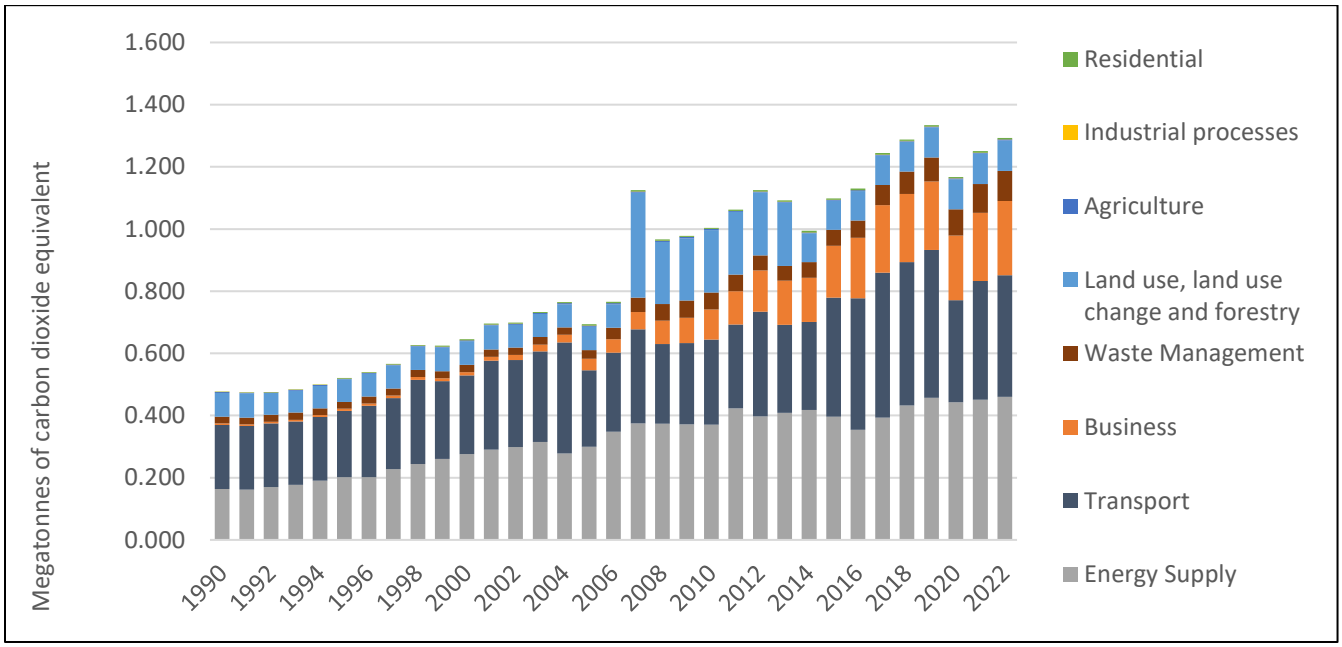

Figure 2: Annual Greenhouse Gas Emissions by Sector in the Cayman Islands (1990-2022) ((Szanto, 2024))

3.1 Applicable Standards

Standards, guidance and draft documentation related to GHG emissions include:

- Cayman Public Health Law, 2002 Revision
- International Finance Corporation Guidance Note 3, 2006
- Draft Cayman Islands' Climate Change Policy, 2023
- UK National Highways: Introduction and General Requirements for Sustainable Development and Design (GG103), Revision 0, 2019
- Cayman Islands National Energy Policy 2017-2037
- Draft Cayman Islands National Energy Policy 2023-2050
- UK National Highways Carbon Tool Guidance Version 2.5, 2022

While there is no Cayman Islands-specific GHG reporting threshold, for context, the United States (U.S.) Environmental Protection Agency (EPA) and the State of Florida determines that 25,000 MT of GHG emissions requires reporting to the agency, and 100,000 MT equates to a large or major source. For the purposes of this analysis, the GHG project significance threshold will be equivalent to the large source threshold (100,000 MT). This threshold provides a numerical comparison for potential project traffic emissions and their general impact.

3.2 Incorporated Traffic Data Methodology

Traffic data utilized within this report was developed for the EWA EIA project as part of the Traffic Evaluation. The traffic data contributed to multiple components within the EWA EIA studies including this GHG evaluation **(Attachment A)**. Additional information regarding the traffic volumes and analysis is contained in the Traffic Evaluation Technical Report. The traffic data was developed using a travel demand model, which is a program used to forecast future traffic flows in a transportation system based on demographic and land use data, available travel modes, the transportation network (number of lanes, traffic control, operating speed), and the most up-to-date estimate of travel costs. These models are typically used to evaluate the impact of planned transportation improvements or changes in land use by forecasting future traffic conditions. The Grand Cayman Travel Demand Model (GCM) was originally developed in 2019 by the National Roads Authority (NRA) using a comprehensive dataset including census socioeconomic data, cruise passenger surveys, long-term visitor surveys, and traffic counts collected across the island to accurately reflect observed travel patterns across the island. The GCM underwent a calibration process where model parameters were adjusted to ensure the model would accurately reflect observed travel patterns; this process was documented and reviewed by outside experts as part of an independent modelling task.

For the EWA EIA, the GCM was updated using the 2021 Economics and Statistics Office (ESO) census data as well as travel time runs and traffic count data collected by the NRA in 2023 within the districts of Bodden Town, North Side, and East End. Within the EWA EIA study area, the GCM was calibrated to this travel time and count data to ensure the model accurately reflects observed existing conditions and can ultimately forecast realistic results under future year conditions.

Population growth for future years 2026 and 2074 was determined based on historical district growth trends from the 2021 ESO census data, and land use inputs were updated based on planned residential and commercial development projects that the NRA identified for the next 30 years. For year 2074, three land use scenarios of low, medium, and high growth were developed based on input from stakeholders and various agencies in Grand Cayman, as detailed in the Land Use Planning Charrette Summary memorandum dated September 8, 2023. Of these three 2074 land use scenarios, the medium growth scenario was carried forward as the "core scenario" for the Shortlist Evaluation, assuming a population of 135,000 people.

4 Anticipated Project Impacts and Methodology

4.1 Quantitative

4.1.1 Construction Tailpipe Methodology

The construction equipment emissions factors were established using the U.S. EPA mobile source Motor Vehicle Emission Simulator (MOVES) model version 4.0. The NONROAD component of the model was applied for diesel fuel construction equipment. For the Shortlist Evaluation, construction information was estimated based off a review of similar road projects where construction emissions were previously determined. A general list of equipment likely to be used for road construction was developed as shown in **Table 1** and applied for this analysis.

Additionally, it was also anticipated that delivery vehicles and worker commuter vehicles would be occurring during the construction phase.

Table 1: Typical Construction Equipment List

Road Construction Equipment Type	Commuter/Delivery Vehicles
Pavers	Gasoline Passenger Car
Rollers	Gasoline Passenger Truck
Excavators	Diesel Short haul Truck
Scrapers	
Graders	
Loaders	
Dozers	
Off-Highway Trucks	
Cranes	
Drill Rigs	
Forklifts	
Trenches	
Surfacing Equipment	

For the purposes of this analysis, the construction vehicular fleet was assumed to be a 2023 mix, with the years of anticipated construction being 2024-2026 for the initial phase. This means that the age distribution of construction vehicles has a small percentage of 2023 models included and scaled back over 30 years. This approach ensures the most conservative emission factor distribution within MOVES as the earlier the year the higher the general emission factors are predicted by the model. To account for any potential seasonal variability and to limit computational run time, four representative months (January, April, July, and October) were selected. The average of the four MOVES factors was then applied. Additionally, the model requires a U.S. based county domain. The Florida county of Monroe was selected for two reasons. First, the 2023 population is 85,808 (USCB 2023), which is relatively close to the 2023 population (69,473) of Cayman (Worldmeter 2023). Secondly, it is the most southern Florida county nearest to the Cayman Islands, which is the most geographically similar U.S. County available. Note that this domain selection has very little effect on the MOVES NONROAD construction emission factors, but it is required as an input parameter.

Emission factors can be derived in a multitude of ways whether that be from the horsepower of the equipment, hours of operations of the equipment, or number of vehicle miles travelled. The hours of operation factor were selected for this analysis.

Roadway segments within MOVES were used to estimate the full length of each of the Build alternatives (B1, B2, and B3). This was completed to determine whether GHG emissions from any alternative were significantly greater than others. Alternative B1 has an estimated overall largest length of approximately 12.4 miles (19.9 km). Alternatives B2 and B3 ranged from 10.5 to 11.4 miles (16.8 to 18.4 km) (approximately 85% to 92% of Alternative B1's length) respectively.

The estimated minimum number of workdays for the road construction was set to 150 for Alternative B1 and was reduced proportional to length for Alternatives B2 and B3. This value

assumes a 50-person crew and does not account for weekends, holidays, weather, etc. Additionally, all workdays are assumed to operate all equipment for 10 hours per day (hr/day).

Electrical work, which incorporates utilities and highway lighting, assumed another minimum of 100 total workdays for Alternative B1 and was scaled accordingly for Alternatives B2 and B3. This value assumes a 150-person crew and does not account for weekends, holidays, weather, etc. The anticipated speciality equipment used for this work including cranes, drill rigs, forklifts, and trenchers, are different than the equipment typically used for general road construction and also assumed to operate 10 hr/day as a conservative measure.

Overall, the project is anticipated to require a minimum of 250 working days to complete, dependent on workforce availability, hours worked per day, and additional variables. Estimation of the construction timeline will be further refined as the design proceeds but anticipated to span a minimum of 2 years to construct.

4.1.2 Construction Tailpipe Emissions

For the anticipated road construction equipment, diesel emissions associated with running exhaust and crankcase exhaust were evaluated to establish the GHG emissions. The NONROAD component of the MOVES model directly outputs CO_2 and methane (CH_4) emissions in grams per hour (g/hr). Nitrous oxide (N_2O) emissions are not directly outputted. Instead, EPA non-road vehicle emission factors from the EPA GHG Emission Factor Hub (EPA 2024a) were used to determine N_2O emissions. A ratio of the N_2O and CH_4 emission factors were applied as defined in Table 5 of the EPA GHG Emission Factor Hub. For example, diesel equipment in the Construction/Mining Equipment section of **Table 5** of the EPA GHG Emission Factor Hub has a CH_4 factor of 1.01 grams/gallon (g/gal) and an N_2O factor of 0.94 g/gal (diesel off-highway trucks is 0.91 and 0.56 g/gal for CH_4 and N_2O, respectively). The CH_4 MOVES result for the equipment, besides trucks, was multiplied by the ratio, 0.94/1.01 g/gal, (0.56/0.91 g/gal for diesel off-highway trucks) to establish the N_2O equivalent results. **Table 2** illustrates the g/hr emission factors by each equipment type.

Table 2: Construction Equipment Emission Factors (g/hr)

Activity	MOVES Output Name	CO_2	CH_4	N_2O
Road Construction	Pavers	40,388	0.14	0.13
	Rollers	30,459	0.15	0.14
	Excavators	54,728	0.11	0.10
	Scrapers	129,636	0.37	0.34
	Graders	64,845	0.11	0.10
	Loaders	13,052	0.13	0.12
	Dozers	82,747	0.23	0.21
	Off-Highway Trucks	247,923	0.70	0.43
	Surfacing Equipment	36,151	0.24	0.23
Electrical Work	Loaders	13,052	0.13	0.12
	Cranes	52,945	0.17	0.16
	Drill Rigs	40,750	0.28	0.26
	Graders	64,845	0.11	0.10
	Forklifts	32,530	0.14	0.13
	Off-Highway Trucks	247,923	0.70	0.43
	Trenchers	25,851	0.20	0.18

All CO_2 and CH_4 emission factors were from MOVES 4.0 for a 2023 vehicular fleet as a representative worst-case scenario.

Potential GHG emissions were calculated from an assumed number of each equipment type (1 for each type other than Off-Highway Trucks [2] by activity), daily construction schedule and total workdays by activity.

The assumed values affect the overall GHG emissions. The overall GHG emissions may vary from what is presented in this report once the actual construction schedule and specific equipment needed is determined. However, the variation amongst the three Build alternatives B1, B2, and B3 will remain constant, and it is projected that the construction operations would be a small portion of the overall potential GHG emissions.

Table 3 outlines the projected construction emissions by Build alternative. The No-Build scenario is assumed to include no construction related emissions, and therefore not included within **Table 3.** Additionally, CO_2e is calculated in both short tons and metric tonnes (MT)[2] by applying standard EPA global warming potential values by pollutant. CO_2 has a multiplier of 1, the CH_4 multiplier is 25, and the N_2O multiplier is 298. (EPA 2024b).

Amongst all of Build alternatives, Alternative B1 is anticipated to result in the highest construction tailpipe emissions due to the length of the road and subsequent more total workdays.

[2] Note that a metric tonne corresponds to approximately 1.10231 short tons.

Table 3: Construction Tailpipe GHG Emissions by Alternative

Alternative	Activity	Equipment				Emissions Short Tons (MT)			
		Type	Number	Daily Schedule (hr/day)	Total Work Days	CO_2	CH_4	N_2O	CO_2e
B1	Road Construction	Pavers	1	10	150	66.8 (60.6)	2.4E-04 (2.1E-04)	2.2E-04 (2.0E-04)	66.9 (60.7)
		Rollers	1	10	150	50.4 (45.7)	2.4E-04 (2.2E-04)	2.3E-04 (2.1E-04)	50.4 (45.8)
		Excavators	1	10	150	90.5 (82.1)	1.8E-04 (1.6E-04)	1.7E-04 (1.5E-04)	90.6 (82.1)
		Scrapers	1	10	150	214.4 (194.5)	6.0E-04 (5.5E-04)	5.6E-04 (5.1E-04)	214.5 (194.6)
		Graders	1	10	150	107.2 (97.3)	1.8E-04 (1.7E-04)	1.7E-04 (1.6E-04)	107.3 (97.3)
		Loaders	1	10	150	21.6 (19.6)	2.2E-04 (2.0E-04)	2.0E-04 (1.8E-04)	21.7 (19.6)
		Dozers	1	10	150	136.8 (124.1)	3.7E-04 (3.4E-04)	3.5E-04 (3.2E-04)	136.9 (124.2)
		Off-Highway Trucks	2	10	150	819.9 (743.8)	2.3E-03 (2.1E-03)	1.4E-03 (1.3E-03)	820.4 (744.2)
		Surfacing Equipment	1	10	150	59.8 (54.2)	4.0E-04 (3.7E-04)	3.7E-04 (3.4E-04)	59.9 (54.3)
	Electrical Work	Loaders	1	10	100	14.4 (13.1)	1.5E-04 (1.3E-04)	1.4E-04 (1.2E-04)	14.4 (13.1)
		Cranes	1	10	100	58.4 (52.9)	1.9E-04 (1.7E-04)	1.7E-04 (1.6E-04)	58.4 (53.0)
		Drill Rigs	1	10	100	44.9 (40.8)	3.1E-04 (2.8E-04)	2.9E-04 (2.6E-04)	45.0 (40.8)
		Graders	1	10	100	71.5 (64.8)	1.2E-04 (1.1E-04)	1.1E-04 (1.0E-04)	71.5 (64.9)
		Forklifts	1	10	100	35.9 (32.5)	1.6E-04 (1.4E-04)	1.5E-04 (1.3E-04)	35.9 (32.6)
		Off-Highway Trucks	1	10	100	273.3 (247.9)	7.7E-04 (7.0E-04)	4.8E-04 (4.3E-04)	273.5 (248.1)
		Trenchers	1	10	100	28.5 (25.9)	2.2E-04 (2.0E-04)	2.0E-04 (1.8E-04)	28.6 (25.9)
	Total CO_2e Short Tons (Metric Tonnes)								**2,095.7 (1,901.2)**

Alternative	Activity	Equipment				Emissions Short Tons (MT)			
		Type	Number	Daily Schedule (hr/day)	Total Work Days	CO_2	CH_4	N_2O	CO_2e
B2	Road Construction	Pavers	1	10	127	56.4 (51.2)	2.0E-04 (1.8E-04)	1.9E-04 (1.7E-04)	56.5 (51.3)
		Rollers	1	10	127	42.6 (38.6)	2.1E-04 (1.9E-04)	1.9E-04 (1.7E-04)	42.6 (38.7)
		Excavators	1	10	127	76.5 (69.4)	1.5E-04 (1.4E-04)	1.4E-04 (1.3E-04)	76.5 (69.4)
		Scrapers	1	10	127	181.1 (164.3)	5.1E-04 (4.6E-04)	4.8E-04 (4.3E-04)	181.3 (164.5)
		Graders	1	10	127	90.6 (82.2)	1.6E-04 (1.4E-04)	1.5E-04 (1.3E-04)	90.6 (82.2)
		Loaders	1	10	127	18.2 (16.5)	1.9E-04 (1.7E-04)	1.7E-04 (1.6E-04)	18.3 (16.6)
		Dozers	1	10	127	115.6 (104.9)	3.2E-04 (2.9E-04)	2.9E-04 (2.7E-04)	115.7 (105.0)
		Off-Highway Trucks	2	10	127	692.8 (628.5)	2.0E-03 (1.8E-03)	1.2E-03 (1.1E-03)	693.2 (628.9)
		Surfacing Equipment	1	10	127	50.5 (45.8)	3.4E-04 (3.1E-04)	3.2E-04 (2.9E-04)	50.6 (45.9)
	Electrical Work	Loaders	1	10	85	12.2 (11.0)	1.2E-04 (1.1E-04)	1.2E-04 (1.0E-04)	12.2 (11.1)
		Cranes	1	10	85	49.3 (44.7)	1.6E-04 (1.4E-04)	1.6E-04 (1.3E-04)	49.4 (44.8)
		Drill Rigs	1	10	85	38.0 (34.4)	2.6E-04 (2.4E-04)	2.4E-04 (2.2E-04)	38.0 (34.5)
		Graders	1	10	85	60.4 (54.8)	1.0E-04 (9.4E-05)	9.6E-05 (8.7E-05)	60.4 (54.8)
		Forklifts	1	10	85	30.3 (27.5)	1.3E-04 (1.1E-04)	1.2E-04 (1.1E-04)	30.3 (27.5)
		Off-Highway Trucks	1	10	85	230.9 (209.5)	6.5E-04 (5.9E-04)	4.0E-04 (3.6E-04)	231.1 (209.6)
		Trenchers	1	10	85	24.1 (21.8)	1.8E-04 (1.6E-04)	1.7E-04 (1.5E-04)	24.1 (21.9)
	Total CO_2e Short Tons (MT)								**1,771.0 (1,606.6)**

Alternative	Activity	Equipment				Emissions Short Tons (MT)			
		Type	Number	Daily Schedule (hr/day)	Total Work Days	CO_2	CH_4	N_2O	CO_2e
B3	Road Construction	Pavers	1	10	132	58.6 (53.2)	2.1E-04 (1.9E-04)	1.9E-04 (1.8E-04)	58.7 (53.3)
		Rollers	1	10	132	44.2 (40.1)	2.1E-04 (1.9E-04)	2.0E-04 (1.8E-04)	44.3 (40.2)
		Excavators	1	10	132	79.5 (72.1)	1.6E-04 (1.4E-04)	1.5E-04 (1.3E-04)	79.5 (72.1)
		Scrapers	1	10	132	188.2 (170.7)	5.3E-04 (4.8E-04)	4.9E-04 (4.5E-04)	188.4 (170.9)
		Graders	1	10	132	94.1 (85.4)	1.6E-04 (1.5E-04)	1.5E-04 (1.4E-04)	94.2 (85.4)
		Loaders	1	10	132	19.0 (17.2)	1.9E-04 (1.7E-04)	1.8E-04 (1.6E-04)	19.0 (17.2)
		Dozers	1	10	132	120.1 (109.0)	3.3E-04 (3.0E-04)	3.1E-04 (2.8E-04)	120.2 (109.0)
		Off-Highway Trucks	2	10	132	719.8 (653.0)	2.0E-03 (1.9E-03)	1.3E-03 (1.1E-03)	720.3 (653.4)
		Surfacing Equipment	1	10	132	52.5 (47.6)	3.5E-04 (3.2E-04)	3.2E-04 (3.0E-04)	52.6 (47.7)
	Electrical Work	Loaders	1	10	88	12.6 (11.5)	1.3E-04 (1.2E-04)	1.2E-04 (1.1E-04)	12.7 (11.5)
		Cranes	1	10	88	51.2 (46.5)	1.6E-04 (1.5E-04)	1.5E-04 (1.4E-04)	51.3 (46.5)
		Drill Rigs	1	10	88	39.4 (35.8)	2.7E-04 (2.5E-04)	2.5E-04 (2.3E-04)	39.5 (35.9)
		Graders	1	10	88	62.7 (56.9)	1.1E-04 (9.8E-05)	1.0E-04 (9.1E-05)	62.8 (57.0)
		Forklifts	1	10	88	31.5 (28.6)	1.4E-04 (1.3E-04)	1.3E-04 (1.2E-04)	31.5 (28.6)
		Off-Highway Trucks	1	10	88	240.0 (217.7)	6.8E-04 (6.2E-04)	4.2E-04 (3.8E-04)	240.1 (217.8)
		Trenchers	1	10	88	25.0 (22.7)	1.9E-04 (1.7E-04)	1.7E-04 (1.6E-04)	25.1 (22.8)
	Total CO_2e Short Tons (MT)								**1,840.1 (1,669.3)**

4.1.3 Commuter and Delivery Tailpipe Emissions

In addition to the construction equipment, there would be GHG tailpipe emissions from workers commuting and material delivery trucks. Based on the size of Grand Cayman it was determined that the likely average distance a worker may travel one-way is about 6 miles (9.6 km) with a daily round trip of about 12 miles (19.3 km) per vehicle. For the purposes of this evaluation, it was determined that each alternative will comprise the same number of daily workers. The number of daily workers by activity was based on similar projects and was anticipated at 50 workers for road construction and 150 workers for electrical work. This value will be re-evaluated as part of the Preferred Alternative based on anticipated workforce availability on Grand Cayman. It was also anticipated that each worker was allocated one personal vehicle to travel to and from the work site.

Material delivery operations were assumed to use 10 trucks for road construction and 20 trucks for electrical work. Additionally, daily truck trips were set at two per day per truck for electrical work and three per day per truck for road construction. As most of the material would be coming from the port along the western portion of the island, 20 miles (32.2 km) was applied for each round-trip delivery. For emission calculations, the number of workdays by Build alternative remained consistent as shown in **Table 3**.

The EPA MOVES model also consists of an "on-road" component. The model outputs a CO_2e emission factor in grams per vehicle mile travelled (g/veh-mi). Due to the high likelihood of vehicles on Grand Cayman being older, the analysis assumed that all on-road vehicles would be equivalent to 20 years behind present day on average[3]. Therefore, for a construction 2023 vehicular fleet, MOVES applied emission characteristics from Monroe County, Florida for the year 2003.

The commuter vehicle fleet assumed 80% gasoline passenger cars, 15% gasoline passenger trucks and 5% diesel-fuelled trucks. The delivery trucks were assumed to be heavy duty diesel short haul combination trucks. As noted for the construction equipment, that actual schedule, worker numbers, and vehicle fleet may deviate from the assumptions described, but that the differences amongst the three Build alternatives would remain the same. **Table 4** illustrates the general information and calculated emission factor in g/veh-mi for commuting and delivery. **Table 5** provides the projected GHG emissions by alternative. The No-Build scenario is assumed to include no construction related emissions, and therefore not included within **Table 4** or **Table 5.** Emissions provided in **Table 5** are based on the g/veh-mi factors outlined in **Table 4**. Build Alternatives B2 and B3 emissions are scaled based on the overall length differences compared to Alternative B1.

[3] The Final ToR for the EWA assumed the vehicles to be 15-20 years behind standard values. An assumption of 20 years was utilized as a conservative measure within this report.

Table 4: Commuting and Delivery Vehicles

Activity	Work Days[1]	Crew Member	No. Personal Vehicles	Personal Vehicle Days	Personal Vehicle Miles	CO_2e (g/veh-mi)
Commuter Vehicles						
Road Construction	150	50	50	7,500	90,000	477.5
Electrical Work	100	150	150	15,000	180,000	
Activity	**Work Days**	**No. Trucks**	**Truck Trips**	**Truck Miles**	**CO_2e (g/veh-mi)**	
Delivery Vehicles						
Road Construction	150	10	4,500	90,000	1,966.8	
Electrical Work	100	20	4,000	80,000		

1. The workdays shown are for Alternative B1 only. Alternative B2 is 127 days for road construction and 85 days for electrical work, Alternative B3 is 132 days for road construction and 88 days for electrical work based on the proportional roadway length as compared to Alternative B1.

Table 5: Vehicle Tailpipe GHG Emissions by Alternative

Alternative	Vehicle Type	Activity	CO_2e Short Tons (MT)
B1	Commuter	Road Construction	47.4 (43.0)
		Electrical Work	94.8 (86.0)
	Delivery	Road Construction	195.1 (177.0)
		Electrical Work	173.4 (157.3)
		Total	**510.7 (463.3)**
B2	Commuter	Road Construction	40.0 (36.3)
		Electrical Work	80.1 (72.6)
	Delivery	Road Construction	164.9 (149.6)
		Electrical Work	146.6 (133.0)
		Total	**431.5 (391.5)**
B3	Commuter	Road Construction	41.6 (37.7)
		Electrical Work	83.2 (75.5)
	Delivery	Road Construction	171.3 (155.4)
		Electrical Work	152.3 (138.1)
		Total	**448.4 (406.8)**

4.1.4 Traffic Emissions Methodology

The Traffic Evaluation presents a baseline year of 2021, opening year of 2026, and horizon year of 2074. Both the opening year and the horizon year consisted of the No-Build scenario, and three Build alternatives.

EPA MOVES 4.0 was implemented to establish potential GHG emissions by year and alternative. MOVES requires several input parameters which include vehicle age distribution, fuel type, road

segments (length, vehicle volume, average speed), vehicle type, distribution of vehicle type by segment, representative meteorological data and time span (i.e., weekdays, months of the year and hr/day). The data were applied using a combination of known project information and most representative default values.

The analysis included five vehicle types and assumed the use of all fuel types available within MOVES for each of the modelled years. Because MOVES is a U.S. model and numerous vehicles imported to Grand Cayman may not meet U.S. emission standards, the MOVES model assumed a vehicle age distribution equivalent to 20 years behind the analysis year. Therefore, in assessments of the baseline year 2021 and anticipated opening year 2026, MOVES applied emission characteristics from Monroe County, Florida across the five vehicle types for years 2001 and 2006, respectively. The expectation for horizon year 2074 is that Grand Cayman's fuel type distribution is anticipated to be equivalent to the U.S.; however, MOVES only allows evaluation out to year 2060. To accurately represent 2074 emissions, MOVES default values were evaluated for 2046 and 2060; the 15-year fuel type differentials by vehicle type from 2046 to 2060 were assumed to be equivalent to the fuel type differentials between 2060 and 2074. Specifically, the distribution of gasoline passenger cars was anticipated to decrease by 5.8%, while electric vehicles increase by 10.9% from 2046 to 2060. Thus, 2074 distribution of gas, electric, and all other vehicles are assumed to shift by that same amount from the 2060 percentages. **Table 6** provides the estimated fuel distribution for each vehicle type by modelled year.

Table 6: Fuel Distribution by Model Year and Vehicle Type

Scenario Year	MOVES Year	Vehicle Type	Fuel Type	Fuel Distribution
2021	2001	Motorcycle	Gasoline	100%
		Passenger Car	Gasoline	98.68%
			Diesel	0.34%
			Ethanol 85	0.94%
			Electric	0.04%
		Transit Buses	Gasoline	9.70%
			Diesel	80.98%
			CNG	9.14%
			Electric	0.18%
		Short Haul Truck	Gasoline	23.15%
			Diesel	76.77%
			CNG	0.08%
			Electric	0%
		Combo Haul Truck	Gasoline	0.02%
			Diesel	99.98%
			CNG	0%
			Electric	0%

Scenario Year	MOVES Year	Vehicle Type	Fuel Type	Fuel Distribution
2026	2006	Motorcycle	Gasoline	100%
		Passenger Car	Gasoline	95.74%
			Diesel	0.69%
			Ethanol 85	3.55%
			Electric	0.012%
		Transit Buses	Gasoline	17.32%
			Diesel	80.36%
			CNG	2.32%
			Electric	0%
		Short Haul Truck	Gasoline	20.47%
			Diesel	79.50%
			CNG	0.03%
			Electric	0%
		Combo Haul Truck	Gasoline	0%
			Diesel	100.00%
			CNG	0%
			Electric	0%
2074	2060	Motorcycle	Gasoline	100%
		Passenger Car	Gasoline	55.85%
			Diesel	0.01%
			Ethanol 85	1.32%
			Electric	42.82%
		Transit Buses	Gasoline	34.75%
			Diesel	27.34%
			CNG	21.37%
			Electric	16.55%
		Short Haul Truck	Gasoline	26.27%
			Diesel	59.31%
			CNG	0.61%
			Electric	13.82%
		Combo Haul Truck	Gasoline	0%
			Diesel	95.00%
			CNG	0.45%
			Electric	4.55%

4.1.4.1 Road Segment Traffic Data

Traffic data was broken out by road segments, road type, and length for the baseline and future years. The 2021 baseline includes five segments: two along Shamrock Road (segments Woodland Drive, Woodland to Condor Road, and Condor Road to Bodden Town Bypass), one along Bodden

Town Road from the Bypass to Frank Sound, one along Hirst Road from East-West Arterial to Shamrock Road, and one along Frank Sound Road from North Side Road to Bodden Town Road (**Figure 3**). The traffic evaluation used site day hourly data from June 2023 to establish a baseline of traffic volumes. A peak morning hour (6:00AM to 7:00AM) and a peak afternoon/evening hour (5:00PM to 6:00PM) was established. Volumes by vehicle type were determined for both AM and PM hours in two directions (northbound/southbound and eastbound/westbound) via the GCM. Traffic data incorporated into this evaluation can be found in **Attachment A**. Methodology of the incorporated traffic data can be found in **Section 3.2** and in the separate Traffic Evaluation document.

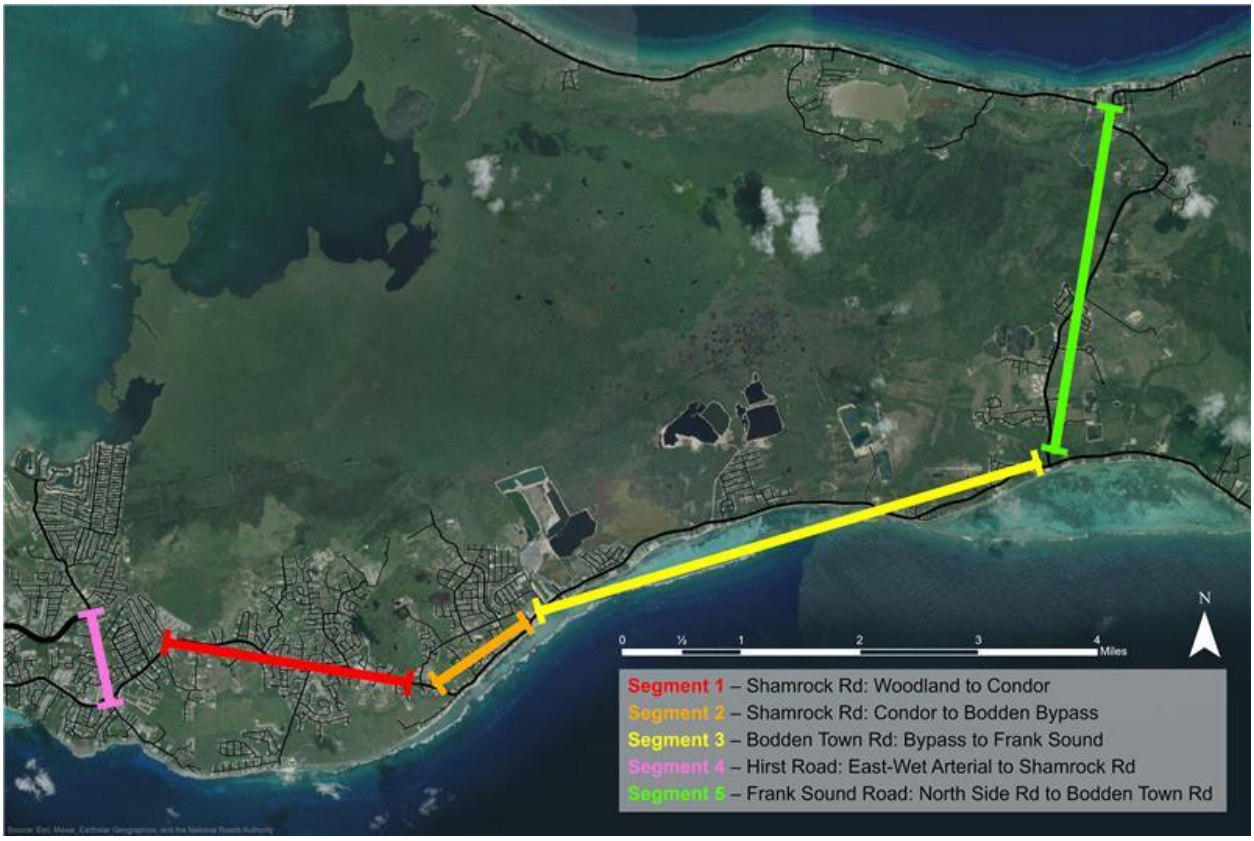

Figure 3: Roadway Segments – 2021 Baseline

For each road segment and peak hour, the MOVES model inputs included the aggregated total hourly volume, the segment length, and the average speed travelled along each segment. **Table 7** shows an example of the segment data from the 2021 baseline scenario. Following completion of the segment data, the distribution of each vehicle type by segment was calculated (See **Table 8**). These same data were determined for the No-Build scenario and the three Build alternatives. **Attachment A** provides information on the road segments by Build alternative.

Table 7: Segment Data – Morning AM Baseline 2021

Segment ID	Road Type	Segment Volume (veh/hr)	Segment Length (mi/km)	Segment Average Speed (mph/kmh)	Segment Description
1	Urban	1,388	2.09 (3.36)	34.7 (21.6)	Shamrock Rd: Woodland to Condor
2	Urban	656	1.17 (1.88)	27.8 (17.3)	Shamrock Rd: Condor to Bodden Bypass
3	Urban	624	4.54 (7.31)	35.9 (22.3	Bodden Town Rd: Bypass to Frank Sound
4	Urban	360	0.71 (1.14)	29.6 (18.4)	Hirst Road: East-West Arterial to Shamrock Rd
5	Urban	262	3.60 (5.79)	40.7 (25.3)	Frank Sound Road: North Side Rd to Bodden Town Rd

Table 8: Segment Data Vehicle Type Distribution – Baseline 2021

Vehicle Type	1	2	3	4	5
	Morning 6:00AM to 7:00 AM				
Motorcycles	0.87%	2.17%	0.21%	1.80%	3.12%
Passenger Cars	92.34%	91.32%	93.25%	95.05%	87.31%
Transit Buses	1.65%	0.39%	0.78%	0.63%	1.27%
Short Haul Truck	4.20%	4.84%	5.45%	1.57%	7.45%
Combo Haul Truck	0.94%	1.28%	0.32%	0.95%	0.85%
Total	100.00%	100.00%	100.00%	100.00%	100.00%
	1	**2**	**3**	**4**	**5**
	Afternoon/Evening 5:00PM to 6:00PM				
Motorcycles	1.47%	1.02%	1.59%	4.52%	1.28%
Passenger Cars	92.43%	90.87%	92.47%	91.55%	92.50%
Transit Buses	1.78%	1.15%	0.22%	1.47%	1.51%
Short Haul Truck	3.34%	6.37%	4.79%	1.52%	4.71%
Combo Haul Truck	0.98%	0.58%	0.93%	0.95%	0.00%
Total	100.00%	100.00%	100.00%	100.00%	100.00%

4.1.4.2 Intersection Traffic Data

In addition to the general road segments, the traffic analysis included potential emissions from four intersections. Approach volumes were determined for each cardinal direction (north, east, south, and west) and each possible movement manoeuvre (U-turn, left turn, right turn and through). This analysis generated 16 volume determination per intersection or 64 in total for the four intersections. The intersections selected varied by year and alternative. The four selected for the 2021 Baseline were all along Shamrock Road at Woodland Drive, Agricola Drive, Brightview Drive/Calla Lilly Drive and Beach Bay Road as they were projected to have the highest traffic volumes. The AM/PM peak hour volumes and approach speeds were determined for these intersections and movement manoeuvres via the GCM. Each potential intersection/manoeuvre combination was input into MOVES as an individual segment such as those shown in **Tables 7 and 8.** In addition, the vehicle distribution percentages were applied uniformly for the

intersections/manoeuvre combinations based on the average value of the road segments by type for the year evaluated. As an example, the average distribution for anticipated motorcycles amongst the segments in **Table 8** between 6:00AM and 7:00AM is 1.19%; therefore all 64 intersections/manoeuvres were allocated 1.19% motorcycles for the AM peak hour during baseline year 2021.

The approach length of the intersection segments was defined uniformly as well to maintain consistency. The U-turn segments were set to 100 feet (30.5 m); both left and right turns were set to 200 feet (61.0 m), and the through lanes were set to 400 feet (121.9 m). Overall, the 2021 Baseline and No-Build scenario consider a total of 13 intersections while Build alternatives B1, B2, and B3 contain 21 intersections.

4.1.5 Traffic Emissions Discussion

The project-level MOVES model outputs emissions on an hourly basis to best represent daily and annual potential emissions. Model output was calculated for the 2021 Baseline during the peak morning AM and peak afternoon/evening PM hours for both the road segments and intersections.

Consistent with the construction emissions discussed in **Sections 4.11** and **4.12**, traffic GHG emissions of CO_2, CH_4, and N_2O were determined along with CO_2e. CO_2e emissions were calculated by MOVES but are based on U.S. EPA global warming potential multipliers. CO_2e is calculated by applying standard EPA global warming potential values by pollutant. CO_2 has a multiplier of 1, the CH_4 multiplier is 25, and the N_2O multiplier is 298. (EPA 2024b).

Traffic on the various road segments included running exhaust and crankcase exhaust emissions. Intersection segments calculated the emissions from the same vehicle processes. Extended idling was not included as the MOVES output corresponds specifically to overnight idling of long-haul trucks and terminals, which would not apply to the EWA project. Normal operation for all vehicle types such as stopping at traffic signals and truck loading and unloading are accounted for within the running exhaust calculations (EPA 2023).

Baseline 2021 road segment emissions are estimated to be 6.43 MT (7.09 short tons) CO_2e for the morning AM peak hour and 9.29 MT (10.24 short tons) for the afternoon PM peak hour. The four intersections with the projected highest traffic volumes generate an average of between 0.33 (0.37) and 0.43 (0.47) MT (short tons) per hour for the peak AM and PM hours, respectively.

To establish daily emission totals, all non-peak hour emissions were calculated using percentages of volumes relative to the peak hours (AM peak hour from 6-7 AM; PM peak hour from 5-6 PM) (see **Table 9**). **Table 9** shows the emission percentage per hour throughout the day. The volume count data applied the AM peak hour from 6-7 AM since that was the estimated time period when most people begin the commute westward; however, as vehicles move westward throughout the morning, counts increase at other Automated Traffic Recorder sites. The result suggests that overall vehicle totals from 7-9 AM exceed 100% of the initial peak volume along the Build alternatives B1, B2, and B3. For consistency, emission ratios in **Table 9** were applied for the Baseline to the No-Build scenario and the three Build alternatives.

Table 9: Daily Hourly Traffic Volumes and Distribution

Hour[1]	Shamrock Rd: West of Little Red Road	Shamrock Rd: East of Midnight Road	Shamrock Rd: West of Arrow Road	Bodden Town Rd, east of Anton Bodden Rd	Bodden Town Rd, west of Frank Sound Rd	Condor Rd: North of Shamrock Road	Total of All Road Segments	% of Daily Total	% of Peak Emission Rate (6:00 AM and 5:00 PM)
AM Hours									
12:00 AM	138	124	101	102	53	31	**548**	0.64%	11.97%
01:00	69	66	90	57	35	11	**326**	0.38%	7.11%
02:00	51	46	58	36	18	12	**220**	0.26%	4.80%
03:00	43	41	58	27	16	8	**192**	0.22%	4.18%
04:00	109	107	103	53	57	24	**453**	0.53%	9.90%
05:00	878	836	793	398	425	200	**3,529**	4.10%	77.05%
06:00	1,385	1,047	945	564	370	269	**4,580**	5.32%	100.00%
07:00	1,420	1,185	881	700	596	317	**5,099**	5.93%	111.33%
08:00	1,322	1,223	1,069	776	660	343	**5,393**	6.27%	117.76%
09:00	1,166	1,076	924	650	495	213	**4,524**	5.26%	98.79%
10:00	1,089	1,002	862	641	459	194	**4,247**	4.94%	92.73%
11:00	1,086	1,006	897	643	446	168	**4,246**	4.94%	92.70%
PM Hours									
12:00 PM	1,027	939	824	653	457	193	**4,092**	4.76%	67.18%
01:00	1,100	1,016	957	674	497	180	**4,423**	5.14%	72.61%
02:00	1,148	1,077	978	710	546	247	**4,706**	5.47%	77.26%
03:00	1,365	1,253	1,115	803	549	328	**5,412**	6.29%	88.85%
04:00	1,531	1,399	1,162	874	557	302	**5,823**	6.77%	95.60%
05:00	1,597	1,471	1,228	899	586	310	**6,091**	7.08%	100.00%
06:00	1,578	1,416	1,159	832	563	329	**5,877**	6.83%	96.49%
07:00	1,492	1,366	1,073	757	501	333	**5,522**	6.42%	90.65%
08:00	1,077	997	900	622	360	214	**4,167**	4.84%	68.42%
09:00	841	772	704	472	301	197	**3,285**	3.82%	53.93%
10:00	540	490	481	319	204	112	**2,144**	2.49%	35.20%
11:00	272	259	253	170	120	57	**1,130**	1.31%	18.54%
Day Total	22,321	20,211	17,611	12,428	8,867	4,590	**86,027**	100.0%	

1. The highlighted areas refer to the peak AM/PM hours.

Hourly emissions factors were then applied for all road segments and intersections. As a worst-case approach, the annual emissions assumed daily totals for 365 days. To account for all intersections, a static multiplier was applied to the modelled hourly output based on the scenario. The No-Build scenario and the Baseline used a multiplier of 3.25 (13 intersections); while Build alternatives B1, B2, and B3, used a multiplier of 5.25 (21 intersections). This is another part of the worst-case approach since there are four main modelled intersections that are projected to have the highest traffic volumes, while the remaining are not likely to experience nearly the same volumes. However, the multiplier approach assumes that all groups of four intersections are equivalent.

4.1.5.1 Baseline Emissions

Baseline emissions were determined for 2021 using MOVES 4.0 based on the five primary road segments referenced in **Section 4.1.4.1** and the intersection locations referenced in **Section 4.1.4.2.** As a worst-case approach, the annual GHG emissions were based on 365 days. The maximum modelled AM hour (6:00-7:00AM) produced 7.09 ton/hr (6.43 MT/hr), and the PM hour (5:00-6:00 PM) produced 10.24 ton/hr (9.29 MT/hr). **Table 10** shows the projected annual totals as 58,976.10 ton/yr (53,502.28 MT/yr.).

