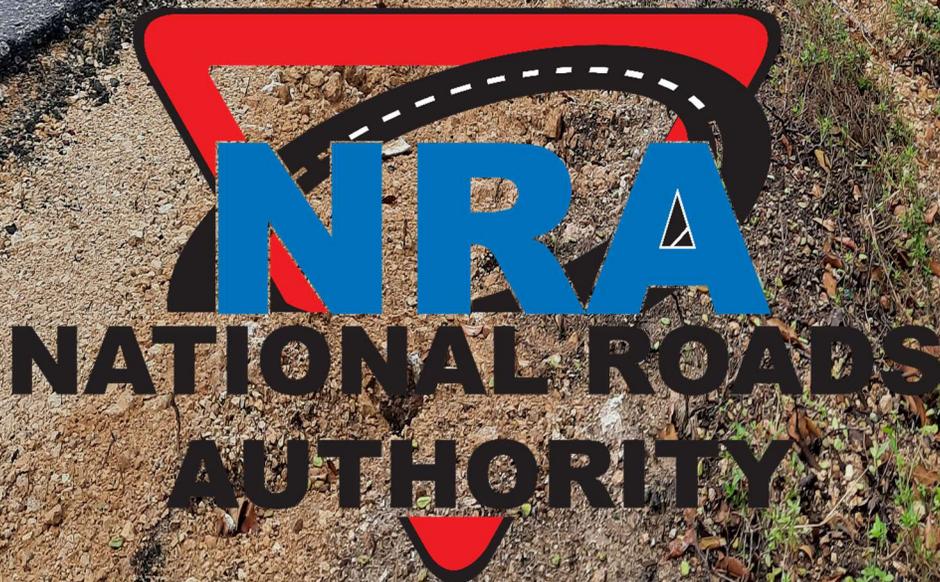


STRATEGIC OPERATIONS PLAN
2022 – 2024



NATIONAL ROADS AUTHORITY, 370 North Sound Road, Grand Cayman





Foreword

Message from the Managing Director



I am pleased to present the three-year Strategic Plan for the National Roads Authority (NRA). This plan, which covers the period 2022-2024, is the result of a collaborative effort involving staff at all levels of the Authority, and will serve to guide the NRA’s strategic priorities over the next three years.

The NRA since its formal inception on July 1, 2004 has made significant contributions to the overall economic stability of the country by continuing to build and maintain quality roads that provide access and mobility to the people of the Cayman Islands.

In preparing for the next three years, we have reviewed our strategy to ensure alignment with the expectations of our parent Ministry, the PACT Government’s Strategic Policy Statement 2022-2024, and the needs of the people of the Cayman Islands.

The NRA Strategic Operations Plan 2022-2024 is structured by our core business areas: Maintain, Manage Trips, Build and Enable. Everything we do contributes to our core business. This helps us allocate our operations budget derived directly from the Road Fund to the highest priorities to keep us focused on achieving our vision. Improving the travel time and ride quality of road users is a key focus area for us. We intend to focus more acutely on customer satisfaction by optimizing the experience of their daily travel on the road network.

The Strategic Plan is a high-level snapshot of our objectives, goals and targets for the period 2022-2024. I look forward to working with my colleagues and stakeholder partners to deliver these commitments for our citizens.

The goals and objectives of this three-year plan are for a refined Authority that is successful in delivering on its mandate of being good stewards of the public road network and in turn playing a major part in the social and economic success of these Islands.

It is my sincere hope that the increased funding and stakeholder cooperation that is required during the implementation phase of this three-year strategic plan will be realized in order to create a public road network that is not only well maintained but is safer and provides greater access and mobility to people, goods, and services.

Edward Howard
Managing Director



PREFACE

The Strategic Plan 2022–2024 for the National Roads Authority (NRA) is designed to achieve the broad outcome goal of building a modern, smart road infrastructure for the island of Grand Cayman. It is intended to further the NRA’s mission to provide a sustainable, safe and efficient transportation network.

Development of this plan is largely guided by the Board of Directors. It focuses heavily on the identification of stakeholders, their key requirements and the manner in which the Authority can best deliver on those needs.

The Plan articulates the priorities, resource requirements, strategic issues, partnerships, timelines and tactics that will be necessary to meet the needs of our customers and stakeholders over the next three years.