Table 10: Baseline (2021) Annual Emissions (CO_2e)

Road Segments (Combined)				Intersections (Combined)			
AM Hours	**Ton/hr (MT/hr)**	**PM Hours**	**Ton/hr (MT/hr)**	**AM Hours**	**Ton/hr (MT/hr)**	**PM Hours**	**Ton/hr (MT/hr)**
12:00 AM	0.85 (0.77)	12:00 PM	6.88 (6.24)	12:00 AM	0.14 (0.13)	12:00 PM	1.03 (0.93)
01:00	0.50 (0.46)	01:00	7.44 (6.75)	01:00	0.08 (0.08)	01:00	1.11 (1.01)
02:00	0.34 (0.31)	02:00	7.91 (7.18)	02:00	0.06 (0.05)	02:00	1.18 (1.07)
03:00	0.30 (0.27)	03:00	9.10 (8.26)	03:00	0.05 (0.05)	03:00	1.36 (1.23)
04:00	0.70 (0.64)	04:00	9.79 (8.88)	04:00	0.12 (0.11)	04:00	1.46 (1.32)
05:00	5.46 (4.96)	05:00	10.24 (9.29)	05:00	0.92 (0.83)	05:00	1.53 (1.38)
06:00	7.09 (6.43)	06:00	9.88 (8.97)	06:00	1.19 (1.08)	06:00	1.47 (1.34)
07:00	7.90 (7.16)	07:00	9.29 (8.42)	07:00	1.32 (1.20)	07:00	1.38 (1.26)
08:00	7.93 (7.19)	08:00	7.01 (6.36)	08:00	1.33 (1.20)	08:00	1.04 (0.95)
09:00	7.01 (6.36)	09:00	5.52 (5.01)	09:00	1.17 (1.06)	09:00	0.82 (0.75)
10:00	5.97 (6.58)	10:00	3.61 (3.27)	10:00	1.10 (1.00)	10:00	0.54 (0.49)
11:00	6.57 (5.96)	11:00	1.90 (1.72)	11:00	1.10 (1.00)	11:00	0.28 (0.26)
Total	**51.23 (46.47)**		**88.57 (80.35)**		**8.58 (7.78)**		**13.20 (11.98)**
Annual	**Ton/yr (MT/yr)**		**Ton/yr (MT/yr)**		**Ton/yr (MT/yr)**		**Ton/yr (MT/yr)**
	18,697.56 (16,962.16)		**32,328.81 (29,328.24)**		**3,131.45 (2,840.81)**		**4,818.27 (4,371.06)**
Annual Combined Total	**58,976.10 (53,502.28)**						

Results are rounded where appropriate.

4.1.5.2 2026 Emissions

The 2026 opening year emissions were evaluated for the shortlist of alternatives including the No-Build scenario and three Build alternatives B1, B2, and B3 using MOVES 4.0. **Attachment A** provides information on the road segments by Build alternative.

Emissions for 2026 were calculated using the same methodology as baseline emissions, except with the vehicle age and corresponding fuel distribution equivalent to 2006 U.S. values. Additionally, the total number of projected vehicle maximum hourly volumes increased between the baseline year (2021) and opening year (2026). The 2026 No-Build scenario had 9,170 daily vehicles, while the Build alternatives ranges from 10,318 to 10,483 daily vehicles. The increase of daily vehicles from the Baseline year 2021 ranges from 19.2% for the No-Build to 36.3% for Alternative B1. Additionally, the average speeds vary by alternative, with the No-Build scenario at approximately 33.2 mph (53.4 kmh), Alternative B1 at 37.4 mph (60.2 kmh), Alternative B2 at 37.3 mph (60.0 kmh), and Alternative B3 at 37.4 mph (60.2 kmh). Refer to **Tables A-4** through **A-11** in **Attachment A** for specific details of 2026 No Build and Build Alternative information. The combined miles travelled amongst all segments within 2026 scenarios during those hours is greater because the Build Alternatives have additional road segments not included in the Baseline year or No-Build. The Baseline and the No-Build scenario are 12.11 miles (19.5 km), respectively. Conversely, Build Alternatives B1, B2, and B3 are 17.0 to 23.0 miles (27.4 to 37.0 km). Fuel distribution/vehicle type changes also increased the projected emissions. For example, the percentage of transit buses increased, and diesel usage of single unit haul trucks increased from the Baseline, contributing to a projected increase of GHG emissions for 2026 as shown in **Tables 11 through 14**. As illustrated in **Table 15**, the summary of potential GHG traffic emissions by alternative shows that Alternative B2 is the highest at 77,210 short tons (70,044 MT); followed by Alternative B3 with 74,999 short tons (68,038 MT). Alternative B1 is slightly lower than Alternative B3 at 74,991 short tons (68,031 MT). The No-Build Scenario is the lowest with 70,696 short tons (64,134 MT), which primarily due to fewer vehicles and road segments.

Table 11: 2026 No-Build Annual Emissions (CO_2e)

Road Segments (Combined)				Intersections (Combined)			
AM Hours	**Ton/hr (MT/hr)**	**PM Hours**	**Ton/hr (MT/hr)**	**AM Hours**	**Ton/hr (MT/hr)**	**PM Hours**	**Ton/hr (MT/hr)**
12:00 AM	1.12 (1.01)	12:00 PM	8.27 (10.36)	12:00 AM	0.15 (0.13)	12:00 PM	0.85 (0.77)
01:00	0.66 (0.60)	01:00	8.94 (11.19)	01:00	0.09 (0.08)	01:00	0.92 (0.83)
02:00	0.45 (0.41)	02:00	9.51 (11.91)	02:00	0.06 (0.05)	02:00	0.98 (0.89)
03:00	0.39 (0.35)	03:00	10.94 (13.70)	03:00	0.05 (0.05)	03:00	1.13 (1.02)
04:00	0.92 (0.84)	04:00	11.77 (14.74)	04:00	0.12 (0.11)	04:00	1.21 (1.10)
05:00	7.20 (6.53)	05:00	12.31 (15.42)	05:00	0.94 (0.85)	05:00	1.27 (1.15)
06:00	9.34 (8.48)	06:00	11.88 (14.88)	06:00	1.22 (1.11)	06:00	1.22 (1.11)
07:00	10.40 (9.44)	07:00	11.16 (13.98)	07:00	1.36 (1.23)	07:00	1.15 (1.04)
08:00	10.44 (9.47)	08:00	8.42 (10.55)	08:00	1.36 (1.24)	08:00	0.87 (0.79)
09:00	9.23 (8.37)	09:00	6.64 (8.31)	09:00	1.21 (1.09)	09:00	0.68 (0.62)
10:00	8.66 (7.86)	10:00	4.33 (5.43)	10:00	1.13 (1.03)	10:00	0.45 (0.40)
11:00	8.66 (7.86)	11:00	2.28 (2.86)	11:00	1.13 (1.03)	11:00	0.23 (0.21)
Total	**67.49 (61.23)**		**106.43 (96.55)**		**8.82 (8.00)**		**10.95 (9.94)**
Annual	**Ton/yr (MT/yr)**		**Ton/yr (MT/yr)**		**Ton/yr (MT/yr)**		**Ton/yr (MT/yr)**
	24,633.59 (22,347.24)		**38,845.58 (35,240.16)**		**3,218.32 (2,919.62)**		**3,998.55 (3,627.43)**
Annual Combined Total	**70,696.04 (64,134.45)**						

Results are rounded where appropriate.

Table 12: 2026 Alternative B1 Annual Emissions (CO_2e)

Road Segments (Combined)				Intersections (Combined)			
AM Hours	**Ton/hr (MT/hr)**	**PM Hours**	**Ton/hr (MT/hr)**	**AM Hours**	**Ton/hr (MT/hr)**	**PM Hours**	**Ton/hr (MT/hr)**
12:00 AM	1.21 (1.09)	12:00 PM	8.35 (7.57)	12:00 AM	0.18 (0.16)	12:00 PM	1.14 (1.04)
01:00	0.72 (0.65)	01:00	9.02 (8.18)	01:00	0.11 (0.10)	01:00	1.23 (1.12)
02:00	0.48 (0.44)	02:00	9.60 (8.70)	02:00	0.07 (0.06)	02:00	1.31 (1.19)
03:00	0.42 (0.38)	03:00	11.04 (10.01)	03:00	0.06 (0.06)	03:00	1.51 (1.37)
04:00	1.00 (0.90)	04:00	11.88 (10.77)	04:00	0.15 (0.13)	04:00	1.62 (1.47)
05:00	7.76 (7.04)	05:00	12.43 (11.26)	05:00	1.14 (1.03)	05:00	1.70 (1.54)
06:00	10.07 (9.14)	06:00	11.99 (10.87)	06:00	1.48 (1.34)	06:00	1.64 (1.49)
07:00	11.21 (10.17)	07:00	11.26 (10.21)	07:00	1.65 (1.49)	07:00	1.54 (1.40)
08:00	11.25 (10.21)	08:00	8.50 (7.71)	08:00	1.65 (1.50)	08:00	1.16 (1.05)
09:00	9.95 (9.02)	09:00	6.70 (6.07)	09:00	1.46 (1.32)	09:00	0.92 (0.83)
10:00	9.34 (8.47)	10:00	4.37 (3.96)	10:00	1.37 (1.24)	10:00	0.60 (0.54)
11:00	9.33 (8.47)	11:00	2.30 (2.09)	11:00	137 (1.24)	11:00	0.31 (0.29)
Total	**72.74 (65.99)**		**107.45 (97.40)**		**10.67 (9.68)**		**14.69 (13.32)**
Annual	**Ton/yr (MT/yr)**		**Ton/yr (MT/yr)**		**Ton/yr (MT/yr)**		**Ton/yr (MT/yr)**
	26,548.71 (24,084.61)		**39,218.49 (35,549.43)**		**3,895.65 (3,534.08)**		**5,360.29 (4,862.78)**
Annual Combined Total	**74,991.14 (68,030.90)**						

Results are rounded where appropriate.

Table 13: 2026 Alternative B2 Annual Emissions (CO_2e)

Road Segments (Combined)				Intersections (Combined)			
AM Hours	**Ton/hr (MT/hr)**	**PM Hours**	**Ton/hr (MT/hr)**	**AM Hours**	**Ton/hr (MT/hr)**	**PM Hours**	**Ton/hr (MT/hr)**
12:00 AM	1.18 (1.07)	12:00 PM	8.85 (8.03)	12:00 AM	0.18 (0.16)	12:00 PM	1.21 (1.10)
01:00	0.70 (0.64)	01:00	9.57 (8.68)	01:00	0.11 (0.10)	01:00	1.30 (1.18)
02:00	0.47 (0.43)	02:00	10.18 (9.23)	02:00	0.07 (0.06)	02:00	1.39 (1.26)
03:00	0.41 (0.37)	03:00	11.71 (10.62)	03:00	0.06 (0.06)	03:00	1.60 (1.45)
04:00	0.98 (0.89)	04:00	12.59 (11.43)	04:00	0.15 (0.13)	04:00	1.72 (1.56)
05:00	7.61 (6.90)	05:00	13.17 (11.95)	05:00	1.15 (1.04)	05:00	1.80 (1.63)
06:00	9.87 (8.95)	06:00	12.71 (11.53)	06:00	1.49 (1.35)	06:00	1.73 (1.57)
07:00	10.99 (9.97)	07:00	11.94 (10.83)	07:00	1.66 (1.51)	07:00	1.63 (1.48)
08:00	11.03 (10.01)	08:00	9.01 (8.18)	08:00	1.67 (1.51)	08:00	1.23 (1.12)
09:00	9.75 (8.85)	09:00	7.10 (6.45)	09:00	1.47 (1.34)	09:00	0.97 (0.88)
10:00	9.15 (8.30)	10:00	4.64 (4.21)	10:00	1.38 (1.26)	10:00	0.63 (0.57)
11:00	9.15 (8.30)	11:00	2.44 (2.22)	11:00	138 (1.25)	11:00	0.33 (0.30)
Total	**71.30 (64.68)**		**113.92 (103.35)**		**10.78 (9.78)**		**15.54 (14.10)**
Annual	**Ton/yr (MT/yr)**		**Ton/yr (MT/yr)**		**Ton/yr (MT/yr)**		**Ton/yr (MT/yr)**
	26,022.69 (23,607.41)		**41,581.90 (37,722.51)**		**3,934.03 (3,568.90)**		**5,671.61 (5,145.20)**
Annual Combined Total	**77,210.23 (70,044.02)**						

Results are rounded where appropriate.

Table 14: 2026 Alternative B3 Annual Emissions (CO_2e)

Road Segments (Combined)				Intersections (Combined)			
AM Hours	**Ton/hr (MT/hr)**	**PM Hours**	**Ton/hr (MT/hr)**	**AM Hours**	**Ton/hr (MT/hr)**	**PM Hours**	**Ton/hr (MT/hr)**
12:00 AM	1.19 (1.08)	12:00 PM	8.38 (7.60)	12:00 AM	0.18 (0.16)	12:00 PM	1.15 (1.04)
01:00	0.71 (0.64)	01:00	9.06 (8.22)	01:00	0.11 (0.10)	01:00	1.24 (1.13)
02:00	0.48 (0.43)	02:00	9.64 (8.75)	02:00	0.07 (0.06)	02:00	1.32 (1.20)
03:00	0.42 (0.38)	03:00	11.09 (10.06)	03:00	0.06 (0.06)	03:00	1.52 (1.38)
04:00	0.99 (0.90)	04:00	11.93 (10.82)	04:00	0.15 (0.13)	04:00	1.64 (1.49)
05:00	7.68 (6.97)	05:00	12.48 (11.32)	05:00	1.14 (1.04)	05:00	1.71 (1.55)
06:00	9.97 (9.05)	06:00	12.04 (10.92)	06:00	1.49 (1.35)	06:00	1.65 (1.50)
07:00	11.10 (10.07)	07:00	11.31 (10.26)	07:00	1.65 (1.50)	07:00	1.55 (1.41)
08:00	11.15 (10.11)	08:00	8.54 (7.74)	08:00	1.66 (1.51)	08:00	1.17 (1.06)
09:00	9.85 (8.94)	09:00	6.73 (6.10)	09:00	1.47 (1.33)	09:00	0.92 (0.84)
10:00	9.25 (8.39)	10:00	4.39 (3.98)	10:00	1.38 (1.25)	10:00	0.60 (0.55)
11:00	9.24 (8.39)	11:00	2.31 (2.10)	11:00	1.38 (1.25)	11:00	0.32 (0.29)
Total	**72.04 (65.35)**		**107.89 (97.88)**		**10.73 (9.73)**		**14.82 (13.44)**
Annual	**Ton/yr (MT/yr)**		**Ton/yr (MT/yr)**		**Ton/yr (MT/yr)**		**Ton/yr (MT/yr)**
	26,293.02 (23,852.65)		**39,381.61 (35,726.44)**		**3,915.64 (3,552.21)**		**5,408.97 (4,906.94)**
Annual Combined Total	**74,999.23 (68,038.90)**						

Results are rounded where appropriate.

Table 15: 2026 Alternative Annual Emissions Summary Table (CO_2e)

Road Segments & Intersections (Combined)			
Alternative	**AM Ton/yr (MT/yr)**	**PM Ton/yr (MT/yr)**	**Total Ton/hr (MT/hr)**
No-Build	27,852 (25,267)	42,844 (38,868)	70,696 (64,134)
B1	30,444 (27,619)	44,547 (40,412)	74,991 (68,031)
B2	29,957 (27,176)	47,254 (42,868)	77,210 (70,044
B3	30,209 (27,405)	44,791 (40,633)	74,999 (68,038)

Results are rounded where appropriate.

4.1.5.3 2074 Emissions

The 2074 horizon year emissions were also evaluated for the No-build scenario and Build alternatives B1, B2, and B3 using MOVES 4.0. Each alternative has a varying number of road segments, lengths, and road type. **Attachment A** provides information on the road segments by Build alternative.

Emissions for 2074 were calculated using the same methodology as baseline emissions, but with the vehicle age and corresponding fuel distribution set to mirror U.S. values in 2060 and scaled to 2074 as described in **Section 4.1.4.** Additionally, the total number of projected vehicle maximum hourly volumes increased from 2021 to 2074. The 2074 No-Build scenario had 27,381 daily vehicles, while the Build alternatives range from 35,158 to 36,016 daily vehicles. On average, this is over a threefold increase from 2026. Additionally, the average speeds vary by alternative, with the No-build scenario at approximately 21.7 mph (34.9 kmh), Alternative B1 at 32.6 mph (52.5 kmh), Alternative B2 at 31.2 mph (50.2 kmh), and Alternative B3 at 31.5 mph (50.7 kmh).

As illustrated in Olaverri-Monreal et al (2018), CO_2 emissions tend to be highest at the extremes when compared to vehicle speed, and larger vehicles have more variability (Olaverri-Monreal et al., 2018). The travel in year 2074 is projected to generate more emissions due to an increased number of large vehicles (average of 1,416 more large vehicles [single short haul and combo short haul] from 2026 to 2074) and generally lower speeds. While the percentage of electric vehicles is anticipated to increase, the number of compressed natural gas (CNG) buses is also projected to increase by nearly 20% from 2026 to 2074. CNG for heavy-duty vehicles produces more CO_2 emissions than diesel fuel by approximately 22% (CTCN 2011). Additionally, the percentage of diesel single haul and combo haul trucks were still 59.3% and 95% diesel fuel, respectively. GHG emissions for 2074 are shown in **Tables 16** through **19**.

As illustrated in **Table 20**, the summary of potential GHG traffic emissions by alternative shows that the No-Build scenario is the highest at 137,501 short tons (124,739 MT); followed by Alternative B1 with 127,516 short tons (115,681 MT). Alternative B2 is slightly lower than Alternative B1 at 127,028 short tons (115,238 MT). Alternative B3 is the lowest with 126,740 short tons (114,976 MT). The No-Build scenario has the highest potential emissions because of more congestion and intersection vehicle volumes (29,527 daily vs an average of 20,635 daily volume for the Build Alternatives).

Table 16: 2074 No-Build Annual Emissions

Road Segments (Combined)				Intersections (Combined)			
AM Hours	**Ton/hr (MT/hr)**	**PM Hours**	**Ton/hr (MT/hr)**	**AM Hours**	**Ton/hr (MT/hr)**	**PM Hours**	**Ton/hr (MT/hr)**
12:00 AM	2.48 (2.25)	12:00 PM	14.73 (13.36)	12:00 AM	0.29 (0.27)	12:00 PM	1.52 (1.38)
01:00	1.47 (1.34)	01:00	15.92 (14.44)	01:00	0.17 (0.16)	01:00	1.65 (1.49)
02:00	1.00 (0.90)	02:00	16.94 (15.37)	02:00	0.12 (0.11)	02:00	1.75 (1.59)
03:00	0.87 (0.79)	03:00	19.48 (17.67)	03:00	0.10 (0.09)	03:00	2.01 (1.83)
04:00	2.05 (1.86)	04:00	20.96 (19.01)	04:00	0.24 (0.22)	04:00	2.17 (1.97)
05:00	15.98 (14.50)	05:00	21.92 (19.89)	05:00	1.89 (1.72)	05:00	2.27 (2.06)
06:00	20.74 (18.81)	06:00	21.16 (19.19)	06:00	2.45 (2.23)	06:00	2.19 (1.98)
07:00	23.09 (20.94)	07:00	19.87 (18.03)	07:00	2.73 (2.48)	07:00	2.05 (1.86)
08:00	23.18 (21.03)	08:00	15.00 (13.61)	08:00	2.74 (2.49)	08:00	1.55 (1.41)
09:00	20.49 (18.59)	09:00	11.82 (10.73)	09:00	2.43 (2.20)	09:00	1.22 (1.11)
10:00	19.23 (17.45)	10:00	7.72 (7.00)	10:00	2.28 (2.06)	10:00	0.80 (0.72)
11:00	19.22 (17.44)	11:00	4.06 (3.69)	11:00	2.28 (2.06)	11:00	0.42 (0.38)
Total	**149.80 (135.89)**		**189.59 (171.99)**		**17.73 (16.09)**		**19.60 (17.78)**
Annual	**Ton/yr (MT/yr)**		**Ton/yr (MT/yr)**		**Ton/yr (MT/yr)**		**Ton/yr (MT/yr)**
	54,675.65 (49,600.97)		**69,199.92 (62,777.18)**		**6,471.74 (5,871.07)**		**7,153.72 (6,489.76)**
Annual Combined Total	**137,501.04 (124,738.99)**						

Results are rounded where appropriate.

Table 17: 2074 Alternative B1 Annual Emissions

Road Segments (Combined)				Intersections (Combined)			
AM Hours	**Ton/hr (MT/hr)**	**PM Hours**	**Ton/hr (MT/hr)**	**AM Hours**	**Ton/hr (MT/hr)**	**PM Hours**	**Ton/hr (MT/hr)**
12:00 AM	2.37 (2.15)	12:00 PM	13.81 (12.53)	12:00 AM	0.20 (0.18)	12:00 PM	1.30 (1.18)
01:00	1.40 (1.27)	01:00	14.93 (13.55)	01:00	0.12 (0.11)	01:00	1.40 (1.27)
02:00	0.95 (0.86)	02:00	15.89 (14.41)	02:00	0.08 (0.07)	02:00	1.49 (1.35)
03:00	0.83 (0.75)	03:00	18.27 (16.58)	03:00	0.07 (0.06)	03:00	1.72 (1.56)
04:00	1.96 (1.77)	04:00	19.66 (17.83)	04:00	0.17 (0.15)	04:00	1.85 (1.68)
05:00	15.22 (13.81)	05:00	20.56 (18.66)	05:00	1.29 (1.17)	05:00	1.93 (1.75)
06:00	19.76 (17.92)	06:00	19.84 (18.00)	06:00	1.68 (1.52)	06:00	1.86 (1.69)
07:00	22.00 (19.95)	07:00	18.64 (16.91)	07:00	1.87 (1.69)	07:00	1.75 (1.59)
08:00	22.08 (20.03)	08:00	14.07 (12.76)	08:00	1.87 (1.70)	08:00	1.32 (1.20)
09:00	19.52 (17.71)	09:00	11.09 (10.06)	09:00	1.66 (1.50)	09:00	1.04 (0.95)
10:00	18.32 (16.62)	10:00	7.24 (6.57)	10:00	1.55 (1.41)	10:00	0.68 (0.62)
11:00	18.32 (16.62)	11:00	3.81 (3.46)	11:00	1.55 (1.41)	11:00	0.36 (0.33)
Total	**142.72 (129.47)**		**177.82 (161.32)**		**12.11 (10.99)**		**16.71 (15.16)**
Annual	**Ton/yr (MT/yr)**		**Ton/yr (MT/yr)**		**Ton/yr (MT/yr)**		**Ton/yr (MT/yr)**
	52,091.23 (47,256.43)		**64,905.09 (58,880.97)**		**4,420.95 (4,010.62)**		**6,098.93 (5,532.86)**
Annual Combined Total	**127,516.20 (115,680.89)**						

Results are rounded where appropriate.

Table 18: 2074 Alternative B2 Annual Emissions

Road Segments (Combined)				Intersections (Combined)			
AM Hours	**Ton/hr (MT/hr)**	**PM Hours**	**Ton/hr (MT/hr)**	**AM Hours**	**Ton/hr (MT/hr)**	**PM Hours**	**Ton/hr (MT/hr)**
12:00 AM	2.34 (2.12)	12:00 PM	13.76 (12.48)	12:00 AM	0.19 (0.20)	12:00 PM	1.37 (1.24)
01:00	1.39 (1.26)	01:00	14.87 (13.49)	01:00	0.11 (0.12)	01:00	1.48 (1.34)
02:00	0.94 (0.85)	02:00	15.82 (14.36)	02:00	0.07 (0.08)	02:00	1.57 (1.43)
03:00	0.82 (0.74)	03:00	18.20 (16.51)	03:00	0.06 (0.07)	03:00	1.81 (1.64)
04:00	1.93 (1.75)	04:00	19.58 (17.76)	04:00	0.15 (0.17)	04:00	1.95 (1.77)
05:00	15.03 (13.64)	05:00	20.48 (18.58)	05:00	1.20 (1.32)	05:00	2.04 (1.85)
06:00	19.51 (17.70)	06:00	19.76 (17.93)	06:00	1.55 (1.71)	06:00	1.96 (1.78)
07:00	21.72 (19.71)	07:00	18.57 (16.84)	07:00	1.73 (1.91)	07:00	1.85 (1.67)
08:00	21.81 (19.78)	08:00	14.01 (12.71)	08:00	1.74 (1.91)	08:00	1.39 (1.26)
09:00	19.28 (17.49)	09:00	11.05 (10.02)	09:00	1.53 (1.69)	09:00	1.10 (1.00)
10:00	18.09 (16.41)	10:00	7.21 (6.54)	10:00	1.44 (1.59)	10:00	0.72 (0.65)
11:00	18.09 (16.41)	11:00	3.80 (3.44)	11:00	1.44 (1.59)	11:00	0.38 (0.34)
Total	**140.94 (127.86)**		**177.12 (160.68)**		**12.36 (11.22)**		**17.60 (15.97)**
Annual	**Ton/yr (MT/yr)**		**Ton/yr (MT/yr)**		**Ton/yr (MT/yr)**		**Ton/yr (MT/yr)**
	51,442.35 (46,667.77)		**64,647.61 (58,647.40)**		**4,512.88 (4,094.02)**		**6,424.86 (5,828.54)**
Annual Combined Total	**127,027.69 (115,237.72)**						

Results are rounded where appropriate.

Table 19: 2074 Alternative B3 Annual Emissions

Road Segments (Combined)				Intersections (Combined)			
AM Hours	**Ton/hr (MT/hr)**	**PM Hours**	**Ton/hr (MT/hr)**	**AM Hours**	**Ton/hr (MT/hr)**	**PM Hours**	**Ton/hr (MT/hr)**
12:00 AM	2.34 (2.12)	12:00 PM	13.73 (12.45)	12:00 AM	0.20 (0.18)	12:00 PM	1.34 (1.21)
01:00	1.39 (1.26)	01:00	14.84 (13.46)	01:00	0.12 (0.11)	01:00	1.44 (1.31)
02:00	0.94 (0.85)	02:00	15.79 (14.32)	02:00	0.08 (0.07)	02:00	1.54 (1.39)
03:00	0.82 (0.74)	03:00	18.16 (16.47)	03:00	0.07 (0.06)	03:00	1.77 (1.60)
04:00	1.93 (1.75)	04:00	19.54 (17.72)	04:00	0.17 (0.15)	04:00	1.90 (1.73)
05:00	15.05 (13.66)	05:00	20.44 (18.54)	05:00	1.30 (1.18)	05:00	1.99 (1.81)
06:00	19.54 (17.72)	06:00	19.72 (17.89)	06:00	1.69 (1.53)	06:00	1.92 (1.74)
07:00	21.75 (19.73)	07:00	18.53 (16.81)	07:00	1.88 (1.70)	07:00	1.80 (1.64)
08:00	21.84 (19.81)	08:00	13.98 (12.68)	08:00	1.88 (1.71)	08:00	1.36 (1.24)
09:00	19.30 (17.51)	09:00	11.02 (10.00)	09:00	1.67 (1.51)	09:00	1.07 (0.97)
10:00	18.12 (16.44)	10:00	7.19 (6.53)	10:00	1.56 (1.42)	10:00	0.70 (0.64)
11:00	18.11 (16.43)	11:00	3.79 (3.44)	11:00	1.56 (1.42)	11:00	0.37 (0.33)
Total	**141.13 (128.03)**		**176.72 (160.31)**		**12.18 (11.05)**		**17.21 (15.61)**
Annual	**Ton/yr (MT/yr)**		**Ton/yr (MT/yr)**		**Ton/yr (MT/yr)**		**Ton/yr (MT/yr)**
	51,511.89 (46,730.86)		**64,501.03 (58,514.42)**		**4,446.15 (4,033.48)**		**6,280.48 (5,697.56)**
Annual Combined Total	**126,739.55 (114,976.32)**						

Results are rounded where appropriate.

Table 20: 2074 Alternative Annual Emissions Summary Table (CO_2e)

Road Segments & Intersections (Combined)			
Alternative	**AM Ton/yr (MT/yr)**	**PM Ton/yr (MT/yr)**	**Total Ton/hr (MT/hr)**
No-Build	61,147 (55,472)	76,354 (69,267)	137,501 (124,739)
B1	56,512 (51,267)	71,004 (64,434)	127,516 (115,681)
B2	55,955 (50,761)	71,072 (64,476)	127,028 (115,238)
B3	55,958 (50,764)	70,782 (64,212)	126,740 (114,976)

4.1.5.4 Traffic Emissions Conclusion

The projected GHG emissions incrementally increase from the Baseline 2021 to 2026 and the 2074 emissions increase significantly due primarily to a large increase in vehicle volumes. Afternoon/evening PM emissions are 33% higher on average compared to morning AM hours because of the projected lower traffic volumes between 12:00 AM to 5:00AM. **Table 21** provides the overall annual GHG emissions, which shows that the No-Build scenario and the three Build alternatives B1, B2, and B3 for 2074 would exceed the 100,000 MT threshold described in **Section 3.1**. Therefore, they would be considered a significant source of GHG emissions.

Table 21: Alternative GHG Emissions

Year	Scenario	AM Ton/yr (MT/yr)	PM Ton/yr (MT/yr)	Total Ton/yr (MT/yr)
		CO_2e Emissions		
2021	Baseline	21,829.02 (19,802.97)	37,147.08 (33,699.30)	58,976.10 (53,502.28)
2026	No-Build	27,851.91 (25,266.86)	42,844.13 (38,867.58)	70,696.10 (64,134.45)
	Alternative B1	30,444.36 (27,618.69)	44,546.78 (40,412.21)	74,991.14 (68,030.90)
	Alternative B2	29,956.72 (27,176.31)	47,253.50 (42,867.71)	77,210.23 (70,044.02)
	Alternative B3	30,208.66 (27,404.86)	44,790.58 (40,633.38)	74,999.23 (68,038.24)
2074	No-Build	61,147.39 (55,472.05)	76,353.64 (69,266.94)	137,501.04 (124,738.99)
	Alternative B1	56,512.18 (51,267.05)	71,004.01 (64,413.84)	127,516.20 (115,680.89)
	Alternative B2	55,955.22 (50,761.79)	71,072.47 (64,475.94)	127,027.69 (115,237.72)
	Alternative B3	55,958.04 (50,764.34)	70,781.51 (64,211.98)	126,739.55 (114,976.32)

AM and PM include through traffic and intersection traffic combined

Alternatives B1, B2, and B3 will produce similar emissions, while the 2074 No-Build scenario is projected to generate approximately 10,400 ton/yr (9,440 MT/yr) more than the average between Alternatives B1, B2, and B3. While 2074 emissions on a vehicle basis are improved when compared to the baseline and 2026, the overall number of projected vehicles on the road are much higher than the baseline (2021) and opening year (2026) conditions. Therefore, 2074 emissions will be greater in aggregate.

The variability between 2026 Alternatives is negligible with the No-Build scenario producing fewer GHG emissions primarily because of lower vehicular volumes. Overall, Alternative B3 is projected to produce the fewest annual GHG emissions between 2026 and 2074.

4.1.6 Habitat and Peat Methodology

GHG emissions resulting from the removal/excavation of biomass and organic soils (i.e., peat) were calculated for each of the three Build alternatives B1, B2, and B3 following IPCC guidelines (IPCC, 2006; IPCC, 2014). This methodology conservatively assumes all biomass and peat removed during construction are disposed of under aerobic conditions and all carbon is immediately emitted as CO_2. No biomass and peat will be removed as part of the No-Build scenario and, therefore, do not apply IPCC guidelines and equations (i.e., GHG emissions from biomass and peat removal are set to zero).

Equation 4.3 from IPCC (2014) served as the basis for calculating the loss in carbon stocks and subsequent GHG emissions (CO_2e) associated with excavation activities within vegetated habitats, and is presented in a streamlined formulation:

$$\Delta C_{excav} = -(\Delta C_{excav-B} + \Delta C_{excav-DOM} + \Delta C_{excav-SO}) \times \left(\frac{44}{12}\right)$$

Where:

ΔC_{excav} = Emissions from initial change in carbon stocks with excavation; tonnes CO_2e.

$\Delta C_{excav\text{-}B}$ = Initial change in biomass (above-/below-ground) carbon stocks with excavation; tonnes C.

$\Delta C_{excav\text{-}DOM}$ = Initial change in dead organic matter carbon stocks with excavation; tonnes C.

$\Delta C_{excav\text{-}SO}$ = Initial change in soil (i.e., peat) carbon stocks with excavation; tonnes C.

$\frac{44}{12}$ = Molecular-to-atomic weight ratio of CO_2 to C.

The approach for estimating changes in carbon stocks within the limits of disturbance (LOD) differed between mangrove and non-mangrove habitat types and carbon pools (e.g., biomass, soil). Biomass carbon stocks concern woody and herbaceous vegetation across various habitat types classified through geospatial analysis. Soil carbon stocks, in contrast, concern peat deposits spread across the entire LOD for each Build alternative. Additionally, peat data was volumetric, as opposed to geospatial. Method deviations, assumptions, and calculations for each carbon pool are detailed in the following subsections.

4.1.6.1 Habitat Data

Country-specific (Childs et al., 2015) and IPCC (2006; 2019) default data was sourced to estimate biomass carbon stocks for the various habitats across Grand Cayman anticipated to be impacted by the Build alternatives B1, B2, and B3. For mangroves, Childs et al. (2015) estimated above- and below-ground biomass carbon stocks for inland mangrove habitats across the Central Mangrove Wetland (CMW) on Grand Cayman, using field sampling, species-specific allometry (Smith and Wheelan, 2006; Komiyama et al., 2005) and carbon fractions. IPCC default biomass estimates, root-shoot ratios (to estimate belowground biomass) and carbon fractions were applied to the other habitats encompassed by this analysis (IPCC, 2006; IPCC; 2019).

Equation 4.4 (IPCC, 2014) was modified to accommodate mangrove data (Childs et al., 2015) and estimate the loss of biomass carbon stocks within mangrove habitats for each Build alternative:

$$\Delta C_{excav-B} = \left(B_{AFTER} - \left((AGB_{BEFORE} \times CF_{AGB}) + (BGB_{BEFORE} \times CF_{BGB})\right)\right) \times A_{CONVERTED}$$

Where:

$\Delta C_{excav-B}$ = Changes in biomass carbon stock from conversion due to extraction activities; tonnes C.

B_{AFTER} = Carbon stock in biomass per unit of area immediately after the conversion; tonnes dry matter (t.d.m.) ha^{-1}. This value is conservatively set to 0.

AGB_{BEFORE} = Carbon stock in above-ground biomass per unit of area immediately before conversion; t.d.m. ha^{-1}.

CF_{AGB} = Carbon fraction of above-ground biomass; tonnes C $(t.d.m.)^{-1}$.

BGB_{BEFORE} = Carbon stock in below-ground biomass per unit of area immediately before conversion; t.d.m. ha^{-1}.

CF_{BGB} = Carbon fraction of below-ground biomass; tonnes C $(t.d.m.)^{-1}$.

$A_{CONVERTED}$ = Area of conversion; ha.

Biomass stock loss for other (i.e., non-mangrove) habitats was estimated using a modified version of Equation 2.14 (IPCC, 2006) supplied with IPCC default values (IPCC, 2006; IPCC, 2019) specific to each habitat type included in the analysis:

$$\Delta C_{disturbance,i} = A_{disturbance,i} \times AGB_{BEFORE,i} \times (1 + R_i) \times CF_i \times fd$$

Where:

$\Delta C_{disturbance,i}$ = Losses in biomass carbon stock from disturbance for habitat type *i*; tonnes C.

$A_{disturbance,i}$ = Area affected by disturbance for habitat type *i*; ha.

$AGB_{BEFORE,i}$ = Carbon stock in above-ground biomass per unit of area immediately before disturbance for habitat type *i*; t.d.m. ha^{-1}.

R_i = Ratio of below-ground biomass to above-ground biomass; t.d.m. below-ground biomass for habitat type *i*; (t.d.m. above-ground biomass)$^{-1}$.

CF_i = Carbon fraction of dry matter for habitat type *i*; tonnes C $(t.d.m.)^{-1}$.

fd = fraction of biomass lost in disturbance. This value is conservatively set to 1 (i.e., all biomass is lost during construction).

i = habitat type.

A summary of parameters used in Equation 4.4 (IPCC, 2014) and Equation 2.14 (IPCC, 2006) for habitat types encompassed in this assessment are listed in **Table 22**.

Table 22: Habitat Biomass Parameters

Habitat	Above-ground biomass (AGB)	Below-ground biomass (BGB)	Root-shoot ratio (*R*)	Carbon fraction (*CF*)
	t.d.m. ha^{-1}	t.d.m. ha^{-1}		
Mangroves	102.99 (Childs et al., 2015)	58.58 (Childs et al., 2015)	-	AGB: 0.48 BGB: 0.39 (Childs et al., 2015)
Tropical Moist Deciduous Forest (Older Secondary)	131 (IPCC, 2019)	37.20*	0.284 (IPCC, 2019)	0.47 (IPCC, 2006)
Tropical Moist Deciduous Forest (Younger Secondary)	55.7 (IPCC, 2019)	15.85*	0.2845 (IPCC, 2019)	0.47 (IPCC, 2006)
Tropical Shrubland	71.50 (IPCC, 2019)	20.34*	0.2845 (IPCC, 2019)	0.47 (IPCC, 2006)
Tropical Moist Grassland	6.20 (IPCC, 2006)	9.92*	1.6 (IPCC, 2006)	0.47 (IPCC, 2006)

* Calculated as [*AGB* x *R*].

Mangrove biomass estimates are also assumed to include dead trees. However, litter was assumed *de minimis* (i.e., negligible) and excluded from sampling (Childs et al., 2015). There are no default dead organic matter estimates across forest types provided by the IPCC (2006). Therefore, the change in dead organic matter carbon stocks from excavation/construction ($\Delta C_{excav\text{-}DOM}$) are either assumed to be encompassed by mangrove biomass estimates or excluded for other habitat types (e.g., tropical moist deciduous forest, tropical shrubland).

The extent of land cover types potentially impacted by each of the Build alternatives was determined by geospatial analysis (see **Attachment B**) and grouped into cohesive habitat classifications or excluded from analysis (**Table 23**). Methodology for the geospatial analysis and descriptions of the habitats can be found within the separate Terrestrial Ecology Assessment of Alternatives document. Habitat biomass estimates, calculated from the equations previously noted, and impact areas used in the analysis are provided in **Table 24**.

Table 23: Habitat Classifications

Habitat	Land Cover Type (GIS)	Assumptions / Justification
Mangroves	Seasonally flooded mangrove forest and woodland	Seasonally flooded mangrove biomass estimates specific to Grand Cayman (Childs et al., 2015) were applied to all mangrove habitat types in this assessment. No summary statistics (e.g., range of sample tree densities) within Childs et al. (2015) that could provide rationale for scaling estimates based on apparent density of mangrove habitats.
	Seasonally flooded mangrove shrubland	
	Seasonally flooded / saturated semi-deciduous forest	
	Seasonally flooded mangrove forest (low density)	
Tropical Moist Deciduous Forest (Older Secondary)	Dry forest and woodland	Grand Cayman contains very little primary (i.e., old-growth) forest (Childs et al., 2015). The area of remaining old-growth (Mastic) forest on the island (Childs et al., 2015) does not overlap with the proposed infrastructure developments. Additionally, IPCC estimates of secondary forest (>20 years) biomass for tropical moist deciduous forests (IPCC 2006; IPCC 2019) are only slightly less (appx. 10%) than biomass estimates specific to the old-growth (Mastic) forests generated by Childs et al. (2015). Therefore, we assume the IPCC default biomass estimate for Secondary (>20 years) tropical moist deciduous forests is representative of, and/or skews conservative compared to, the secondary deciduous forests across Grand Cayman.
	Palm Hammock	
	Seasonally flooded / saturated semi-deciduous forest	
Tropical Moist Deciduous Forest (Younger Secondary)	Man-modified with trees	Aerial imagery shows apparent anthropogenically degraded habitat in the early stages of forest regeneration. Conservatively classified as young (≤20 years) secondary tropical moist deciduous forest (IPCC, 2006; IPCC, 2019)
Tropical Shrubland	Coastal shrubland	Encompassed by tropical shrubland classification (IPCC, 2006; IPCC, 2019).
	Dry shrubland	
Tropical Moist Grassland	Man-modified without trees	Aerial imagery shows apparent converted / anthropogenically degraded habitat without trees. Conservatively classified as tropical grassland habitat (IPCC, 2006).
	Pasture	
Excluded	Agricultural	Land cover types excluded from analysis encompass built areas and infrastructure, human activities (e.g., agriculture, mining), and open-water systems that are assumed to be net sources of GHG emissions and/or contain biomass carbon stocks that are *de minimis* in their current state.
	Commercial	
	Disturbed land	
	Institutional	
	Mining	
	Residential	
	Roads	
	Man-Made Pond	
	Ponds, pools and mangrove lagoons	

Table 24: Habitat Biomass and Impact Area per Alternative

Habitat*	Biomass MT CO_2e ha^{-1} (Ton CO_2e $acre^{-1}$)	Hectares** (Acres)			
		No-Build	B1	B2	B3
Mangroves	265.06 (118.24)	0	77.25 (190.90)	50.34 (124.40)	60.01 (148.30)
Tropical Moist Deciduous Forest (Older Secondary)	289.87 (129.31)	0	1.25 (3.10)	1.21 (3.00)	1.21 (3.00)
Tropical Moist Deciduous Forest (Younger Secondary)	123.3 (55.00)	0	2.75 (6.80)	4.33 (10.70)	2.43 (6.00)
Tropical Shrubland	158.27 (70.60)	0	0.20 (0.50)	0	0.24 (0.60)
Tropical Moist Grassland	27.78 (12.39)	0	31.57 (78.00)	33.35 (82.40)	30.72 (75.90)
Total		**0**	**113.03 (279.30)**	**89.23 (220.50)**	**94.62 (233.80)**

**Habitat classification is based on Table 21 above.*
***Hectares (acres) of impact does not impact the "Excluded" habitat classification from Table 21 above.*

4.1.6.2 Peat Data

The anticipated volume of peat that would need to be excavated was provided for each of the Build alternatives (**Table 25**). Because peat volumetric data lacked a geospatial component, this assessment assumed, with consideration to the dominance of peat-producing mangrove swamps on Grand Cayman (Childs et al., 2015), all peat to have (inland) mangrove habitat soil characteristics.

Table 25: Peat Volume Excavated per Alternative

Alternative	Peat Excavated	
	Cu yd	m^3
No-Build	0	0
B1	550,994	421,265
B2	223,811	171,116
B3	454,153	347,225

Country-specific data were sourced to estimate carbon content of peat excavated for each of the proposed alternatives. Childs et al. (2015) estimated soil carbon stocks for inland mangrove habitats across the CMW using field sampling (i.e., soil cores). Soil carbon content varied little by depth (Childs et al., 2015). Therefore, the carbon content for excavated peat was assumed to be uniform and equal to the average of the entire soil profile for inland mangrove habitats (Childs et al., 2015). The methodology for determining the total quantity of peat removal for each alternative is based on the trial pit data supplied by NRA from 2008 and 2014. Additional information regarding peat quantities is provided within the Engineering Evaluation Document.

Given the average depth of the soil carbon pool, areal soil carbon stocks can be converted into a compatible volumetric format. Equation 4.6 (IPCC, 2014) was modified to accommodate volumetric data and estimate the loss of soil organic carbon stocks for each alternative:

$$\Delta C_{excav-SO} = (SO_{AFTER} - SO_{BEFORE}) \times V_{CONVERTED}$$

Where:

$\Delta C_{excav-SO}$ = Changes in soil carbon stock from conversion due to extraction activities.

SO_{AFTER} = Soil carbon stock per unit of volume, immediately after the conversion; tonnes C m^{-3}. This value is conservatively set to 0.

SO_{BEFORE} = Soil carbon stock per unit of volume, immediately before the conversion; 0.044 tonnes C m^{-3} (1060.39 tonnes C ha^{-1}) (Childs et al., 2015).

$V_{CONVERTED}$ = Volume of conversion; m^3.

4.1.7 Habitat and Peat Emissions

Emissions from the removal/excavation of biomass and peat deposits were estimated for each of the Build alternatives B1, B2, and B3 (**Tables 26 and 27**). The No-Build scenario is assumed to result in no biomass or peat deposit removals and therefore results in no GHG emissions. The magnitude of emissions from habitat and peat impacts varies by alternative. Impacts to mangroves are the most predominant among habitat types across alternatives, constituting from 88% (Alternative B2) to 93% (Alternative B1) of total GHG emissions from biomass removal. When impacts to both carbon pools (i.e., biomass and peat) are combined, Alternative B1 results in the most emissions at 90,335.89 MT CO_2e (99,578.15 ton CO_2e), followed by Alternative B3 at 73,702.62 MT CO_2e (81,243.14 ton CO_2e), and Alternative B2 at 42,877.71 MT CO_2e (47,264.52 ton CO_2e).

Table 26: GHG Emissions from Biomass Removal Across Habitat Types per Alternative

Alternative	Mangroves	Tropical Moist Deciduous Forest (Older Secondary)	Tropical Moist Deciduous Forest (Younger Secondary)	Tropical Shrubland	Tropical Moist Grassland	Total
	MT CO_2e (Ton CO_2e)	MT CO_2e (Ton CO_2e)	MT CO_2e (Ton CO_2e)	MT CO_2e (Ton CO_2e)	MT CO_2e (Ton CO_2e)	MT CO_2e (Ton CO_2e)
No-Build	0	0	0	0	0	0
B1	20,477.36 (22,572.40)	363.65 (400.86)	339.30 (374.02)	32.03 (35.30)	876.89 (966.61)	22,089.24 (24,349.19)
B2	13,344.08 (14,709.31)	351.92 (387.93)	533.90 (588.52)	0	926.36 (1,021.14)	15,156.26 (16,706.90)
B3	15,907.77 (17,535.29)	351.92 (387.93)	299.38 (330.01)	38.43 (42.36)	853.29 (940.59)	17,450.79 (19,236.18)

Table 27: GHG Emissions from Habitat and Peat Impacts per Alternative

Alternative	Habitat (Biomass) Removal	Peat Excavation	Total
	MT CO_2e (Ton CO_2e)	MT CO_2e (Ton CO_2e)	MT CO_2e (Ton CO_2e)
No-Build	0	0	0
B1	22,089.24 (24,349.19)	68,246.65 (75,228.96)	90,335.89 (99,578.15)
B2	15,156.26 (16,706.90)	27,721.45 (30,557.63)	42,877.71 (47,264.52)
B3	17,450.79 (19,236.18)	56,251.83 (62,006.95)	73,702.62 (81,243.14)

Peat impacts account for most of the emissions across the Build alternatives. This finding is consistent with the consensus on carbon cycling in coastal wetlands, where most of the ecosystem carbon is found in the soils (Donato et al., 2011).

Assumptions and Exclusions Summary

- All of the carbon stored in biomass and peat that is removed/excavated during construction is assumed to be lost and subsequently and immediately emitted as CO_2 to the atmosphere. Actual emissions from these extracted materials may vary quantitively and temporally, depending on their use (e.g., wood products), storage conditions and/or method of disposal (e.g., burning, *in-situ* decomposition).
- Mangrove biomass estimates encompass dead wood carbon stock (Childs et al., 2015).
- Mangrove litter carbon stocks are assumed *de minimis* (Childs et al., 2015).
- Impacts to dead organic matter (DOM) carbon stocks were excluded from analysis for non-mangrove habitat types as regional and/or default DOM estimates (IPCC, 2006; IPCC, 2019) were unavailable.
- Land cover types excluded from the analysis contain carbon stocks that are either *de minimis* or are net sources of GHG emissions (i.e., conservatively excluded).
- It is assumed the alternatives will not lead to leakage impacts outside of the LOD from the displacement of land use activities (e.g., agriculture, mining) and within wetland (e.g., mangrove) habitats due to hydrological changes that may produce indirect GHG emissions.
- The average soil organic carbon content and depth of inland mangrove habitats (Childs et al., 2015) is assumed to be representative of all peat excavated across LODs. Actual carbon content of extracted peat is likely variable across environmental gradients and by depth.
- The accuracy of the assessment is based on data that were provided and/or sourced in the form of habitat mapping, peat extraction data, and primary literature.
- Annual carbon sequestration loss can be found within the Terrestrial Ecology Assessment of Alternatives report.

4.1.8 Bulk Material Methodology

For each of the Build alternatives B1, B2, and B3 volumes for bulk material, road markings, light poles, and excavation materials were estimated. Total usage of asphalt, concrete, soil, rock, and kerb was applied along with appropriate emission factors as defined by the UK National Highway Carbon Tool (UKNH 2023). This is a carbon calculation tool applied for operational, construction, and maintenance activities for UK national highway projects. The tool incorporates factors derived from the Bath Inventory of Carbon and Energy Version 3. For the purposes of this assessment, the Bath Inventory of Carbon and Energy was used to ensure representative factors were applied for each material type.

Emissions are established on an input unit from a given material and CO_2e factor is applied. For example, the Bath Inventory of Carbon and Energy states that asphalt has a factor of 0.055 MT CO_2e per MT of asphalt (tCO_2e/t). Additionally, the Carbon tool utilizes density (tonnes/ m^3) for various materials via the Bath Inventory Version 2.0.

Material totals were determined in either square yards, linear feet, or cubic yards. Because all the emission factors are in tCO_2e/t material, the total volumes were calculated. For example, compacted asphalt with a depth of 3.5 inches (88.9 mm) is applied for new road construction. This allows for a volume to be established and converted to cubic metres to correlate with known densities (2.3 tonnes/m^3 for asphalt). Emissions are then calculated for both new construction and maintenance through the end of year 2074. See **Attachment C** for material quantities. Additional details regarding quantification of bulk materials can be found within the separate Engineering Assessment of Alternatives document. For the GHG evaluation, all construction and materials were assumed to occur in the initial construction phase (2024-2026) to provide a conservative estimate on emissions.

There are also a few materials that required specific calculation methodologies. These include road markings, tack coating, and concrete barriers. Additionally, the Carbon Tool applies some conversions directly related to the input units. Specifically applied for this analysis was kerb (precast concrete 125x150mm) of 0.0431 to convert from metres to tonnes with the appliable density.

4.1.9 Bulk Material Emissions

The Carbon Tool breaks down densities and emission factors by general material. This analysis included a review of the densities and emission factors and then correlated each quantity type to an appropriate density/emission factor. **Table 28** describes data applied to calculate GHG emissions.

Table 28: Emission Factor/Density by Material Breakdown

Quantity Name	Carbon Tool Density Category	Density tonnes/m^3	Emission Factors	Units	Carbon Tool Factor Category
Asphalt	Asphalt	2.3	0.055	tCO_2e/t	Asphalt
Rock	Quarried Aggregate	2	0.007		General Mixture
Concrete	Concrete	2.4	0.103		General Concrete
Excavation	Soil	1.7	0.007		General Mixture
Kerb	Concrete	2.4	0.132		Pre-cast Concrete
Markings	Plastic	1.4	5.7		Thermoplastic
Lightpoles	Steel	8	2.76		Steel 8m
Walls/Barrier	Concrete	2.4	0.122		General Concrete

To determine a volume from the known linear feet total, road markings width and thickness was assumed to be 6 inches (15.24 cm) and 0.118 inch (3 mm), respectively (FHWA 2015, SRRB 2015). Tack coat calculations incorporated a thickness of 0.0098 inch (0.25 mm) (Blacklidge 2020). In addition, the concrete barrier calculations applied a triangle shape, and the area is determined by 1/2 base multiplied by the height. The base is 2 feet (0.6096 m) and a height of 3 feet (0.9144 m). The following **Tables 29-32** provide the projected GHG emissions associated with the Will T Connector and each of the Build alternatives B1, B2, and B3. Note that the Will T Connector is encompassed within each of the Build alternatives. Therefore, its emissions will be added to each of the Build alternatives for their total value. The No-Build scenario is assumed to include no bulk material related emissions, and therefore not included within **Tables 29-32.**

Overall, Alternative B1 is estimated to emit the highest at 84,611 short tons (76, 803 MT) bulk material GHGs through 2074. Alternative B3 is estimated to emit 73,837 short tons (66,984 MT), while Alternative B2 is lowest at 70,772 short tons (64,203 MT).

Table 29: Will T Connector Material GHG Emissions

	Compacted*	Crusher Run	Cayman Rock	Compacted[1]	Tack	Milling	Pavement	Kerb	Marking	Gen Excavation	Shot Rock	**Total**
	Asphalt	**Rock**	**Rock**	**Asphalt**	**Coat**	**Asphalt**	**Concrete**	**Kerb**	**Marking**	**Soil**	**Rock**	
	MT/yr CO_2e											
Total/Life	1,107.0	210.0	237.8	903.7	8.9	903.7	489.9	107.4	259.6	782.5	758.2	**5,768.7**
	Ton/Yr CO_2e											
Total/Life	1,220.3	231.5	262.1	996.2	9.8	996.2	540.0	118.3	286.1	862.6	835.8	**6,358.9**

* Compact Asphalt depth is either 3.5 inch or 6 inch.

Table 30a: Alternative B1 Material GHG Emissions

	Compacted*	Compacted*	Compacted*	Crusher Run	Cayman Rock	Milling	Tack	Pavement	Kerb	Kerb/Gutter	Mountable
	Asphalt	**Asphalt**	**Asphalt**	**Rock**	**Rock**	**Asphalt**	**Coat**	**Concrete**	**Kerb**	**Kerb**	**Kerb**
	MT/yr CO_2e										
Total/Life	8,405.2	7,135.6	1,180.8	1,353.8	1,561.0	8,405.2	82.7	1,641.4	37.2	97.7	18.8
	Ton/yr CO_2e										
Total/Life	9,265.2	7,865.6	1301.6	1,492.3	1,720.7	9,265.2	91.2	1,809.3	41.0	107.7	20.8

* Compact Asphalt depth is either 2 inch, 3.5 inch or 6 inch.

Table 30b: Alternative B1 Material GHG Emissions

	Barrier	Yellow Marking	White Marking	Light Poles	Undercut Excav	Aggregate	Shot Rock	Corridor Excav	**Will T**	**Total***
	Concrete	**Marking**	**Marking**	**Poles**	**Soil**	**Rock**	**Rock**	**Soil**		
	MT/yr CO_2e									
Total/Life	1,666.3	555.7	1,295.2	126.4	577.7	6,577.4	30,245.9	70.3	5,768.7	**76,803.2**
	Ton/yr CO_2e									
Total/Life	1,836.7	612.6	1,427.7	139.4	636.9	7,250.3	33,340.4	77.5	6,358.9	**84,660.9**

* The overall total values incorporate all emission sources in Table “a” and “b”.

Table 31a: Alternative B2 Material GHG Emissions

	Compacted*	Compacted*	Compacted*	Crusher Run	Cayman Rock	Milling	Tack	Pavement	Kerb	Kerb/Gutter	Mountable
	Asphalt	**Asphalt**	**Asphalt**	**Rock**	**Rock**	**Asphalt**	**Coat**	**Concrete**	**Kerb**	**Kerb**	**Kerb**
	MT/yr CO_2e										
Total/Life	6,052.0	6,115.6	924.6	1,160.3	1,346.4	6,052.0	59.6	1,469.3	28.9	33.7	25.3
	Ton/yr CO_2e										
Total/Life	6,671.1	6,741.3	1,019.2	1,279.0	1,484.1	6,671.1	65.7	1,619.6	31.8	37.1	27.9

* Compact Asphalt depth is either 2 inch, 3.5 inch or 6 inch

Table 31b: Alternative B2 Material GHG Emissions

Year	Barrier	Yellow Marking	White Marking	Light Poles	Undercut Excav	Aggregate	Shot Rock	Corridor Excav	**Will T**	**Total***
	Concrete	**Marking**	**Marking**	**Poles**	**Soil**	**Rock**	**Rock**	**Soil**		
	MT/yr CO_2e									
Total/Life	2,120.6	528.3	1,022.4	119.5	1,415.9	4,061.4	25,839.3	59.8	5,768.7	**64,203.2**
Year	**Ton/yr CO_2e**									
Total/Life	2,337.5	582.3	1,127.0	131.7	1,560.8	4,476.9	28,482.9	65.9	6,358.9	**70,771.9**

* The overall total values incorporate all emission sources in Table “a” and “b”.

Table 32a: Alternative B3 Material GHG Emissions

	Compacted*	Compacted*	Compacted*	Crusher Run	Cayman Rock	Milling	Tack	Pavement	Kerb	Kerb/Gutter	Mountable
	Asphalt	**Asphalt**	**Asphalt**	**Rock**	**Rock**	**Asphalt**	**Coat**	**Concrete**	**Kerb**	**Kerb**	**Kerb**
	MT/yr CO_2e										
Total/Life	7,305.2	6,286.7	957.4	1,192.7	1,357.9	7,305.2	71.9	1,512.6	34.3	31.1	16.8
	Ton/yr CO_2e										
Total/Life	8,052.6	6,929.9	1,055.4	1,314.8	1,496.8	8,052.6	79.3	1,667.4	37.8	34.2	18.5

* Compact Asphalt depth is either 2 inch, 3.5 inch or 6 inch

Table 32b: Alternative B3 Material GHG Emissions

	Barrier	Yellow Marking	White Marking	Light Poles	Undercut Excav	Aggregate	Shot Rock	Corridor Excav	**Will T**	**Total***
	Concrete	**Marking**	**Marking**	**Poles**	**Soil**	**Rock**	**Rock**	**Soil**		
	MT/yr CO_2e									
Total/Life	1853.5	540.8	1048.0	122.4	492.0	5,440.0	25,584.2	62.0	5,768.7	**66,983.5**
	Ton/yr CO_2e									
Total/Life	2043.2	596.1	1155.3	134.9	542.4	5,996.6	28,201.8	68.3	6,358.9	**73,836.6**

* The overall total values incorporate all emission sources in Table "a" and "b".

4.2 Qualitative

Not applicable per the UK Department for Transport "Transport Analysis Guidance".

4.3 Monetary

As part of the Cost Benefit Analysis prepared for this project, the GHG emissions of each alternative will be monetized for the No-Build scenario and for each of the Build alternatives B1, B2 and B3. See the separate Cost Benefit Analysis included in the Shortlist Evaluation Document for details regarding GHG monetary valuation.

5 Shortlist Evaluation Summary

The No-Build scenario and each of the Build alternatives B1, B2, and B3 were assessed in terms of anticipated GHG emissions throughout the horizon year (2074). For the unavoidable impacts reported, mitigation measures to aid in offsetting impacts may be possible. Mitigation measures have not been considered as part of this analysis but will be investigated and identified for the Preferred Alternative and documented in the forthcoming Environmental Statement Document.

Total GHG emissions associated with the No-Build scenario and for each of the Build alternatives B1, B2, and B3 are provided in **Table 33 and 34** below. These emissions include both one-time emissions related to construction (2024-2026) and annual emissions related to traffic operations (2026-2074).

Table 33: GHG One-Time Emissions (2024-2026)

Alternative	Habitat/Peat		Construction		Bulk Material		Total Emissions	
	MT CO_2e	Ton CO_2e	MT CO_2e	Ton CO_2e	MT CO_2e	Ton CO_2e	MT CO_2e	Ton CO_2e
No-Build	0	0	0	0	0	0	**0**	**0**
B1	90,336	99,578	2,364	2,606	27,199	29,982	**119,899**	**132,166**
B2	42,878	47,265	2,001	2,206	22,449	24,745	**67,328**	**74,216**
B3	73,703	81,243	2,075	2,288	22,798	25,131	**98,576**	**108,662**

Table 34: GHG Annual Operational Traffic Emissions (2026 through 2074)

Alternative	2026 Traffic		2074 Traffic		Average Annual Emissions (2026-2074)	
	MT CO_2e	Ton CO_2e	MT CO_2e	Ton CO_2e	MT CO_2e	Ton CO_2e
No-Build	64,134	70,696	124,739	137,501	**94,437**	**104,099**
B1	68,031	74,991	115,681	127,516	**91,856**	**101,254**
B2	70,044	77,210	115,238	127,028	**92,641**	**102,119**
B3	68,038	74,999	114,976	126,740	**91,507**	**100,870**

Table 35: Summary of GHG Expected Emissions by Alternative

Alternative	One Time Total		Average Annual Traffic	
	MT CO_2e	Ton CO_2e	MT CO_2e	Ton CO_2e
No-Build	0	0	94,437	104,099
B1	119,899	132,166	91,856	101,254
B2	67,328	74,216	92,641	102,119
B3	98,576	108,662	91,507	100,870

The following summarizes the results of the analysis for the identified GHG emissions. Please note that the below is not a ranking; further comparison of alternatives in relation to GHG emissions can be found in the separate Cost Benefit Analysis and Shortlist Evaluation Document.

No-Build: The No-Build scenario is assumed to require no habitat/peat removal, construction, or bulk materials; therefore, it results in no GHG emissions within these categories. Compared to the Build alternatives, the No-Build scenario results in the lowest total one-time emissions outlined in (**Tables 33 and 35)**. However, the GHG emissions from traffic are projected to generate approximately 9,000 MT (10,000 short tons) more than the Build alternatives by 2074 (**Table 34**).

Alternative B1: Alternative B1 is anticipated to contribute the highest one-time related emissions of the three Build alternatives, primarily due to the greater peat emission (increase of approximately 110% to Alternative B2) (**Tables 33 and 35**). Alternative B1 is anticipated to contribute the second lowest average annual traffic related emissions of the three Build alternatives (**Tables 34 and 35**).

Alternative B2: Alternative B2 is anticipated to contribute the lowest one-time related emissions of the three Build alternatives (**Tables 33 and 35**). Alternative B2 is anticipated to contribute the highest average annual traffic related emissions of the three Build alternatives (**Tables 34 and 35**).

Alternative B3: Alternative B3 is anticipated to contribute the second lowest one-time related emissions of the three Build alternatives (**Tables 33 and 35**). Peat emissions are anticipated to increase by approximately 72% from Alternative B2 to Alternative B3. Alternative B3 is anticipated to contribute the lowest average annual traffic related emissions of the three Build alternatives (**Tables 34 and 35**).

This Greenhouse Gases Assessment is one in a series of Technical Reports that have been prepared for the Shortlist Evaluation. The level of impacts and the identification of the least impactful alternative will differ based on the resource/feature evaluated in each of the Technical Reports. Therefore, the least impactful alternative described in this evaluation summary and in each technical document **does not** move an alternative forward to the Preferred Evaluation nor does it constitute any special weighting or extra consideration in the Shortlist Evaluation Document. The comprehensive analysis of all the resources/features evaluated along with the rationale for the identification of the Preferred Alternative are presented in the Shortlist Evaluation Document.

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Attachment A

Traffic Road Segment Information

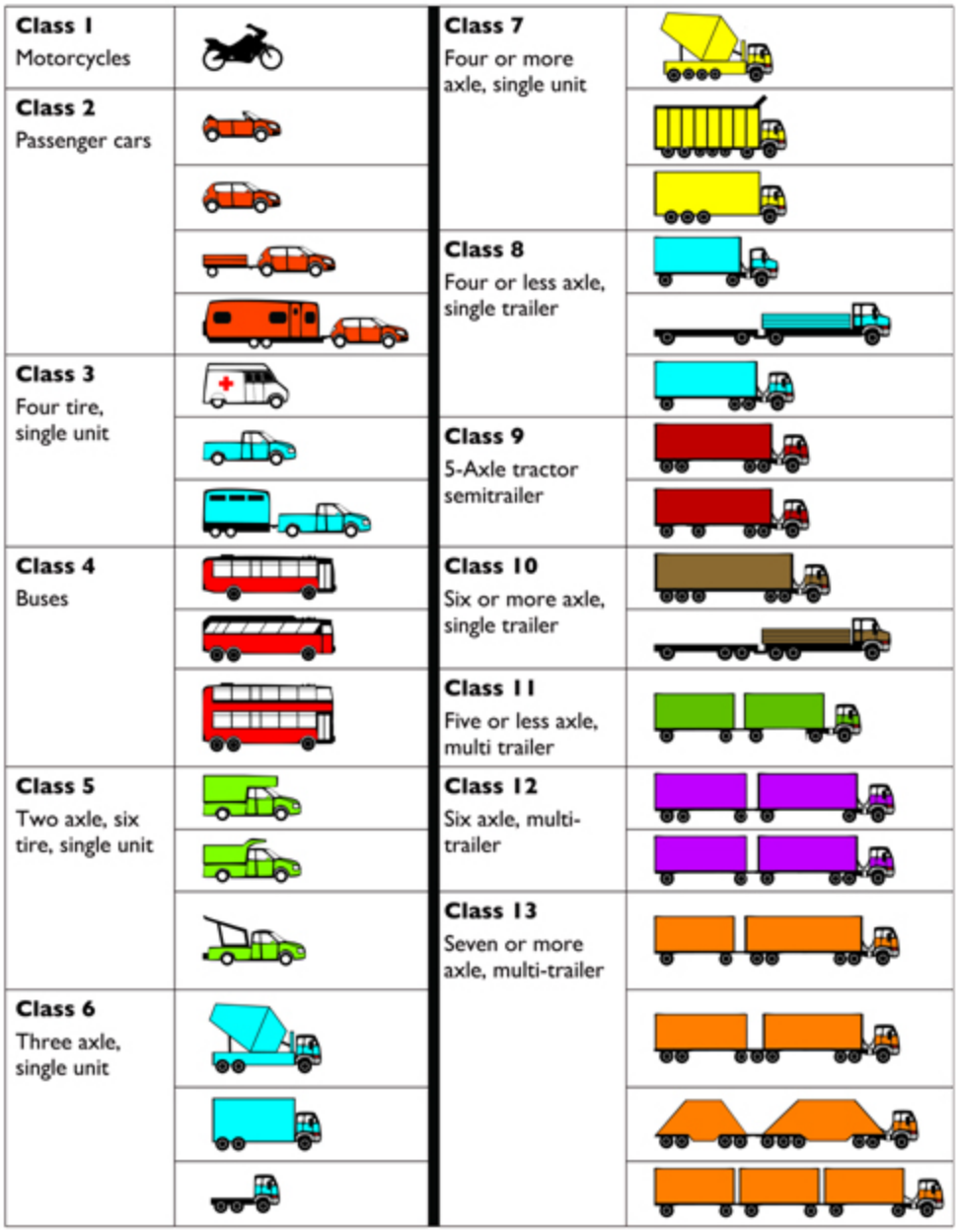


Figure A-1 Federal Highway Administration Vehicle Classification

All EPA MOVES runs applied the identical Federal Highway Administration vehicle classification distribution. Table A-1 provides the classifications by vehicle type discussed throughout the Greenhouse Gas Report

Table A-1 Segment Data – Morning AM Baseline 2021

MOVES Category	FHWA Classification
Motorcycles	1
Passenger cars	2-3
Buses	4
Single Unit Short-Haul Trucks	6-10
Combination Unit Short-Haul Trucks	11-13

Table A-2 Segment Data – Morning AM Baseline 2021

Segment ID	Road Type	Segment Volume (veh/hr)	Segment Length (miles)	Segment Average Speed (mph)	Segment Description
1	Urban	1388	2.09	34.7	ATR 815
2	Urban	656	1.17	27.8	ATR 922
3	Urban	624	4.54	35.9	ATR 909
4	Urban	360	0.71	29.6	ATR 803
5	Urban	262	3.60	40.7	ATR 926

Table A-3 Segment Data – Evening PM Baseline 2021

Segment ID	Road Type	Segment Volume (veh/hr)	Segment Length (miles)	Segment Average Speed (mph)	Segment Description
1	Urban	1580	2.09	32.8	ATR 815
2	Urban	929	1.17	26.7	ATR 922
3	Urban	917	4.54	34.7	ATR 909
4	Urban	795	0.71	28.3	ATR 803
5	Urban	417	3.60	45.7	ATR 926

Table A-4 Segment Data – Morning AM No Build 2026

Segment ID	Road Type	Segment Volume (veh/hr)	Segment Length (miles)	Segment Average Speed (mph)	Segment Description
1	Urban	1726	2.09	32.9	ATR 815
2	Urban	653	1.17	27.8	ATR 902
3	Urban	863	4.54	34.9	ATR 909
4	Urban	189	0.71	29.9	ATR 803
5	Urban	491	3.60	40.4	ATR 926

Table A-5 Segment Data – Evening PM No Build 2026

Segment ID	Road Type	Segment Volume (veh/hr)	Segment Length (miles)	Segment Average Speed (mph)	Segment Description
1	Urban	1905	2.09	31.7	ATR 815
2	Urban	955	1.17	26.5	ATR 902
3	Urban	1124	4.54	33.6	ATR 909
4	Urban	656	0.71	28.6	ATR 803
5	Urban	608	3.60	45.3	ATR 926

Table A-6 Segment Data – Morning AM Alternative B1 2026

Segment ID	Road Type	Segment Volume (veh/hr)	Segment Length (miles)	Segment Average Speed (mph)	Segment Description
1	Urban	207	1.21	24.6	ATR 812
2	Urban	1132	2.50	44.1	ATR 815
3	Urban	814	1.25	46.9	ATR 922
4	Rural	790	4.31	44.4	ATR 909
5	Urban	175	1.61	39.6	ATR 926
6	Urban	794	2.09	37.8	ATR 815
7	Urban	223	1.17	28.8	ATR 922
8	Urban	192	4.54	36.6	ATR 909
9	Urban	159	0.71	29.9	ATR 803
10	Urban	262	3.60	42.2	ATR 926

Table A-7 Segment Data – Evening PM Alternative B1 2026

Segment ID	Road Type	Segment Volume (veh/hr)	Segment Length (miles)	Segment Average Speed (mph)	Segment Description
1	Urban	96	1.21	24.8	ATR 812
2	Urban	1292	2.50	42.3	ATR 815
3	Urban	980	1.25	46.0	ATR 922
4	Rural	952	4.31	43.6	ATR 909
5	Urban	248	1.61	37.9	ATR 926
6	Urban	802	2.09	38.0	ATR 815
7	Urban	322	1.17	28.7	ATR 922
8	Urban	285	4.54	36.5	ATR 909
9	Urban	435	0.71	29.7	ATR 803
10	Urban	323	3.60	46.4	ATR 926

Table A-8 Segment Data – Morning AM Alternative B2 2026

Segment ID	Road Type	Segment Volume (veh/hr)	Segment Length (miles)	Segment Average Speed (mph)	Segment Description
1	Urban	196	1.21	24.6	ATR 812
2	Urban	1152	2.50	43.9	ATR 815
3	Urban	863	1.25	46.6	ATR 922
4	Rural	841	3.95	47.2	ATR 909
5	Urban	799	2.09	37.8	ATR 815
6	Urban	204	1.17	28.8	ATR 922
7	Urban	169	4.54	36.6	ATR 909
8	Urban	168	0.71	29.9	ATR 803
9	Urban	316	3.60	39.7	ATR 926

Table A-9 Segment Data – Evening PM Alternative B2 2026

Segment ID	Road Type	Segment Volume (veh/hr)	Segment Length (miles)	Segment Average Speed (mph)	Segment Description
1	Urban	117	1.21	24.7	ATR 812
2	Urban	1323	2.50	41.2	ATR 815
3	Urban	1066	1.25	45.3	ATR 922
4	Rural	1076	3.95	46.1	ATR 909
5	Urban	775	2.09	38.1	ATR 926
6	Urban	272	1.17	28.7	ATR 815
7	Urban	217	4.54	36.6	ATR 922
8	Urban	340	0.71	29.7	ATR 909
9	Urban	504	3.60	45.0	ATR 926

Table A-10 Segment Data – Morning AM Alternative B3 2026

Segment ID	Road Type	Segment Volume (veh/hr)	Segment Length (miles)	Segment Average Speed (mph)	Segment Description
1	Urban	205	1.21	24.6	ATR 812
2	Urban	1140	2.50	44.0	ATR 815
3	Urban	843	1.25	46.8	ATR 922
4	Rural	821	4.16	47.3	ATR 909
5	Urban	802	2.09	37.8	ATR 815
6	Urban	212	1.17	28.8	ATR 922
7	Urban	182	4.54	36.6	ATR 909
8	Urban	165	0.71	29.9	ATR 803
9	Urban	316	3.60	39.7	ATR 926

Table A-11 Segment Data – Evening PM Alternative B3 2026

Segment ID	Road Type	Segment Volume (veh/hr)	Segment Length (miles)	Segment Average Speed (mph)	Segment Description
1	Urban	103	1.21	24.8	ATR 812
2	Urban	1304	2.50	42.2	ATR 815
3	Urban	998	1.25	45.9	ATR 922
4	Rural	970	4.16	46.4	ATR 909
5	Urban	807	2.09	37.9	ATR 815
6	Urban	325	1.17	28.7	ATR 922
7	Urban	283	4.54	36.5	ATR 909
8	Urban	342	0.71	29.7	ATR 803
9	Urban	500	3.60	46.1	ATR 926

Table A-12 Segment Data – Morning AM No Build 2074

Segment ID	Road Type	Segment Volume (veh/hr)	Segment Length (miles)	Segment Average Speed (mph)	Segment Description
1	Urban	4627	2.09	14.8	ATR 815
2	Urban	2998	1.17	15.1	ATR 922
3	Urban	3582	4.54	15.9	ATR 909
4	Urban	782	0.71	28.1	ATR 803
5	Urban	1379	3.60	37.4	ATR 926

Table A-13 Segment Data – Evening PM No Build 2074

Segment ID	Road Type	Segment Volume (veh/hr)	Segment Length (miles)	Segment Average Speed (mph)	Segment Description
1	Urban	4699	2.09	14.0	ATR 815
2	Urban	3157	1.17	14.2	ATR 922
3	Urban	3592	4.54	15.8	ATR 909
4	Urban	1199	0.71	25.7	ATR 803
5	Urban	1366	3.60	36.2	ATR 926

Table A-14 Segment Data – Morning AM Alternative B1 2074

Segment ID	Road Type	Segment Volume (veh/hr)	Segment Length (miles)	Segment Average Speed (mph)	Segment Description
1	Urban	243	1.21	24.5	ATR 812
2	Urban	3768	2.50	31.9	ATR 815
3	Urban	3060	1.25	39.0	ATR 922
4	Rural	3027	4.31	37.9	ATR 909
5	Urban	399	1.61	39.1	ATR 926
6	Urban	2039	2.09	31.0	ATR 815
7	Urban	749	1.17	27.4	ATR 922
8	Urban	963	4.54	33.7	ATR 909
9	Urban	990	0.71	27.9	ATR 803
10	Urban	2595	3.60	34.8	ATR 926

Table A-15 Segment Data – Evening PM Alternative B1 2074

Segment ID	Road Type	Segment Volume (veh/hr)	Segment Length (miles)	Segment Average Speed (mph)	Segment Description
1	Urban	292	1.21	24.2	ATR 812
2	Urban	3688	2.50	29.1	ATR 815
3	Urban	3085	1.25	37.5	ATR 922
4	Rural	3042	4.31	36.9	ATR 909
5	Urban	439	1.61	39.0	ATR 926
6	Urban	1905	2.09	31.5	ATR 815
7	Urban	766	1.17	27.4	ATR 922
8	Urban	989	4.54	33.5	ATR 909
9	Urban	1194	0.71	26.8	ATR 803
10	Urban	2783	3.60	38.6	ATR 926

Table A-16 Segment Data – Morning AM Alternative B2 2074

Segment ID	Road Type	Segment Volume (veh/hr)	Segment Length (miles)	Segment Average Speed (mph)	Segment Description
1	Urban	242	1.21	24.5	ATR 812
2	Urban	3842	2.50	30.5	ATR 815
3	Urban	3187	1.25	37.6	ATR 922
4	Rural	3154	3.95	36.1	ATR 909
5	Urban	1986	2.09	30.9	ATR 815
6	Urban	705	1.17	27.6	ATR 922
7	Urban	875	4.54	34.3	ATR 909
8	Urban	1006	0.71	27.8	ATR 803
9	Urban	2701	3.60	34.0	ATR 926

Table A-17 Segment Data – Evening PM Alternative B2 2074

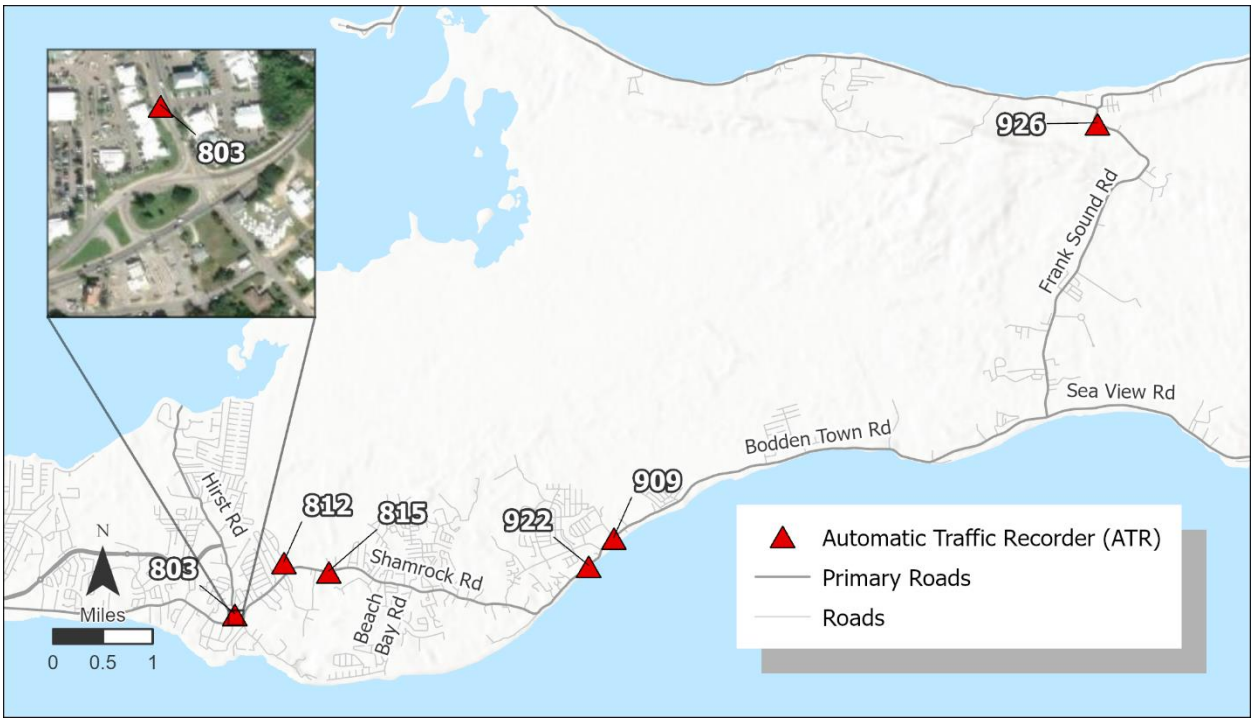
Segment ID	Road Type	Segment Volume (veh/hr)	Segment Length (miles)	Segment Average Speed (mph)	Segment Description
1	Urban	295	1.21	24.5	ATR 812
2	Urban	3859	2.50	27.2	ATR 815
3	Urban	3287	1.25	35.2	ATR 922
4	Rural	3251	3.95	34.3	ATR 909
5	Urban	1731	2.09	32.9	ATR 815
6	Urban	667	1.17	27.8	ATR 922
7	Urban	812	4.54	34.6	ATR 909
8	Urban	1204	0.71	26.2	ATR 803
9	Urban	2975	3.60	37.1	ATR 926

Table A-18 Segment Data – Morning AM Alternative B3 2074

Segment ID	Road Type	Segment Volume (veh/hr)	Segment Length (miles)	Segment Average Speed (mph)	Segment Description
1	Urban	243	1.21	24.5	ATR 812
2	Urban	2792	2.50	31.4	ATR 815
3	Urban	3100	1.25	38.6	ATR 922
4	Rural	3067	4.16	37.0	ATR 909
5	Urban	2026	2.09	30.6	ATR 815
6	Urban	718	1.17	27.6	ATR 922
7	Urban	940	4.54	33.6	ATR 909
8	Urban	998	0.71	27.8	ATR 803
9	Urban	2651	3.60	34.1	ATR 926

Table A-19 Segment Data – Evening PM Alternative B3 2074

Segment ID	Road Type	Segment Volume (veh/hr)	Segment Length (miles)	Segment Average Speed (mph)	Segment Description
1	Urban	295	1.21	24.2	ATR 812
2	Urban	3776	2.5	28.4	ATR 815
3	Urban	3185	1.25	36.5	ATR 922
4	Rural	3148	4.16	35.4	ATR 909
5	Urban	1818	2.09	31.6	ATR 815
6	Urban	706	1.17	27.7	ATR 922
7	Urban	894	4.54	34.1	ATR 909
8	Urban	1170	0.71	26.8	ATR 803
9	Urban	2903	3.60	37.3	ATR 926



Automatic Traffic Recorder(ATR) sites associated with listed Segment Descriptions

Attachment B

Alternatives Habitat Maps

Habitats: Alternative B1

FIGURE **A**

N

0 500 1,000 Feet

Legend

Man-modified

- Man-Modified Without trees
- Man-Modified With Trees
- Commercial
- Residential
- Roads
- Man-Made Pond

Wetland

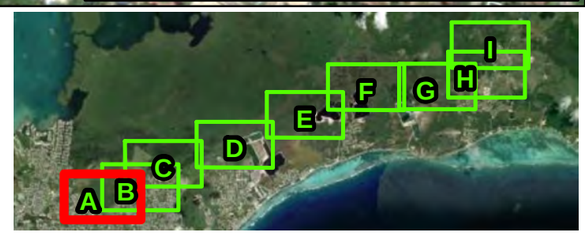
- Ponds, Pools and Mangrove Lagoons
- Seasonally Flooded Mangrove Forest and Woodland
- Seasonally Flooded/Saturated Semi-Deciduous Forest

Upland

- Invasive Species - Casuarina

Backround Source: ESRI





Habitats: Alternative B1

FIGURE

B

N

0 500 1,000 Feet

Legend

Man-modified

- Man-Modified Without trees
- Man-Modified With Trees
- Commercial
- Disturbed Land
- Pasture
- Residential
- Roads
- Man-Made Pond

Wetland

- Ponds, Pools and Mangrove Lagoons
- Seasonally Flooded Mangrove Forest and Woodland
- Seasonally Flooded/Saturated Semi-Deciduous Forest

Upland

- Invasive Species - Casuarina
- Palm Hammock

Backround Source: ESRI





Habitats: Alternative B1

FIGURE **C**

N

0 500 1,000 Feet

Legend

Man-modified

- Man-Modified Without trees
- Man-Modified With Trees
- Disturbed Land
- Pasture
- Residential
- Roads

Wetland

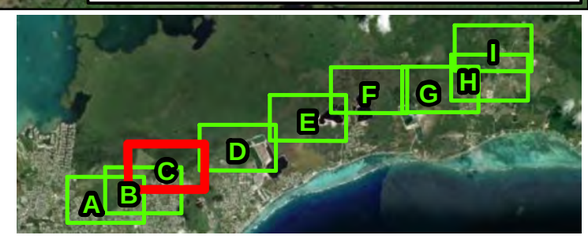
- Ponds, Pools and Mangrove Lagoons
- Seasonally Flooded Mangrove Forest and Woodland

Upland

- Invasive Species - Casuarina

Backround Source: ESRI





Habitats: Alternative B1

FIGURE **D**

N

0 500 1,000 Feet

Legend

Man-modified

- Man-Modified Without trees
- Roads

Wetland

- Ponds, Pools and Mangrove Lagoons
- Seasonally Flooded Mangrove Forest and Woodland
- Seasonally Flooded Mangrove Forest (low density)

Upland

- Palm Hammock





Backround Source: ESRI

Habitats: Alternative B1

FIGURE

E

N

0 500 1,000 Feet

Legend

Man-modified

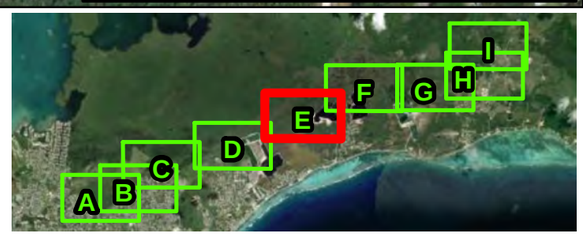
- Man-Modified Without trees
- Man-Modified With Trees

Wetland

- Ponds, Pools and Mangrove Lagoons
- Seasonally Flooded Mangrove Forest and Woodland
- Seasonally Flooded Mangrove Forest (low density)

Backround Source: ESRI





Habitats: Alternative B1

FIGURE

F

N

0 500 1,000 Feet

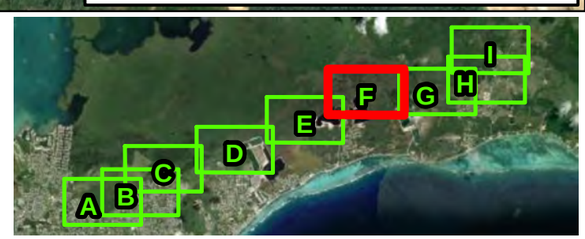
Legend

Wetland

- Seasonally Flooded Mangrove Forest and Woodland
- Seasonally Flooded Mangrove Forest (low density)

Backround Source: ESRI





Habitats: Alternative B1

FIGURE **G**

N

0 500 1,000 Feet

Legend

Man-modified

- Man-Modified Without trees
- Man-Modified With Trees
- Commercial
- Residential

Wetland

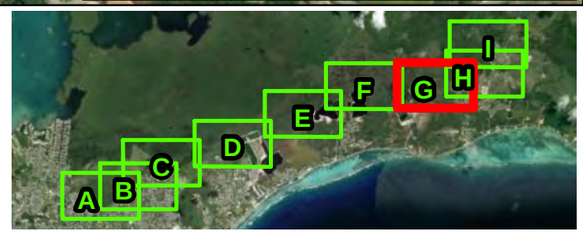
- Seasonally Flooded Mangrove Forest and Woodland
- Seasonally Flooded Mangrove Forest (low density)

Upland

- Dry Forest and Woodland
- Dry Shrubland

Backround Source: ESRI





Habitats: Alternative B1

FIGURE

H

N

0 500 1,000 Feet

Legend

Man-modified

- Man-Modified Without trees
- Man-Modified With Trees
- Commercial
- Institutional
- Residential
- Roads

Wetland

- Ponds, Pools and Mangrove Lagoons
- Seasonally Flooded Mangrove Forest and Woodland
- Seasonally Flooded Mangrove Forest (low density)





Backround Source: ESRI

Habitats: Alternative B1

FIGURE

N

0 500 1,000 Feet

Legend

Man-modified

- Man-Modified Without trees
- Man-Modified With Trees
- Commercial
- Roads

Wetland

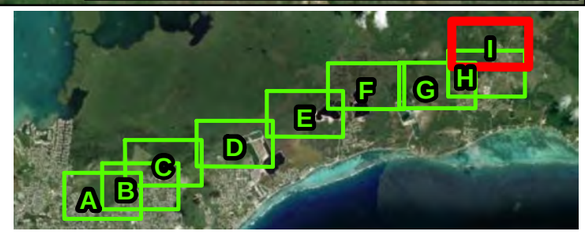
- Ponds, Pools and Mangrove Lagoons
- Seasonally Flooded Mangrove Forest and Woodland
- Seasonally Flooded Mangrove Forest (low density)

Upland

- Dry Forest and Woodland
- Dry Shrubland

Backround Source: ESRI





Habitats: Alternative B2

FIGURE **A**

N

0 500 1,000 Feet

Legend

Man-modified

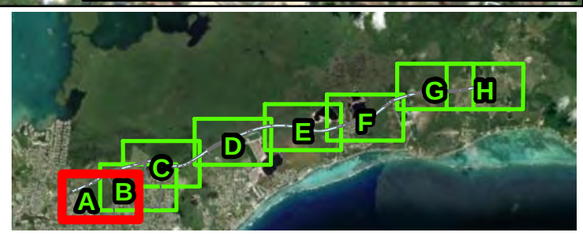
- Man-Modified Without Trees
- Man-Modified With Trees
- Commercial
- Residential
- Roads
- Man-Made Pond