This plan outlines various goals and objectives involving staffing, routine maintenance, lighting, rehabilitation, expansion and upgrading of our road network.

Routine service operations, street lighting and general signage and road marking operations will continue to be funded from the annual Road Fund allocation. Major road works including new primary arterials and rehabilitation of existing primary arterials will be funded by the Cabinet as executive assets.

As the economy grows, so does the aspiration for a higher quality of life. Citizens desire connections to more places as well as the ability to get there faster and in more comfort. However, with only 76 square miles, land is a scarce resource on Grand Cayman which means we also have limited options in building bypass roads around or outside of congested areas. Planning (Land-use) and roads are inter-related therefore growth management

strategies must be developed jointly to ensure that future generation can enjoy land-use and roads infrastructure that are mutually supportive.

A lasting solution that makes the best use of all transport modes is important for the long-term health and prosperity of our economy.

The plan outlines a future with increasing investments in the efficient management of the road network asset as a key driver for economic growth, especially with the uncertainty of the economy due to the impacts of the global pandemic.

Finally, the goals and objectives of the Ministry responsible for infrastructure (i.e. Ministry, PAHI) are operationalized in the NRA’s strategic operations plan (2022-2024) that is aimed at fulfilling the NRA’s mission of a developed, well maintained public road network to a standard where all motorized and non-motorized road users can reach every area of Grand Cayman in an adequate, safe, reliable, efficient and economic manner. This three-year strategic operations plan articulates the strategic issues, road programmes, and resource requirements for road construction, maintenance and rehabilitation over the planned period.

Equally important are other national plans such as the Department of Planning’s new development plan called ‘Plan Cayman’, the National Tourism Plan, and the Department of Environment’s various conservation plans. These plans taken together provide the opportunity for a nexus approach that involves an integrated assessment of current and future infrastructure, tourism, and environmental goals and trends.



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Abbreviations and Acronyms

NRA	National Roads Authority
SPS	Strategic Policy Statement
PCI	Pavement Condition Index
PLAHI	Planning, Lands, Agriculture, Housing & Infrastructure (Ministry of)
AASHTO	American association of State Highway and Transportation Officials
iRAP	International Road Assessment Program
PTU	Public Transportation Unit
CPA	Central Planning Authority
S.W.O.T.	Strengths, Weaknesses, opportunities and Threats.
PPP	Public Private Partnerships
OSHA	Occupational Safety and Health Administration
PMS	Pavement Management System
PMFA	Public Management & Finance Act
ERM	Enterprise Risk Management
ESO	Economics & Statistics Office
GDP	Gross Domestic Product
TOR	Terms of Reference



Statement by the Minister for Planning, Agriculture, Housing and Infrastructure (PAHI)



I am pleased to endorse the 3-year Strategic Plan for the National Roads Authority (NRA) covering the period January 2022 to December, 2024.

As the Minister responsible for roads I will do my utmost endeavour to ensure that the NRA is afforded the financial and technical resources needed to accomplish the goals of its strategic plan. Let me also assure you that the key outcome goal for this PACT-led administration is the construction of a modern, smart infrastructure. The importance of this outcome is further emphasized in the 2022-24 Strategic Policy Statement (SPS) which demonstrates a firm commitment of the PACT

Government to increasing public road network capacity for road users in the eastern districts, as well as to developing innovative solutions to decreasing travel demand and improving road safety for all road users.

Economic growth and the continued development of our Country is heavily dependent on our ability to continue to provide a safe and efficient transportation infrastructure. A congested road network can easily result in the loss of tens of millions annually through losses in productivity, increased fuel consumption and increased wear and tear on vehicles.

A central focus of my administration will be the implementation of an eight (8) mile extension of the East-West Arterial from Hirst Road to Frank Sound. This roadway expansion promises significant benefits to Grand Cayman such as vastly improved travel times for travelers to the eastern districts, and creates a highly disaster resilient ‘central highway’ alternative to existing low-lying coastal roads. In addition to these benefits the East-West Arterial opens up land for development on the interior; provides improved access and mobility, and serves as the main conveyance of future utilities expansion (electricity, water, fibre, central sewer and drainage). Other activities such as the George Town Revitalization Project, the West Bay Roads Complete Street Project, the Airport Connector Road, and improvements to lane capacity on Linford Pierson Highway are all intricately linked to other sectors of the local economy including tourism and commerce.