Upland

- Invasive Species - Casuarina
- Ponds, Pools and Mangrove Lagoons
- Seasonally Flooded Mangrove Forest and Woodland
- Seasonally Flooded/Saturated Semi-Deciduous Forest

Backround Source: ESRI





Habitats: Alternative B2

FIGURE

B

N

0 500 1,000 Feet

Legend

Man-modified

- Man-Modified Without Trees
- Man-Modified With Trees
- Commercial
- Disturbed Land
- Pasture
- Residential
- Roads
- Man-Made Pond

Upland

- Invasive Species - Casuarina
- Palm Hammock
- Ponds, Pools and Mangrove Lagoons
- Seasonally Flooded Mangrove Forest and Woodland
- Seasonally Flooded/Saturated Semi-Deciduous Forest

Backround Source: ESRI





Habitats: Alternative B2

FIGURE **C**

N

0 500 1,000 Feet

Legend

Man-modified

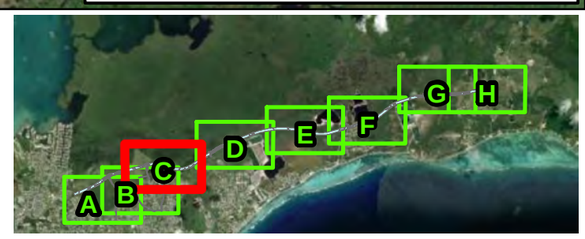
- Man-Modified Without Trees
- Man-Modified With Trees
- Disturbed Land
- Pasture
- Residential
- Roads

Upland

- Invasive Species - Casuarina
- Ponds, Pools and Mangrove Lagoons
- Seasonally Flooded Mangrove Forest and Woodland

Backround Source: ESRI





Habitats: Alternative B2

FIGURE

D

N

0 500 1,000 Feet

Legend

Man-modified

- Man-Modified Without Trees
- Roads
- Ponds, Pools and Mangrove Lagoons
- Seasonally Flooded Mangrove Forest and Woodland
- Seasonally Flooded Mangrove Forest (low density)

Upland

- Palm Hammock

Backround Source: ESRI





Habitats: Alternative B2

FIGURE

E

N

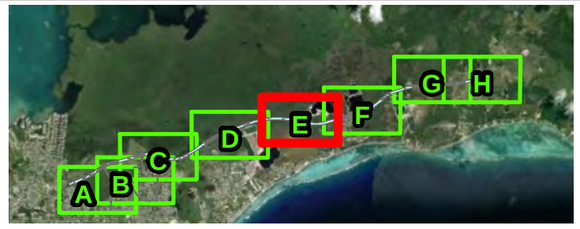
0 500 1,000 Feet

Legend

Man-modified

- Man-Modified Without Trees
- Man-Modified With Trees
- Mining
- Residential
- Roads
- Ponds, Pools and Mangrove Lagoons
- Seasonally Flooded Mangrove Forest and Woodland
- Seasonally Flooded Mangrove Forest (low density)





Backround Source: ESRI

Habitats: Alternative B2

FIGURE

F

N

0 500 1,000 Feet

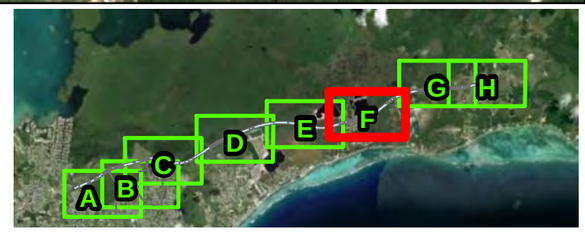
Legend

Man-modified

- Man-Modified Without Trees
- Man-Modified With Trees
- Mining
- Residential
- Roads
- Ponds, Pools and Mangrove Lagoons
- Seasonally Flooded Mangrove Forest (low density)

Backround Source: ESRI





Habitats: Alternative B2

FIGURE **G**

N

0 500 1,000 Feet

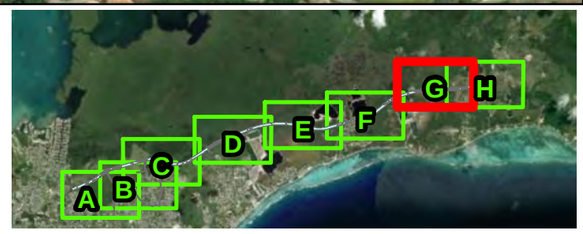
Legend

Man-modified

- Man-Modified Without Trees
- Man-Modified With Trees
- Commercial
- Residential
- Roads
- Ponds, Pools and Mangrove Lagoons
- Seasonally Flooded Mangrove Forest and Woodland
- Seasonally Flooded Mangrove Forest (low density)

Backround Source: ESRI





Habitats: Alternative B2

FIGURE **H**

N

0 500 1,000 Feet

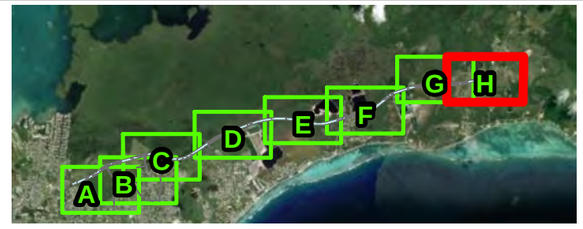
Legend

Man-modified

- Man-Modified Without Trees
- Man-Modified With Trees
- Commercial
- Institutional
- Residential
- Roads
- Seasonally Flooded Mangrove Forest and Woodland

Backround Source: ESRI





Habitats: Alternative B3

FIGURE **A**

N

0 500 1,000 Feet

Legend

Man-modified

- Man-Modified Without Trees
- Man-Modified With Trees
- Commercial
- Residential
- Roads
- Man-Made Pond

Upland

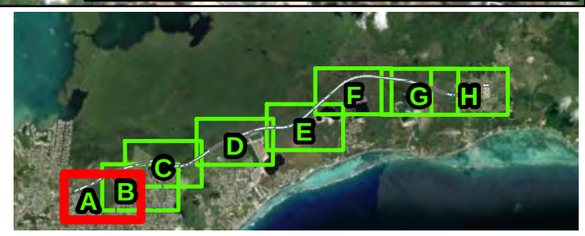
- Invasive Species - Casuarina

Wetland

- Ponds, Pools and Mangrove Lagoons
- Seasonally Flooded Mangrove Forest and Woodland
- Seasonally Flooded/Saturated Semi-Deciduous Forest

Backround Source: ESRI





Habitats: Alternative B3

FIGURE

B

N

0 500 1,000 Feet

Legend

Man-modified

- Man-Modified Without Trees
- Man-Modified With Trees
- Commercial
- Disturbed Land
- Pasture
- Residential
- Roads
- Man-Made Pond

Upland

- Invasive Species - Casuarina
- Palm Hammock

Wetland

- Ponds, Pools and Mangrove Lagoons
- Seasonally Flooded Mangrove Forest and Woodland
- Seasonally Flooded/Saturated Semi-Deciduous Forest

Backround Source: ESRI





Habitats: Alternative B3

FIGURE **C**

N

0 500 1,000 Feet

Legend

Man-modified

- Man-Modified Without Trees
- Man-Modified With Trees
- Disturbed Land
- Pasture
- Residential
- Roads

Upland

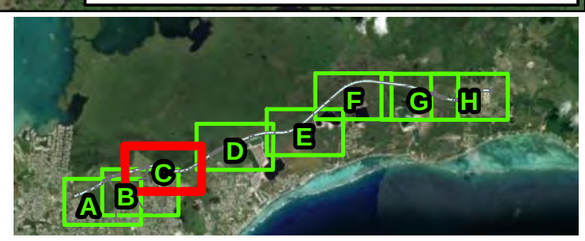
- Invasive Species - Casuarina

Wetland

- Ponds, Pools and Mangrove Lagoons
- Seasonally Flooded Mangrove Forest and Woodland

Backround Source: ESRI





Habitats: Alternative B3

FIGURE **D**

N

0 500 1,000 Feet

Legend

Man-modified

- Man-Modified Without Trees
- Roads

Upland

- Palm Hammock

Wetland

- Ponds, Pools and Mangrove Lagoons
- Seasonally Flooded Mangrove Forest and Woodland
- Seasonally Flooded Mangrove Forest (low density)





Backround Source: ESRI

Habitats: Alternative B3

FIGURE

E

N

0 500 1,000 Feet

Legend

Man-modified

- Man-Modified Without Trees
- Man-Modified With Trees

Wetland

- Ponds, Pools and Mangrove Lagoons
- Seasonally Flooded Mangrove Forest and Woodland
- Seasonally Flooded Mangrove Forest (low density)





Backround Source: ESRI

Habitats: Alternative B3

FIGURE

F

N

0 500 1,000 Feet

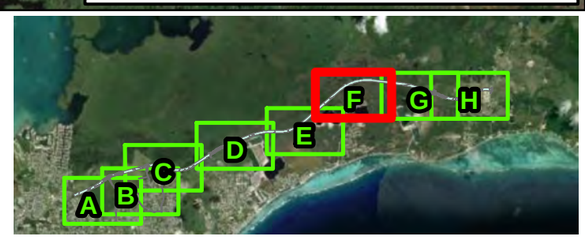
Legend

Wetland

- Seasonally Flooded Mangrove Forest and Woodland
- Seasonally Flooded Mangrove Forest (low density)

Backround Source: ESRI





Habitats: Alternative B3

FIGURE

G

N

0 500 1,000 Feet

Legend

Man-modified

- Man-Modified Without Trees
- Man-Modified With Trees

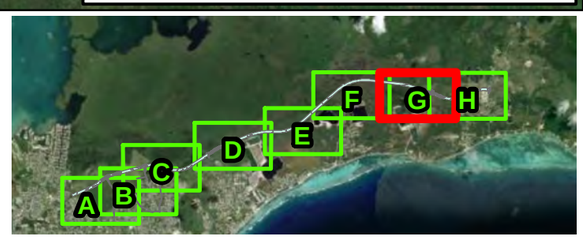
Upland

- Dry Forest and Woodland
- Dry Shrubland

Wetland

- Seasonally Flooded Mangrove Forest and Woodland
- Seasonally Flooded Mangrove Forest (low density)





Backround Source: ESRI

Habitats: Alternative B3

FIGURE

H

N

0 500 1,000 Feet

Legend

Man-modified

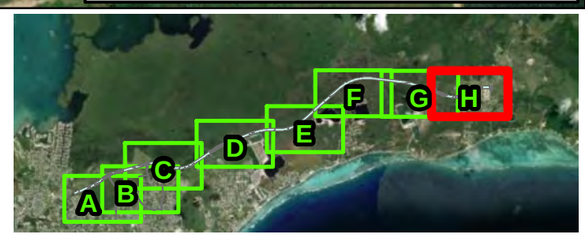
- Man-Modified Without Trees
- Man-Modified With Trees
- Commercial
- Institutional
- Residential
- Roads

Wetland

- Seasonally Flooded Mangrove Forest and Woodland

Backround Source: ESRI





Attachment C

Material Quantities

Will T Connector Quantity Summary

	Build Year	COMPACTED ASPHALT, 3.5" DEPTH	CRUSHER RUN, 6" DEPTH	CAYMAN ROCK, 6" DEPTH	COMPACTED ASPHALT, 2" DEPTH	ASPHALT TACK COAT	MILLING, 2" DEPTH	CONCRETE PAVEMENT, 6" DEPTH	CONCRETE KERB & GUTTER, 6" HEIGHT	PAVEMENT MARKINGS, WHITE	GENERAL EXCAVATION	EMBANKMENT MATERIAL (SHOT ROCK)
		SQ YD	SQ YD	SQ YD	SQ YD	SQ YD	SQ YD	SQ YD	LF	LF	CU YD	CU YD
Total/Life	New Construction	117,734	117,734	133,286				15,552	61,910	93,372	86,006	70,838
	Rehabilitation/Resurfacing				168,192	336,384	168,192			140,058		
	Item Grand Total	**117,734**	**117,734**	**133,286**	**168,192**	**336,384**	**168,192**	**15,552**	**61,910**	**233,430**	**86,006**	**70,838**

Bulk Material Quantities - See the seperate Engineering Assessment of Alternatives document for further methdology

Alternative B1 Quantity Summary

	Build Year	COMPACTED ASPHALT, 2" DEPTH	COMPACTED ASPHALT, 3.5" DEPTH	COMPACTED ASPHALT, 6" DEPTH	CRUSHER RUN, 6" DEPTH	CAYMAN ROCK, 6" DEPTH	MILLING, 2" DEPTH	ASPHALT TACK COAT	CONCRETE PAVEMENT, 6" DEPTH	CONCRETE KERB, 6" HEIGHT	CONCRETE KERB & GUTTER, 6" HEIGHT	CONCRETE MOUNTABLE KERB	CONCRETE MEDIAN BARRIER	PAVEMENT MARKINGS, YELLOW	PAVEMENT MARKINGS, WHITE	LIGHT POLES	UNDERCUT EXCAVATION	PEAT EXCAVATION	AGGREGATE BORROW MATERIAL (18" ROCK)	EMBANKMENT MATERIAL (SHOT ROCK)	CORRIDOR EXCAVATION
		SQ YD	SQ YD	SQ YD	SQ YD	SQ YD	SQ YD	SQ YD	SQ YD	LF	LF	LF	LF	LF	LF	EACH	CU YD	CU YD	CU YD	CU YD	CU YD
Total/Life	New Construction		508,431	73,255	508,431	622,912			50,751	11,668	45,811	8,563	44,056	128,916	358,403	347	63,501	550,994	614,495	2,825,727	7,730
	Rehabilitation/Resurfacing	1,564,311	250,431		250,431	252,120	1,564,311	3,128,622	1,356	9,783	10,520	2,303	35,291	370,796	806,286						
	Item Grand Total	**1,564,311**	**758,862**	**73,255**	**758,862**	**875,032**	**1,564,311**	**3,128,622**	**52,107**	**21,451**	**56,331**	**10,866**	**79,347**	**499,712**	**1,164,689**	**347**	**63,501**	**550,994**	**614,495**	**2,825,727**	**7,730**

Bulk Material Quantities - See the seperate Engineering Assessment of Alternatives document for further methdology

Alternative B2 Quantity Summary

	Build Year	COMPACTED ASPHALT, 2" DEPTH	COMPACTED ASPHALT, 3.5" DEPTH	COMPACTED ASPHALT, 6" DEPTH	CRUSHER RUN, 6" DEPTH	CAYMAN ROCK, 6" DEPTH	MILLING, 2" DEPTH	ASPHALT TACK COAT	CONCRETE PAVEMENT, 6" DEPTH	CONCRETE KERB, 6" HEIGHT	CONCRETE KERB & GUTTER, 6" HEIGHT	CONCRETE MOUNTABLE KERB	CONCRETE MEDIAN BARRIER	PAVEMENT MARKINGS, YELLOW	PAVEMENT MARKINGS, WHITE	LIGHT POLES	UNDERCUT EXCAVATION	PEAT EXCAVATION	AGGREGATE BORROW MATERIAL (18" ROCK)	EMBANKMENT MATERIAL (SHOT ROCK)	CORRIDOR EXCAVATION
		SQ YD	SQ YD	SQ YD	SQ YD	SQ YD	SQ YD	SQ YD	SQ YD	LF	LF	LF	LF	LF	LF	EACH	CU YD	CU YD	CU YD	CU YD	CU YD
Total/Life	New Construction		446,729	57,358	446,729	549,505			45,418	8,331	10,656	7,294	67,320	122,328	243,810	328	155,626	223,811	379,437	2,414,033	6,569
	Rehabilitation/Resurfacing	1,126,338	203,661		203,661	205,214	1,126,338	2,252,676	1,227	8,331	8,771	7,294	33,660	352,700	675,536						
	Item Grand Total	**1,126,338**	**650,390**	**57,358**	**650,390**	**754,719**	**1,126,338**	**2,252,676**	**46,645**	**16,662**	**19,427**	**14,588**	**100,980**	**475,028**	**919,346**	**328**	**155,626**	**223,811**	**379,437**	**2,414,033**	**6,569**

Bulk Material Quantities - See the seperate Engineering Assessment of Alternatives document for further methdology

Alternative B3 Quantity Summary

	Build Year	COMPACTED ASPHALT, 2" DEPTH	COMPACTED ASPHALT, 3.5" DEPTH	COMPACTED ASPHALT, 6" DEPTH	CRUSHER RUN, 6" DEPTH	CAYMAN ROCK, 6" DEPTH	MILLING, 2" DEPTH	ASPHALT TACK COAT	CONCRETE PAVEMENT, 6" DEPTH	CONCRETE KERB, 6" HEIGHT	CONCRETE KERB & GUTTER, 6" HEIGHT	CONCRETE MOUNTABLE KERB	CONCRETE MEDIAN BARRIER	PAVEMENT MARKINGS, YELLOW	PAVEMENT MARKINGS, WHITE	LIGHT POLES	UNDERCUT EXCAVATION	PEAT EXCAVATION	AGGREGATE BORROW MATERIAL (18" ROCK)	EMBANKMENT MATERIAL (SHOT ROCK)	CORRIDOR EXCAVATION
		SQ YD	SQ YD	SQ YD	SQ YD	SQ YD	SQ YD	SQ YD	SQ YD	LF	LF	LF	LF	LF	LF	EACH	CU YD	CU YD	CU YD	CU YD	CU YD
Total/Life	New Construction		460,408	59,395	460,408	552,986			46,905	10,824	8,956	7,772	50,055	125,259	250,726	336	54,078	454,153	508,231	2,390,208	6,811
	Rehabilitation/Resurfacing	1,359,579	208,181		208,181	208,181	1,359,579	2,719,158	1,116	8,939	8,956	1,909	38,210	361,044	691,704						
	Item Grand Total	**1,359,579**	**668,589**	**59,395**	**668,589**	**761,167**	**1,359,579**	**2,719,158**	**48,021**	**19,763**	**17,912**	**9,681**	**88,265**	**486,303**	**942,430**	**336**	**54,078**	**454,153**	**508,231**	**2,390,208**	**6,811**

Bulk Material Quantities - See the seperate Engineering Assessment of Alternatives document for further methdology

Appendix E, Attachment J – Cost-Benefit Analysis – Assessment of Alternatives

Environmental Statement
East-West Arterial Extension:
Section 2 (Woodland Drive – Lookout Road)
Section 3 (Lookout Road – Frank Sound Road)

FINAL Cost-Benefit Analysis Assessment of Alternatives: Grand Cayman East-West Arterial Extension

Whitman, Requardt & Associates, LLP
Grand Cayman National Roads Authority

DECEMBER 2024



EBP

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Attachments

Attachment A – Solar Cost-Benefit Analysis: Grand Cayman East-West Arterial Extension

Attachment B – CBA Evaluation Sheets: Grand Cayman East-West Arterial Extension

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List of Terms

AMCB	Analysis of Monetized Costs & Benefits
AMI	acute myocardial infarction
CAGR	compound annual growth rate
CBA	Cost-Benefit Analysis
EIA	Environmental Impact Assessment
EBP	EBP United States
EWA	East-West Arterial
GBP	British Pounds
GHG	greenhouse gas
IRR	Internal Rate of Return
kWh	kilowatt hour
MOVES	Motor Vehicle Emission Simulator
MW	megawatt
MWh	megawatt hour
O&M	operations and maintenance
ROW	Right of Way
tCO_2e	tonnes of carbon dioxide equivalent
TREDIS	Transportation Economic Development Impact System
UK	United Kingdom
US	United States
USD	United States Dollars
USDOT	United States Department of Transportation
VMT	vehicle miles travelled
WebTAG	UK Transport Appraisal Guidance

1. Introduction

The East-West Arterial (EWA) Extension Environmental Impact Assessment (EIA) is proposed to evaluate an alternative east-west travel route on Grand Cayman. EBP performed a Cost-Benefit Analysis (CBA) by monetizing the anticipated costs and quantitative benefits of construction of the EWA Extension Alternatives B1, B2, and B3 compared to a No-Build scenario (Figure 1).

This report focuses on describing the methodology used to quantify and monetize benefits, discount future cost and benefits values to constant 2023 United States dollars (USD) and compare the Net Present Value and Cost-Benefit ratio for the three Build alternatives. Note that not all benefits are monetized as part of the Shortlist Evaluation CBA. Additional qualitative and quantitative evaluation of benefits can be found within the Shortlist Alternatives Evaluation Document.

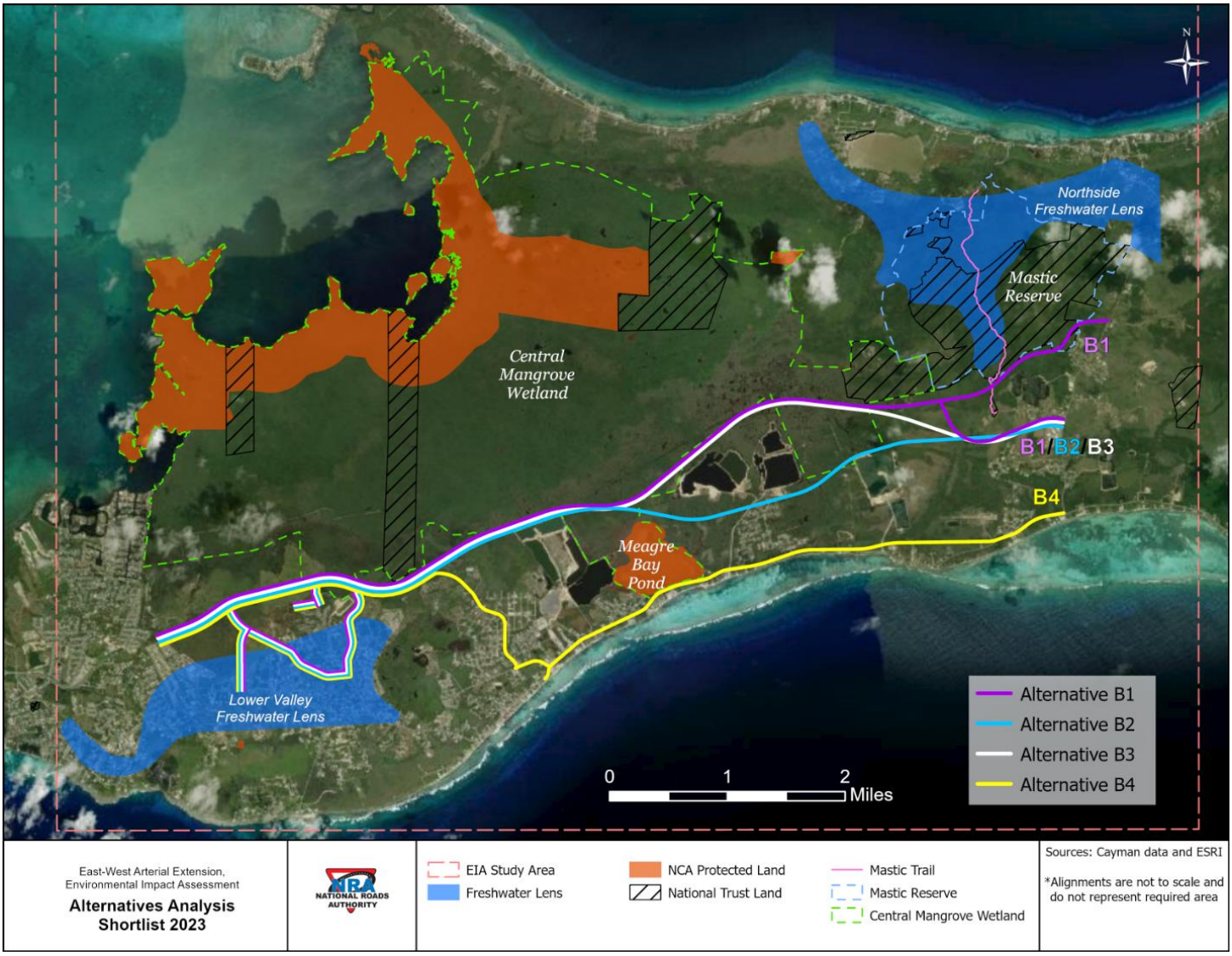

Figure 1: Shortlist of Build Alternatives

2. Methodology

CBA is a process that compares a stream of future costs with a stream of future benefits, expressed in money terms. This CBA uses methodology and parameter values recommended in the UK Transport Appraisal Guidance (WebTAG), dated November 2023, and in the USDOT Benefit-Cost Analysis Guidance for Discretionary Grant Programs, dated December 2023. The analysis in this report involves three steps: (1) itemize relevant costs and benefits in constant 2023 dollars, (2) apply a discount rate that represents the time value of money, ensuring an equitable comparison among expected benefits and costs that are further out in the future, and (3) sum and compare the total discounted benefits and costs occurring over the project life cycle to identify their ratio and difference. This discounting process is important because costs are largely up front in early years, and most benefits occur further out in time. For this report, we show costs and benefit streams in both undiscounted and discounted terms, though only the latter can be used for cost-benefit comparison. The analysis period is 52 years, beginning in 2024 with Right of Way acquisition and ending in 2074 with the final year of roadway construction spending.

2.1 Discount Rate

EBP presents results using UK Transport Appraisal Guidance (WebTAG) standard discount rates of 3.5% for years 1-30 and 3% for years 31-51 (WebTAG Data Book Unit A1.1.1).[1] For health-related noise benefits, results are presented with WebTAG standard discount rate of 1.5% for years 1-30 and 1.29% for years 31-51. The usage of these discount rates was agreed upon by the NRA and EAB.

EBP also conducted an additional sensitivity analysis with 2% and 5% discount rates included in the supplementary materials to this report (Attachment B) and Table 14.

2.2 Overview of Costs

Road Construction and Maintenance, Right of Way Costs

The stream of future costs is expressed in constant 2023 dollars. Alternatives B1, B2 and B3 include the new and rehab construction costs of the Will T Connector. Construction is anticipated to occur in phases, with improvements planned in 2026, 2036, 2046, and 2074. Rehabilitation spending occurs in five years: 2026, 2036, 2046, 2060, and 2074. There are no new construction costs for the No-Build scenario.

All costs totals have subtracted the No-Build scenario anticipated costs for comparison. Original construction costs for the No-Build and Build alternatives can be found in the separate Engineering Assessment of Alternatives report.

[1] https://www.gov.uk/government/publications/tag-data-book

Table 1. Road Construction and Maintenance, Right of Way Costs

Road Construction, Right of Way Costs (US 2023 $M)							
Alternative	Year	New Construction Cost Subtotal	Rehab Construction Cost Subtotal	Total Construction Cost w/ 20% Contingency	ROW Cost	Total Cost Undiscounted	Total Cost Discounted
B1 minus No-Build	2024	-	-	-	22.543	22.543	
	2026	236.462	-11.284	270.213	-	270.213	
	2036	150.965	6.501	188.960	-	188.960	
	2046	131.962	10.955	171.501	-	171.501	
	2060	-	19.241	23.089	-	23.089	
	2074	100.401	46.452	176.224	-	176.224	
	Total	**619.790**	**71.866**	**829.987**	**22.543**	**852.530**	**510.819**
B2 minus No-Build	2024	-	-	-	21.510	21.510	
	2026	211.925	-11.284	240.769	-	240.769	
	2036	142.552	3.879	175.717	-	175.717	
	2046	123.018	7.910	157.113	-	157.113	
	2060	-	15.376	18.451	-	18.451	
	2074	93.644	28.335	146.375	-	146.375	
	Total	**571.139**	**44.214**	**738.424**	**21.510**	**759.934**	**460.110**
B3 minus No-Build	2024	-	-	-	20.159	20.159	
	2026	212.008	-11.284	240.868	-	240.868	
	2036	139.599	4.135	172.481	-	172.481	
	2046	123.855	8.372	158,673	-	158.673	
	2060	-	15.945	19.134	-	19.134	
	2074	85.041	40.834	151.050	-	151.050	
	Total	**560.503**	**58.002**	**742.206**	**20.159**	**762.365**	**458.797**

Solar Canopy Costs

The proposed solar canopy is an elevated structure with solar photovoltaic panels, designed to provide shade and generate electricity along a 6-mile (9.7-km) section of the proposed micro-mobility path and sidewalk. All costs are expressed in constant 2023 dollars. Solar canopy costs are assumed equal for Build alternatives B1, B2 and B3.

This solar canopy facility is estimated to start operation in 2046, so our analysis assumes capital costs will be incurred in 2045, with operations and maintenance (O&M) costs incurred over a subsequent 30-year equipment life. The anticipated costs are based on the information provided by the EWA EIA project team (see separate Engineering – Assessment of Alternatives report) which shows current costs for implementing the solar canopy, with further adjustment by EBP to reflect expected future changes (reductions) in solar equipment costs by 2045. The adjustment factors applied were developed by the US Department of Energy, National Renewable Energy Lab. Further documentation can be found in Attachment A.

Table 2. Solar Canopy Costs (US 2023 $M)

	Sum 2045-2074	Discounted Sum
Solar PV System		
Capital Cost	58.441	
O&M Cost	7.918	
Total Cost	**66.359**	**30.001**
Integrated Battery Backup		
Capital Cost	6.735	
O&M Cost	8.831	
Total Cost	15.566	6.042
Total Solar with Backup	**81.925**	**36.043**

2.3 Overview of Benefits

Solar Canopy

The proposed solar canopy is estimated to be built in a later phase of the road project, with a build year of 2045 and opening year of 2046. Costs and benefits are monetized through 2075 to account for an anticipated 30-year useful life of the canopy. The main savings benefits will be (1) electricity cost savings to users, and (2) carbon emissions reductions compared to the "No-Build" scenario. This section summarizes those benefits. Deeper analysis and documentation of detailed assumptions can be found in Attachment A. Solar canopy benefits are assumed equal for Alternative B1, Alternative B2, and Alternative B3.

The proposed solar canopy would have an electricity generating capacity rated at 22.234 MW (DC), with a battery backup system. It is projected to produce 38,174 MWh per year starting in 2045 (with a slight degradation over time, falling to 31,060 MWh by 2075). The electricity cost savings is based on a levelized solar cost of $0.096/kWh (representing distribution of capital and operating costs over a 30-year lifetime), compared to an estimated electricity cost of USD $0.236/kWh with diesel fuel. The greenhouse gas (GHG) reduction is based on diesel generator emissions of 0.566 tons/MWh, compared to zero for solar generation. The value of GHG savings is based on United Kingdom (UK) Appraisal Guidance which assumes a carbon reduction valuation increasing from $380/metric tonne in 2036 to in $513/metric tonne in 2045. All values are discounted to constant 2023 dollars, with benefits summed over the 30-year lifetime of the facility. Further documentation can be found in Attachment A.

Table 3. Solar Canopy Benefits (US 2023 $M)

Impact Measure	Sum 2046-2074	Annual Average	Discounted Sum
Solar Output (MWh, AC)	1,072,267	35.742	
Reduction in CO_2 (metric tons)	566,644	18.279*	
$ Electric Cost Savings (USD $ millions)	253.055	8.435	83.627
$ Value of CO_2 Reduction (USD $ millions)	366.056	11.808*	114.899
Total $ Benefit (USD $ millions)	**619.111**	**19.971**	**198.526**

**CO_2 annual average savings include the carbon disbenefit in year 2045 of manufacturing solar canopy and battery components and are tabulated over 30 years. Annual average carbon savings after installation are slightly higher than the values in Table 2.*

Traffic

Benefits from transportation efficiency accrue from 2026-2074. Benefits are derived primarily from travel time savings enabled by the improvements planned in 2026, 2036, 2046, and 2074. Transportation models evaluated the No-Build and full build conditions for each of the Build alternatives (B1, B2, and B3) in each year. The models used assessed the impacts of the proposed alternatives only in the years that each phase is set to be implemented. The analysis assumed that the percent improvement in conditions in each phase's opening year would occur in all future years until a new phase opens. Travel time includes a 2.5 percent reliability buffer to account for people's trip planning for on-time arrival and it also includes freight movement efficiencies.

The EWA EIA project team provided travel performance during the AM peak hour, the PM peak hour, and under free flow conditions. EBP measured the share of daily traffic accounted for in AM and PM peak hours and assumed the remainder of daily traffic experienced free flow conditions. This provides a conservative estimate of travel performance since congestion would also occur outside the AM and PM peak travel periods. Daily travel performance is annualized with a factor of 365 assuming that tourism travel and personal trips would continue to exist on the weekends, even if there is less school and commute travel. Traffic data was developed in coordination with the EWA EIA project team as part of the traffic evaluation, contributing to multiple components within the process including the CBA. Please see the separate Traffic Evaluation report for additional information regarding the traffic volumes and analysis.

The increased accessibility provided by the improved facility in Build alternatives B1, B2, and B3 is estimated to result in additional vehicular travel miles along with operating cost disbenefits (in terms of fuel consumption and vehicle wear and tear) from this additional vehicle use. The estimated disbenefits also included additional particulate matter, nitrogen dioxide, sulfur oxides, and volatile organic compounds resulting from an increase in travel. These disbenefits may be overstated, or the project could provide benefits, because improved traffic operations may reduce emissions just as they reduce fuel consumption and carbon emissions. Without access to more detailed modelling for these public health-affecting pollutants, they are included conservatively based on baseline emissions rates developed with the United States (US) Environmental Protection

Agency's Motor Vehicle Emission Simulator (MOVES) model for average travel conditions and the change in total vehicle miles travelled (VMT).

As documented in the Traffic – Assessment of Alternatives report, the Royal Cayman Islands Police Service provided a compilation of motor vehicle accident statistics in Grand Cayman by district from 2012 to 2022, as well as a list of road fatalities from 2018 to 2020. However, this data was insufficient to conduct a detailed quantitative safety analysis for this project. Therefore, safety benefits were not quantified due to the limited location-specific crash data.

The model accounts for the following modes: private car, taxi, transit bus, school bus, truck transportation, walking, and biking. Short-term visitors are assigned to the transportation network separately as they have different travel behaviour than local private car users.

Based on United States Department of Transportation (USDOT) guidance, the below values were utilized for estimated trip purpose. Note that visitors are also assumed to include business travellers at an 11.8% rate and a higher value of time was also applied to these business travellers.

- Non-Business: Commuting – 88.2% of AM/PM peak, 0% of remaining 22 hours - this category represents drivers in their personal vehicles commuting from their home to place of work
- Non-Business: Other – 0% of AM/PM peak, 88.2% of remaining 22 hours - this category is anything besides business or commuting, i.e., groceries, education, tourism, social activities, etc.
- Business – 11.8% of all hours - this category includes drivers in an official work vehicle or traveling while on the clock (dump truck, Water Authority truck, Mosquito Authority truck, plumbers, carpenters, business meetings, etc.)

The EWA EIA team prepared an analysis of estimated traffic carbon emissions for 2026 and 2074 using the MOVES model, and EBP interpolated between these years using a compound annual growth rate (CAGR). Data for 2036 and 2046 years was calculated and given the time frame, the analysis did not impose the phase-based step function used for other benefits (as that would apply the 2026 percentage change for all years between 2026 and 2073 in this case). The carbon emissions change from traffic is documented further in the Carbon Monetization section.

For non-carbon emissions, EBP referenced USDOT Benefit Cost Analysis Guidance to monetize damages from emissions.[2]

[2] Table A-6: Damage Costs for Emissions per Metric Ton: https://www.transportation.gov/sites/dot.gov/files/2023-12/Benefit%20Cost%20Analysis%20Guidance%202024%20Update.pdf

Additional monetization factors for the travel benefits analysis are presented in Table 4. Discounted travel benefits are summarized in Table 5.

Table 4. Travel Benefits Monetization Factors

Measure	Adjustment Factor
Vehicle Operating Cost per VMT – Passenger Car	US $.166
Vehicle Operating Cost per VMT – Light-Duty EV	US $0.149
Vehicle Operating Cost per VMT – Taxi	US $0.182
Vehicle Operating Cost per VMT – Passenger Bus	US $1.548
Vehicle Operating Cost per VMT – All Trucks	US $0.600
Grand Cayman Value of Time – Personal	US $14.53
Grand Cayman Value of Time – Business	US $29.06
Grand Cayman Fuel Price - Regular	US $5.63/gallon
Grand Cayman Fuel Price – Diesel	US $5.58/gallon
Fuel per mile – Passenger Car	0.0435 gallons
Fuel per mile – Light-Duty Electric Vehicle	0.3527 kWh
Fuel per mile – Bus (diesel)	0.2433 gallons
Fuel per mile – All Trucks	0.1504 gallons

Table 5. WebTAG Transportation Economic Efficiency Table (US 2023 $M)

Transportation Economic Efficiency Table			
Benefit	**B1**	**B2**	**B3**
Non-business: Commuting			
User Travel Time	129.72	133.99	128.31
Vehicle Operating Cost	-6.68	-7.52	-6.36
Net Non Business Benefits: Commuting	**123.04**	**126.47**	**121.95**
Non-business: Other			
User Travel Time	293.74	303.39	290.54
Vehicle Operating Cost	-47.52	-53.46	-45.22
Net Non-Business Benefits: Other	**246.22**	**249.93**	**245.32**
Business			
User Travel Time	139.62	145.56	140.40
Vehicle Operating Cost	-9.53	-11.44	-9.26
Net Business Impact	**130.09**	**134.12**	**131.14**
Total			
Present Value of Transport Economic Efficiency Benefits*	**499.34**	**510.51**	**498.41**

**Present Value of Transport Economic Efficiency Benefits in Table 5 represent economic benefits of changes to transportation. The sum of these values and non-carbon emissions values in Tables 14-16 is represented in the supplemental spreadsheet (Attachment B) as Transportation Economic Development Impact System (TREDIS) Transportation Benefits. Subtotals for non-business and business benefits were tabulated outside of the supplemental spreadsheet.*

Noise

Noise benefits occur from 2026-2074 and their valuations based on the WebTAG approach to incorporating noise pollution into economic analysis.[3][4] The WebTAG Unit A3 Noise Assessment Workbook automatically calculates the monetary value of changes in noise per number of households affected under each Build alternative (B1, B2, and B3) compared to the No-Build

[3] https://www.gov.uk/guidance/noise-pollution-economic-analysis#:~:text=The%20approach%20to%20use%20for,large%20effect%20on%20the%20decision.

[4] https://assets.publishing.service.gov.uk/media/65ae62ff75154600107b4acb/tag-unit-a3-environmental-impact-appraisal.pdf

scenario[5]. WebTAG assigns a monetary value to each shift from one decibel range to another based on research of health impacts of these changes. These standard appraisal values are found in WebTAG Data Book Table A3.1 and are also embedded in the WebTAG Noise Workbook.

The noise workbook calculates values for five types of noise impacts: sleep disturbance, amenity loss, acute myocardial infarction (AMI or heart attack) risk, stroke risk, and dementia risk. Noise decibel values were provided by the EWA EIA project team for the Build alternatives (B1, B2, and B3) and No-Build scenario. Since the noise analysis prepared for the EWA shortlist evaluation did not include nighttime noise, EBP excluded sleep disturbance disbenefits from the analysis.

To value the impact of environmental noise resulting from each alternative compared to the No-Build scenario, 1,287 households in the study area were evaluated. Future noise levels for these households were projected for the No-Build scenario and for each of the Build Alternatives (B1, B2, and B3) in 2026 and 2074. EBP tabulated the number of households moving from one decibel range noise level under the No-Build scenario to a higher or lower range under each alternative, as specified in the WebTAG noise Assessment Workbook.

WebTAG Data Book Table A3.1 contains the annual value of the impact of a 1 decibel change in noise level on a household, assuming an average household size of 2.3 people. EBP used an average household size of 2.7 people in the analysis to adjust to the estimated household size within Bodden Town District.

The WebTAG Noise Workbook automatically calculates the total monetary value of the shift from No-Build to Build alternatives B1, B2, and B3 in the opening year 2026 and the horizon year 2074. These values are listed in constant 2023 U.S. Dollars in Table 6.

Table 6. Total Noise Benefits (US 2023 $M)

	Sum 2026-2074	Annual Average	Discounted Sum
B1 minus No-Build	-16.735	-.342	-11.934
B2 minus No-Build	-15.923	-.324	-11.323
B3 minus No-Build	-17.143	-.349	-12.141

EBP used the CAGR to interpolate noise benefits between 2026 and 2074. Multipliers were then applied to convert British Pounds (GBP) to USD, adjust to 2023 prices, and to reflect the Grand Cayman wage rate. These results were added to the CBA matrix and discounted benefits to constant 2023 dollars.

[5] https://www.gov.uk/government/publications/tag-environmental-impacts-worksheets

Carbon Monetization

To value the benefits of carbon sequestration, traffic-related GHG emissions, and solar-related GHG emissions, EBP used WebTAG's recommended central factor carbon cost (WebTAG Data Book A3.4).[6][7] The WebTAG values were converted from GBP to USD and adjusted to constant 2023 dollars. Table 7 summarizes the values used to monetize carbon sequestration and emissions in the analysis.

Table 7. Carbon Monetization Values

Year	WebTAG Carbon Values, £ per tCO_2e (2010£)	Carbon Values, $ per tCO_2e (US 2023$)
2026	213.59	379.76
2030	226.90	403.43
2040	263.92	469.25
2050	306.29	544.58
2060	355.46	632.01
2070	412.53	733.48
2074	437.84	778.48

Greenhouse Gas Emissions

The EWA EIA project team provided estimated traffic-related GHG emissions data as metric tonnes of carbon emitted in opening year 2026 and horizon year 2074. Details regarding the methodology can be found in the separate Greenhouse Gases and Traffic Evaluation Assessment of Alternatives reports. These values are summarized in Table 8. EBP subtracted No-Build carbon emissions from emissions under each build alternative, then interpolated annual emissions using CAGR. These values are summarized below in Table 8.

Table 8. Traffic- Related Carbon Emissions

Year	2026 tCO2e	2074 tCO2e	CAGR	Sum 2026-2074 tCO2e
No Build	64,134.45	124,738.99	1.40%	4.47M
B1	68,030.90	115,680.89	1.11%	4.4M
B2	70,044.02	115,237.72	1.04%	4.45M
B3	68,038.24	114,976.32	1.10%	4.39M

Carbon emissions are monetized by multiplying metric tonnes in each year by the corresponding central factor carbon price, as referenced in Table 7. Benefits (or savings) are recorded as positive

[6] https://assets.publishing.service.gov.uk/media/65ae62ff75154600107b4acb/tag-unit-a3-environmental-impact-appraisal.pdf
[7] https://www.gov.uk/government/publications/tag-data-book

values. Disbenefits, or increased monetary value of emissions compared to the No-Build alternative, are recorded as negative values. The discounted value of traffic-related carbon emissions in Table 9 is negative in 2026 and positive in 2074 for all three Build alternatives. The discounted sum of emissions values over the project's lifespan is positive for B1 and B3, reflecting overall savings. The discounted sum is negative for B2, reflecting an overall loss.

Alternative B2 is the alternative in which people are likely to most increase the miles they travel to take advantage of faster speeds to access better opportunities. Therefore, carbon emissions in the opening year are highest under Alternative B2. The value of travel benefits under Alternative B2 is also the highest among the alternatives. When total carbon emissions are monetized and summed over the time horizon, this results in a negative value for Alternative B2 (minus) Future No-Build and positive values for Alternative B1 (minus) Future No-Build and Alternative B3 (minus) Future No-Build.

Table 9. Value of Traffic-Related Carbon Emissions

	2026 Discounted Value (US 2023 $M)	2074 Discounted Value (US 2023 $M)	Discounted Sum (US 2023 $M)
B1 minus No-Build	-1.335	1.562	7.993
B2 minus No-Build	-2.024	1.638	-5.345
B3 minus No-Build	-1.337	1.683	10.988

Table 10 displays one-time carbon emissions related to construction of the three Build alternatives (B1, B2, and B3). The sums of benefits for all three alternatives are negative, reflecting a monetary loss due to carbon emissions during construction. For the evaluation, all construction and materials were assumed to occur in the initial construction phase (2024-2025) to provide a conservative estimate on emissions.

Table 10. One-Time Carbon Emissions from Construction (2024-2025)

Alternative	tCO2e	Sum 2024-2025 (US $M)	Annual Average (US $M)	Discounted Sum (US 2023 $M)
B1 minus No-Build	119,899	-44.514	-22.257	-42.276
B2 minus No-Build	67,328	-24.996	-12.498	-23.739
B3 minus No-Build	98,576	-36.597	-18.299	-34.757

Carbon Sequestration Loss

The EWA EIA project team tabulated the annual metric ton loss of ecosystem services from 2026-2074 (carbon sequestration) that was estimated to occur under each of the Build alternatives (B1, B2 and B3) compared to the No-Build scenario. These values are summarized in Table 11. These estimated values were monetized according to the WebTAG carbon pricing schedule in Table 7, adjusted for constant 2023 dollars, and multiplied by -1 to reflect a loss (disbenefit) in the analysis. All three alternatives are negative, reflecting a monetary loss due to carbon sequestration loss. For

the evaluation, all loss of ecosystem services was assumed to occur in the initial construction phase (2024-2025) to provide a conservative estimate on emissions.

Table 11. Annual Carbon Sequestration Loss

Alternative	tCO_2e	Sum 2026-2074 (US 2023 $M)	Annual Average (US 2023 $M)	Discounted Sum (US 2023 $M)
B1	453.5	-16.554	-0.338	-7.094
B2	300.7	-10.977	-0.224	-4.704
B3	354.6	-12.944	-0.264	-5.547

Amenity Value Loss

Ecosystem services from amenity value are measured in the number of houses and correlating amenity value to mangroves based on the 2020 Cayman Islands Ecosystem Accounting. The studies conducted for the EWA EIA project team included an estimate of a one-time loss of Amenity Value to occur in 2026 using 2017 USD. These values were converted to constant 2023 USD and multiplied values by -1 to reflect a loss (disbenefit) in the CBA. All three alternatives are negative, reflecting a monetary loss due to amenity value loss. These values are reflected below in Table 12.

Table 12. Amenity Loss Value Benefits (US 2023 $M)

Alternative	2026 Sum	Discounted Sum
B1	-12.556	-11.325
B2	-9.431	-8.506
B3	-10.431	-9.408

3. Results

The following provides summaries of the CBA results for the elements described in the previous sections of this report. Table 13 provides the overall CBA results and Tables 14, 15, and 16 provide summaries of the estimated monetized costs and benefits for each of the elements included in the WebTAG analysis for each of the Build alternatives (B1, B2, and B3). Based on the results, all three of the Build alternatives are anticipated to provide greater benefit than cost over the lifespan (2026-2074).

For clarity, some categories from the original WebTAG Analysis of Monetized Costs & Benefits (AMCB) worksheet were excluded in Tables 14-16 because they were not relevant to the project or data was not available at this stage of analysis.[8] These categories include: Journey Quality, Physical Activity, Accidents, Wider Public Finances, and Broad Transport Budget. The Greenhouse Gases category was replaced with Total Carbon Benefits. The Local Air Quality category was replaced with Non-Carbon Emissions (VOCs, NO_X, SO_2, PM2.5), and is tabulated as part of broader transportation benefits.

Table 13. CBA Results Summary (US 2023 $M)

Alternative	Present Value Costs	Present Value Benefits	Net Present Value (Benefit – Cost)	Benefit / Cost Ratio*	Internal Rate of Return (IRR)
B1 minus No-Build	546.863	644.293	97.430	1.2	3.8%
B2 minus No-Build	496.154	666.285	170.131	1.3	4.4%
B3 minus No-Build	494.841	657.558	162.717	1.3	4.2%

**A BCR above 1.0 represents the anticipated benefits being greater than the anticipated costs*

As shown in Table 13 above and Tables 15-17 below, all three of the Build alternatives (B1, B2, and B3) are anticipated to result in greater benefit than cost over the lifespan (2026-2074) with the conservation estimates utilized within the Shortlist of Alternatives CBA. Additional refinements will occur as part of the Preferred Alternative CBA.

Build Alternative B1 shows the highest present value costs and the lowest present value benefits of the three Build Alternatives, resulting in the lowest benefit/cost ratio and Internal Rate of Return (IRR) of the three Build alternatives. Build alternatives B2 and B3 show similar present value costs, with Alternative B2 showing slightly higher present value benefits. This results in similar benefit/cost ratios for Alternatives B2 and B3. Alternative B2 shows a Net Present Value that is about five percent higher than Alternative B3 and slightly higher IRR.

Table 14 presents results of a sensitivity analysis using two percent and five percent discount rates in addition to the WebTAG discount schedule. While a two percent discount rate raises benefit/cost

[8] https://www.gov.uk/government/publications/webtag-appraisal-tables

ratios overall, B2 and B3 still yield similar results. A five percent discount rate raises the benefit/cost ratio for B2 to 0.9, slightly higher than B1 and B3.

Table 14. Sensitivity Analysis Results

Alternative	Metric	2% Discount Rate	WebTAG Discount Schedule	5% Discount Rate
B1 minus No-Build Transportation + Solar	NPV (US 2023 $M)	306.365	97.430	-109.435
	BCR	1.5	1.2	0.8
	IRR	1.8%	3.8%	-1.1%
B2 minus No-Build Transportation + Solar	NPV (US 2023 $M)	390.408	170.131	-48.155
	BCR	1.7	1.3	0.9
	IRR	2.4%	4.4%	-0.5%
B3 minus No-Build Transportation + Solar	NPV (US 2023 $M)	401.945	162.717	-76.411
	BCR	1.7	1.3	0.8
	IRR	2.2%	4.2%	-0.3%

Table 15. Alternative B1 WebTAG Analysis of Monetized Costs and Benefits

Alternative B1 Monetized Costs and Benefits (US 2023 $M)	
Noise	-11.935
Electric Cost Savings from Solar Canopy	83.627
Amenity Loss from Construction	-11.325
Total Carbon Benefits	73.521
Subtotal - Carbon Emissions from Construction	-42.276
Subtotal - Carbon Sequestration Impact	-7.094
Subtotal - Carbon Emissions from Traffic	7.993
Subtotal - Carbon Emissions Savings from Solar Canopy	114.899
Total Transportation Benefits*	510.405
Subtotal - Economic Efficiency: Consumer Users (Commuting)	123.04
Subtotal - Economic Efficiency: Consumer Users (Other)	246.22
Subtotal - Economic Efficiency: Business Users and Providers	130.09
Subtotal – Freight and Reliability	11.065
Present Value of Benefits (PVB)	644.293
Total Construction Cost with Contingency	489.039
Right of Way Cost	21.780
Solar Canopy Cost	36.043
Present Value of Costs (PVC)	546.863
OVERALL IMPACTS	
Net Present Value (NPV)	**97.430**
Benefit to Cost Ratio (BCR)	**1.2**

**Transportation benefit subtotals include the value of disbenefits from non-carbon emissions (VOCs, NOX, SO_2, $PM_{2.5}$), associated with travel, totalling -$1.885M*

Table 16. Alternative B2 WebTAG Analysis of Monetized Costs and Benefits

Alternative B2 Monetized Costs and Benefits (US 2023 $M)	
Noise	-11.323
Electric Cost Savings from Solar Canopy	83.627
Amenity Loss from Construction	-8.506
Total Carbon Benefits	81.110
Subtotal - Carbon Emissions from Construction	-23.739
Subtotal - Carbon Sequestration Impact	-4.704
Subtotal - Carbon Emissions from Traffic	-5.345
Subtotal - Carbon Emissions Savings from Solar Canopy	114.899
Total Transportation Benefits*	521.37
Subtotal - Economic Efficiency: Consumer Users (Commuting)	126.47
Subtotal - Economic Efficiency: Consumer Users (Other)	249.93
Subtotal - Economic Efficiency: Business Users and Providers	134.12
Subtotal – Freight and Reliability	10.867
Present Value of Benefits (PVB)	666.285
Total Construction Cost with Contingency	439.328
Right of Way Cost	20.782
Solar Canopy Cost	36.043
Present Value of Costs (PVC)	496.154
OVERALL IMPACTS	
Net Present Value (NPV)	**170.131**
Benefit to Cost Ratio (BCR)	**1.3**

**Transportation benefit subtotals include the value of disbenefits from non-carbon emissions (VOCs, NOX, SO_2, $PM_{2.5}$), associated with travel, totalling -$2.14M*

Table 17. Alternative B3 Analysis of Monetized Costs and Benefits

Alternative B3 Monetized Costs and Benefits (US 2023 $M)	
Noise	-12.141
Electric Cost Savings From Solar Canopy	83.627
Amenity Loss from Construction	-9.408
Total Carbon Benefits	85.582
Subtotal - Carbon Emissions from Construction	-34.757
Subtotal - Carbon Sequestration Impact	-5.547
Subtotal - Carbon Emissions from Traffic	10.988
Subtotal - Carbon Emissions Savings from Solar Canopy	114.899
Total Transportation Benefits	509.898
Subtotal - Economic Efficiency: Consumer Users (Commuting)	121.95
Subtotal - Economic Efficiency: Consumer Users (Other)	245.32
Subtotal - Economic Efficiency: Business Users and Providers	131.14
Subtotal – Freight and Reliability	11.488
Present Value of Benefits (PVB)	657.558
Total Construction Cost with Contingency	439.320
Right of Way Cost	19.477
Solar Canopy Cost	36.043
Present Value of Costs (PVC)	494.841
OVERALL IMPACTS	
Net Present Value (NPV)	**162.717**
Benefit to Cost Ratio (BCR)	**1.3**

**Transportation benefit subtotals include the value of disbenefits from non-carbon emissions (VOCs, NOX, SO_2, $PM_{2.5}$), associated with travel, totalling -$1.806M*

4. Conclusion

Based on the CBA results documented in the previous section, the following provides summaries of each alternative utilizing WebTAG discount rates. It should be noted that a benefit/cost ratio above 1.0 represents the anticipated benefits being greater than the anticipated costs.

- *No-Build* – The CBA evaluates each of the Build alternatives (B1, B2, and B3) in comparison to the No-Build scenario. Therefore, the No-Build scenario does not have a separate CBA.

- *Alternative B2* – Alternative B2 is anticipated to provide the highest present value of benefits (~$666,285,000 USD) and require the second highest present value of costs (~$496,154,000 USD). Overall, Alternative B2 and Alternative B3 both provide the highest benefit/cost ratio at 1.3.

- *Alternative B3* – Alternative B3 is anticipated to provide the second highest present value of benefits (~$657,558,000 USD) and require the lowest present value of costs (~$494,841,000 USD). Overall, Alternative B2 and Alternative B3 both provide the highest benefit/cost ratio at 1.3.

- *Alternative B1* – Alternative B1 is anticipated to provide the least present value of benefits (~$644,293,000 USD) and require the highest present value of costs (~$546,863,000 USD). Overall, Alternative B1 provides the lowest benefit/cost ratio at 1.2.

The results of the Shortlist of Alternatives CBA show that each shortlisted alternative is expected to have a benefit/cost ratio above 1.0, which indicates that the anticipated benefits are greater than the anticipated costs. With this positive assessment, the CBA results are also anticipated to be a conservative estimate of project benefits, yet an equivalent comparison among all alternatives. For example, peak travel scenarios were conservatively estimated to be only one-hour in the AM and one-hour in the PM, although weekday peak travel times have been noted to extend up to about three hours. Additionally, there are a number of benefits which were qualitatively assessed and discussed in the individual discipline technical reports (e.g., Traffic and Engineering Assessment of Alternatives technical reports) but not monetized as part of the Shortlist Evaluation due to available data, its level of detail, and its applicability at the time of assessment, such as safety benefits, public transportation benefits, and pedestrian/bicycle amenities. Additional refinements will occur as part of the Preferred Alternative assessment as applicable and therefore potentially change the CBA from what is portrayed in the Shortlist Evaluation.

This CBA Assessment is one in a series of Technical Reports that have been prepared for the Shortlist Evaluation. The level of benefits, costs, and the identification of the most beneficial alternative will differ based on the resource/feature evaluated in each of the Technical Reports. Therefore, the most beneficial alternative described in this evaluation summary and in each technical document does not move an alternative forward to the Preferred Evaluation nor does it constitute any special weighting or extra consideration in the Shortlist Evaluation Document. The

comprehensive analysis of all the resources/features evaluated along with the rationale for the identification of the Preferred Alternative are presented in the Shortlist Evaluation Document.

Attachment A

Solar Cost-Benefit Analysis: Grand Cayman East-West Arterial Extension

COST-BENEFIT ANALYSIS FOR CAYMAN ISLAND SOLAR CANOPY

Prepared for Whitman, Requardt & Associates, LLP

APRIL 2024



EBP

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List of Terms

AC	alternating current
CBA	Cost-Benefit Analysis
CAPEX	capital expenditure
CI$	Cayman Islands Dollar
CO_2	carbon dioxide
CUC	Caribbean Utilities Company, Ltd.
DC	direct current
EIA	Environmental Impact Assessment
EWA	East-West Arterial
IPP	independent power producer
IRP	Integrated Resource Plan
kW	kilowatt
kWh	kilowatt hour
MW	megawatt
MWh	megawatt hour
NREL	National Renewable Energy Lab
O&M	operations and maintenance
OfReg	Utility Regulation Competitions Office
PPA	power purchase agreement
PV	photovoltaic
US	United States
USD	United States Dollar
USDOE	United States Department of Energy
WebTAG	UK Transport Analysis Guidance

1. Overview

The project team conducted Cost-Benefit Analysis (CBA) to determine the economic efficiency of putting in a 6-mile (9.7-km) canopy of photovoltaic (PV) solar panels along the proposed East-West Arterial (EWA) corridor, intended to provide shade for a micromobility and sidewalk path as well as providing electricity generation. Benefits and costs were based on comparison of two scenarios: "build case" (doing the project) versus a "base case" (not doing the project). The analysis compares the benefit (electricity cost savings from availability of solar energy in place of diesel-generated electricity) against an accounting of the associated cost (capital and operating expenses) over a 30-year solar PV lifetime. It applies a discount rate for future years to derive a "net present value" of benefits. As documented below, the analysis is based on generally conservative or high-end cost assumptions to maximize validity of the findings.

2. Capital Cost (CAPEX)

The basis for determining solar canopy costs is provided within the separate Engineering – Assessment of Alternatives report. It provided estimated cost for a solar PV generation facility with 235 canopy sections. The generation capacity is rated at 22.234 MW (DC), which provides 19.35 MW (AC). Further adjustment was then made to add costs of a battery backup system and scheduled implementation in 2045, by which time capital and operating costs (expressed in constant USD) are expected to have changed. Both the engineering report's findings and the additional adjustment processes are explained here.

To derive a conservative estimate of the capital and operating costs, the Engineering – Assessment of Alternatives report utilized a US national benchmark for capital cost of the specified type and size of generation (using NREL - National Renewable Energy Lab), and then applied a further 1.5 multiplier to allow for local Cayman Island factors (including additional shipping and weather-proofing). It also recognized an additional cost for the solar canopy structure (higher level racking for the PV panels).

The total estimated solar canopy capital cost (CAPEX), if implemented today, is reported as United States Dollars (USD) $78.154 million. That includes $33.352 million for the solar canopy racking structure and $44.802 million for the photovoltaic (PV) module, DC/AC inverter, and all other costs including those for other equipment and transmission interconnection, as well as costs of design, project management, installation, overhead, and permitting. The PV system is assumed to have a lifespan of 30 years. This is a conservative assumption, as the United States Department of Energy (USDOE/Berkeley Lab) now reports an average lifespan time of 32.4 years for utility scale solar generation.

The Engineering – Assessment of Alternatives cost estimate was based on current solar canopy costs if implemented today, but the CBA is based on a scenario of implementation in 2046. The technology for solar PV systems is rapidly evolving, with efficiency rising and costs falling over time. That is why NREL's "moderate" projection of future market price for an installed utility-scale

20MW solar PV system, when expressed in (inflation-adjusted) constant dollar terms, is projected to decline 44% from 2023 to 2046.[1] This cost reduction, applicable for the system excluding racking (which is not projected to have technology savings), amounts to $19.713 million. That leads us to project a total capital cost of $58.441 million in 2046, in place of the $78.154 million applicable for a purchase and installation in 2023. All costs cited here are in constant 2023 US dollars, as that is the most recent full year of available inflation data. Actual expenses to be incurred in the future will be higher due to inflation in the intervening years.

The EWA Environmental Impact Assessment (EIA) project team was also requested to include the incremental cost of adding a battery backup system, an option that is further discussed later in this memo. NREL provides estimates of the market price for a typical utility-scale solar PV system integrated with battery backup, including Li-ion batteries, cabinets, and a bi-directional inverter, and a 4-hour battery system rated at half the max kW rating of the solar PV panels. We derived the incremental capital cost by comparing NREL's estimated cost of an integrated system with battery backup with that of a system without battery backup.[2] Given a 22.234 MW solar PV system with an 11 MW battery backup, that incremental cost today would be USD $11.600 million applicable for installation in the US. Applying the 1.5 multiplier for local Cayman Island factors, the additional cost of installation today becomes $17.400 million. As battery technology is also rapidly evolving, NREL forecasts for this incremental cost to fall 61% from 2023 to 2046, which would reduce the added Cayman Islands 2046 cost of a battery backup to $6.735 million.

3. Operating and Maintenance (O&M) Cost

Solar PV systems have negligible operating costs (e.g., there are no fuel purchases or mechanical systems), but they do have periodic maintenance upkeep requirements. Thus O&M for the proposed solar canopy includes preventative maintenance, corrective maintenance, monitoring, and insurance costs. The Engineering – Assessment of Alternatives report estimated this cost, if implemented today, to be USD $380,201/year based on a cost ratio of USD $17.10/kW (DC) or $18.97/kW (AC). That is in line with the USDOE/Berkeley Lab average for all existing solar PV projects, though it is noted that the US average operating cost for new projects has been falling and is now down to around USD $15/kW(DC). So once again, the cost estimates for Cayman Island are based on conservative assumptions.

For this CBA, we recognize that the solar canopy would not be anticipated to be implemented until 2046, by which time lower annual costs are anticipated because improved PV panels will require less maintenance. NREL's "moderate" projections for future O&M costs of a utility-scale solar PV system show a reduction in annual O&M cost to $13.64/kW (AC) by 2046, when the solar canopy would start operation. That translates to USD $263,934/year for 2046 implementation, in place of the current year $380,201/year cost estimate for the solar canopy O&M. Again, all costs cited here

[1] https://atb.nrel.gov/electricity/2021/utility-scale_pv
[2] https://atb.nrel.gov/electricity/2021/utility-scale_pv-plus-battery

are in constant 2023 US dollars for use in CBA, and actual expenses to be incurred in the future will be higher due to inflation.

The option of adding a battery backup system adds significantly to O&M cost. The reason is that batteries degrade in output over time, requiring periodic partial replacement of battery cells (i.e., 20% capacity augmentations after 10 and 20 years) to return the backup system to its rated capacity. NREL's estimated O&M cost (for US locations) to maintain a 11MW battery backup capacity starting in 2046 is $196,239/year in constant 2023 US dollars.[3] Since a large part of this O&M element (58%) is battery replacement, we subject that fraction of O&M cost to a 50% cost premium as adopted in the Engineering – Assessment of Alternatives report to allow for Cayman Islands' higher equipment acquisition costs. The result is an estimated $294,358/year O&M cost for a battery backup.

4. Calculation of "Levelized Cost" Over Time

"Levelized Cost" is a measure of the lifetime unit cost of producing electricity from solar PV, based on total CAPEX costs, annual O&M costs, and kWh of electric output over each of the 30 years, with a discount rate factor (3%) applied to future years to provide a "net present value" for the 30-year system lifetime. It calculates the solar PV unit cost of electricity, based on an annual output of 39,510 MWh in the first year (2046), degrading to 32,210 MWh by the 30th year (2075). The result is a levelized cost of USD $0.09/kWh for a solar PV canopy without battery backup, and $0.12/kWh with a battery backup. These costs appear favorable compared to the current Cayman Islands cost of electricity including diesel fuel costs (discussed in Section 5 below).

5. Designation of Base (No-Build) Scenario

To compute a benefit/cost ratio for the solar canopy, it is necessary to compare a "Build" scenario against a "No-Build" scenario where a solar canopy is not built. Currently, Grand Cayman depends almost entirely on diesel fueled generators for electricity, so the No-Build scenario assumes that without the solar canopy there would be continued use of diesel fuel. The current generators are operated by the public electric utility, Caribbean Utilities Company, Ltd. (CUC). The standard residential rate for electric energy is currently Cayman Island Dollar (CI$) 0.128 per kWh, which includes generation, transmission, and distribution costs but excludes diesel fuel cost. The fuel cost varies from month to month. As of February 2024, that cost is CI$0.180/kWh for diesel fuel plus CI$0.014/kWh for government fuel import duty (total is CI$0.194/kWh).

For the CBA, we need to consider conditions starting in 2046. In this case, there is no expectation of new technology innovations or cost reductions for diesel-fueled generators in future years. Most long-term global forecasts for diesel fuel assume stagnant or declining demand over time, with relatively little shift in long-term price trends beyond the general overall rate of inflation. The

[3] https://atb.nrel.gov/electricity/2022/utility-scale_battery_storage

Integrated Resource Plan (IRP) for the Cayman Islands also supports this long-term assumption of generally stable diesel cost.[4] We adopt current fuel costs to represent our base scenario assumption for continued diesel reliance, which is consistent with both the recent past and a reasonable expectation for future diesel fuel costs. From February 2023 to February 2024, the CUC fuel + duty cost varied from CI$0.175/kWh to CI$0.229/kWh, so the current CI$0.194/kWh is a central value.[5] For our analysis, we use the USD equivalent, which is USD $0.231.

We note that an alternative long-term trend for avoided fuel cost is also provided in the IRP, reflecting a transition over time from diesel fuel to natural gas to renewables over the period to 2045 (see IRP, Exhibit 59, p.89). However, this solar canopy project is intended to be part of that transition. Accordingly, the analysis for this project keeps to the basic comparison of solar costs versus diesel fuel cost. Assumptions for our base case, reflecting current costs, are shown in Table 1.

Table 1. Assumptions for Base Case Calculation of Energy Cost

Measure Applied for the Project Lifetime	Cayman Island Dollars (CI$)	US Dollars (USD)
Standard Residential Rate (excl. fuel) $/kWh	$0.128	$0.152
Avoided Cost = Diesel Fuel Cost $/kWh*	$0.194	$0.231
Total	$0.322	$0.383

**represents savings associated with use of solar PV instead of diesel generation*

With the avoided cost shown in Table 1, and the expected MWh production level shown in Table 2(b), the annual "avoided cost" associated with paying for diesel fuel (the fuel cost that is incurred in the Base Case but avoided with proposed solar generation) is USD $9,009,017 (0.236/kWh * 38,173,800 kWh) for 2046.

6. Developing the Build and Base (No-Build) Comparison

The comparison of scenarios is not as simple as measuring the difference in cost of electricity using solar PV-powered generation versus the cost using diesel-powered generation. The reason is that the diesel facilities can operate 24 hours/day, while solar PV generates electricity only during daylight hours, and its output is further reduced by the extent of clouds. As a result, utility-scale solar PV generation can only be used as a power source for the island's electric grid if accompanied by ancillary power generation for times when the solar PV is not operating (i.e., night), plus backup power for times when solar PV is operating at a reduced level (i.e., during times of partial or total cloud cover). The backup can be in various forms, including use of available "spinning reserve" or battery power.

[4] https://www.cuc-cayman.com/otherpdf/download_pdf?file=1579022301PACE_CUC_IRP_Final_Report_280717.PDF, see IRP, Exhibit 41, p.67, projection to 2045 for "diesel only" portfolios.

[5] https://www.cuc-cayman.com/customer-service/fuel-cost/

In the short term, the most straightforward scenario is to assume that solar PV will provide lower cost energy when it is operating, but it will not reduce the need for investing in and maintaining conventional (diesel-fueled) generation capacity, as the latter will be needed for hours in which the solar PV is not working. In that case, the ratepayer savings associated with solar PV will be the avoided cost of diesel fuel during hours of solar PV operation (as long as that "savings from avoided diesel cost" is greater than the "levelized cost of solar PV energy"). Both cost factors were discussed in Sections 1-3 above. There would be further cost to install and maintain battery energy storage to fill in during periods when solar PV power generation is reduced by weather conditions, though that need might be reduced if CUC has spinning reserve ready to kick in.

In the long run, the benefit of a solar canopy can potentially become more than just the diesel cost savings. For example, energy demand tends to be highest during daytime hours when most people are awake, most businesses are operating, and temperatures tend to be highest. Those are the times when solar PV is generating electricity, so solar PV could eventually become an important source of peak supply during those hours, potentially reducing or delaying needs for future development of other generation capacity. More sophisticated options will eventually become possible as CUC gains a more diversified portfolio of electricity generation technologies.

In fact, CUC's IRP (2017) describes scenarios for implementation of renewable (solar, wind, landfill gas) resources to account for up to 70% of electricity generation by 2037. It also discusses how greater use of renewable technologies will increase the need for more sophisticated dispatch balancing and load management systems, to allow for periods of peak demand and reduced renewable capacity. It recommends that CUC itself procure "long duration energy storage systems" to help dispatch power to fill gaps at times of peak load.

There are additional cost uncertainties associated with institutional arrangements required for implementation of the solar canopy. The Utility Regulation and Competition Office (OfReg) oversees energy supply and operation for the Cayman Islands. It reports that implementation of a solar canopy would require the setup of an independent power producer (IPP) for the solar generation, which would then negotiate a power purchase agreement (PPA) with CUC to be approved by OfReg, that would set costs and specifications for an interconnection between the solar canopy and CUC's high-voltage transmission system.

At this early point in the planning process, the intent of this CBA is to screen options as part of a pre-feasibility assessment. For that reason, it is beyond the scope of this study by the National Roads Authority and its transportation investment consultants to develop or determine how the solar energy implementation process would ultimately be organized and implemented, or to assess about how the project could fit into CUC's IRP and its long-term goals for systemwide renewable power transition.

7. Analysis and Results

This initial CBA is intended to represent a simple screening process that shows the magnitude of possible benefit associated with investing in the costs of a solar canopy as part of the proposed EWA project. We include four factors: (1) cost of installing and operating a solar canopy, (2) cost of installing and maintaining a typical battery backup system, (3) consumer benefit in the form of avoided diesel that would be saved from energy bills, and (4) broader societal benefit in the form of reduced carbon dioxide emissions from reduction in diesel-based electricity generation.

The level of carbon dioxide (CO_2) reduction was calculated in the Engineering – Assessment of Alternatives report and its valuation is based on the UK Transport Analysis Guidance (WebTAG), adjusted to 2023 USD. It assumes an increasing CO_2 value/tonne over time (from $380/tonne in 2036 to in $513/tonne in 2045). All values are shown in 2023 USD, with all benefits after installation over 2046-2075 (30 years). A 3.5% annual discount rate is applied to calculate the discounted sum of benefits and costs through 2053 (year 30), then a 3% discount rate from 2054-2075. This is in line with UK WebTAG recommendations. The usage of these discount rates was agreed upon by the NRA and EAB.

Results for this solar canopy CBA are shown in Table 2. Note that battery backup is represented as a cost option that has no additional benefit in terms of cost savings or emissions savings; its benefit is to ensure support for adequate electric grid stability and reliability.

Table 2. Cost-Benefit Analysis of Solar Canopy Implementatin vs Base Case (30 year lifetime)

(A) Cost (US 2023 $M)

	Sum 2045-2074	Discounted Sum
Solar PV System		
Capital Cost (see note A)	58.441	
O&M Cost	7.918	
Total Cost	**66.359**	**30.001**
Integrated Battery Backup		
Capital Cost (see note A)	6.735	
O&M Cost	8.831	
Total Cost	**15.566**	**6.042**
Total Solar with Backup	**81.925**	**36.043**

(B) Benefit (US 2023 $M)

	Sum 2045-2074	Annual Average	Discounted Sum
Solar Output (MWh, AC)	1,072,267	35.742	
Reduction in CO_2 (metric tons)	566,644	18.279*	
Electric Cost Savings USD $	253.055	8.435	83.627
Value of CO_2 Reduction USD $	366.056	11.808*	114.899
Total Benefits	619.111	19.971	198.526

**CO_2 annual average savings include the carbon disbenefit in year 2045 of manufacturing solar canopy and battery components and are tabulated over 30 years. Annual average carbon savings after installation are slightly higher than the values in Table 2.*

(C) Cost Benefit Results (Net Benefit in millions of constant 2023 US Dollars)

	Ratepayer Cost Savings	Societal Benefit (Ratepayer Savings + Carbon Reduction)
Solar PV without Backup		
Net Benefit (Benefit – Cost)	53.625	168.524
Benefit / Cost Ratio	2.8	6.6
Solar PV with Backup		
Net Benefit (Benefit – Cost)	47.584	162.482
Benefit / Cost Ratio	2.3	5.5

Interpretation of Results

The results in Table 2(C) indicate a ratepayer benefit/cost ratio exceeding 2.3, meaning that the avoided cost of diesel fuel associated with implementation of the solar canopy is at least 2.3 times greater than the cost of implementing the project. It also indicates a total societal benefit/cost ratio exceeding 5.5, which reflects the larger payoff evident when also counting the value of carbon dioxide (greenhouse gas) reduction.

It is important to acknowledge that there are significant factors that could make these results larger or smaller:

- Capital costs for solar canopy and battery equipment are assumed to be roughly 1.5 times US mainland costs, as a conservative assumption. If the actual cost differential is reduced, then the benefit/cost ratio would rise even further.

- The timing of a start in 2046 has implications because it is assumed that technology improvements in both solar PV panels and backup batteries will have occurred and reduced costs by that year. In this analysis, we utilized the NREL "moderate" cost reduction

scenarios rather than the more aggressive "advanced" technology scenarios which would show even greater cost reductions in the future. However, we could alternatively consider an extreme case with no technology improvement at all between now and 2046. In that case, the analysis would assume current capital cost (35% higher than in table 1) and current O&M costs (39% higher than in Table 1). The result would be an energy cost Benefit/Cost ratio of 1.7 rather than 2.3, and a total societal Benefit/Cost ratio of 4.0 instead of 5.5.

The above sensitivity analysis confirms that under a variety of alternative assumptions, the benefits of a solar canopy (in terms of avoiding diesel fuel costs and carbon emissions) would still be expected to significantly exceed the investment cost of purchasing, installing, and operating the proposed solar facility. Ultimately, the feasibility of a solar canopy will depend on further refinement of specifications and costs, and determination of how to address the previously noted institutional, legal, and financial requirements for implementation.

Attachment B

CBA Evaluation Sheets: Grand Cayman East-West Arterial Extension

TAG Discounting (3.5 for 30 years then 3.0)

Benefits PV		
B1 - No Build	$	644,293,209
B2 - No Build	$	666,284,599
B3 - No Build	$	657,557,753

Costs PV		
B1 - No Build	$	546,862,917
B2 - No Build	$	496,153,933
B3 - No Build	$	494,840,571

	NPV (Benefits - Costs)	Benefit to Cost Ratio
B1	$ 97,430,292	1.2
B2	$ 170,130,666	1.3
B3	$ 162,717,183	1.3

5% Discounting

Benefits PV		
B1 - No Build	$	345,148,836
B2 - No Build	$	365,060,712
B3 - No Build	**$**	**336,804,315**

Costs PV		
B1 - No Build	$	454,583,584
B2 - No Build	$	413,215,539
B3 - No Build	$	413,215,539

	NPV (Benefits - Cos	Benefit to Cost Ratio
B1	$ (109,434,749)	0.8
B2	$ (48,154,826)	0.9
B3	$ (76,411,224)	0.8

2% Discounting

Benefits PV		
B1 - No Build	$	963,475,851
B2 - No Build	$	986,276,692
B3 - No Build	**$**	**997,101,965**

Costs PV		
B1 - No Build	$	657,090,674
B2 - No Build	$	595,868,718
B3 - No Build	$	595,156,919

	NPV (Benefits - Costs	Benefit to Cost Ratio
B1	$ 306,385,177	1.5
B2	$ 390,407,974	1.7
B3	$ 401,945,046	1.7

Cost Summary with Will T Connector Included (undiscounted 2023$)							
		New Construction Cost Subtotal	Rehab Construction Cost Subtotal	Total Construction Cost	Total Construction Cost w/ Contingency	ROW Cost	Total Cost
B1 - No Build	2024	-	-	-	-	22,542,686.00	22,542,686.00
	2026	236,461,638.13	(11,283,931.54)	225,177,706.59	270,213,247.91	-	270,213,247.91
	2036	150,965,173.15	6,501,331.82	157,466,504.97	188,959,805.96	-	188,959,805.96
	2046	131,962,249.52	10,955,222.07	142,917,471.59	171,500,965.91	-	171,500,965.91
	2060	-	19,241,100.37	19,241,100.37	23,089,320.44	-	23,089,320.44
	2074	100,401,121.67	46,452,096.88	146,853,218.55	176,223,862.26	-	176,223,862.26
Total B1		619,790,182.47	71,865,819.60	691,656,002.07	829,987,202.48	22,542,686.00	**852,529,888.48**
B2 - No Build	2024	-	-	-	-	21,509,800.00	21,509,800.00
	2026	211,924,577.94	(11,283,931.54)	200,640,646.40	240,768,775.68	-	240,768,775.68
	2036	142,551,915.69	3,878,634.39	146,430,550.08	175,716,660.10	-	175,716,660.10
	2046	123,018,337.55	7,909,372.72	130,927,710.27	157,113,252.32	-	157,113,252.32
	2060	-	15,375,661.35	15,375,661.35	18,450,793.62	-	18,450,793.62
	2074	93,644,146.63	28,334,709.88	121,978,856.51	146,374,627.81	-	146,374,627.81
Total B2		571,138,977.81	44,214,446.80	615,353,424.61	738,424,109.53	21,509,800.00	**759,933,909.53**
B3 - No Build	2024	-	-	-	-	20,158,564.00	20,158,564.00
	2026	212,007,580.38	(11,283,931.54)	200,723,648.84	240,868,378.61	-	240,868,378.61
	2036	139,599,273.05	4,135,039.76	143,734,312.81	172,481,175.37	-	172,481,175.37
	2046	123,854,993.41	8,372,344.17	132,227,337.58	158,672,805.10	-	158,672,805.10
	2060	-	15,944,697.69	15,944,697.69	19,133,637.23	-	19,133,637.23
	2074	85,041,015.20	40,834,133.89	125,875,149.09	151,050,178.91	-	151,050,178.91
Total B3		560,502,862.04	58,002,283.97	618,505,146.01	742,206,175.21	20,158,564.00	**762,364,739.21**

		B1 - No Build			B2 - No Build			B3 - No Build		
N	Year	Cost	Benefit	Benefit - cost	Cost	Benefit	Benefit - cost	Cost	Benefit	Benefit - cost
1	2024	22,542,686.00	-22,088,674.94	-44,631,360.94	21,509,800.00	-12,403,659	-33,913,458.9655825	20,158,564.00	-18,160,395.17	-38,318,959.17
2	2025	0.00	-22,425,050.70	-22,425,050.70	0.00	-12,592,547	-12,592,547.1731802	0.00	-18,436,949.41	-18,436,949.41
3	2026	270,213,247.91	-12,089,882.33	-282,303,130.23	240,768,775.68	-7,533,952	-248,302,727.5118840	240,868,378.61	-13,562,841.55	-254,431,220.16
4	2027	0.00	585,446.06	585,446.06	0.00	2,085,586	2,085,585.7232398	0.00	-3,169,339.25	-3,169,339.25
5	2028	0.00	717,349.29	717,349.29	0.00	2,287,161	2,287,160.5655488	0.00	-3,204,070.67	-3,204,070.67
6	2029	0.00	842,213.44	842,213.44	0.00	2,502,183	2,502,183.3416439	0.00	-3,245,642.39	-3,245,642.39
7	2030	0.00	990,179.99	990,179.99	0.00	2,730,821	2,730,821.0676414	0.00	-3,273,905.35	-3,273,905.35
8	2031	0.00	1,151,396.01	1,151,396.01	0.00	2,973,247	2,973,247.3588496	0.00	-3,298,704.61	-3,298,704.61
9	2032	0.00	1,326,014.38	1,326,014.38	0.00	3,239,643	3,239,642.6672926	0.00	-3,319,879.17	-3,319,879.17
10	2033	0.00	1,504,193.96	1,504,193.96	0.00	3,520,195	3,520,194.5273381	0.00	-3,327,261.74	-3,327,261.74
11	2034	0.00	1,696,099.87	1,696,099.87	0.00	3,825,098	3,825,097.8096977	0.00	-3,340,678.53	-3,340,678.53
12	2035	0.00	1,911,903.63	1,911,903.63	0.00	4,144,555	4,144,554.9840748	0.00	-3,339,948.99	-3,339,948.99
13	2036	188,959,805.96	17,241,783.48	-171,718,022.48	175,716,660.10	13,178,776	-162,537,883.7052550	172,481,175.37	12,085,114.42	-160,396,060.95
14	2037	0.00	17,715,924.56	17,715,924.56	0.00	13,557,981	13,557,980.5213613	0.00	12,474,706.47	12,474,706.47
15	2038	0.00	18,224,519.16	18,224,519.16	0.00	13,952,394	13,952,394.3092943	0.00	12,869,029.43	12,869,029.43
16	2039	0.00	18,737,767.02	18,737,767.02	0.00	14,362,253	14,362,253.4298069	0.00	13,288,293.33	13,288,293.33
17	2040	0.00	19,265,875.55	19,265,875.55	0.00	14,777,803	14,777,802.6104009	0.00	13,722,716.24	13,722,716.24
18	2041	0.00	19,819,270.20	19,819,270.20	0.00	15,209,648	15,209,647.9091680	0.00	14,172,704.68	14,172,704.68
19	2042	0.00	20,377,925.42	20,377,925.42	0.00	15,657,658	15,657,657.7089725	0.00	14,628,270.90	14,628,270.90
20	2043	0.00	20,952,069.65	20,952,069.65	0.00	16,112,102	16,112,101.5032399	0.00	15,099,654.92	15,099,654.92
21	2044	0.00	21,551,939.94	21,551,939.94	0.00	16,593,259	16,593,258.9337217	0.00	15,587,105.74	15,587,105.74
22	2045	65,176,000.00	2,175,648.58	-63,000,351.42	65,176,000.00	-2,920,714	-68,096,713.5574243	65,176,000.00	-3,901,252.00	-69,077,252.00
23	2046	172,059,257.91	51,338,457.04	-120,720,800.86	157,671,544.32	53,035,491	-104,636,053.0034620	159,231,097.10	58,289,855.96	-100,941,241.13
24	2047	558,292.00	52,002,022.77	51,443,730.77	558,292.00	53,603,578	53,045,286.4660549	558,292.00	58,952,100.25	58,393,808.25
25	2048	558,292.00	52,693,526.53	52,135,234.53	558,292.00	54,210,778	53,652,485.8659205	558,292.00	59,612,675.29	59,054,383.29
26	2049	558,292.00	53,393,255.63	52,834,963.63	558,292.00	54,827,428	54,269,135.8574241	558,292.00	60,311,882.50	59,753,590.50
27	2050	558,292.00	54,121,508.07	53,563,216.07	558,292.00	55,463,879	54,905,587.3048770	558,292.00	61,030,034.43	60,471,742.43
28	2051	558,292.00	54,868,592.88	54,310,300.88	558,292.00	56,130,496	55,572,204.0312124	558,292.00	61,767,455.17	61,209,163.17
29	2052	558,292.00	55,624,830.48	55,066,538.48	558,292.00	56,807,655	56,249,363.2639097	558,292.00	62,534,480.72	61,976,188.72
30	2053	558,292.00	56,420,553.16	55,862,261.16	558,292.00	57,515,748	56,957,456.0957059	558,292.00	63,311,459.43	62,753,167.43
31	2054	558,292.00	57,236,105.37	56,677,813.37	558,292.00	58,245,180	57,686,887.9605691	558,292.00	64,128,752.38	63,570,460.38
32	2055	558,292.00	58,071,844.24	57,513,552.24	558,292.00	58,996,371	58,438,079.1254276	558,292.00	64,956,733.86	64,398,441.86
33	2056	558,292.00	58,928,139.97	58,369,847.97	558,292.00	59,769,757	59,211,465.1981608	558,292.00	65,815,791.81	65,257,499.81
34	2057	558,292.00	59,815,376.29	59,257,084.29	558,292.00	60,585,790	60,027,497.6523758	558,292.00	66,696,328.26	66,138,036.26
35	2058	558,292.00	60,723,950.91	60,165,658.91	558,292.00	61,404,936	60,846,644.3695095	558,292.00	67,618,759.86	67,060,467.86
36	2059	558,292.00	61,664,276.03	61,105,984.03	558,292.00	62,267,682	61,709,390.1988124	558,292.00	68,553,518.36	67,995,226.36
37	2060	23,647,612.44	62,626,778.79	38,979,166.35	19,009,085.62	63,154,530	44,145,443.9157903	19,691,929.23	69,521,051.11	49,829,121.88
38	2061	558,292.00	63,621,901.84	63,063,609.84	558,292.00	64,065,999	63,507,706.9196945	558,292.00	70,531,821.61	69,973,529.61
39	2062	558,292.00	64,640,103.84	64,081,811.84	558,292.00	65,012,630	64,454,337.6506730	558,292.00	71,556,310.06	70,998,018.06
40	2063	558,292.00	65,681,859.98	65,123,567.98	558,292.00	65,994,980	65,436,688.4272130	558,292.00	72,615,013.92	72,056,721.92
41	2064	558,292.00	66,767,662.60	66,209,370.60	558,292.00	66,993,630	66,435,338.0045246	558,292.00	73,708,448.50	73,150,156.50
42	2065	558,292.00	67,888,021.73	67,329,729.73	558,292.00	68,039,178	67,480,885.8745373	558,292.00	74,827,147.60	74,268,855.60
43	2066	558,292.00	69,023,465.73	68,465,173.73	558,292.00	69,102,245	68,543,952.9682008	558,292.00	75,991,664.06	75,433,372.06
44	2067	558,292.00	70,194,541.87	69,636,249.87	558,292.00	70,213,474	69,655,182.3808033	558,292.00	77,192,570.49	76,634,278.49
45	2068	558,292.00	71,411,817.02	70,853,525.02	558,292.00	71,343,532	70,785,240.1210445	558,292.00	78,420,459.89	77,862,167.89
46	2069	558,292.00	72,655,878.26	72,097,586.26	558,292.00	72,533,108	71,974,815.8846222	558,292.00	79,695,946.36	79,137,654.36
47	2070	558,292.00	73,947,333.64	73,389,041.64	558,292.00	73,742,916	73,184,623.8531148	558,292.00	80,989,665.79	80,431,373.79
48	2071	558,292.00	75,336,812.82	74,778,520.82	558,292.00	75,173,696	74,615,403.5189684	558,292.00	82,372,276.65	81,813,984.65
49	2072	558,292.00	76,704,967.82	76,146,675.82	558,292.00	76,476,213	75,917,920.5374213	558,292.00	83,764,460.68	83,206,168.68
50	2073	558,292.00	78,102,473.83	77,544,181.83	558,292.00	77,811,260	77,252,967.6062250	558,292.00	85,196,923.73	84,638,631.73
51	2074	176,782,154.26	69,700,029.91	-107,082,124.35	146,932,919.81	91,459,657	-55,473,262.4379527	151,608,470.91	85,060,396.55	-66,548,074.35
52	2075	558,292.00	21,447,720.36	20,889,428.36	558,292.00	21,447,720	20,889,428.3639760	558,292.00	21,447,720.36	20,889,428.36
	IRR			**3.8%**			**4.4%**			**4.2%**