My Government is committed to ensuring the success of the National Roads Authority by not only providing sufficient levels of capital funding over the next five (5) years but by also removing the cap on the NRA’s operations budget allowing the Authority to bolster its personnel, plant and equipment, and training resources. With this commitment, the National Roads Authority can be assured of the Government’s continued partnership and support for the goals and objectives outlined in this 2022-2024 Strategic Plan.

Hon. Johann Ebanks, MP
Minister for Planning, Agriculture, Housing, & Infrastructure



Foreword by Chairman, National Roads Authority

On behalf of the Board of Directors, I would like to congratulate the management and staff of the NRA for the development of this 2022-2024 Strategic Operations Plan.

I would also like to recognize and thank the Hon. Minister for his support of this plan which will guide the policies and actions of the Authority over the upcoming 3-year period.



This Strategic Plan outlines a number of goals and objectives in furtherance of our mission to promote sustainable transport and land development in the Cayman Islands through a safe and efficient network of roads. It is a customer focused document with the goals and objectives of the Authority aligned with the priorities and needs of all stakeholders.

The Board fully endorses and subscribes to the goals and objectives set out in this plan, we believe it will provide value for money while delivering on the desired outcomes of the Government and the general public.

As a Board, we will continue to provide the oversight, policies, and guidance that will afford the best opportunity for success. We will also continue to lobby for the necessary resources to build the required institutional capacity for successful implementation of this plan.

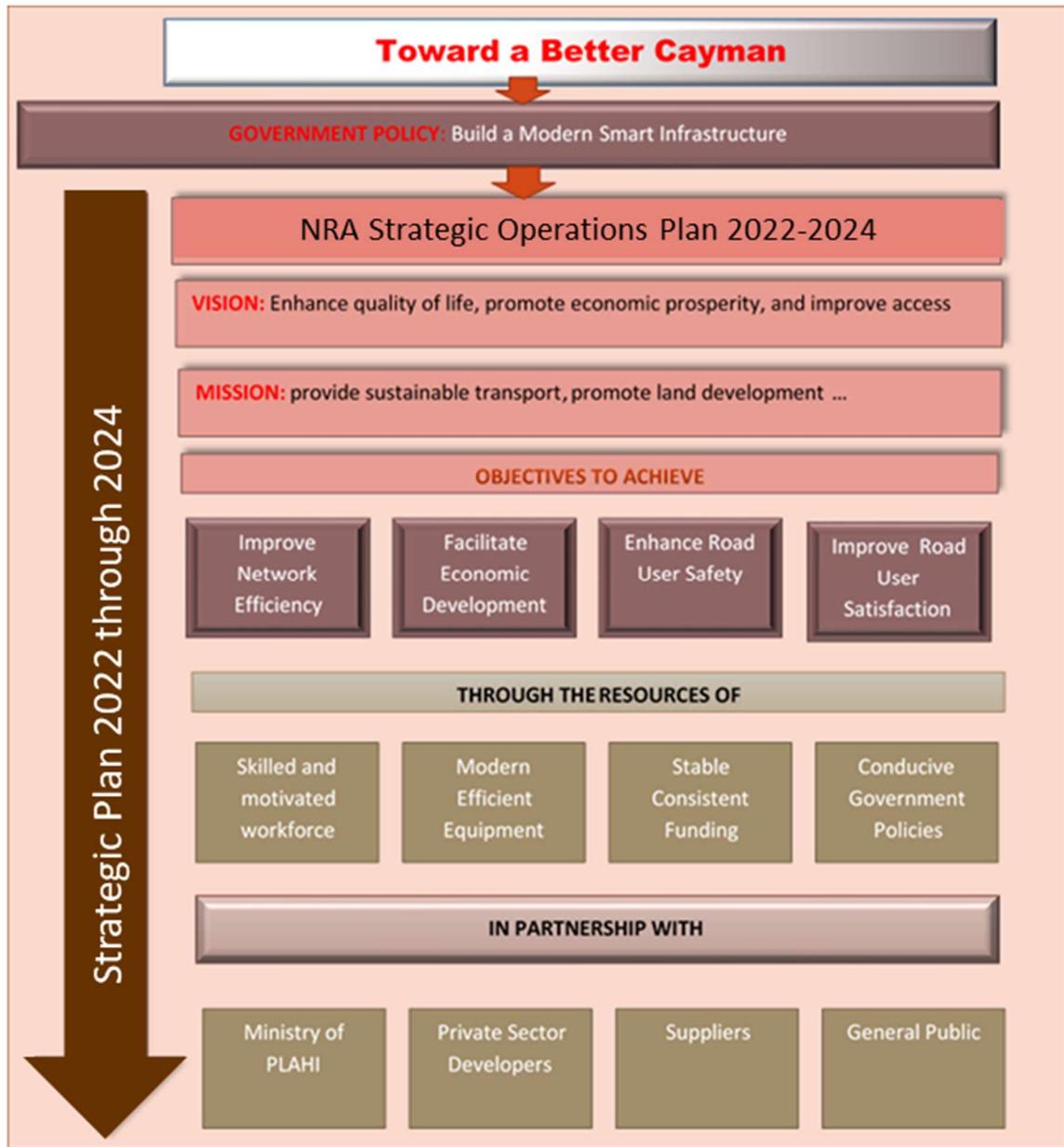
In return, the Board expects management’s full commitment to performance, accountability, fairness, transparency and integrity. It is the effective participation of all employees that makes strategy happen; the plan therefore requires ownership at all levels with a commitment to excellence in customer service.