	N	Year	Cost Categories: all values in constant US 2023 $							Present Value Costs				
			New Construction Cost Subtotal (no inflation)	Rehab Construction Cost Total (no inflation)	Total Construction Cost Subtotal By Year (no inflation)	Total Construction Cost w/ contingency	ROW	Total Solar Cost	Total Cost	Total Costs Discounted 2%	Total Costs Discounted 3%	Total Costs Discounted 3.5%	Total Costs Discounted 5%	WebTAG Discount Schedule
	1	2024	0.00	0.00	0.00	0.00	22,542,686.00	0.00	22,542,686.00	22,100,672.55	21,886,102.91	21,780,372.95	21,469,224.76	3.5%
	2	2025	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%
	3	2026	236,461,638.13	-11,283,931.54	225,177,706.59	270,213,247.91	0.00	0.00	270,213,247.91	254,627,978.59	247,283,400.07	243,716,867.93	233,420,363.16	3.5%
	4	2027	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%
	5	2028	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%
	6	2029	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%
	7	2030	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%
	8	2031	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%
	9	2032	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%
	10	2033	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%
	11	2034	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%
	12	2035	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%
	13	2036	150,965,173.15	6,501,331.82	157,466,504.97	188,959,805.96	0.00	0.00	188,959,805.96	146,072,075.94	128,672,433.08	120,821,684.67	100,209,419.52	3.5%
	14	2037	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%
	15	2038	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%
	16	2039	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%
	17	2040	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%
	18	2041	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%
	19	2042	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%
	20	2043	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%
	21	2044	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%
	22	2045	0.00	0.00	0.00	0.00	0.00	65,176,000.00	65,176,000.00	42,158,381.01	34,014,865.64	30,577,361.51	22,280,407.20	3.5%
	23	2046	131,962,249.52	10,955,222.07	142,917,471.59	171,500,965.91	0.00	558,292.00	172,059,257.91	109,112,396.60	87,181,006.22	77,991,989.73	56,017,557.27	3.5%
	24	2047	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	347,102.13	274,642.67	244,507.96	173,108.43	3.5%
	25	2048	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	340,296.21	266,643.37	236,239.58	164,865.18	3.5%
B1-No Build	26	2049	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	333,623.73	258,877.06	228,250.80	157,014.45	3.5%
with Will T	27	2050	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	327,082.09	251,336.95	220,532.17	149,537.57	3.5%
Connector	28	2051	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	320,668.72	244,016.45	213,074.57	142,416.74	3.5%
	29	2052	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	314,381.10	236,909.18	205,869.14	135,634.99	3.5%
	30	2053	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	308,216.76	230,008.91	198,907.39	129,176.18	3.5%
	31	2054	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	302,173.29	223,309.62	192,181.05	123,024.93	3.0%
	32	2055	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	296,248.33	216,805.46	185,682.17	117,166.60	3.0%
	33	2056	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	290,439.54	210,490.74	179,403.07	111,587.24	3.0%
	34	2057	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	284,744.64	204,359.94	173,336.30	106,273.56	3.0%
	35	2058	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	279,161.42	198,407.71	167,474.68	101,212.92	3.0%
	36	2059	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	273,687.66	192,628.84	161,811.29	96,393.25	3.0%
	37	2060	0.00	19,241,100.37	19,241,100.37	23,089,320.44	0.00	558,292.00	23,647,612.44	11,365,301.05	7,921,546.67	6,622,078.99	3,888,510.12	3.0%
	38	2061	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	263,060.04	181,571.16	151,052.57	87,431.52	3.0%
	39	2062	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	257,902.00	176,282.68	145,944.51	83,268.12	3.0%
	40	2063	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	252,845.10	171,148.23	141,009.19	79,302.97	3.0%
	41	2064	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	247,887.35	166,163.33	136,240.76	75,526.64	3.0%
	42	2065	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	243,026.81	161,323.62	131,633.59	71,930.13	3.0%
	43	2066	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	238,261.58	156,624.88	127,182.21	68,504.89	3.0%
	44	2067	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	233,589.79	152,062.99	122,881.36	65,242.75	3.0%
	45	2068	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	229,009.59	147,633.97	118,725.95	62,135.95	3.0%
	46	2069	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	224,519.21	143,333.95	114,711.07	59,177.10	3.0%
	47	2070	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	220,116.87	139,159.17	110,831.95	56,359.14	3.0%
	48	2071	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	215,800.85	135,105.99	107,084.01	53,675.37	3.0%
	49	2072	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	211,569.47	131,170.87	103,462.81	51,119.40	3.0%
	50	2073	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	207,421.04	127,350.36	99,964.07	48,685.14	3.0%
	51	2074	100,401,121.67	46,452,096.88	146,853,218.55	176,223,862.26	0.00	558,292.00	176,782,154.26	64,391,666.05	39,150,738.80	30,583,035.05	14,681,964.49	3.0%
	52	2075						558,292.00	558,292.00	199,366.63	123,641.12	96,583.64	46,366.80	3.0%
		Total	**$ 619,790,182.47**	**$ 71,865,819.60**	**$ 691,656,002.07**	**$ 829,987,202.48**	**$ 22,542,686.00**	**$ 81,924,760.00**	**$ 934,454,648.48**	**$ 657,090,673.75**	**$ 571,231,102.61**	**$ 536,407,968.67**	**$ 454,583,584.47**	

	N	Year	Present Value Costs Using WebTAG Discount Schedule						
			New Construction Cost Subtotal (no inflation)	Rehab Construction Cost Total (no inflation)	Total Construction Cost Subtotal By Year (no inflation)	Total Construction Cost w/ contingency	ROW	Total Solar Cost	Total Cost
			Years 0-30 3.5%; Years 31-75 3%	Years 0-30 3.5%; Years 31-75 3%	Years 0-30 3.5%; Years 31-75 3%	Years 0-30 3.5%; Years 31-75 3%	Years 0-30 3.5%; Years 31-75 3%	Years 0-30 3.5%; Years 31-75 3%	Years 0-30 3.5%; Years 31-75 3%
B1-No Build with Will T Connector	1	2024	0.00	0.00	0.00	0.00	21,780,372.95	0.00	21,780,372.95
	2	2025	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3	2026	213,274,849.68	-10,177,459.74	203,097,389.94	243,716,867.93	0.00	0.00	243,716,867.93
	4	2027	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5	2028	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	6	2029	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	7	2030	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	8	2031	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	9	2032	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	10	2033	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	11	2034	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	12	2035	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	13	2036	96,527,758.66	4,156,978.57	100,684,737.23	120,821,684.67	0.00	0.00	120,821,684.67
	14	2037	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	15	2038	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	16	2039	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	17	2040	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	18	2041	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	19	2042	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	20	2043	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	21	2044	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	22	2045	0.00	0.00	0.00	0.00	0.00	30,577,361.51	30,577,361.51
	23	2046	59,816,591.88	4,965,844.78	64,782,436.66	77,738,923.99	0.00	253,065.74	77,991,989.73
	24	2047	0.00	0.00	0.00	0.00	0.00	244,507.96	244,507.96
	25	2048	0.00	0.00	0.00	0.00	0.00	236,239.58	236,239.58
	26	2049	0.00	0.00	0.00	0.00	0.00	228,250.80	228,250.80
	27	2050	0.00	0.00	0.00	0.00	0.00	220,532.17	220,532.17
	28	2051	0.00	0.00	0.00	0.00	0.00	213,074.57	213,074.57
	29	2052	0.00	0.00	0.00	0.00	0.00	205,869.14	205,869.14
	30	2053	0.00	0.00	0.00	0.00	0.00	198,907.39	198,907.39
	31	2054	0.00	0.00	0.00	0.00	0.00	223,309.62	223,309.62
	32	2055	0.00	0.00	0.00	0.00	0.00	216,805.46	216,805.46
	33	2056	0.00	0.00	0.00	0.00	0.00	210,490.74	210,490.74
	34	2057	0.00	0.00	0.00	0.00	0.00	204,359.94	204,359.94
	35	2058	0.00	0.00	0.00	0.00	0.00	198,407.71	198,407.71
	36	2059	0.00	0.00	0.00	0.00	0.00	192,628.84	192,628.84
	37	2060	0.00	6,445,440.31	6,445,440.31	7,734,528.37	0.00	187,018.29	7,921,546.67
	38	2061	0.00	0.00	0.00	0.00	0.00	181,571.16	181,571.16
	39	2062	0.00	0.00	0.00	0.00	0.00	176,282.68	176,282.68
	40	2063	0.00	0.00	0.00	0.00	0.00	171,148.23	171,148.23
	41	2064	0.00	0.00	0.00	0.00	0.00	166,163.33	166,163.33
	42	2065	0.00	0.00	0.00	0.00	0.00	161,323.62	161,323.62
	43	2066	0.00	0.00	0.00	0.00	0.00	156,624.88	156,624.88
	44	2067	0.00	0.00	0.00	0.00	0.00	152,062.99	152,062.99
	45	2068	0.00	0.00	0.00	0.00	0.00	147,633.97	147,633.97
	46	2069	0.00	0.00	0.00	0.00	0.00	143,333.95	143,333.95
	47	2070	0.00	0.00	0.00	0.00	0.00	139,159.17	139,159.17
	48	2071	0.00	0.00	0.00	0.00	0.00	135,105.99	135,105.99
	49	2072	0.00	0.00	0.00	0.00	0.00	131,170.87	131,170.87
	50	2073	0.00	0.00	0.00	0.00	0.00	127,350.36	127,350.36
	51	2074	22,235,152.11	10,287,429.29	32,522,581.40	39,027,097.68	0.00	123,641.12	39,150,738.80
	52	2075	0.00	0.00	0.00	0.00	0.00	120,039.93	120,039.93
		Total	**$ 391,854,352.33**	**$ 15,678,233.20**	**$ 407,532,585.53**	**$ 489,039,102.64**	**$ 21,780,372.95**	**$ 36,043,441.72**	**$ 546,862,917.31**

	N	Year	Cost Categories: all values in constant US 2023 $							Present Value Costs					
			New Construction Cost Subtotal (no inflation)	Rehab Construction Cost Total (no inflation)	Total Construction Cost Subtotal By Year (no inflation)	Total Construction Cost w/ contingency	ROW	Total Solar Cost	Total Cost	Total Costs Discounted 2%	Total Costs Discounted 3%	Total Costs Discounted 3.5%	Total Costs Discounted 5%	WebTAG Discount Schedule	New Construction Cost Subtotal (no inflation) Years 0-30 3.5%; Years 31-75 3%
B2-No Build with Will T Connector	1	2024	0.00	0.00	0.00	0.00	21,509,800.00	0.00	21,509,800.00	21,088,039.22	20,883,300.97	20,782,415.46	20,485,523.81	3.5%	0.00
	2	2025	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%	0.00
	3	2026	211,924,577.94	-11,283,931.54	200,640,646.40	240,768,775.68	0.00	0.00	240,768,775.68	226,881,794.78	220,337,536.90	217,159,640.98	207,985,120.98	3.5%	191,143,827.22
	4	2027	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%	0.00
	5	2028	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%	0.00
	6	2029	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%	0.00
	7	2030	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%	0.00
	8	2031	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%	0.00
	9	2032	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%	0.00
	10	2033	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%	0.00
	11	2034	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%	0.00
	12	2035	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%	0.00
	13	2036	142,551,915.69	3,878,634.39	146,430,550.08	175,716,660.10	0.00	0.00	175,716,660.10	135,834,693.45	119,654,495.15	112,353,962.21	93,186,296.51	3.5%	91,148,286.90
	14	2037	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%	0.00
	15	2038	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%	0.00
	16	2039	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%	0.00
	17	2040	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%	0.00
	18	2041	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%	0.00
	19	2042	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%	0.00
	20	2043	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%	0.00
	21	2044	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%	0.00
	22	2045	0.00	0.00	0.00		0.00	65,176,000.00	65,176,000.00	42,158,381.01	34,014,865.64	30,577,361.51	22,280,407.20	3.5%	0.00
	23	2046	123,018,337.55	7,909,372.72	130,927,710.27	157,113,252.32	0.00	558,292.00	157,671,544.32	99,988,342.89	79,890,870.47	71,470,245.87	51,333,330.57	3.5%	55,762,445.08
	24	2047	0.00	0.00	0.00		0.00	558,292.00	558,292.00	347,102.13	274,642.67	244,507.96	173,108.43	3.5%	0.00
	25	2048	0.00	0.00	0.00		0.00	558,292.00	558,292.00	340,296.21	266,643.37	236,239.58	164,865.18	3.5%	0.00
	26	2049	0.00	0.00	0.00		0.00	558,292.00	558,292.00	333,623.73	258,877.06	228,250.80	157,014.45	3.5%	0.00
	27	2050	0.00	0.00	0.00		0.00	558,292.00	558,292.00	327,082.09	251,336.95	220,532.17	149,537.57	3.5%	0.00
	28	2051	0.00	0.00	0.00		0.00	558,292.00	558,292.00	320,668.72	244,016.45	213,074.57	142,416.74	3.5%	0.00
	29	2052	0.00	0.00	0.00		0.00	558,292.00	558,292.00	314,381.10	236,909.18	205,869.14	135,634.99	3.5%	0.00
	30	2053	0.00	0.00	0.00		0.00	558,292.00	558,292.00	308,216.76	230,008.91	198,907.39	129,176.18	3.5%	0.00
	31	2054	0.00	0.00	0.00		0.00	558,292.00	558,292.00	302,173.29	223,309.62	192,181.05	123,024.93	3.0%	0.00
	32	2055	0.00	0.00	0.00		0.00	558,292.00	558,292.00	296,248.33	216,805.46	185,682.17	117,166.60	3.0%	0.00
	33	2056	0.00	0.00	0.00		0.00	558,292.00	558,292.00	290,439.54	210,490.74	179,403.07	111,587.24	3.0%	0.00
	34	2057	0.00	0.00	0.00		0.00	558,292.00	558,292.00	284,744.64	204,359.94	173,336.30	106,273.56	3.0%	0.00
	35	2058	0.00	0.00	0.00		0.00	558,292.00	558,292.00	279,161.42	198,407.71	167,474.68	101,212.92	3.0%	0.00
	36	2059	0.00	0.00	0.00		0.00	558,292.00	558,292.00	273,687.66	192,628.84	161,811.29	96,393.25	3.0%	0.00
	37	2060	0.00	15,375,661.35	15,375,661.35	18,450,793.62	0.00	558,292.00	19,009,085.62	9,135,974.35	6,367,719.33	5,323,144.85	3,125,771.03	3.0%	0.00
	38	2061	0.00	0.00	0.00		0.00	558,292.00	558,292.00	263,060.04	181,571.16	151,052.57	87,431.52	3.0%	0.00
	39	2062	0.00	0.00	0.00		0.00	558,292.00	558,292.00	257,902.00	176,282.68	145,944.51	83,268.12	3.0%	0.00
	40	2063	0.00	0.00	0.00		0.00	558,292.00	558,292.00	252,845.10	171,148.23	141,009.19	79,302.97	3.0%	0.00
	41	2064	0.00	0.00	0.00		0.00	558,292.00	558,292.00	247,887.35	166,163.33	136,240.76	75,526.64	3.0%	0.00
	42	2065	0.00	0.00	0.00		0.00	558,292.00	558,292.00	243,026.81	161,323.62	131,633.59	71,930.13	3.0%	0.00
	43	2066	0.00	0.00	0.00		0.00	558,292.00	558,292.00	238,261.58	156,624.88	127,182.21	68,504.89	3.0%	0.00
	44	2067	0.00	0.00	0.00		0.00	558,292.00	558,292.00	233,589.79	152,062.99	122,881.36	65,242.75	3.0%	0.00
	45	2068	0.00	0.00	0.00		0.00	558,292.00	558,292.00	229,009.59	147,633.97	118,725.95	62,135.95	3.0%	0.00
	46	2069	0.00	0.00	0.00		0.00	558,292.00	558,292.00	224,519.21	143,333.95	114,711.07	59,177.10	3.0%	0.00
	47	2070	0.00	0.00	0.00		0.00	558,292.00	558,292.00	220,116.87	139,159.17	110,831.95	56,359.14	3.0%	0.00
	48	2071	0.00	0.00	0.00		0.00	558,292.00	558,292.00	215,800.85	135,105.99	107,084.01	53,675.37	3.0%	0.00
	49	2072	0.00	0.00	0.00		0.00	558,292.00	558,292.00	211,569.47	131,170.87	103,462.81	51,119.40	3.0%	0.00
	50	2073	0.00	0.00	0.00		0.00	558,292.00	558,292.00	207,421.04	127,350.36	99,964.07	48,685.14	3.0%	0.00
	51	2074	93,644,146.63	28,334,709.88	121,978,856.51	146,374,627.81	0.00	558,292.00	146,932,919.81	53,519,290.70	32,540,232.29	25,419,164.37	12,202,950.69	3.0%	20,738,730.90
	52	2075						558,292.00	558,292.00	199,366.63	123,641.12	96,583.64	46,366.80	3.0%	0.00
		Total	**$ 571,138,977.81**	**$ 44,214,446.80**	**$ 615,353,424.61**	**$ 738,424,109.53**	**$ 21,509,800.00**	**$ 81,924,760.00**	**$ 841,858,669.53**	**$ 595,868,718.36**	**$ 518,810,029.98**	**$ 487,400,513.08**	**$ 413,215,538.74**		**$ 358,793,290.10**

	N	Year	Present Value Costs Using WebTAG Discount Schedule					
			Rehab Construction Cost Total (no inflation)	Total Construction Cost Subtotal By Year (no inflation)	Total Construction Cost w/ contingency	ROW	Total Solar Cost	Total Cost
			Years 0-30 3.5%; Years 31-75 3%	Years 0-30 3.5%; Years 31-75 3%	Years 0-30 3.5%; Years 31-75 3%	Years 0-30 3.5%; Years 31-75 3%	Years 0-30 3.5%; Years 31-75 3%	Years 0-30 3.5%; Years 31-75 3%
B2-No Build with Will T Connector	1	2024	0.00	0.00	0.00	20,782,415.46	0.00	20,782,415.46
	2	2025	0.00	0.00	0.00	0.00	0.00	0.00
	3	2026	-10,177,459.74	180,966,367.48	217,159,640.98	0.00	0.00	217,159,640.98
	4	2027	0.00	0.00	0.00	0.00	0.00	0.00
	5	2028	0.00	0.00	0.00	0.00	0.00	0.00
	6	2029	0.00	0.00	0.00	0.00	0.00	0.00
	7	2030	0.00	0.00	0.00	0.00	0.00	0.00
	8	2031	0.00	0.00	0.00	0.00	0.00	0.00
	9	2032	0.00	0.00	0.00	0.00	0.00	0.00
	10	2033	0.00	0.00	0.00	0.00	0.00	0.00
	11	2034	0.00	0.00	0.00	0.00	0.00	0.00
	12	2035	0.00	0.00	0.00	0.00	0.00	0.00
	13	2036	2,480,014.94	93,628,301.84	112,353,962.21	0.00	0.00	112,353,962.21
	14	2037	0.00	0.00	0.00	0.00	0.00	0.00
	15	2038	0.00	0.00	0.00	0.00	0.00	0.00
	16	2039	0.00	0.00	0.00	0.00	0.00	0.00
	17	2040	0.00	0.00	0.00	0.00	0.00	0.00
	18	2041	0.00	0.00	0.00	0.00	0.00	0.00
	19	2042	0.00	0.00	0.00	0.00	0.00	0.00
	20	2043	0.00	0.00	0.00	0.00	0.00	0.00
	21	2044	0.00	0.00	0.00	0.00	0.00	0.00
	22	2045	0.00	0.00	0.00	0.00	30,577,361.51	30,577,361.51
	23	2046	3,585,205.02	59,347,650.10	71,217,180.12	0.00	253,065.74	71,470,245.87
	24	2047	0.00	0.00	0.00	0.00	244,507.96	244,507.96
	25	2048	0.00	0.00	0.00	0.00	236,239.58	236,239.58
	26	2049	0.00	0.00	0.00	0.00	228,250.80	228,250.80
	27	2050	0.00	0.00	0.00	0.00	220,532.17	220,532.17
	28	2051	0.00	0.00	0.00	0.00	213,074.57	213,074.57
	29	2052	0.00	0.00	0.00	0.00	205,869.14	205,869.14
	30	2053	0.00	0.00	0.00	0.00	198,907.39	198,907.39
	31	2054	0.00	0.00	0.00	0.00	223,309.62	223,309.62
	32	2055	0.00	0.00	0.00	0.00	216,805.46	216,805.46
	33	2056	0.00	0.00	0.00	0.00	210,490.74	210,490.74
	34	2057	0.00	0.00	0.00	0.00	204,359.94	204,359.94
	35	2058	0.00	0.00	0.00	0.00	198,407.71	198,407.71
	36	2059	0.00	0.00	0.00	0.00	192,628.84	192,628.84
	37	2060	5,150,584.20	5,150,584.20	6,180,701.04	0.00	187,018.29	6,367,719.33
	38	2061	0.00	0.00	0.00	0.00	181,571.16	181,571.16
	39	2062	0.00	0.00	0.00	0.00	176,282.68	176,282.68
	40	2063	0.00	0.00	0.00	0.00	171,148.23	171,148.23
	41	2064	0.00	0.00	0.00	0.00	166,163.33	166,163.33
	42	2065	0.00	0.00	0.00	0.00	161,323.62	161,323.62
	43	2066	0.00	0.00	0.00	0.00	156,624.88	156,624.88
	44	2067	0.00	0.00	0.00	0.00	152,062.99	152,062.99
	45	2068	0.00	0.00	0.00	0.00	147,633.97	147,633.97
	46	2069	0.00	0.00	0.00	0.00	143,333.95	143,333.95
	47	2070	0.00	0.00	0.00	0.00	139,159.17	139,159.17
	48	2071	0.00	0.00	0.00	0.00	135,105.99	135,105.99
	49	2072	0.00	0.00	0.00	0.00	131,170.87	131,170.87
	50	2073	0.00	0.00	0.00	0.00	127,350.36	127,350.36
	51	2074	6,275,095.08	27,013,825.98	32,416,591.17	0.00	123,641.12	32,540,232.29
	52	2075	0.00	0.00	0.00	0.00	120,039.93	120,039.93
		Total	**$ 7,313,439.49**	**$ 366,106,729.59**	**$ 439,328,075.51**	**$ 20,782,415.46**	**$ 36,043,441.72**	**$ 496,153,932.70**

	N	Year	Cost Categories: all values in constant US 2023 $							Present Value Costs				
			New Construction Cost Subtotal (no inflation)	Rehab Construction Cost Total (no inflation)	Total Construction Cost Subtotal By Year (no inflation)	Total Construction Cost w/ contingency	ROW	Total Solar Cost	Total Cost	Total Costs Discounted 2%	Total Costs Discounted 3%	Total Costs Discounted 3.5%	Total Costs Discounted 5%	**WebTAG Discount Schedule**
B3-No Build with Will T Connector	1	2024	0.00	0.00	0.00	0.00	20,158,564.00	0.00	20,158,564.00	19,763,298.04	19,571,421.36	19,476,873.43	0.00	3.5%
	2	2025	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%
	3	2026	212,007,580.38	-11,283,931.54	200,723,648.84	240,868,378.61	0.00	0.00	240,868,378.61	226,975,652.85	220,428,687.69	217,249,477.11	208,071,161.74	3.5%
	4	2027	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%
	5	2028	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%
	6	2029	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%
	7	2030	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%
	8	2031	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%
	9	2032	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%
	10	2033	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%
	11	2034	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%
	12	2035	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%
	13	2036	139,599,273.05	4,135,039.76	143,734,312.81	172,481,175.37	0.00	0.00	172,481,175.37	133,333,558.53	117,451,287.49	110,285,179.84	91,470,449.88	3.5%
	14	2037	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%
	15	2038	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%
	16	2039	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%
	17	2040	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%
	18	2041	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%
	19	2042	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%
	20	2043	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%
	21	2044	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.5%
	22	2045	0.00	0.00	0.00	0.00	0.00	65,176,000.00	65,176,000.00	42,158,381.01	34,014,865.64	30,577,361.51	0.00	3.5%
	23	2046	123,854,993.41	8,372,344.17	132,227,337.58	158,672,805.10	0.00	558,292.00	159,231,097.10	100,977,342.50	80,681,082.99	72,177,168.73	51,659,312.35	3.5%
	24	2047	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	347,102.13	274,642.67	244,507.96	0.00	3.5%
	25	2048	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	340,296.21	266,643.37	236,239.58	0.00	3.5%
	26	2049	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	333,623.73	258,877.06	228,250.80	0.00	3.5%
	27	2050	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	327,082.09	251,336.95	220,532.17	0.00	3.5%
	28	2051	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	320,668.72	244,016.45	213,074.57	0.00	3.5%
	29	2052	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	314,381.10	236,909.18	205,869.14	0.00	3.5%
	30	2053	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	308,216.76	230,008.91	198,907.39	0.00	3.5%
	31	2054	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	302,173.29	223,309.62	192,181.05	0.00	3.0%
	32	2055	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	296,248.33	216,805.46	185,682.17	0.00	3.0%
	33	2056	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	290,439.54	210,490.74	179,403.07	0.00	3.0%
	34	2057	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	284,744.64	204,359.94	173,336.30	0.00	3.0%
	35	2058	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	279,161.42	198,407.71	167,474.68	0.00	3.0%
	36	2059	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	273,687.66	192,628.84	161,811.29	0.00	3.0%
	37	2060	0.00	15,944,697.69	15,944,697.69	19,133,637.23	0.00	558,292.00	19,691,929.23	9,464,156.45	6,596,460.29	5,514,362.65	3,146,251.75	3.0%
	38	2061	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	263,060.04	181,571.16	151,052.57	0.00	3.0%
	39	2062	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	257,902.00	176,282.68	145,944.51	0.00	3.0%
	40	2063	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	252,845.10	171,148.23	141,009.19	0.00	3.0%
	41	2064	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	247,887.35	166,163.33	136,240.76	0.00	3.0%
	42	2065	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	243,026.81	161,323.62	131,633.59	0.00	3.0%
	43	2066	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	238,261.58	156,624.88	127,182.21	0.00	3.0%
	44	2067	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	233,589.79	152,062.99	122,881.36	0.00	3.0%
	45	2068	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	229,009.59	147,633.97	118,725.95	0.00	3.0%
	46	2069	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	224,519.21	143,333.95	114,711.07	0.00	3.0%
	47	2070	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	220,116.87	139,159.17	110,831.95	0.00	3.0%
	48	2071	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	215,800.85	135,105.99	107,084.01	0.00	3.0%
	49	2072	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	211,569.47	131,170.87	103,462.81	0.00	3.0%
	50	2073	0.00	0.00	0.00	0.00	0.00	558,292.00	558,292.00	207,421.04	127,350.36	99,964.07	0.00	3.0%
	51	2074	85,041,015.20	40,834,133.89	125,875,149.09	151,050,178.91	0.00	558,292.00	151,608,470.91	55,222,327.56	33,575,694.73	26,228,027.37	12,544,893.87	3.0%
	52	2075						558,292.00	558,292.00	199,366.63	123,641.12	96,583.64	46,366.80	3.0%
		Total	**$ 560,502,862.04**	**$ 58,002,283.97**	**$ 618,505,146.01**	**$ 742,206,175.21**	**$ 20,158,564.00**	**$ 81,924,760.00**	**$ 844,289,499.21**	**$ 595,156,918.90**	**$ 517,440,509.41**	**$ 485,823,028.48**	**$ 366,938,436.39**	

	N	Year	Present Value Costs Using WebTAG Discount Schedule						
			New Construction Cost Subtotal (no inflation)	Rehab Construction Cost Total (no inflation)	Total Construction Cost Subtotal By Year (no inflation)	Total Construction Cost w/ contingency	ROW	Total Solar Cost	Total Cost
			Years 0-30 3.5%; Years 31-75 3%	Years 0-30 3.5%; Years 31-75 3%	Years 0-30 3.5%; Years 31-75 3%	Years 0-30 3.5%; Years 31-75 3%	Years 0-30 3.5%; Years 31-75 3%	Years 0-30 3.5%; Years 31-75 3%	Years 0-30 3.5%; Years 31-75 3%
B3-No Build with Will T Connector	1	2024	0.00	0.00	0.00	0.00	19,476,873.43	0.00	19,476,873.43
	2	2025	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3	2026	191,218,690.67	-10,177,459.74	181,041,230.93	217,249,477.11	0.00	0.00	217,249,477.11
	4	2027	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5	2028	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	6	2029	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	7	2030	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	8	2031	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	9	2032	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	10	2033	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	11	2034	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	12	2035	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	13	2036	89,260,354.94	2,643,961.60	91,904,316.53	110,285,179.84	0.00	0.00	110,285,179.84
	14	2037	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	15	2038	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	16	2039	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	17	2040	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	18	2041	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	19	2042	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	20	2043	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	21	2044	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	22	2045	0.00	0.00	0.00	0.00	0.00	30,577,361.51	30,577,361.51
	23	2046	56,141,689.16	3,795,063.33	59,936,752.49	71,924,102.99	0.00	253,065.74	72,177,168.73
	24	2047	0.00	0.00	0.00	0.00	0.00	244,507.96	244,507.96
	25	2048	0.00	0.00	0.00	0.00	0.00	236,239.58	236,239.58
	26	2049	0.00	0.00	0.00	0.00	0.00	228,250.80	228,250.80
	27	2050	0.00	0.00	0.00	0.00	0.00	220,532.17	220,532.17
	28	2051	0.00	0.00	0.00	0.00	0.00	213,074.57	213,074.57
	29	2052	0.00	0.00	0.00	0.00	0.00	205,869.14	205,869.14
	30	2053	0.00	0.00	0.00	0.00	0.00	198,907.39	198,907.39
	31	2054	0.00	0.00	0.00	0.00	0.00	223,309.62	223,309.62
	32	2055	0.00	0.00	0.00	0.00	0.00	216,805.46	216,805.46
	33	2056	0.00	0.00	0.00	0.00	0.00	210,490.74	210,490.74
	34	2057	0.00	0.00	0.00	0.00	0.00	204,359.94	204,359.94
	35	2058	0.00	0.00	0.00	0.00	0.00	198,407.71	198,407.71
	36	2059	0.00	0.00	0.00	0.00	0.00	192,628.84	192,628.84
	37	2060	0.00	5,341,201.66	5,341,201.66	6,409,441.99	0.00	187,018.29	6,596,460.29
	38	2061	0.00	0.00	0.00	0.00	0.00	181,571.16	181,571.16
	39	2062	0.00	0.00	0.00	0.00	0.00	176,282.68	176,282.68
	40	2063	0.00	0.00	0.00	0.00	0.00	171,148.23	171,148.23
	41	2064	0.00	0.00	0.00	0.00	0.00	166,163.33	166,163.33
	42	2065	0.00	0.00	0.00	0.00	0.00	161,323.62	161,323.62
	43	2066	0.00	0.00	0.00	0.00	0.00	156,624.88	156,624.88
	44	2067	0.00	0.00	0.00	0.00	0.00	152,062.99	152,062.99
	45	2068	0.00	0.00	0.00	0.00	0.00	147,633.97	147,633.97
	46	2069	0.00	0.00	0.00	0.00	0.00	143,333.95	143,333.95
	47	2070	0.00	0.00	0.00	0.00	0.00	139,159.17	139,159.17
	48	2071	0.00	0.00	0.00	0.00	0.00	135,105.99	135,105.99
	49	2072	0.00	0.00	0.00	0.00	0.00	131,170.87	131,170.87
	50	2073	0.00	0.00	0.00	0.00	0.00	127,350.36	127,350.36
	51	2074	18,833,454.02	9,043,257.32	27,876,711.34	33,452,053.60	0.00	123,641.12	33,575,694.73
	52	2075	0.00	0.00	0.00	0.00	0.00	120,039.93	120,039.93
		Total	**$ 355,454,188.78**	**$ 10,646,024.16**	**$ 366,100,212.95**	**$ 439,320,255.54**	**$ 19,476,873.43**	**$ 36,043,441.72**	**$ 494,840,570.69**

N	Year	Benefit Categories: all values in constant 2023 $ (sign may be "+" or "-" value)									Present Value Benefits		
		Noise Impact	Electric Cost Savings from Solar Canopy	Amenity Loss (construction)	Carbon Emissions (Construction)	Carbon Sequesetration Impact	Carbon emissions from traffic	Carbon emissions savings from solar canopy	TREDIS Transportation Benefits	Total Benefits (Undiscounted)	Total Benefits Discounted 2%	Total Benefits Discounted 3%	Total Benefits Discounted 3.5%
1	2024	0	0	0	-22088674.94	0	0	0.00	0	-22,088,675	-21,655,564	-21,445,315	-21,341,715
2	2025	0	0	0	-22425050.70	0	0	0.00	0	-22,425,051	-21,554,259	-21,137,761	-20,934,025
3	2026	-383,375	0	-12,556,250	0	-230,534	-1,479,724	0.00	2,560,000	-12,089,882	-11,392,566	-11,063,955	-10,904,381
4	2027	-381,631	0	0	0	-234,044	-1,448,879	0.00	2,650,000	585,446	540,862	520,161	510,182
5	2028	-379,888	0	0	0	-237,608	-1,415,155	0.00	2,750,000	717,349	649,725	618,792	603,989
6	2029	-378,144	0	0	0	-241,227	-1,378,416	0.00	2,840,000	842,213	747,861	705,340	685,141
7	2030	-376,401	0	0	0	-244,900	-1,338,519	0.00	2,950,000	990,180	862,011	805,107	778,273
8	2031	-374,657	0	0	0	-248,630	-1,295,317	0.00	3,070,000	1,151,396	982,705	908,923	874,383
9	2032	-372,914	0	0	0	-252,416	-1,248,656	0.00	3,200,000	1,326,014	1,109,550	1,016,280	972,938
10	2033	-371,170	0	0	0	-256,260	-1,198,376	0.00	3,330,000	1,504,194	1,233,963	1,119,262	1,066,351
11	2034	-369,427	0	0	0	-260,162	-1,144,311	0.00	3,470,000	1,696,100	1,364,110	1,225,299	1,161,736
12	2035	-367,683	0	0	0	-264,124	-1,086,289	0.00	3,630,000	1,911,904	1,507,523	1,340,971	1,265,266
13	2036	-365,940	0	0	0	-268,146	-1,024,130	0.00	18,900,000	17,241,783	13,328,459	11,740,816	11,024,468
14	2037	-364,196	0	0	0	-272,230	-957,649	0.00	19,310,000	17,715,925	13,426,457	11,712,313	10,944,576
15	2038	-362,453	0	0	0	-276,375	-886,653	0.00	19,750,000	18,224,519	13,541,086	11,697,625	10,878,045
16	2039	-360,709	0	0	0	-280,584	-810,940	0.00	20,190,000	18,737,767	13,649,448	11,676,757	10,806,181
17	2040	-358,966	0	0	0	-284,857	-730,302	0.00	20,640,000	19,265,876	13,758,967	11,656,172	10,735,019
18	2041	-357,222	0	0	0	-289,130	-644,378	0.00	21,110,000	19,819,270	13,876,648	11,641,732	10,669,925
19	2042	-355,479	0	0	0	-293,467	-553,129	0.00	21,580,000	20,377,925	13,988,035	11,621,246	10,599,694
20	2043	-353,735	0	0	0	-297,869	-456,326	0.00	22,060,000	20,952,070	14,100,142	11,600,653	10,529,795
21	2044	-351,992	0	0	0	-302,337	-353,731	0.00	22,560,000	21,551,940	14,219,449	11,585,230	10,464,995
22	2045	-350,248	0	0	0	-306,872	-245,098	-19,992,133.70	23,070,000	2,175,649	1,407,294	1,135,455	1,020,707
23	2046	-348,505	9,324,360	0	0	-311,475	-130,168	11,474,245.17	31,330,000	51,338,457	32,556,586	26,012,773	23,270,985
24	2047	-346,761	9,258,950	0	0	-316,147	-8,678	11,564,659.64	31,850,000	52,002,023	32,330,775	25,581,549	22,774,657
25	2048	-345,018	9,193,998	0	0	-320,889	119,649	11,655,786.56	32,390,000	52,693,527	32,118,331	25,166,722	22,297,107
26	2049	-343,274	9,129,502	0	0	-325,703	255,099	11,747,631.53	32,930,000	53,393,256	31,906,704	24,758,171	21,829,174
27	2050	-341,531	9,065,459	0	0	-330,588	397,968	11,840,200.23	33,490,000	54,121,508	31,707,737	24,364,911	21,378,658
28	2051	-339,787	9,001,865	0	0	-335,547	548,564	11,933,498.34	34,060,000	54,868,593	31,515,124	23,981,786	20,940,837
29	2052	-338,044	8,938,716	0	0	-340,580	707,206	12,027,531.62	34,630,000	55,624,830	31,323,027	23,604,194	20,511,554
30	2053	-336,300	8,876,011	0	0	-345,689	874,225	12,122,305.86	35,230,000	56,420,553	31,148,145	23,244,521	20,101,425
31	2054	-334,557	8,813,746	0	0	-350,874	1,049,963	12,217,826.91	35,840,000	57,236,105	30,978,811	22,893,706	19,702,404
32	2055	-332,813	8,751,918	0	0	-356,137	1,234,777	12,314,100.63	36,460,000	58,071,844	30,814,855	22,551,448	19,314,098
33	2056	-331,070	8,690,523	0	0	-361,479	1,429,033	12,411,132.98	37,090,000	58,928,140	30,656,111	22,217,455	18,936,128
34	2057	-329,326	8,629,559	0	0	-366,902	1,633,115	12,508,929.91	37,740,000	59,815,376	30,507,527	21,895,113	18,571,242
35	2058	-327,583	8,569,023	0	0	-372,405	1,847,419	12,607,497.46	38,400,000	60,723,951	30,363,652	21,580,284	18,215,780
36	2059	-325,839	8,508,911	0	0	-377,991	2,072,354	12,706,841.71	39,080,000	61,664,276	30,229,256	21,276,175	17,872,325
37	2060	-324,096	8,449,221	0	0	-383,661	2,308,346	12,806,968.76	39,770,000	62,626,779	30,099,115	20,978,902	17,537,478
38	2061	-322,352	8,389,950	0	0	-389,416	2,555,836	12,907,884.79	40,480,000	63,621,902	29,977,825	20,691,506	17,213,665
39	2062	-320,609	8,331,094	0	0	-395,257	2,815,280	13,009,596.02	41,200,000	64,640,104	29,860,381	20,410,342	16,897,731
40	2063	-318,865	8,272,652	0	0	-401,186	3,087,151	13,112,108.71	41,930,000	65,681,860	29,746,685	20,135,223	16,589,429
41	2064	-317,122	8,214,619	0	0	-407,204	3,371,940	13,215,429.18	42,690,000	66,767,663	29,645,524	19,871,926	16,293,404
42	2065	-315,378	8,156,993	0	0	-413,312	3,670,155	13,319,563.79	43,470,000	67,888,022	29,551,936	19,616,870	16,006,577
43	2066	-313,635	8,099,772	0	0	-419,512	3,982,321	13,424,518.95	44,250,000	69,023,466	29,457,058	19,364,046	15,723,952
44	2067	-311,891	8,042,952	0	0	-425,804	4,308,984	13,530,301.14	45,050,000	70,194,542	29,369,448	19,119,012	15,449,981
45	2068	-310,148	7,986,531	0	0	-432,191	4,650,709	13,636,916.87	45,880,000	71,411,817	29,292,899	18,884,043	15,186,383
46	2069	-308,404	7,930,505	0	0	-438,674	5,008,079	13,744,372.71	46,720,000	72,655,878	29,218,832	18,653,418	14,928,448
47	2070	-306,661	7,874,873	0	0	-445,254	5,381,701	13,852,675.27	47,590,000	73,947,334	29,155,094	18,432,021	14,680,001
48	2071	-304,917	7,819,631	0	0	-451,933	5,772,202	13,961,831.23	48,540,000	75,336,813	29,120,511	18,231,418	14,450,087
49	2072	-303,174	7,764,776	0	0	-458,712	6,180,231	14,071,847.32	49,450,000	76,704,968	29,067,995	18,021,855	14,214,983
50	2073	-301,430	7,710,306	0	0	-465,593	6,606,461	14,182,730.31	50,370,000	78,102,474	29,017,247	17,815,727	13,984,511
51	2074	-299,687	7,656,218	0	0	-472,577	7,051,588	14,294,487.04	41,470,000	69,700,030	25,387,750	15,435,991	12,057,996
52	2075		7,602,510		0			13,845,210.58		21,447,720	7,659,002	4,611,534	3,584,949
	Total	**$ (16,735,011.48)**	**$ 253,055,142.14**	**$ (12,556,250.00)**	**$ (44,513,725.64)**	**$ (16,554,466.03)**	**$ 59,085,535.16**	**$ 366,056,497.52**	**$ 1,399,000,000.00**	**$ 1,986,837,721.66**	**$ 963,475,851**	**$ 680,083,745**	**$ 572,927,493**

N	Year		Present Value Benefits Using WebTAG Discount Schedule										
		Total Benefits Discounted	WebTAG Discount Schedule - Health Impacts (Noise only)	Noise Impact	WebTAG Discount Schedule - All other Impacts	Electric Cost Savings from Solar Canopy	Amenity Loss (construction)	Carbon Emissions (Construction)	Carbon Sequesetration Impact	Carbon emissions from traffic	Carbon emissions savings from solar canopy	TREDIS Transportation Benefits	Total Benefits
		5%		Years 0-30 1.5% ; Years 31-75 1.29%		Years 0-30 3.5%; Years 31-75 3%	Years 0-30 3.5%; Years 31-75 3%	Years 0-30 3.5%; Years 31-75 3%	Years 0-30 3.5%; Years 31-75 3%	Years 0-30 3.5%; Years 31-75 3%	Years 0-30 3.5%; Years 31-75 3%	Years 0-30 3.5%; Years 31-75 3%	WebTAG
1	2024	-21,036,833	1.50%	0	3.5%	0	0	-21,341,715	0	0	0	0	-21,341,714.92
2	2025	-20,340,182	1.50%	0	3.5%	0	0	-20,934,025	0	0	0	0	-20,934,024.78
3	2026	-10,443,695	1.50%	-366,628	3.5%	0	-11,325,018	0	-207,928	-1,334,626	0	2,308,973	-10,925,226.90
4	2027	481,648	1.50%	-359,567	3.5%	0	0	0	-203,956	-1,262,614	0	2,309,322	483,185.07
5	2028	562,062	1.50%	-352,635	3.5%	0	0	0	-200,060	-1,191,522	0	2,315,426	571,209.43
6	2029	628,473	1.50%	-345,829	3.5%	0	0	0	-196,238	-1,121,342	0	2,310,342	646,932.90
7	2030	703,702	1.50%	-339,147	3.5%	0	0	0	-192,489	-1,052,064	0	2,318,673	734,972.95
8	2031	779,310	1.50%	-332,587	3.5%	0	0	0	-188,812	-983,679	0	2,331,393	826,315.08
9	2032	854,761	1.50%	-326,147	3.5%	0	0	0	-185,205	-916,178	0	2,347,939	920,408.72
10	2033	923,445	1.50%	-319,825	3.5%	0	0	0	-181,667	-849,551	0	2,360,700	1,009,655.73
11	2034	991,674	1.50%	-313,619	3.5%	0	0	0	-178,197	-783,791	0	2,376,762	1,101,154.96
12	2035	1,064,619	1.50%	-307,526	3.5%	0	0	0	-174,793	-718,888	0	2,402,273	1,201,066.88
13	2036	9,143,686	1.50%	-301,544	3.5%	0	0	0	-171,454	-654,833	0	12,084,738	10,956,907.12
14	2037	8,947,746	1.50%	-295,672	3.5%	0	0	0	-168,179	-591,618	0	11,929,366	10,873,896.94
15	2038	8,766,305	1.50%	-289,908	3.5%	0	0	0	-164,966	-529,235	0	11,788,590	10,804,480.78
16	2039	8,583,987	1.50%	-284,250	3.5%	0	0	0	-161,815	-467,674	0	11,643,692	10,729,954.08
17	2040	8,405,638	1.50%	-278,696	3.5%	0	0	0	-158,723	-406,927	0	11,500,686	10,656,340.02
18	2041	8,235,316	1.50%	-273,243	3.5%	0	0	0	-155,656	-346,908	0	11,364,804	10,588,996.02
19	2042	8,064,237	1.50%	-267,891	3.5%	0	0	0	-152,648	-287,713	0	11,224,960	10,516,706.71
20	2043	7,896,615	1.50%	-262,638	3.5%	0	0	0	-149,699	-229,334	0	11,086,603	10,444,932.71
21	2044	7,735,904	1.50%	-257,481	3.5%	0	0	0	-146,806	-171,762	0	10,954,480	10,378,430.63
22	2045	743,745	1.50%	-252,420	3.5%	0	0	0	-143,969	-114,988	-9,379,322	10,823,305	932,606.49
23	2046	16,714,328	1.50%	-247,451	3.5%	4,226,598	0	0	-141,187	-59,003	5,201,110	14,201,439	23,181,505.91
24	2047	16,124,159	1.50%	-242,575	3.5%	4,055,023	0	0	-138,459	-3,801	5,064,825	13,948,935	22,683,948.67
25	2048	15,560,544	1.50%	-237,788	3.5%	3,890,413	0	0	-135,783	50,629	4,932,111	13,705,731	22,205,312.06
26	2049	15,016,358	1.50%	-233,090	3.5%	3,732,484	0	0	-133,160	104,294	4,802,874	13,463,024	21,736,427.43
27	2050	14,496,355	1.50%	-228,479	3.5%	3,580,967	0	0	-130,586	157,202	4,677,024	13,228,960	21,285,087.86
28	2051	13,996,629	1.50%	-223,954	3.5%	3,435,601	0	0	-128,063	209,362	4,554,471	12,999,147	20,846,564.35
29	2052	13,513,848	1.50%	-219,512	3.5%	3,296,135	0	0	-125,588	260,781	4,435,130	12,769,749	20,416,694.88
30	2053	13,054,444	1.50%	-215,152	3.5%	3,162,331	0	0	-123,161	311,468	4,318,916	12,551,688	20,006,089.22
31	2054	12,612,518	1.29%	-224,857	3.0%	3,525,385	0	0	-140,345	419,972	4,886,974	14,335,539	22,802,667.92
32	2055	12,187,315	1.29%	-220,836	3.0%	3,398,694	0	0	-138,301	479,509	4,782,021	14,158,768	22,459,855.20
33	2056	11,778,117	1.29%	-216,882	3.0%	3,276,555	0	0	-136,287	538,783	4,679,323	13,983,903	22,125,395.82
34	2057	11,386,144	1.29%	-212,992	3.0%	3,158,806	0	0	-134,302	597,794	4,578,830	13,814,535	21,802,669.75
35	2058	11,008,662	1.29%	-209,166	3.0%	3,045,288	0	0	-132,347	656,542	4,480,495	13,646,722	21,487,535.46
36	2059	10,646,794	1.29%	-205,403	3.0%	2,935,850	0	0	-130,419	715,029	4,384,272	13,483,867	21,183,196.73
37	2060	10,298,074	1.29%	-201,702	3.0%	2,830,345	0	0	-128,520	773,257	4,290,116	13,322,271	20,885,766.79
38	2061	9,963,531	1.29%	-198,062	3.0%	2,728,631	0	0	-126,648	831,225	4,197,982	13,165,155	20,598,281.75
39	2062	9,640,940	1.29%	-194,482	3.0%	2,630,573	0	0	-124,804	888,935	4,107,826	13,009,046	20,317,093.44
40	2063	9,329,825	1.29%	-190,961	3.0%	2,536,038	0	0	-122,986	946,387	4,019,607	12,853,928	20,042,012.91
41	2064	9,032,436	1.29%	-187,498	3.0%	2,444,901	0	0	-121,195	1,003,584	3,933,282	12,705,739	19,778,812.20
42	2065	8,746,667	1.29%	-184,092	3.0%	2,357,038	0	0	-119,430	1,060,525	3,848,811	12,561,057	19,523,909.12
43	2066	8,469,483	1.29%	-180,743	3.0%	2,272,334	0	0	-117,691	1,117,212	3,766,154	12,414,025	19,271,290.62
44	2067	8,203,028	1.29%	-177,449	3.0%	2,190,673	0	0	-115,977	1,173,646	3,685,272	12,270,349	19,026,513.60
45	2068	7,947,886	1.29%	-174,210	3.0%	2,111,947	0	0	-114,288	1,229,827	3,606,128	12,132,444	18,791,847.65
46	2069	7,701,282	1.29%	-171,025	3.0%	2,036,050	0	0	-112,624	1,285,757	3,528,683	11,994,731	18,561,572.09
47	2070	7,464,925	1.29%	-167,892	3.0%	1,962,881	0	0	-110,984	1,341,436	3,452,901	11,862,225	18,340,567.12
48	2071	7,243,040	1.29%	-164,811	3.0%	1,892,341	0	0	-109,367	1,396,866	3,378,746	11,746,622	18,140,396.76
49	2072	7,023,407	1.29%	-161,782	3.0%	1,824,336	0	0	-107,775	1,452,047	3,306,185	11,618,292	17,931,303.51
50	2073	6,810,827	1.29%	-158,803	3.0%	1,758,775	0	0	-106,205	1,506,981	3,235,181	11,489,754	17,725,682.68
51	2074	5,788,669	1.29%	-155,874	3.0%	1,695,570	0	0	-104,658	1,561,667	3,165,703	9,184,078	15,346,486.53
52	2075	1,696,436	1.29%		3.0%	1,634,637					2,976,897		4,611,534.41
	Total	**$ 345,148,836**		**$ (11,934,778.55)**		**$ 83,627,202.95**	**$ (11,325,018.10)**	**$ (42,275,739.70)**	**$ (7,094,403.86)**	**$ 7,992,665.80**	**$ 114,898,528.23**	**$ 510,404,752.30**	**$ 644,293,209.07**

N	Year	Undiscounted Benefit Categories: all values in constant 2023 $ (sign may be "+" or "-" value)									Present Value Benefits		
		Noise Impact	Electric Cost Savings from Solar Canopy	Amenity Loss (construction)	Carbon Emissions (construction)	Carbon Sequesetration Impact	Carbon emissions from traffic	Carbon emissions savings from solar canopy	TREDIS Transportation Benefits	Total Benefits (Undiscounted)	Total Benefits Discounted 2%	Total Benefits Discounted 3%	Total Benefits Discounted 3.5%
1	2024	0.00	0.00	0.00	-12403658.97	0.00	0.00	0.00	0.00	-12403658.97	-12,160,450	-12,042,387	-11,984,212
2	2025	0.00	0.00	0.00	-12592547.17	0.00	0.00	0.00	0.00	-12592547.17	-12,103,563	-11,869,683	-11,755,278
3	2026	-355612.29	0.00	-9431250.00	0.00	-152858.74	-2244230.80	0.00	4,650,000.00	-7533951.83	-7,099,411	-6,894,633	-6,795,193
4	2027	-354334.70	0.00	0.00	0.00	-155186.53	-2214893.04	0.00	4,810,000.00	2085585.72	1,926,759	1,853,016	1,817,467
5	2028	-353057.11	0.00	0.00	0.00	-157549.78	-2182232.54	0.00	4,980,000.00	2287160.57	2,071,552	1,972,925	1,925,728
6	2029	-351779.53	0.00	0.00	0.00	-159949.02	-2146088.12	0.00	5,160,000.00	2502183.34	2,221,867	2,095,539	2,035,528
7	2030	-350501.94	0.00	0.00	0.00	-162384.79	-2106292.21	0.00	5,350,000.00	2730821.07	2,377,344	2,220,407	2,146,401
8	2031	-349224.35	0.00	0.00	0.00	-164857.65	-2062670.64	0.00	5,550,000.00	2973247.36	2,537,638	2,347,109	2,257,918
9	2032	-347946.76	0.00	0.00	0.00	-167368.18	-2015042.40	0.00	5,770,000.00	3239642.67	2,710,788	2,482,916	2,377,026
10	2033	-346669.17	0.00	0.00	0.00	-169916.93	-1963219.37	0.00	6,000,000.00	3520194.53	2,887,786	2,619,355	2,495,532
11	2034	-345391.58	0.00	0.00	0.00	-172504.50	-1907006.11	0.00	6,250,000.00	3825097.81	3,076,385	2,763,332	2,619,984
12	2035	-344113.99	0.00	0.00	0.00	-175131.47	-1846199.55	0.00	6,510,000.00	4144554.98	3,267,953	2,906,907	2,742,797
13	2036	-342836.40	0.00	0.00	0.00	-177798.45	-1780588.76	0.00	15,480,000.00	13178776.39	10,187,623	8,974,105	8,426,564
14	2037	-341558.82	0.00	0.00	0.00	-180506.04	-1709954.63	0.00	15,790,000.00	13557980.52	10,275,255	8,963,422	8,375,873
15	2038	-340281.23	0.00	0.00	0.00	-183254.86	-1634069.60	0.00	16,110,000.00	13952394.31	10,366,834	8,955,511	8,328,053
16	2039	-339003.64	0.00	0.00	0.00	-186045.54	-1552697.39	0.00	16,440,000.00	14362253.43	10,462,123	8,950,082	8,282,796
17	2040	-337726.05	0.00	0.00	0.00	-188878.72	-1465592.62	0.00	16,770,000.00	14777802.61	10,553,753	8,940,814	8,234,247
18	2041	-336448.46	0.00	0.00	0.00	-191711.90	-1372191.72	0.00	17,110,000.00	15209647.91	10,649,178	8,934,065	8,188,283
19	2042	-335170.87	0.00	0.00	0.00	-194587.58	-1272583.83	0.00	17,460,000.00	15657657.71	10,747,898	8,929,343	8,144,420
20	2043	-333893.28	0.00	0.00	0.00	-197506.40	-1166498.82	0.00	17,810,000.00	16112101.50	10,842,982	8,920,880	8,097,393
21	2044	-332615.70	0.00	0.00	0.00	-200468.99	-1053656.38	0.00	18,180,000.00	16593258.93	10,947,831	8,919,694	8,057,204
22	2045	-331338.11	0.00	0.00	0.00	-203476.03	-933765.72	-19,992,133.70	18,540,000.00	-2920713.56	-1,889,232	-1,524,299	-1,370,255
23	2046	-330060.52	9324360.00	0.00	0.00	-206528.17	-806525.16	11,474,245.17	33,580,000.00	53035491.32	33,632,771	26,872,646	24,040,226
24	2047	-328782.93	9258949.61	0.00	0.00	-209626.09	-671621.77	11,564,659.64	33,990,000.00	53603578.47	33,326,497	26,369,409	23,476,070
25	2048	-327505.34	9193998.08	0.00	0.00	-212770.48	-528730.95	11,655,786.56	34,430,000.00	54210777.87	33,043,143	25,891,369	22,939,127
26	2049	-326227.75	9129502.19	0.00	0.00	-215962.04	-377516.07	11,747,631.53	34,870,000.00	54827427.86	32,763,735	25,423,189	22,415,518
27	2050	-324950.16	9065458.73	0.00	0.00	-219201.47	-217628.02	11,840,200.23	35,320,000.00	55463879.30	32,494,182	24,969,231	21,908,911
28	2051	-323672.58	9001864.54	0.00	0.00	-222489.49	-48704.78	11,933,498.34	35,790,000.00	56130496.03	32,239,929	24,533,335	21,422,447
29	2052	-322394.99	8938716.46	0.00	0.00	-225826.83	129629.01	12,027,531.62	36,260,000.00	56807655.26	31,989,090	24,106,122	20,947,718
30	2053	-321117.40	8876011.36	0.00	0.00	-229214.24	317762.51	12,122,305.86	36,750,000.00	57515748.10	31,752,770	23,695,727	20,491,619
31	2054	-319839.81	8813746.14	0.00	0.00	-232652.45	516099.17	12,217,826.91	37,250,000.00	58245179.96	31,524,969	23,297,323	20,049,759
32	2055	-318562.22	8751917.71	0.00	0.00	-236142.24	725057.24	12,314,100.63	37,760,000.00	58996371.13	31,305,439	22,910,476	19,621,586
33	2056	-317284.63	8690523.01	0.00	0.00	-239684.37	945070.22	12,411,132.98	38,280,000.00	59769757.20	31,093,945	22,534,767	19,206,576
34	2057	-316007.04	8629558.99	0.00	0.00	-243279.64	1176587.43	12,508,929.91	38,830,000.00	60585789.65	30,900,459	22,177,119	18,810,437
35	2058	-314729.45	8569022.63	0.00	0.00	-246928.83	1420074.56	12,607,497.46	39,370,000.00	61404936.37	30,704,164	21,822,295	18,420,060
36	2059	-313451.87	8508910.94	0.00	0.00	-250632.76	1676014.18	12,706,841.71	39,940,000.00	62267682.20	30,525,059	21,484,369	18,047,211
37	2060	-312174.28	8449220.93	0.00	0.00	-254392.25	1944906.38	12,806,968.76	40,520,000.00	63154529.54	30,352,757	21,155,690	17,685,265
38	2061	-310896.69	8389949.64	0.00	0.00	-258208.14	2227269.31	12,907,884.79	41,110,000.00	64065998.92	30,187,078	20,835,938	17,333,821
39	2062	-309619.10	8331094.15	0.00	0.00	-262081.26	2523639.84	13,009,596.02	41,720,000.00	65012629.65	30,032,469	20,527,968	16,995,114
40	2063	-308341.51	8272651.52	0.00	0.00	-266012.48	2834574.19	13,112,108.71	42,350,000.00	65994980.43	29,888,494	20,231,213	16,668,515
41	2064	-307063.92	8214618.87	0.00	0.00	-270002.67	3160648.55	13,215,429.18	42,980,000.00	66993630.00	29,745,856	19,939,180	16,348,547
42	2065	-305786.33	8156993.32	0.00	0.00	-274052.71	3502459.81	13,319,563.79	43,640,000.00	68039177.87	29,617,735	19,660,548	16,042,216
43	2066	-304508.75	8099772.01	0.00	0.00	-278163.50	3860626.25	13,424,518.95	44,300,000.00	69102244.97	29,490,679	19,386,147	15,741,899
44	2067	-303231.16	8042952.11	0.00	0.00	-282335.95	4235788.24	13,530,301.14	44,990,000.00	70213474.38	29,377,370	19,124,169	15,454,148
45	2068	-301953.57	7986530.80	0.00	0.00	-286570.99	4628609.01	13,636,916.87	45,680,000.00	71343532.12	29,264,889	18,865,985	15,171,861
46	2069	-300675.98	7930505.29	0.00	0.00	-290869.55	5039775.42	13,744,372.71	46,410,000.00	72533107.88	29,169,460	18,621,898	14,903,223
47	2070	-299398.39	7874872.79	0.00	0.00	-295232.60	5469998.78	13,852,675.27	47,140,000.00	73742915.85	29,074,499	18,381,068	14,639,420
48	2071	-298120.80	7819630.56	0.00	0.00	-299661.09	5920015.61	13,961,831.23	48,070,000.00	75173695.52	29,057,460	18,191,944	14,418,800
49	2072	-296843.21	7764775.85	0.00	0.00	-304156.00	6390588.58	14,071,847.32	48,850,000.00	76476212.54	28,981,306	17,968,108	14,172,590
50	2073	-295565.63	7710305.95	0.00	0.00	-308718.34	6882507.31	14,182,730.31	49,640,000.00	77811259.61	28,909,052	17,749,299	13,932,369
51	2074	-294288.04	7656218.15	0.00	0.00	-313349.12	7396589.34	14,294,487.04	62,720,000.00	91459657.37	33,313,542	20,254,947	15,822,377
52	2075		7602509.78		0.00			13,845,210.58		21447720.36	7,659,002	4,611,534	3,584,949
	Total	**$ (15,922,558.03)**	**$ 253,055,142.14**	**$ (9,431,250.00)**	**$ (24,996,206.14)**	**$ (10,976,687.84)**	**$ 35,644,089.92**	**$ 366,056,497.52**	**$ 1,427,260,000.00**	**$ 2,020,689,027.57**	**$ 986,276,691.98**	**$ 701,011,437.90**	**$ 593,360,660.27**

N	Year	Total Benefits Discounted	WebTAG Discount Schedule - Health Impacts (Noise only)	Present Value Benefits Using WebTAG Discount Schedule								
				Noise Impact	WebTAG Discount Schedule - All other Impacts	Electric Cost Savings from Solar Canopy	Amenity Loss (construction)	Carbon Emissions (construction)	Carbon Sequesetration Impact	Carbon emissions from traffic	Carbon emissions savings from solar canopy	TREDIS Transportation Benefits	Total Benefits
		5%		Years 0-30 1.5% ; Years 31-75 1.29%		Years 0-30 3.5%; Years 31-75 3%	Years 0-30 3.5%; Years 31-75 3%	Years 0-30 3.5%; Years 31-75 3%	Years 0-30 3.5%; Years 31-75 3%	Years 0-30 3.5%; Years 31-75 3%	Years 0-30 3.5%; Years 31-75 3%	Years 0-30 3.5%; Years 31-75 3%	WebTAG
1	2024	-11,813,009	1.50%	0	3.5%	0	0	-11,984,212	0	0	0	0	-11,984,212
2	2025	-11,421,811	1.50%	0	3.5%	0	0	-11,755,278	0	0	0	0	-11,755,278
3	2026	-6,508,111	1.50%	-340,078	3.5%	0	-8,506,447	0	-137,870	-2,024,168	0	4,194,034	-6,814,529
4	2027	1,715,817	1.50%	-333,849	3.5%	0	0	0	-135,236	-1,930,151	0	4,191,637	1,792,401
5	2028	1,792,050	1.50%	-327,729	3.5%	0	0	0	-132,653	-1,837,381	0	4,193,026	1,895,264
6	2029	1,867,168	1.50%	-321,717	3.5%	0	0	0	-130,119	-1,745,844	0	4,197,663	1,999,983
7	2030	1,940,744	1.50%	-315,812	3.5%	0	0	0	-127,633	-1,655,527	0	4,205,052	2,106,080
8	2031	2,012,411	1.50%	-310,010	3.5%	0	0	0	-125,195	-1,566,416	0	4,214,734	2,213,113
9	2032	2,088,303	1.50%	-304,312	3.5%	0	0	0	-122,803	-1,478,499	0	4,233,628	2,328,014
10	2033	2,161,094	1.50%	-298,713	3.5%	0	0	0	-120,457	-1,391,763	0	4,253,513	2,442,579
11	2034	2,236,455	1.50%	-293,214	3.5%	0	0	0	-118,156	-1,306,196	0	4,280,911	2,563,344
12	2035	2,307,843	1.50%	-287,813	3.5%	0	0	0	-115,899	-1,221,784	0	4,308,209	2,682,714
13	2036	6,988,986	1.50%	-282,506	3.5%	0	0	0	-113,685	-1,138,516	0	9,897,976	8,363,269
14	2037	6,847,701	1.50%	-277,294	3.5%	0	0	0	-111,513	-1,056,379	0	9,754,774	8,309,588
15	2038	6,711,340	1.50%	-272,174	3.5%	0	0	0	-109,383	-975,361	0	9,615,908	8,258,989
16	2039	6,579,514	1.50%	-267,145	3.5%	0	0	0	-107,294	-895,450	0	9,481,045	8,211,156
17	2040	6,447,506	1.50%	-262,206	3.5%	0	0	0	-105,244	-816,634	0	9,344,307	8,160,224
18	2041	6,319,923	1.50%	-257,353	3.5%	0	0	0	-103,210	-738,735	0	9,211,359	8,112,061
19	2042	6,196,267	1.50%	-252,587	3.5%	0	0	0	-101,216	-661,942	0	9,081,918	8,066,174
20	2043	6,072,482	1.50%	-247,906	3.5%	0	0	0	-99,260	-586,243	0	8,950,698	8,017,290
21	2044	5,956,024	1.50%	-243,308	3.5%	0	0	0	-97,342	-511,625	0	8,827,679	7,975,405
22	2045	-998,446	1.50%	-238,791	3.5%	0	0	0	-95,461	-438,077	-9,379,322	8,698,053	-1,453,598
23	2046	17,266,834	1.50%	-234,355	3.5%	4,226,598	0	0	-93,616	-365,586	5,201,110	15,221,332	23,955,483
24	2047	16,620,750	1.50%	-229,998	3.5%	4,055,023	0	0	-91,807	-294,142	5,064,825	14,886,163	23,390,064
25	2048	16,008,593	1.50%	-225,719	3.5%	3,890,413	0	0	-90,033	-223,731	4,932,111	14,568,951	22,851,992
26	2049	15,419,706	1.50%	-221,515	3.5%	3,732,484	0	0	-88,293	-154,343	4,802,874	14,256,170	22,327,377
27	2050	14,855,907	1.50%	-217,387	3.5%	3,580,967	0	0	-86,587	-85,966	4,677,024	13,951,832	21,819,884
28	2051	14,318,532	1.50%	-213,332	3.5%	3,435,601	0	0	-84,914	-18,588	4,554,471	13,659,409	21,332,646
29	2052	13,801,211	1.50%	-209,350	3.5%	3,296,135	0	0	-83,273	47,800	4,435,130	13,370,808	20,857,251
30	2053	13,307,847	1.50%	-205,439	3.5%	3,162,331	0	0	-81,664	113,212	4,318,916	13,093,232	20,400,588
31	2054	12,834,877	1.29%	-214,966	3.0%	3,525,385	0	0	-93,058	206,433	4,886,974	14,899,521	23,210,290
32	2055	12,381,342	1.29%	-211,380	3.0%	3,398,694	0	0	-91,703	281,567	4,782,021	14,663,606	22,822,805
33	2056	11,946,333	1.29%	-207,851	3.0%	3,276,555	0	0	-90,367	356,316	4,679,323	14,432,565	22,446,541
34	2057	11,532,796	1.29%	-204,378	3.0%	3,158,806	0	0	-89,051	430,684	4,578,830	14,213,523	22,088,414
35	2058	11,132,118	1.29%	-200,959	3.0%	3,045,288	0	0	-87,754	504,671	4,480,495	13,991,444	21,733,186
36	2059	10,750,977	1.29%	-197,594	3.0%	2,935,850	0	0	-86,476	578,279	4,384,272	13,780,595	21,394,926
37	2060	10,384,855	1.29%	-194,283	3.0%	2,830,345	0	0	-85,217	651,510	4,290,116	13,573,509	21,065,980
38	2061	10,033,079	1.29%	-191,023	3.0%	2,728,631	0	0	-83,976	724,366	4,197,982	13,370,047	20,746,027
39	2062	9,696,502	1.29%	-187,816	3.0%	2,630,573	0	0	-82,753	796,848	4,107,826	13,173,238	20,437,916
40	2063	9,374,302	1.29%	-184,658	3.0%	2,536,038	0	0	-81,548	868,958	4,019,607	12,982,682	20,141,078
41	2064	9,063,006	1.29%	-181,551	3.0%	2,444,901	0	0	-80,360	940,698	3,933,282	12,792,051	19,849,020
42	2065	8,766,142	1.29%	-178,493	3.0%	2,357,038	0	0	-79,190	1,012,068	3,848,811	12,610,181	19,570,414
43	2066	8,479,150	1.29%	-175,484	3.0%	2,272,334	0	0	-78,037	1,083,071	3,766,154	12,428,052	19,296,091
44	2067	8,205,240	1.29%	-172,522	3.0%	2,190,673	0	0	-76,900	1,153,709	3,685,272	12,254,006	19,034,239
45	2068	7,940,286	1.29%	-169,607	3.0%	2,111,947	0	0	-75,780	1,223,983	3,606,128	12,079,556	18,776,226
46	2069	7,688,268	1.29%	-166,739	3.0%	2,036,050	0	0	-74,677	1,293,894	3,528,683	11,915,142	18,532,354
47	2070	7,444,289	1.29%	-163,916	3.0%	1,962,881	0	0	-73,589	1,363,445	3,452,901	11,750,058	18,291,780
48	2071	7,227,358	1.29%	-161,138	3.0%	1,892,341	0	0	-72,518	1,432,637	3,378,746	11,632,882	18,102,951
49	2072	7,002,461	1.29%	-158,404	3.0%	1,824,336	0	0	-71,462	1,501,471	3,306,185	11,477,322	17,879,448
50	2073	6,785,432	1.29%	-155,713	3.0%	1,758,775	0	0	-70,421	1,569,949	3,235,181	11,323,235	17,661,007
51	2074	7,595,831	1.29%	-153,066	3.0%	1,695,570	0	0	-69,395	1,638,072	3,165,703	13,890,171	20,167,055
52	2075	1,696,436	1.29%	0	3.0%	1,634,637	0	0			2,976,897		4,611,534
	Total	**$ 365,060,712.31**		**$ (11,323,153.50)**		**$ 83,627,202.95**	**$ (8,506,447.14)**	**$ (23,739,489.09)**	**$ (4,704,051.24)**	**$ (5,345,401.63)**	**$ 114,898,528.23**	**$ 521,377,410.29**	**$ 666,284,598.86**

B3 Benefits

Year #	Year	Benefit Categories: all values in constant 2023 $ (sign may be "+" or "-" value)									Total Benefits Discounted
		Noise Impact	Electric Cost Savings from Solar Canopy	Amenity Loss (construction)	Carbon Emissions (construction)	Carbon Sequesetration Impact	Carbon emissions from traffic	Carbon emissions savings from solar canopy	TREDIS Transportation Benefits	Total Benefits (Undiscounted)	2%
1	2024	0.00	0.00	0.00	-18,160,395.17	0.00	0.00	0.00	0.00	-18,160,395.17	-17,804,308.99
2	2025	0.00	0.00	0.00	-18,436,949.41	0.00	0.00	0.00	0.00	-18,436,949.41	-17,721,020.20
3	2026	-368,821.58	0.00	-10,431,250.00	0.00	-180,258.42	-1,482,511.55	0.00	-1,100,000.00	-13,562,841.55	-12,780,568.52
4	2027	-368,031.08	0.00	0.00	0.00	-183,003.48	-1,395,316.21	0.00	-1,170,000.00	-3,116,350.77	-2,879,026.40
5	2028	-367,240.57	0.00	0.00	0.00	-185,790.33	-1,305,121.38	0.00	-1,240,000.00	-3,098,152.28	-2,806,091.98
6	2029	-366,450.06	0.00	0.00	0.00	-188,619.63	-1,211,855.92	0.00	-1,320,000.00	-3,086,925.61	-2,741,101.60
7	2030	-365,659.56	0.00	0.00	0.00	-191,492.01	-1,115,447.22	0.00	-1,390,000.00	-3,062,598.78	-2,666,176.54
8	2031	-364,869.05	0.00	0.00	0.00	-194,408.13	-1,015,821.17	0.00	-1,460,000.00	-3,035,098.36	-2,590,427.22
9	2032	-364,078.55	0.00	0.00	0.00	-197,368.66	-912,902.16	0.00	-1,530,000.00	-3,004,349.37	-2,513,905.15
10	2033	-363,288.04	0.00	0.00	0.00	-200,374.27	-806,612.98	0.00	-1,590,000.00	-2,960,275.30	-2,428,456.81
11	2034	-362,497.54	0.00	0.00	0.00	-203,425.66	-696,874.86	0.00	-1,660,000.00	-2,922,798.06	-2,350,698.45
12	2035	-361,707.03	0.00	0.00	0.00	-206,523.51	-583,607.41	0.00	-1,720,000.00	-2,871,837.95	-2,264,424.62
13	2036	-360,916.53	0.00	0.00	0.00	-209,668.54	-466,728.58	0.00	13,640,000.00	12,602,686.36	9,742,286.46
14	2037	-360,126.02	0.00	0.00	0.00	-212,861.46	-346,154.64	0.00	13,960,000.00	13,040,857.88	9,883,340.49
15	2038	-359,335.51	0.00	0.00	0.00	-216,103.00	-221,800.17	0.00	14,280,000.00	13,482,761.32	10,017,890.26
16	2039	-358,545.01	0.00	0.00	0.00	-219,393.91	-93,577.97	0.00	14,620,000.00	13,948,483.11	10,160,714.13
17	2040	-357,754.50	0.00	0.00	0.00	-222,734.94	38,600.91	0.00	14,970,000.00	14,428,111.47	10,304,017.06
18	2041	-356,964.00	0.00	0.00	0.00	-226,075.96	174,787.90	0.00	15,330,000.00	14,921,747.94	10,447,601.71
19	2042	-356,173.49	0.00	0.00	0.00	-229,467.10	315,051.82	0.00	15,690,000.00	15,419,411.23	10,584,358.17
20	2043	-355,382.99	0.00	0.00	0.00	-232,909.11	459,484.33	0.00	16,060,000.00	15,931,192.24	10,721,235.68
21	2044	-354,592.48	0.00	0.00	0.00	-236,402.74	608,178.93	0.00	16,440,000.00	16,457,183.71	10,858,051.82
22	2045	-353,801.98	0.00	0.00	0.00	-239,948.78	761,230.98	-19,992,133.70	16,830,000.00	-2,994,653.48	-1,937,058.77
23	2046	-353,011.47	9,324,360.00	0.00	0.00	-243,548.02	918,737.76	11,474,245.17	38,110,000.00	59,230,783.44	37,561,551.83
24	2047	-352,220.96	9,258,949.61	0.00	0.00	-247,201.24	1,080,798.46	11,564,659.64	38,620,000.00	59,924,985.51	37,256,651.16
25	2048	-351,430.46	9,193,998.08	0.00	0.00	-250,909.25	1,247,514.26	11,655,786.56	39,120,000.00	60,614,959.19	36,946,688.84
26	2049	-350,639.95	9,129,502.19	0.00	0.00	-254,672.89	1,418,988.36	11,747,631.53	39,650,000.00	61,340,809.23	36,655,996.91
27	2050	-349,849.45	9,065,458.73	0.00	0.00	-258,492.99	1,595,325.99	11,840,200.23	40,190,000.00	62,082,642.51	36,371,863.83
28	2051	-349,058.94	9,001,864.54	0.00	0.00	-262,370.38	1,776,634.48	11,933,498.34	40,740,000.00	62,840,568.03	36,094,023.17
29	2052	-348,268.44	8,938,716.46	0.00	0.00	-266,305.94	1,963,023.27	12,027,531.62	41,310,000.00	63,624,696.98	35,827,849.88
30	2053	-347,477.93	8,876,011.36	0.00	0.00	-270,300.53	2,154,603.99	12,122,305.86	41,880,000.00	64,415,142.76	35,561,725.12
31	2054	-346,687.43	8,813,746.14	0.00	0.00	-274,355.03	2,351,490.45	12,217,826.91	42,480,000.00	65,242,021.03	35,311,980.93
32	2055	-345,896.92	8,751,917.71	0.00	0.00	-278,470.36	2,553,798.71	12,314,100.63	43,080,000.00	66,075,449.77	35,061,834.20
33	2056	-345,106.41	8,690,523.01	0.00	0.00	-282,647.42	2,761,647.14	12,411,132.98	43,700,000.00	66,935,549.29	34,821,795.73
34	2057	-344,315.91	8,629,558.99	0.00	0.00	-286,887.13	2,975,156.41	12,508,929.91	44,330,000.00	67,812,442.28	34,586,255.54
35	2058	-343,525.40	8,569,022.63	0.00	0.00	-291,190.43	3,194,449.60	12,607,497.46	44,990,000.00	68,726,253.86	34,365,024.69
36	2059	-342,734.90	8,508,910.94	0.00	0.00	-295,558.29	3,419,652.16	12,706,841.71	45,650,000.00	69,647,111.62	34,142,626.47
37	2060	-341,944.39	8,449,220.93	0.00	0.00	-299,991.66	3,650,892.06	12,806,968.76	46,330,000.00	70,595,145.69	33,928,798.75
38	2061	-341,153.89	8,389,949.64	0.00	0.00	-304,491.54	3,888,299.73	12,907,884.79	47,040,000.00	71,580,488.74	33,727,809.20
39	2062	-340,363.38	8,331,094.15	0.00	0.00	-309,058.91	4,132,008.17	13,009,596.02	47,750,000.00	72,573,276.05	33,525,095.94
40	2063	-339,572.87	8,272,651.52	0.00	0.00	-313,694.80	4,382,153.01	13,112,108.71	48,480,000.00	73,593,645.57	33,329,856.70
41	2064	-338,782.37	8,214,618.87	0.00	0.00	-318,400.22	4,638,872.49	13,215,429.18	49,230,000.00	74,641,737.95	33,141,693.81
42	2065	-337,991.86	8,156,993.32	0.00	0.00	-323,176.22	4,902,307.56	13,319,563.79	49,990,000.00	75,707,696.59	32,955,872.88
43	2066	-337,201.36	8,099,772.01	0.00	0.00	-328,023.86	5,172,601.95	13,424,518.95	50,780,000.00	76,811,667.69	32,780,819.66
44	2067	-336,410.85	8,042,952.11	0.00	0.00	-332,944.22	5,449,902.14	13,530,301.14	51,590,000.00	77,943,800.32	32,611,743.62
45	2068	-335,620.35	7,986,530.80	0.00	0.00	-337,938.39	5,734,357.51	13,636,916.87	52,410,000.00	79,094,246.45	32,444,206.99
46	2069	-334,829.84	7,930,505.29	0.00	0.00	-343,007.46	6,026,120.31	13,744,372.71	53,260,000.00	80,283,161.00	32,286,172.49
47	2070	-334,039.34	7,874,872.79	0.00	0.00	-348,152.57	6,325,345.76	13,852,675.27	54,110,000.00	81,480,701.92	32,125,262.78
48	2071	-333,248.83	7,819,630.56	0.00	0.00	-353,374.86	6,632,192.10	13,961,831.23	55,030,000.00	82,757,030.21	31,988,704.55
49	2072	-332,458.32	7,764,775.85	0.00	0.00	-358,675.49	6,946,820.63	14,071,847.32	55,940,000.00	84,032,310.00	31,844,753.09
50	2073	-331,667.82	7,710,305.95	0.00	0.00	-364,055.62	7,269,395.77	14,182,730.31	56,870,000.00	85,336,708.60	31,704,966.61
51	2074	-330,877.31	7,656,218.15	0.00	0.00	-369,516.45	7,600,085.13	14,294,487.04	56,210,000.00	85,060,396.55	30,982,655.87
52	2075		7,602,509.78					13,845,210.58		21,447,720.36	7,659,002.43
	Total	**$ (17,142,622.93)**	**$ 253,055,142.14**	**$ (10,431,250.00)**	**$ (36,597,344.59)**	**$ (12,944,241.80)**	**$ 102,866,178.00**	**$ 366,056,497.52**	**$ 1,496,510,000.00**	**$ 2,141,372,358.34**	**$ 1,016,839,514.18**

Year #	Year	Present Value Benefits		
		Total Benefits Discounted	Total Benefits Discounted	Total Benefits Discounted
		3%	3.5%	5%
1	2024	-17,631,451.62	-17,546,275.53	-17,295,614.45
2	2025	-17,378,593.09	-17,211,089.56	-16,722,856.61
3	2026	-12,411,921.32	-12,232,906.01	-11,716,092.48
4	2027	-2,768,837.29	-2,715,719.65	-2,563,829.49
5	2028	-2,672,493.37	-2,608,561.09	-2,427,483.38
6	2029	-2,585,251.60	-2,511,215.97	-2,303,511.42
7	2030	-2,490,173.07	-2,407,174.96	-2,176,531.78
8	2031	-2,395,934.67	-2,304,888.77	-2,054,274.03
9	2032	-2,302,583.62	-2,204,384.18	-1,936,630.39
10	2033	-2,202,722.83	-2,098,594.85	-1,817,352.24
11	2034	-2,111,491.50	-2,001,958.00	-1,708,899.49
12	2035	-2,014,249.36	-1,900,534.39	-1,599,146.83
13	2036	8,581,816.17	8,058,210.00	6,683,473.65
14	2037	8,621,543.35	8,056,404.53	6,586,519.40
15	2038	8,654,071.43	8,047,733.74	6,485,438.72
16	2039	8,692,233.53	8,044,172.67	6,389,960.83
17	2040	8,729,244.72	8,039,398.24	6,294,937.24
18	2041	8,764,954.28	8,033,289.23	6,200,294.48
19	2042	8,793,474.77	8,020,494.49	6,101,984.62
20	2043	8,820,714.88	8,006,473.72	6,004,298.80
21	2044	8,846,547.18	7,991,129.55	5,907,180.43
22	2045	-1,562,887.19	-1,404,943.57	-1,023,721.91
23	2046	30,011,749.22	26,848,463.20	19,283,843.51
24	2047	29,479,122.02	26,244,574.90	18,580,815.03
25	2048	28,950,042.09	25,649,037.48	17,899,765.45
26	2049	28,443,409.82	25,078,433.57	17,251,534.27
27	2050	27,948,926.21	24,523,403.83	16,628,731.44
28	2051	27,466,151.44	23,983,375.54	16,030,229.06
29	2052	26,998,908.71	23,461,489.62	15,457,386.06
30	2053	26,538,185.93	22,949,724.68	14,904,211.39
31	2054	26,095,969.74	22,458,283.63	14,376,697.50
32	2055	25,659,544.19	21,976,014.59	13,867,001.35
33	2056	25,236,458.92	21,509,251.05	13,378,578.23
34	2057	24,822,398.63	21,054,139.34	12,908,423.86
35	2058	24,424,169.61	20,616,285.95	12,459,402.17
36	2059	24,030,511.82	20,186,011.56	12,025,090.23
37	2060	23,648,169.24	19,768,872.32	11,608,357.47
38	2061	23,279,846.94	19,366,956.06	11,209,888.55
39	2062	22,915,269.26	18,971,561.86	10,824,156.54
40	2063	22,560,635.49	18,587,728.71	10,453,659.60
41	2064	22,215,471.24	18,214,925.59	10,097,653.90
42	2065	21,876,437.26	17,850,292.69	9,754,150.94
43	2066	21,548,970.77	17,498,150.73	9,425,129.68
44	2067	21,229,691.83	17,155,610.84	9,108,616.51
45	2068	20,915,573.68	16,820,122.41	8,802,913.51
46	2069	20,611,620.01	16,495,609.74	8,509,748.14
47	2070	20,309,779.13	16,175,522.62	8,225,412.85
48	2071	20,027,102.08	15,873,332.27	7,956,435.42
49	2072	19,743,415.79	15,572,888.08	7,694,327.15
50	2073	19,465,907.40	15,279,825.65	7,441,679.04
51	2074	18,837,746.28	14,715,315.02	7,064,365.33
52	2075	4,611,534.41	3,584,948.73	1,696,436.42
	Total	**$ 707,878,728.89**	**$ 591,619,211.88**	**$ 346,232,784.26**

Year #	Year	Present Value Benefits Using WebTAG Discount Schedule									
		WebTAG Discount Schedule - Health Impacts (Noise only)	Noise Impact	WebTAG Discount Schedule - All other Impacts	Electric Cost Savings from Solar Canopy	Amenity Loss (construction)	Carbon Emissions (construction)	Carbon Sequesetration Impact	Carbon emissions from traffic	Carbon emissions savings from solar canopy	TREDIS Transportation Benefits
			Years 0-30 1.5% ; Years 31-75 1.29%		Years 0-30 3.5%; Years 31-75 3%	Years 0-30 3.5%; Years 31-75 3%	Years 0-30 3.5%; Years 31-75 3%	Years 0-30 3.5%; Years 31-75 3%	Years 0-30 3.5%; Years 31-75 3%	Years 0-30 3.5%; Years 31-75 3%	Years 0-30 3.5%; Years 31-75 3%
1	2024	1.50%	0.00	3.5%	0.00	0.00	-17,546,275.53	0.00	0.00	0.00	0.00
2	2025	1.50%	0.00	3.5%	0.00	0.00	-17,211,089.56	0.00	0.00	0.00	0.00
3	2026	1.50%	-352,710.35	3.5%	0.00	-9,408,389.85	0.00	-162,582.77	-1,337,140.48	0.00	-992,136.98
4	2027	1.50%	-346,753.08	3.5%	0.00	0.00	0.00	-159,476.96	-1,215,937.47	0.00	-1,019,587.41
5	2028	1.50%	-340,894.85	3.5%	0.00	0.00	0.00	-156,430.47	-1,098,877.18	0.00	-1,044,046.73
6	2029	1.50%	-335,134.05	3.5%	0.00	0.00	0.00	-153,442.19	-985,845.57	0.00	-1,073,820.85
7	2030	1.50%	-329,469.06	3.5%	0.00	0.00	0.00	-150,510.99	-876,731.43	0.00	-1,092,527.44
8	2031	1.50%	-323,898.32	3.5%	0.00	0.00	0.00	-147,635.78	-771,426.34	0.00	-1,108,740.87
9	2032	1.50%	-318,420.27	3.5%	0.00	0.00	0.00	-144,815.50	-669,824.59	0.00	-1,122,608.39
10	2033	1.50%	-313,033.40	3.5%	0.00	0.00	0.00	-142,049.09	-571,823.12	0.00	-1,127,180.91
11	2034	1.50%	-307,736.21	3.5%	0.00	0.00	0.00	-139,335.53	-477,321.45	0.00	-1,137,009.88
12	2035	1.50%	-302,527.21	3.5%	0.00	0.00	0.00	-136,673.81	-386,221.64	0.00	-1,138,267.27
13	2036	1.50%	-297,404.97	3.5%	0.00	0.00	0.00	-134,062.93	-298,428.19	0.00	8,721,472.65
14	2037	1.50%	-292,368.05	3.5%	0.00	0.00	0.00	-131,501.93	-213,848.03	0.00	8,624,233.79
15	2038	1.50%	-287,415.05	3.5%	0.00	0.00	0.00	-128,989.86	-132,390.44	0.00	8,523,598.03
16	2039	1.50%	-282,544.60	3.5%	0.00	0.00	0.00	-126,525.77	-53,966.97	0.00	8,431,440.43
17	2040	1.50%	-277,755.32	3.5%	0.00	0.00	0.00	-124,108.75	21,508.57	0.00	8,341,340.58
18	2041	1.50%	-273,045.90	3.5%	0.00	0.00	0.00	-121,710.51	94,099.01	0.00	8,253,076.27
19	2042	1.50%	-268,415.01	3.5%	0.00	0.00	0.00	-119,358.62	163,876.00	0.00	8,161,242.78
20	2043	1.50%	-263,861.35	3.5%	0.00	0.00	0.00	-117,052.17	230,921.15	0.00	8,071,208.10
21	2044	1.50%	-259,383.67	3.5%	0.00	0.00	0.00	-114,790.29	295,313.99	0.00	7,982,785.64
22	2045	1.50%	-254,980.71	3.5%	0.00	0.00	0.00	-112,572.12	357,132.00	-9,379,322.14	7,895,805.12
23	2046	1.50%	-250,651.23	3.5%	4,226,598.43	0.00	0.00	-110,396.82	416,450.63	5,201,110.49	17,274,715.50
24	2047	1.50%	-246,394.03	3.5%	4,055,023.04	0.00	0.00	-108,263.54	473,343.39	5,064,825.19	16,913,904.51
25	2048	1.50%	-242,207.92	3.5%	3,890,412.61	0.00	0.00	-106,171.50	527,881.90	4,932,110.99	16,553,510.22
26	2049	1.50%	-238,091.72	3.5%	3,732,484.41	0.00	0.00	-104,119.87	580,135.90	4,802,874.31	16,210,413.65
27	2050	1.50%	-234,044.29	3.5%	3,580,967.18	0.00	0.00	-102,107.89	630,173.30	4,677,024.04	15,875,542.02
28	2051	1.50%	-230,064.49	3.5%	3,435,600.67	0.00	0.00	-100,134.80	678,060.26	4,554,471.44	15,548,597.83
29	2052	1.50%	-226,151.20	3.5%	3,296,135.20	0.00	0.00	-98,199.82	723,861.21	4,435,130.09	15,232,986.28
30	2053	1.50%	-222,303.33	3.5%	3,162,331.22	0.00	0.00	-96,302.24	767,638.88	4,318,915.87	14,920,939.84
31	2054	1.29%	-233,009.91	3.0%	3,525,385.16	0.00	0.00	-109,738.49	940,565.95	4,886,973.70	16,991,453.93
32	2055	1.29%	-229,517.82	3.0%	3,398,693.77	0.00	0.00	-108,140.35	991,734.62	4,782,021.32	16,729,559.43
33	2056	1.29%	-226,076.90	3.0%	3,276,555.27	0.00	0.00	-106,565.49	1,041,213.45	4,679,322.88	16,476,046.98
34	2057	1.29%	-222,686.39	3.0%	3,158,806.06	0.00	0.00	-105,013.57	1,089,040.83	4,578,830.00	16,226,770.41
35	2058	1.29%	-219,345.57	3.0%	3,045,288.38	0.00	0.00	-103,484.25	1,135,254.35	4,480,495.29	15,988,699.07
36	2059	1.29%	-216,053.73	3.0%	2,935,850.18	0.00	0.00	-101,977.19	1,179,890.88	4,384,272.41	15,750,730.20
37	2060	1.29%	-212,810.16	3.0%	2,830,344.84	0.00	0.00	-100,492.09	1,222,986.54	4,290,116.01	15,519,759.47
38	2061	1.29%	-209,614.16	3.0%	2,728,631.04	0.00	0.00	-99,028.61	1,264,576.76	4,197,981.71	15,298,638.21
39	2062	1.29%	-206,465.05	3.0%	2,630,572.52	0.00	0.00	-97,586.45	1,304,696.23	4,107,826.08	15,077,231.82
40	2063	1.29%	-203,362.16	3.0%	2,536,037.92	0.00	0.00	-96,165.29	1,343,378.98	4,019,606.62	14,861,875.64
41	2064	1.29%	-200,304.81	3.0%	2,444,900.59	0.00	0.00	-94,764.82	1,380,658.34	3,933,281.77	14,652,226.48
42	2065	1.29%	-197,292.36	3.0%	2,357,038.46	0.00	0.00	-93,384.75	1,416,566.99	3,848,810.82	14,445,071.61
43	2066	1.29%	-194,324.14	3.0%	2,272,333.82	0.00	0.00	-92,024.78	1,451,136.94	3,766,153.96	14,245,970.29
44	2067	1.29%	-191,399.53	3.0%	2,190,673.20	0.00	0.00	-90,684.61	1,484,399.56	3,685,272.24	14,051,660.26
45	2068	1.29%	-188,517.89	3.0%	2,111,947.21	0.00	0.00	-89,363.96	1,516,385.61	3,606,127.53	13,859,228.27
46	2069	1.29%	-185,678.61	3.0%	2,036,050.39	0.00	0.00	-88,062.54	1,547,125.21	3,528,682.53	13,673,787.48
47	2070	1.29%	-182,881.08	3.0%	1,962,881.07	0.00	0.00	-86,780.08	1,576,647.87	3,452,900.73	13,487,391.77
48	2071	1.29%	-180,124.68	3.0%	1,892,341.22	0.00	0.00	-85,516.29	1,604,982.54	3,378,746.42	13,317,194.02
49	2072	1.29%	-177,408.83	3.0%	1,824,336.36	0.00	0.00	-84,270.91	1,632,157.54	3,306,184.64	13,143,119.34
50	2073	1.29%	-174,732.94	3.0%	1,758,775.37	0.00	0.00	-83,043.66	1,658,200.64	3,235,181.20	12,972,449.63
51	2074	1.29%	-172,096.43	3.0%	1,695,570.45	0.00	0.00	-81,834.29	1,683,139.05	3,165,702.62	12,448,445.59
52	2075	1.29%		3.0%	1,634,636.92					2,976,897.50	
	Total		**$ (12,141,362.77)**		**$ 83,627,202.95**	**$ (9,408,389.85)**	**$ (34,757,365.09)**	**$ (5,547,245.00)**	**$ 25,335,352.19**	**$ 114,898,528.23**	**$ 509,898,196.39**