The NRA plays a significant role in the economic, social and physical development of our Country. It is a responsibility to be embraced with pride and I look forward to the continued support and participation of all staff members in the successful delivery of the goals and objectives set forth in this plan.

Alric Lindsay
Chairman, National Roads Authority



2022-2024 Strategic Plan at a Glance





Executive Summary

Grand Cayman presently has approximately 324 lane-miles of road supporting almost 38,000 registered vehicles on a daily basis.

Only 12% of the Grand Cayman road network is comprised of multilane divided highways. This has placed significant demand on the road infrastructure to maintain the efficient movement of people, goods and services. Investments in the management, maintenance and expansion of the road network has historically not been sufficient to cope with travel demand. As a result, the network has experienced significant issues with congestion particularly during the 7am-9am and 4pm-6pm peak periods.

Efficient traffic flow is vital to our economic and personal well-being, and the goal is to improve journeys and allow users to drive at consistent speeds and enjoy predictable travel on our roads. Continued under-investment is no longer a realistic option; as our population grows and our roads age further, they will increasingly fail to meet the social and economic aspirations we have as a country.

This Strategic Plan 2022-2024 outlines how we can grasp the opportunity to transform both our roads and the experience of driving on them, whilst also addressing strategic imperatives such as economic growth. It sets out our vision for enhancing the quality of life for residents and visitors, promoting economic prosperity and improving access.

Achieving these aspirations will require sound planning and strategic action. This means targeting improved levels of performance in the short term that will put us on course to deliver the network Caymanians deserve.

The plan focuses on four key areas to achieve the desired outcomes over the next three years. These are: Improvements in network efficiency, facilitation of economic development,

enhancements to road user safety and improvements in road user satisfaction.

Certainty of adequate funding, modern efficient equipment, a skilled and motivated workforce, the ability to plan for the long-term and the opportunity to drive increased efficiency will give the NRA the tools needed to bring lasting improvements to the network and take the Authority into the future.

To ensure the road infrastructure positively impacts growth, we must address congestion and delay on the network. The NRA will therefore work collectively with the Government and private developers to help unlock opportunities for growth, including the expansion and modernization of our ports, the revitalization of George Town, improvements in connectivity from the airport to our key tourism areas, and major commercial expansion projects such as hotels, schools and other developments.

The Authority will adopt a customer focused approach which includes consideration of both motorised and non-motorised users of the road network. The safety and access of pedestrians is paramount; that means, continued focus will be placed on the creation of pedestrian friendly facilities, bicycle lanes, and improved lighting to these facilities.

Providing that there are no limited financial constraints we will continue to work with all stakeholders in a collaborative manner to ensure the road network is developed in a way that it sustains growth, creates economic opportunities, improves the lives of our citizens, promotes access, and, ultimately, helps to achieve our individual and countrywide goals.