Year #	Year	Total Benefits WebTAG
1	2024	-17,546,275.53
2	2025	-17,211,089.56
3	2026	-12,252,960.42
4	2027	-2,741,754.91
5	2028	-2,640,249.23
6	2029	-2,548,242.65
7	2030	-2,449,238.91
8	2031	-2,351,701.31
9	2032	-2,255,668.75
10	2033	-2,154,086.52
11	2034	-2,061,403.07
12	2035	-1,963,689.93
13	2036	7,991,576.56
14	2037	7,986,515.78
15	2038	7,974,802.69
16	2039	7,968,403.10
17	2040	7,960,985.08
18	2041	7,952,418.87
19	2042	7,937,345.16
20	2043	7,921,215.73
21	2044	7,903,925.67
22	2045	-1,493,937.86
23	2046	26,757,826.99
24	2047	26,152,438.55
25	2048	25,555,536.30
26	2049	24,983,696.67
27	2050	24,427,554.35
28	2051	23,886,530.92
29	2052	23,363,761.77
30	2053	22,851,220.24
31	2054	26,001,630.34
32	2055	25,564,350.95
33	2056	25,140,496.20
34	2057	24,725,747.33
35	2058	24,326,907.27
36	2059	23,932,712.75
37	2060	23,549,904.62
38	2061	23,181,184.94
39	2062	22,816,275.15
40	2063	22,461,371.72
41	2064	22,115,997.54
42	2065	21,776,810.77
43	2066	21,449,246.09
44	2067	21,129,921.12
45	2068	20,815,806.77
46	2069	20,511,904.44
47	2070	20,210,160.29
48	2071	19,927,623.22
49	2072	19,644,118.14
50	2073	19,366,830.24
51	2074	18,738,926.99
52	2075	4,611,534.41
	Total	**$ 671,904,917.04**

Table A 1.1.1: Green Book Discount Rates		
current year	(standard)	Discount rate (health)
0-30	3.50%	1.50%
31-75	3.00%	1.29%
76-125	2.50%	1.07%
126-200	2.00%	0.86%
201-300	1.50%	0.64%
301 and over	1.00%	0.43%

Source: TAG Data Book Unit A1.1.1

Appendix E, Attachment K – EAB Preferred Alternative Recommendation

Environmental Statement
East-West Arterial Extension:
Section 2 (Woodland Drive – Lookout Road)
Section 3 (Lookout Road – Frank Sound Road)

29 May 2024

Based on the Critical Success Factors and Constraints agreed by the Steering Committee and the results of the assessments undertaken by WRA and reviewed by the NRA, the Environmental Assessment Board (EAB) has selected B2 as their preferred option because it provides the most transportation benefits, the lowest total cost, the least environmental impact, and the best cost-benefit ratio (see attached graphic, Appendix X).

The Traffic Evaluation showed that **B2 is better than B3 at improving traffic**. The Cost-Benefit Analysis quantified those transportation benefits by considering factors such as travel time for commuters, businesses, and tourists and vehicle operating costs. The Cost-Benefit Analysis predicted that B2 will have a $11.472 million USD greater transportation benefit than B3 in terms of Transportation Economic Efficiency benefits.

B2 is also predicted to have $3.782 million USD lower total construction and maintenance costs because it is a shorter and more direct route than B3.

B2 will impact the environment to a lesser extent than B3 across nearly all categories. It will impact fewer sensitive resources such as upland habitats, wetland habitats, the Central Mangrove Wetland and brackish groundwater. It will also require removal of fewer cubic yards of peat (i.e. carbon storage), resulting in the loss of less sequestered carbon. B2 will impact more acres of parrot habitat but it is important to note that the parrot habitat map overlaps with the wetland habitat so this double-counting must be eliminated to get a true picture of the amount of sensitive habitat that is affected.

B2 is predicted to have a net benefit $7,414,000 USD higher than B3, resulting in a higher benefit-cost ratio when that number is shown to more than one decimal place.

Concerns with quarries were not raised until after the Short-List Evaluation was completed. They should either be evaluated fairly and comprehensively or not considered at this stage. All parties in the Steering Group agreed the aspects to be assessed, the Critical Success Factors to be used and the Environmental, Social and Engineering Constraints that were raised. The quarries were not raised as a factor to be assessed and all parties also acknowledge that B2 is feasible. The proposals for new quarries next to Meagre Bay Pond do not impact the feasibility of B2 as these quarries do not have planning permission. Further, B3 does not eliminate conflict with quarries with planning permission as adjustments have been made to the B3 alignment to shift it south into the area where the Paul Bodden quarry was granted Planning Permission to excavate to 50 ft depth in October 2011.

B2 will impact **0.7 fewer acres** of upland habitats

B2 will impact **22.9 fewer acres** of wetland habitat

B2 will impact **23.6 fewer acres** of sensitive habitat

B2 will impact **11.3 more acres** of parrot habitat

B2 will **avoid 53.9 tCOQeq/year in loss** of carbon sequestration

B2 will **avoid $800,000 in loss** of amenity value from ecology

B2 will impact **3 fewer acres** of brackish groundwater

B2 will require removal of **240,618 fewer cubic yards** of peat

B2 will impact **0.7 fewer acres** of peat

B2 will impact **19 fewer acres** of the Central Mangrove Wetland as a cultural and natural heritage resource

B2 will result in **$4 million more** GHG emissions from 2026-2074

B2 will result in **1134 tCO2eq more** annual operational traffic emissions

B2 will **provide $11.5 million more** of transportation benefits (improved commuter times, reliability etc.)

The Case for B2 versus B3

*all values in USD

B2 will result in **$1.3 million more** in Net Present Value costs

B2 will result in **$8.7 million more** Net Present Value benefits

The overall Net Present Value of B2 is **$7.4 million higher** than B3

B2 results in **3 additional noise receptors** being above the Significant Observed Adverse Effect Level

B2 results in **162 additional noise receptors** experiencing a non-negligible change in noise conditions

B2 will **avoid $800,000** in monetised noise disbenefits (i.e. reduced sleep disturbance, risk of adverse health outcomes etc.)

B2 will result in **$11 million fewer** one-time GHG emissions

B2 will result in **34,446 tCO2eq fewer** one-time Net Present Value emissions

B2 will result in **31,000 tCO2eq fewer** total one-time emissions

B2 will cost **$1.3 million more** in right-of-way costs

In engineering constraints, B2 is **cheaper by $2.4 million**

In construction and maintenance costs, B2 is **cheaper by $3.8 million**

Appendix E, Attachment L – High-Level Summary Report of the EWA EIA Study Findings for the Selection of a Preferred Alternative

Environmental Statement
East-West Arterial Extension:
Section 2 (Woodland Drive – Lookout Road)
Section 3 (Lookout Road – Frank Sound Road)

MEMORANDUM

Date: May 28, 2024

From: Whitman, Requardt & Associates, LLP (WRA)

Subject: High-Level Summary Report of the EWA EIA Study Findings for the Selection of a Preferred Alternative

Work Order Number: 35184.003

Contract Number: PPC-2022-NRA-007-RFP

Project: Phase 2 of EWA Extension EIA

BACKGROUND

The National Roads Authority (NRA) is the Government entity responsible for planning, design, construction, and maintenance of public roads on the island of Grand Cayman.

In 2022, the NRA acquired the services of Whitman, Requardt & Associates, LLP (WRA) to perform an Environmental Impact Assessment (EIA) for the East-West Arterial (EWA) Extension, Sections 2 and 3. To support these efforts, the firms of Remington & Vernick Engineers (RVE) and Baird & Associates were also separately contracted to conduct specialized Pre-Project Hydraulic and Hydrologic (H&H) analysis.

The Environmental Assessment Board (EAB), a subcommittee of the National Conservation Council (NCC), in accordance with Section 3(13) of the National Conservation Act of 2013, is overseeing the preparation and implementation of the EIA.

The EWA Extension comprises three sections.

- Section 1 extends between Hirst Road and Woodland Drive and is currently under construction.
- Section 2 would connect Woodland Drive to Lookout Road (also includes Will T Connector).
- Section 3 would connect Lookout Road to Frank Sound Road.

In May 2005, the proposed EWA Extension corridor from Woodland Drive in Bodden Town, to Frank Sound Road in North Side was initially planned and gazetted by the NRA in the Cayman Islands Gazette, Extraordinary Supplement, Number 13/2005, in accordance with Section 25 of the Roads Law (2000 Revision), now Section 26 under the Roads Law (2005 Revision).

A Draft Terms of Reference (ToR) for the EWA Extension, dated January 30, 2023, was developed to provide a defined protocol for assessing the potential impacts of the proposed EWA Extension. The Draft ToR was made available for public comment and then the Final ToR was prepared and approved on April 4, 2023.

EIA STUDY SCOPE

The scope of the EIA is defined in the “Final Terms of Reference (ToR)” dated April 4, 2023. This comprehensive document defines study protocols for each of the following considerations:

- Route Alignment and Assessment of Alternatives
- Socio-economic Considerations
- Hydrology and Drainage (including climate resiliency)
- Geo-Environmental
- Terrestrial Ecology
- Cultural and Natural Heritage Sites
- Greenhouse Gas Emissions
- Noise and Vibration

The overall scope of the environmental studies included the following key tasks:

- Definition of baseline site and environmental design conditions.
- Development and assessment of alternative project alignments.
- Identification and assessment of anticipated environmental impacts and socio-economic impacts related to project development.
- Identification and assessment of possible mitigation considerations to reduce negative impact.
- Preparation of an Environmental Statement (ES) summarizing the results of the EIA, including technical appendices for each EIA consideration listed above, as well as an Environmental Management Plan (EMP) for the project.

STUDY AREA

The EWA Extension study area encompasses Section 2, from Woodland Drive to Lookout Road; and Section 3, from Lookout Road to Frank Sound Road within Bodden Town and North Side districts, northwards to North Sound and south to the coastline**.**

This area includes the corridor initially gazetted in 2005 for the EWA Extension.

The study area was established to allow for the identification of a range of roadway and multimodal alternatives. In addition to the immediate project study area, a broader, island-based perspective was also incorporated for specific evaluations (e.g., traffic and socio-economics).

NEEDS and OBJECTIVES

Currently, a single coastal road, Bodden Town Road, provides access between the eastern and western sides of Grand Cayman.

Made up of one lane in each direction, Bodden Town Road is vulnerable to traffic congestion, especially during peak travel hours when people from the eastern side of the island are trying to access employment, education, and other services on the western side.

As a result of road closures due to accidents or construction as well as extreme weather events, Bodden Town Road becomes compromised and inaccessible, stranding North Side and East End residents from accessing goods and services mainly located on the west side of Grand Cayman.

The objectives, referred to as Critical Success Factors (CSF)s, of the EWA project are to:

- Create an alternative travel route to the existing two-lane Bodden Town Road.
- Improve resiliency of the existing roadway travel route between North Side/East End and George Town/West Bay.
- Support current and future traffic demand.
- Improve travel time between North Side/East End and George Town/West Bay.
- Reduce tourism travel time between North Side/East End and George Town.
- Improve safe vehicular travel by reducing roadway conflict points.
- Provide opportunity for enhanced and safe pedestrian and bicycle travel.
- Accommodate utility expansion (electricity, fiber, water, central sewerage system). *
- Provide opportunity to safely accommodate and expand public transportation. *

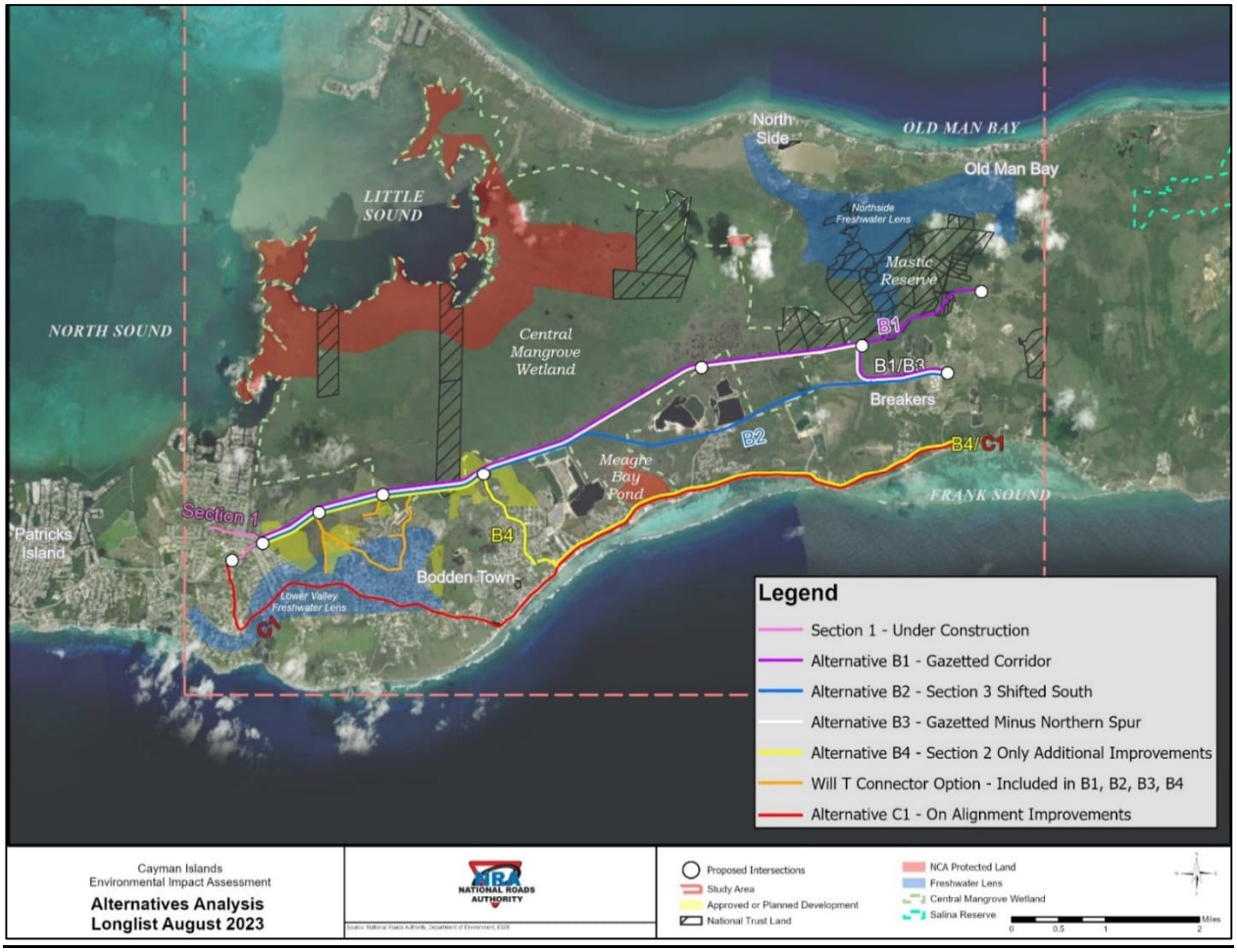
* *These criteria are to provide opportunities to accommodate these features. It is outside of ambit of the NRA to provide public transportation or utilities.*

ALTERNATIVES PROCESS

The following five-step process was employed for developing the alternatives solutions evaluation.

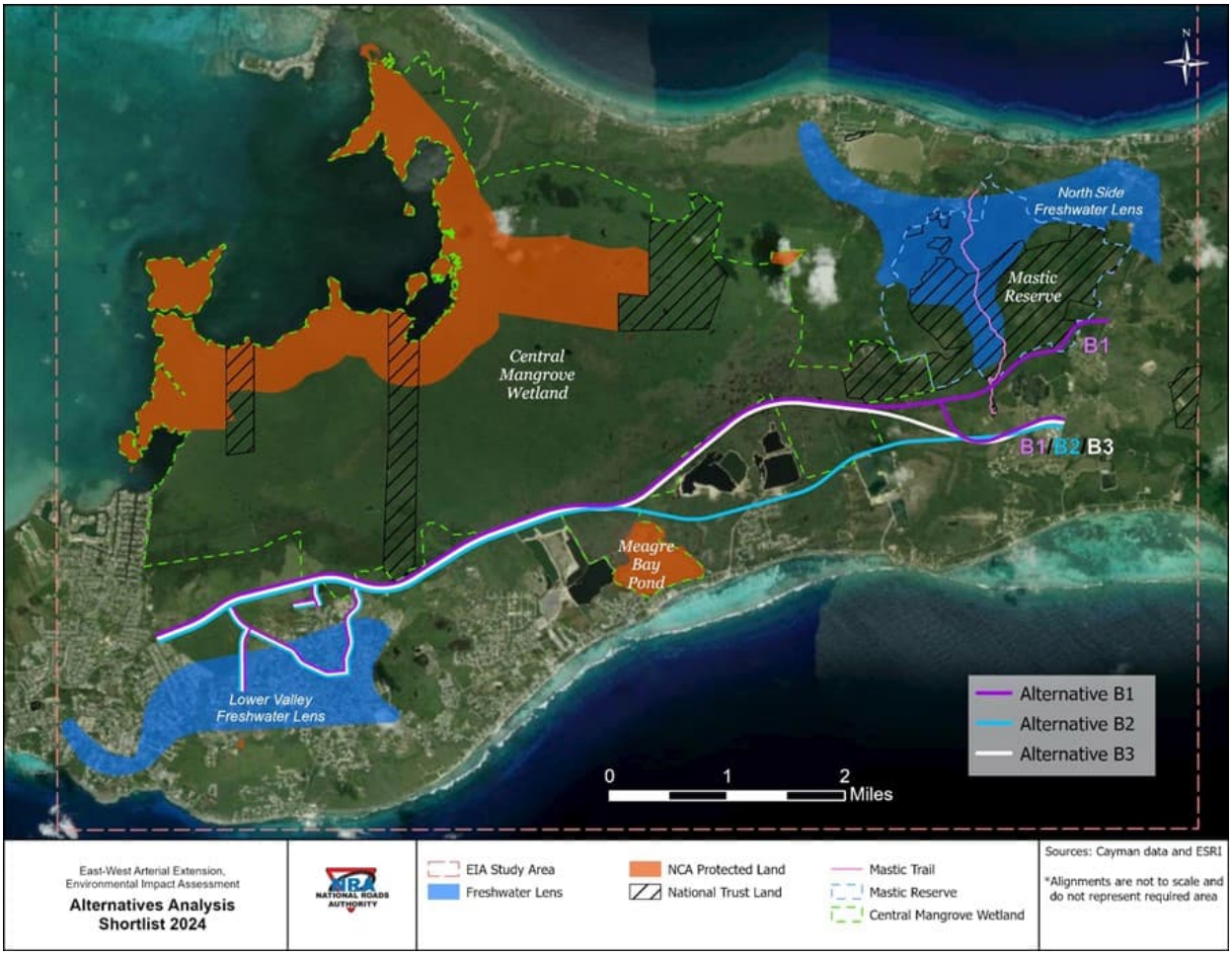
- Identify the constraints and dependencies, as well as the CSFs (complete).
- Identify Longlist of Alternatives (complete).
- Evaluate Longlist of Alternatives to select a Shortlist of Alternatives for further analysis (complete).
- Analyze the Shortlist of Alternatives (complete).
- Select and refine a Preferred Alternative (underway).

The Longlist of Alternatives that were developed included a No-Build Scenario and five Build Alternatives (B1, B2, B3, B4, and C1).



As a result of the Longlist Alternatives Evaluation, the No-Build Scenario and four Build Alternatives (B1, B2, B3, and B4) were advanced for further studies as a Shortlist of Alternatives. All four Build alternatives share the same common section beginning at the western terminus, near Woodland Drive, and continuing east to near Lookout Road; they also share the same common improvements to the local roadway network referred to as the Will T Connector. As part of Shortlist Alternatives Evaluation, Alternative B1, which utilizes the general location of the corridor initially gazetted in 2005, was slightly shifted to avoid and minimize impacts to identified features and to best meet design criteria guidelines.

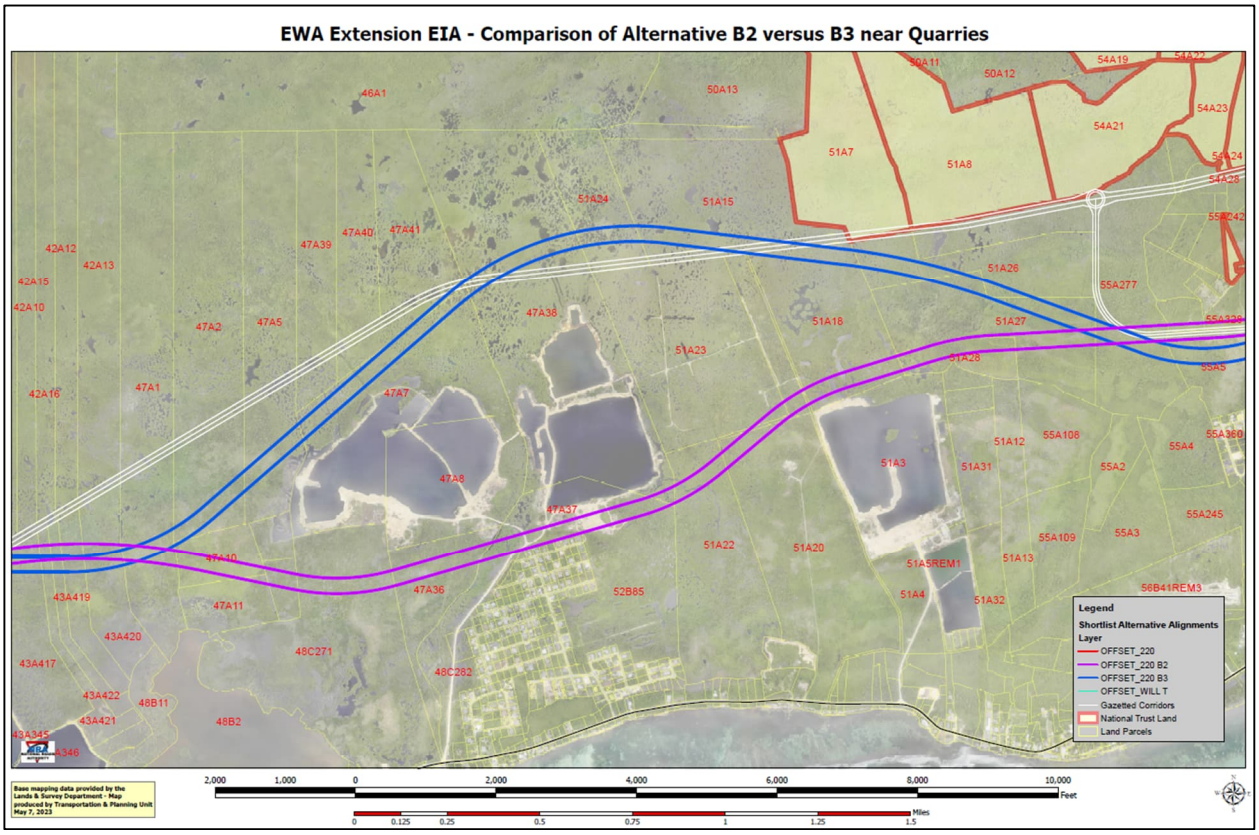
Also, during the Shortlist Alternatives Evaluation, the NRA and EAB concurred with the elimination of Alternative B4 from further evaluation due to its infeasibility to meet the resiliency criteria without significant social impacts and engineering constraints as well as its inability to provide a complete alternate east-west travel route in the event of road closures or emergencies.



As a result of the Shortlist Alternatives Evaluation and through collective discussions held with the NRA; the EAB; the Ministry of Planning, Agriculture, Housing, Infrastructure, Transport & Development; and the Ministry of Sustainability and Climate Resiliency, Alternative B1 was eliminated from the Preferred Alternative selection. The two remaining shortlisted alternatives, Alternatives B2 and B3, have been identified for consideration as the Preferred Alternative.

Alternatives B2 and B3 are the same through Section 2 from Woodland Drive to Lookout Road, and they both include the Will T Connector improvements. They are also very similar in location on the eastern end of the project area where they connect to Frank Sound Road. All entities involved in the Preferred Alternative selection discussions agreed upon these common/similar sections, which comprises approximately 63% of the proposed mainline EWA corridor and approximately 73% when including the Will T Connector proposed corridor.

The difference between Alternatives B2 and B3 occurs in the middle of Section 3, around Meagre Bay Pond and Midland Acres, where Alternative B2 travels south of the quarries and adjacent to the Midland Acres while Alternative B3 travels north of the quarries. Concurrence of the alternative within this area was not reached by the entities involved in the Preferred Alternative selection discussions; therefore, a Preferred Alternative has not yet been selected for further refinement/evaluation to complete the EIA process.



HIGH-LEVEL SUMMARY OF SHORTLIST EVALUATION FOR ALTERNATIVES B2 & B3

The following is a high-level summary of the overall evaluations for the entire proposed corridor alignments of Alternatives B2 and B3 (Sections 2 and 3) in relation to the CSFs, engineering constraints, social impacts, natural environmental impacts, and project costs.

From a CSFs and Engineering Constraints perspective, Alternatives B2 and B3 are comparable to one another. Both Alternatives B2 and B3 are expected to provide improved resiliency and opportunities for multimodal accessibility with separated/dedicated facilities for transit, pedestrians, bicycles, and other micromobility modes of travel. The proposed corridor width (220 feet; 67 m) also provides the space needed to accommodate additional features including lighting, utilities, and a solar panel canopy that will not only provide electricity generation but also shade for the sidewalk and micromobility facilities. Although both Alternatives B2 and B3 have been designed to accommodate these features, it is outside the ambit of the NRA to provide the solar array, utilities, and public transportation. Overall, both Alternatives B2 and B3 are expected to have similar adverse effects on the amount of property affected to improve roadway to achieve sound geometric design conditions as well as areas required for construction staging and for construction activities.

From a Traffic-specific CSF evaluation perspective, and as noted above, Alternatives B2 and B3 are comparable to one another and projected to provide the same outcomes for the following established CSF considerations:

- Large Beneficial effects on creating an alternative travel route to the existing two-lane Bodden Town Road.
- Large Beneficial effects on improving resiliency of existing roadway between North Side/East End and George Town/West Bay.
- Large Beneficial effects on supporting current and future traffic demand through district-to-district and employment access.
- Large Beneficial effects on improving study area travel times and Slight Beneficial effects on improving key destination travel times between North Side/East End and George Town.
- Slight Beneficial effects on reducing tourist travel times between North Side/East End and George Town.
- Large Beneficial effects on improving safe vehicular travel by reducing roadway conflict points.

- Large Beneficial effects on providing opportunity for enhanced and safe pedestrian and bicycle travel.

From a Social – Socio-economics Impacts perspective, Alternatives B2 and B3 are comparable to one another due to the anticipated similar yet significantly improved accessibility, severance, journey quality, and option value opportunities.

From a Natural Environment Impacts perspective, Alternatives B2 and B3 are expected to result in similar impacts to natural environment resources, such as:

- Geo-Environmental – Moderate Adverse effects on the Lower Valley Freshwater Lens and Slight Adverse effects on the North Side Freshwater Lens
- Terrestrial Ecology – Neutral effects on the Coastal Habitat, Pygmy Blue Butterfly, Tea Banker
- Cultural and Natural Heritage – Neutral effects on the Mastic Reserve, Mastic Trail, Meagre Bay Pond, Cemeteries
- Hydrology and Drainage – Moderate Adverse effects on the Central Mangrove Wetland (CMW), Mastic Reserve, and Developed Areas; Slight Adverse effects on Meagre Bay Pond and the Freshwater lenses; Neutral effects on the existing drainage infrastructure

For the Cost-Benefit analysis, both Alternatives B2 and B3 are expected to result in a Benefit-Cost ratio of 1.3, where a Benefit-Cost ratio above 1.0 represents the anticipated benefits being greater than the anticipated costs.

The following table displays the high-level differences between the entire proposed corridor alignments of Alternatives B2 and B3 (Sections 2 and 3) in relation to engineering features, project costs, social – noise impacts, natural environment impacts, and project present value benefits and costs. Further detailed information for each consideration is available and can be viewed in the individual discipline technical reports and/or the Shortlist Evaluation Document that have been developed for this EWA EIA project.

CONSIDERATIONS	ALTERNATIVE B2	ALTERNATIVE B3
ENGINEERING EVALUATION		
Mainline Length (excludes Will T Connector)	7.6 miles (12.2 km)	7.9 miles (12.7 km)
Bridges	16	15
ESTIMATED COSTS		
Construction and Maintenance Costs – USD (CI $)	$810,080,339 ($680,467,485)	$813,862,405 ($683,644,420)
Right of Way Costs (Property Only) – USD (CI $)	$21,509,800 ($18,068,232)	$20,158,564 ($16,933,193)
Total Costs – USD (CI $)	$831,590,139 ($698,535,717)	$834,020,969 ($700,577,613)
NOISE		
2026 Impacts	Overall decrease (benefit)	Overall decrease (benefit)
2074 Impacts	Overall increase (disbenefit) 163 noise receptors at or above the SOAEL	Overall increase (disbenefit) 160 noise receptors at or above the SOAEL
Monetized Disbenefit (2026-2074) Net Present Value USD (CI $)	-$11,323,154 (-$9,511,449)	- $12,141,363 (-$10,198,745)
GEO-ENVIRONMENTAL		
Brackish Groundwater	Neutral (132 acres; 53 ha)	Neutral (135 acres; 55 ha)
Peat Removal	Large Adverse (2.1 miles; 3.4 km thru CMW) (223,811 Cu yd; 171,116 m^3)	Large Adverse (2.8 miles; 4.5 km thru CMW) (454,153 Cu yd; 347,225 m^3)

CONSIDERATIONS	ALTERNATIVE B2	ALTERNATIVE B3
TERRESTRIAL ECOLOGY		
Man modified	Moderate Adverse 108.6 acre (43.9 ha)	Moderate Adverse 89.5 acre (36.2 ha)
Upland Habitats	Slight Adverse 1.8 acre (0.7 ha)	Slight Adverse 2.5 acre (1.0 ha)
Wetland Habitats (includes both parrot and non-parrot wetland habitat)	Large Adverse 128.2 acre (51.9 ha)	Large Adverse 151.1 acre (61.1 ha)
Parrot Habitat	Large Adverse 91.4 acre (37.0 ha)	Large Adverse 80.1 acre (32.4 ha)
Amenity Value Loss – 2017 USD (CI $)	-$7,545,000 ($6,337,800)	-$8,345,000 ($7,009,800)
Carbon Sequestration Loss (tCO2e/yr)	300.7	354.6
CULTURAL AND NATURAL HERITAGE		
Central Mangrove Wetland (8,655 acres total)	Slight Adverse 57 acres (23 ha)	Slight Adverse 76 acres (31 ha)
Overall Acres of Resources Impacts	57 acres (23 ha)	76 acres (31 ha)
GREEN HOUSE GASES (GHG)		
GHG One -Time Emissions 2024-2026 (Ton CO_2e)	74,216	108,662
GHG Annual Operational Traffic Emissions 2026-2074 (Ton CO_2e)	102,119	100,870
Overall GHG Monetized Benefit – USD (CI $)	$81,110,000 ($68,132,400)	$85,582,000 ($71,888,880)
COST BENEFIT ANALYSIS		
Present Value of Benefits	$666,285,000 USD	$657,558,000 USD
Present Value of Costs	$496,154,000 USD	$494,841,000 USD

NEXT STEPS TO COMPLETE EIA PROCESS

- Selection of a Preferred Alternative.
- Once the Preferred Alternative is selected, further design refinements and impacts analyses will be completed for this alternative and incorporated into the Draft Environmental Statement (ES). The Draft ES will then be made available for Public Comment once complete; public consultation meetings will also be conducted during this period.
- Following the Public Comment period, the Final ES will be completed along with an Environmental Management Plan, which will outline the potential mitigation measures to be considered for unavoidable impacts.

Appendix E, Attachment M – PAHI-TD Memorandum – Cabinet Approval of Preferred Route and Press Release

Environmental Statement
East-West Arterial Extension:
Section 2 (Woodland Drive – Lookout Road)
Section 3 (Lookout Road – Frank Sound Road)

MEMORANDUM

To: WRA Senior Vice President/ EWA EIA Project Director

From: NRA Managing Director

Cc: WRA Associate – EWA EIA Project Manager

EIA Coordinators – WRA-TYLin

Date: 16th July 2024

Subject: Cayman Islands Cabinet Decision - EWA EIA – Preferred Alternative

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The National Road Authority (NRA) would like to formally inform you about the result of the Cayman Islands Government deliberation with regard to the East-West Arterial (EWA) Extension Environmental Impact Assessment (EIA) - Preferred Alternative selection.

The Cayman Islands Cabinet confirmed their decision to support **the B3 Alternative**.

The memorandum received by NRA from the Chief Office of the Ministry of Planning, Agriculture, Housing, Infrastructure, Transport and Development (PAHITD) is enclosed for your record.

In line with the Cabinet's decision, the NRA endorses the direction provided and encourages WRA project team to proceed with the development of the EIA deliverables as per initial scope of works considering **B3 as the preferred alternative**.

The NRA hopes that following this communication, the WRA Project Team will be able to update and submit a revised project schedule that will reflect the new information.

Yours sincerely

Edward Howard

NRA Managing Director

Enclosures: MPAHITD Memorandum on EWA EIA Preferred Alternative decision– dated 12th July 2024

Ministry of Planning, Agriculture, Housing, Infrastructure, Transport and Development (PAHITD)

M E M O R A N D U M

TO: Deputy Chief Officer, Planning and Infrastructure
Managing Director, National Roads Authority – Edward Howard

FROM: Chief Officer, Ministry of PAHITD

DATE: 12th July 2024 **OUR REF:** N/A

SUBJECT: EAST-WEST ARTERIAL 9EWA) PROJECT UPDATE AND REQUEST FOR DETERMINATION OF PREFERRED ROUTE

On the 27th June, 2023 Cabinet granted approval for:

a) Noted the progress made to date on the EWA EIA;
b) Approved the selection of option B3 as the preferred Route; and

Please action accordingly.

Andrea Faámoe
Acting Chief Officer
Ministry of Planning, Agriculture, Housing, Infrastructure, Transport and Development (PAHITD)

Ministry of Planning, Agriculture, Housing, Infrastructure, Transport & Development
Cayman Islands Government

MEDIA ADVISORY
FOR IMMEDIATE RELEASE

Environmentally Optimal Route Selected for Cayman Islands East-West Arterial Project

George Town, 9 August 2024 – The Ministry of Planning, Agriculture, Housing, Infrastructure, Transport, and Development of the Cayman Islands Government proudly announces that the Cabinet has endorsed Route B3 as the preferred route for the East-West Arterial (EWA) project. This strategic decision follows a meticulous evaluation process, where four potential routes—B1, B2, B3, and B4—were carefully considered to ensure the optimal balance between infrastructure development and environmental stewardship.

Strategic Evaluation and Decision-Making

Route B3 was selected after a rigorous, data-driven analysis highlighted its superior alignment with the Cayman Islands' long-term infrastructure vision. Route B4 was initially dismissed due to its significant environmental, social, and historical impacts. Further studies, conducted from September 2023 to April 2024, led to the elimination of Route B1, primarily due to its high environmental impact—affecting lands owned by the National Trust—and its prohibitive cost.

Routes B2 and B3 emerged as the final contenders, scoring equally in the comprehensive Cost-Benefit Analysis (CBA). However, Route B3 was ultimately chosen based on several critical factors:

Alignment with Long-Term Planning: Route B3 aligns more closely with the original long-term gazette plan, ensuring it supports the Cayman Islands' strategic infrastructure goals and future growth.

Environmental Responsibility: Route B3 minimizes the impact on lands owned by the National Trust, a key priority in preserving the nation's natural heritage. Moreover, it has a significantly lower impact on the critically important parrot habitat compared to Route B2.

Constructability: The route offers more favourable conditions for construction, reducing potential challenges and costs during the development phase, ensuring a smoother and more efficient project execution.

Lower Greenhouse Gas Emissions: Despite being marginally longer—by just 0.5 kilometres (0.3 miles). Route B3 results in lower greenhouse gas (GHG) emissions per trip compared to Route B2. This key finding debunks the notion that a shorter route would be inherently more environmentally friendly, underscoring Route B3's environmental advantages.

Ministry of Planning, Agriculture, Housing, Infrastructure, Transport & Development
Cayman Islands Government

MEDIA ADVISORY
FOR IMMEDIATE RELEASE

Commitment to Transparency and Environmental Stewardship

The National Roads Authority (NRA), working in close collaboration with the Ministry, played an instrumental role in conducting a thorough Environmental Impact Assessment (EIA) for the EWA project. This multi-disciplinary study evaluated the potential effects on both the environment and local communities, providing the data necessary to inform the Cabinet's final decision. The EIA ensured that the project not only meets strategic goals—such as improving connectivity and reducing congestion—but also adheres to the highest standards of sustainable development and environmental conservation.

Ministerial Statement

Johany "Jay" Ebanks, Minister for Planning, Agriculture, Housing, Infrastructure, Transport, and Development, emphasized the significance of this decision*: "The selection of Route B3 for the East-West Arterial project is a testament to our unwavering commitment to developing sustainable and efficient infrastructure. This choice reflects a careful balance between development, cost-effectiveness, and environmental responsibility. Route B3 not only aligns with our strategic goals but also ensures the preservation of vital natural resources for future generations."*

Future Steps

The East-West Arterial project is a cornerstone of the region’s transportation strategy, aimed at enhancing connectivity, alleviating congestion, and fostering economic growth. With the approval of Route B3, the project now moves into its next phase, which will involve detailed planning, design, and continued stakeholder engagement to ensure that the development proceeds with full transparency and community involvement.

A Decision for the Future

While all stakeholders have their individual assessments and goals, the Ministry remains committed to transparency and accountability. It is crucial to recognize that, while Routes B2 and B3 were closely matched, Route B3 emerged as the clear choice, prioritizing environmental preservation, development feasibility, and the overall best interests of the Cayman Islands, its people, and the diverse ecosystems with which we share our beautiful island.

Ministry of Planning, Agriculture, Housing, Infrastructure, Transport & Development
Cayman Islands Government

MEDIA ADVISORY
FOR IMMEDIATE RELEASE

For Further Information

For more details on the East-West Arterial project or to address any inquiries, please contact Mrs. Anne Kensington Lott, Head of Communications and PR for the Ministry. Additionally, further information can be found on the following websites:

- **National Roads Authority (NRA)**: NRA Website.
- **Environmental Impact Assessment (EIA) for the East-West Arterial**: Your EIA in Action Website.

These resources will provide ongoing updates and comprehensive information regarding the project and its environmental assessments.

About the Ministry of Planning, Agriculture, Housing, Infrastructure, Transport & Development (PAHITD):

Under the guidance of Hon. Minister Johany ‘’Jay’’ Ebanks, The Ministry of PAHITD is dedicated to enhancing the quality of life and economic prosperity of the Cayman Islands through comprehensive planning, sustainable agriculture, efficient housing solutions, and critical infrastructure development. Our mission is to create a resilient and thriving future for all residents and visitors.

About the East-West Arterial Project

The East-West Arterial project represents a significant infrastructure initiative designed to enhance transportation links across the Cayman Islands. It aims to create a sustainable and efficient route for commuters and goods, driving economic development and improving the quality of life for all residents.

About the National Roads Authority

The National Roads Authority (NRA) is responsible for the administration, management, control, development, and maintenance of public roads and related facilities in the Cayman Islands. The NRA's role is crucial in ensuring that infrastructure projects like the East-West Arterial are developed with a focus on sustainability and environmental consciousness.

Media Inquiries:

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