Introduction

Background

The National Roads Authority (NRA) was created on 1 July 2004 by the National Roads Authority Law (2004). The current legislation is the National Roads Authority Act (2016 Revision). NRA was created to administer, manage, control, develop and maintain the Islands' public roads and related facilities, such as signals, storm water facilities, roadway lighting, and roadway directional signage.

The Authority is governed by a Board of Directors composed of eleven members representing the public and private sectors. The Board defines the overall policy of the Authority and sets the general conditions for its operations. The Minister with oversight responsibility for the Authority, may, after consultation, give general and lawful directions regarding policy to the board.

Our Board

Member	Position
Alric Lindsay	Chair
L. Stanley Panton	Deputy Chair
Chief Officer or Designate	Director (ex-officio)
Anna Peccarino	Director
Financial Secretary or Designate	Director (ex-officio)
Kelvin Dixon	Director
Barry Martinez	Director
Troy Whittaker	Director
Heidi Hunte-Webster	Director
Paul Andrew Bodden Jr (Andy)	Director
Alfred Dane Walton	Director

Vision, Mission and Core Values

Our Vision, Mission, and Values guide our decision making and behaviours when working with customers, colleagues, stakeholders and partners. Our Strategic plan was developed from these doctrines and they serve as our beacon in the execution of our work.

Vision

To enhance the quality of life, promote economic prosperity, and improve access and mobility for all stakeholders in the Cayman Islands through customer focus, efficiency, effectiveness, impact and reputation

Mission

To provide sustainable transport and promote land development in the Cayman Islands for all stakeholders while having regard to the delivery of the roads element of the national development plan

Purpose

Enabling safe and efficient road transport journeys throughout Grand Cayman

Values

- Customer focus** Our customers come first and are therefore the central focus of all our goals and activities
- Employees** We believe that our colleagues within the organization are our most valuable assets. Through them our vision and mission will be accomplished
- Solutions & Innovation** We strive to deliver sustainable and innovative solutions in order to provide the people of the Cayman Islands with a well maintained network of public roads
- Teamwork & Collaboration** As partners and colleagues within and outside our organization, we value each other and are committed to working together to achieve common goals
- Safety** We prioritise road safety for the community and our customers

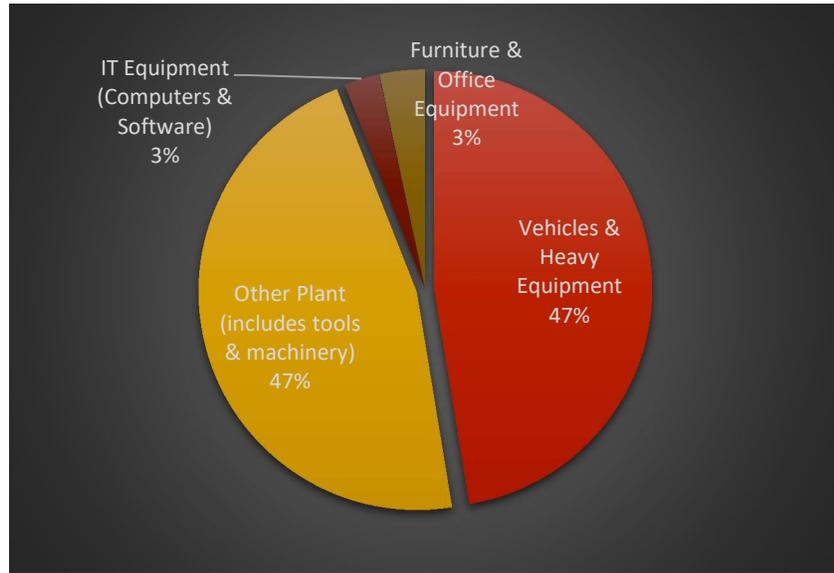




Situational Analysis

Physical Capital measures

The Authority currently tracks approximately 300 individual assets and maintains an asset register of all plant property and equipment with both historical values and depreciation schedules. Plant property and equipment include motor vehicles, heavy equipment, tools and machinery, as well as furniture, IT equipment and software. At 30th December 2020, NRA property plant and equipment had a net book value of approximately \$2.6M. Vehicles and heavy equipment represented 47% of total property plant and equipment value. This was followed by 46% for tools and machinery; 4% in IT Equipment, and 3% in furniture and office equipment. The Authority does not own property and currently leases space at the Public Works Compound inclusive of approximately 3,500 sq ft office space and approximately 1.0 acre for field operations.



Human Capital measures

The Authority in 2020 employed 82 full time staff members with an additional contingent of between 15 to 20 temporary hires. Temporary hires consist mainly of additional labourers required to supplement work demands from capital projects. The NRA staffing complement is over 90% male and less than 10% female. Six percent of staff members are educated to a graduate level, a further six percent hold undergraduate degrees, and 87% are educated to a high school diploma level. Seventy (79) percent of all full-time employees have been with the Authority for more than 10 years, with 45% having a tenure of 20 years or more. Average annual take home pay for NRA employees is approximately \$42,500. The average employee age is 42 years, and average tenure is 14 years. Approximately 19% of NRA personnel costs are attributed to healthcare (CINICO) and the average annual health care premium in 2020 is approximately \$13,000. As of December 2021, there are 11 key vacancies at the

Position	Established	Vacancy
Managing Director	1	
Deputy Managing Director		2
Managers	5	
Superintendents	3	
Accounting support staff	2	1
Administrative support staff	3	
Communications Officer		1
Transportation/Traffic Specialist		2
Transportation Planner	1	
Plans Examiner/Reviewer		1
Design Engineer	1	1
Stormwater Engineer		1
Lead Surveyor (licensed)		1
Project Managers	1	2
Safety Officer		1
Field Supervisors	3	
Engineering Technician	3	
Signs & Lines Technician	9	
Fleet Management Staff	5	
Foreman	8	
Heavy Equipment/Machine Operators	29	
Labourers	8	
Total	82	13
Temporary labourers	15-20	when needed

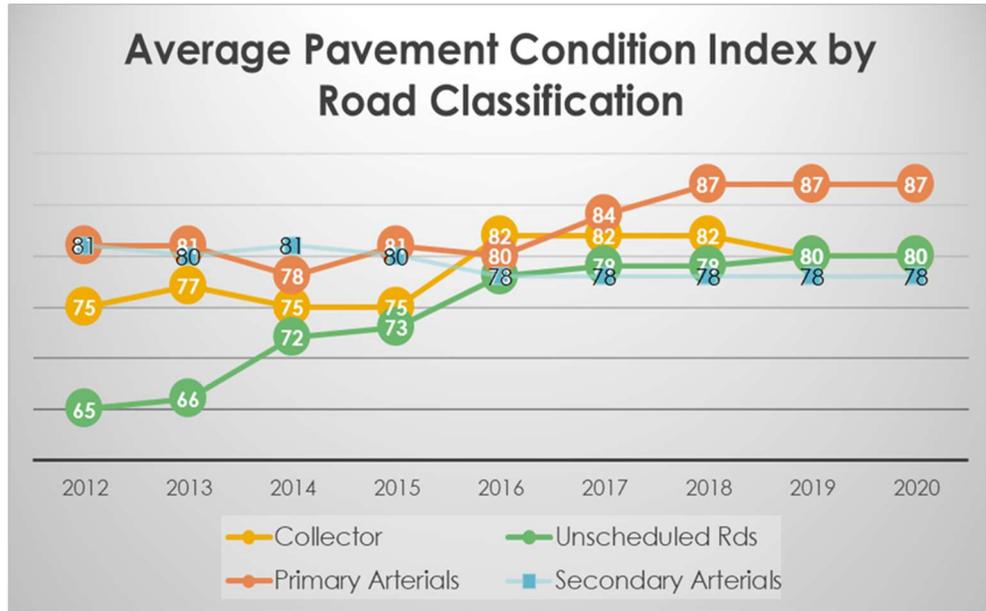


NRA which in total represents approximately \$1.2M in personnel costs. Added to this is another \$450K per annum for training and development and cost of living adjustment (COLA) payments to employees over the 3-year period.

Pavement Condition

The present road network on Grand Cayman is approximately 324 lane-miles spanning 17 constituencies. NRA operates and maintains a pavement management system that monitors empirical pavement surface condition data and prescribes maintenance strategies to pavements of varying classifications in the Grand Cayman road network. Primary

arterials are the main roads which carry the majority of traffic throughout the island and as such are prescribed a higher maintenance protocol. At the end of FY 2020 all pavement types on Grand Cayman showed an overall 'good' to 'very good' condition. The goal for primary



and secondary pavements is that of an average PCI of no less than 80. NRA is proud to have been able to make significant improvements in the pavement condition index (PCI) of all classes of roads on Grand Cayman. Subdivision roads in particular have gone from an unsatisfactory PCI level of 65 in 2012 to an average PCI of 80 in 2020. This is contributed largely to successive Governments placing more emphasis on upgrading the roads in older subdivisions either through more frequent spray n chip surfacing or in some cases implementation of hot mix asphalt surfacing. In addition to road surface improvements greater emphasis has been placed on improvement of storm drain facilities on roadways which contributes greatly to the longevity of the road surface.

As of 2020 roughly 324 lane-miles of roads on Grand Cayman have surface types as follows:

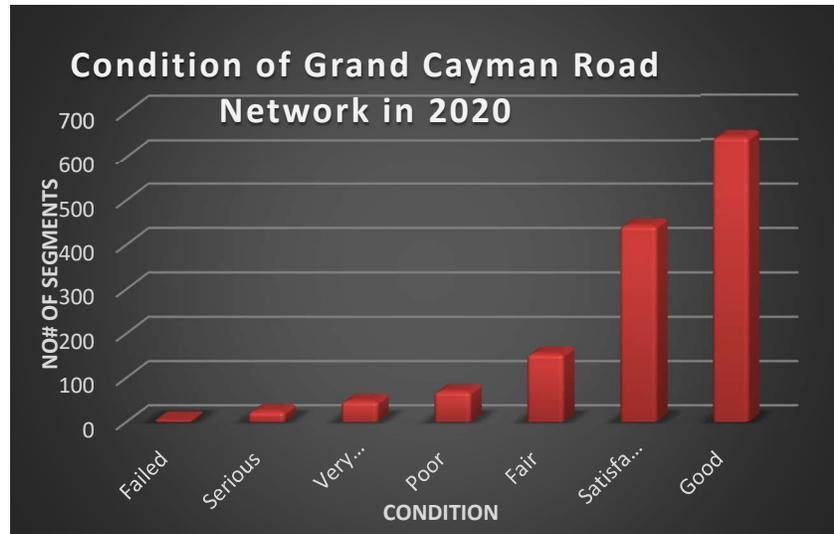
- 196 lane miles of roads have hot mix asphalt surfacing
- 126 lane miles of roads have spray n chip surfacing
- <2 miles of roads are unsurfaced

Maintain a "very good" PCI rating

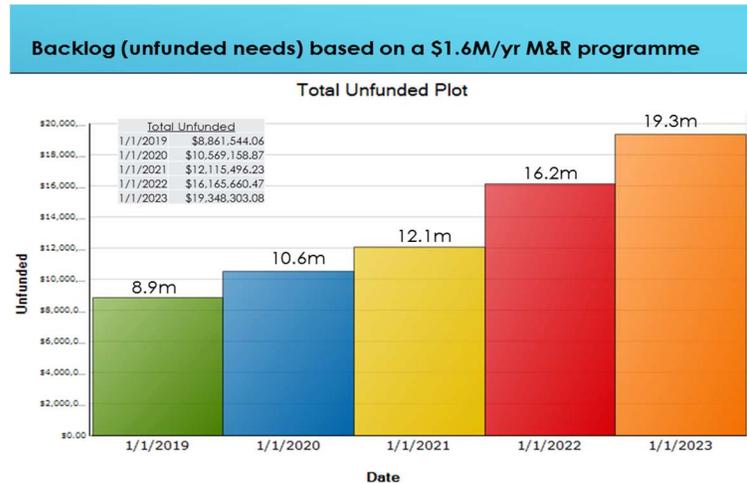
As of December 31, 2020, the NRA's pavement management system Micropaver® shows that Grand Cayman has an overall healthy stock of roads. In 2020 approximately 42% of the road network had 'good' to 'very good' PCI ratings followed by an additional 26% with a 'satisfactory' rating.



The pavement management system demonstrates that in order for the NRA to maintain Grand Cayman’s subdivision roads at a preferred average PCI of 80 and above for the next 5 years there needs to be a minimum annual investment of \$4.1M. By contrast Government expenditure on subdivision roads (aka district roads) in 2018 was approximately \$1.6M, followed by \$2.9M in 2019, and \$800K in 2020 (due to COVID restrictions).



Micropaver® analysis shows that a moderate \$1.6M annual funding programme for district roads yields a \$19M unfunded needs backlog in just 5 years, and results in a significant overall drop in PCI from 78 to 68. Using the current spray n chip repair strategy. An annual M&R programme of approximately \$4M for district roads over the next 5 years serves to maintain the PCI for district roads at or above an 80 average.



NRA is however seeking to develop an alternative repair strategies such as thin-asphalt and possibly asphalt using recycled asphalt products (RAP). The cost and performance of these two strategies is not yet known. A thin asphalt repair strategy would require the use of more costly fine aggregates and must be installed on a well-graded and compacted road base given that the thin asphalt provides very little structural stability. Milled asphalt from major pavement rehabilitation projects can be repurposed as part of new asphalt mix designs that can be utilized on low volume roads. The issue however is that there is insufficient amount of milled asphalt available locally for it to be considered as a viable repair alternative.



Road User (travel) Analysis

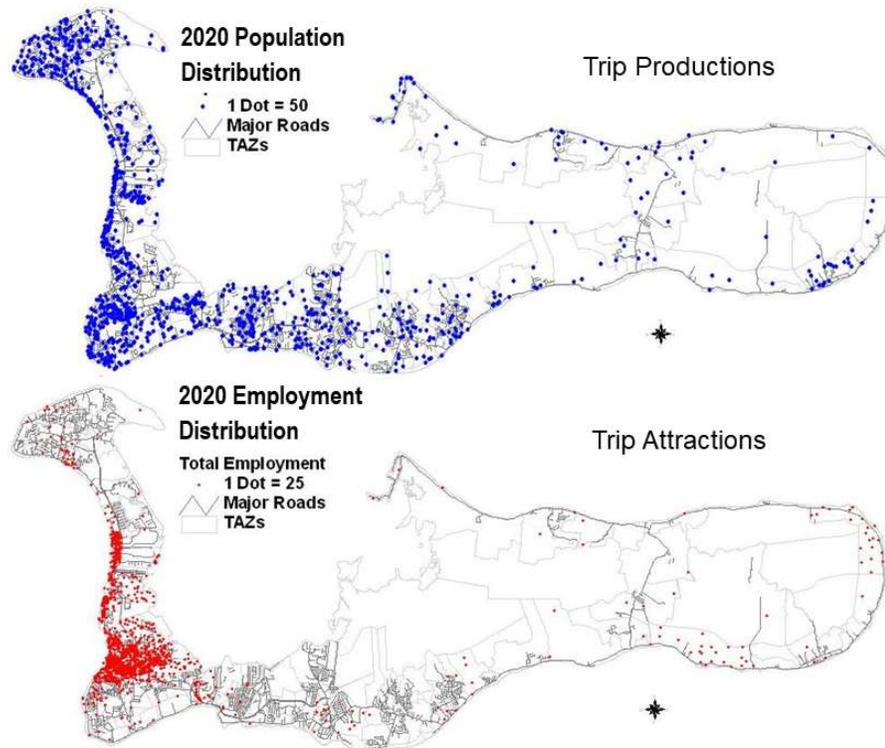
Where people live greatly influences their transportation needs and behaviours. Transportation planning is a discipline that involves the evaluation, assessment, design and siting of the countries transport facilities (i.e roads, public transport, and other road related services). With the recent implementation of its computerized travel demand and traffic analysis modeling software the NRA is in good position to:

- Substantiate the current and future planning initiatives being proposed by the new national development plan (Plan Cayman™)
- Assess the merit of future road network proposals, including those long-term corridor proposals developed and gazetted under Section 26 of the Roads Act;
- Assess macro and microscopic traffic impacts
- Guide policy and investment decisions on roads and road related infrastructure

George Town land use development continues to be the greatest driver of economic growth; this is expected to continue for the foreseeable future with potential major expansion projects for both the air and sea ports, and increased commercial and hotel-tourist investments at Camana Bay and along the Seven Mile Beach corridor. Planned major investments in health services and medical research facilities on Esterley Tibbetts Highway as well as Government’s own efforts to revitalize central business district (CBD) in George Town further indicate that the GT-Central, GT-North, and West Bay South constituencies will continue to be major determinants on travel patterns and on origin-destination trips for the foreseeable future.

The Economic and Statistics Office (ESO) estimated population for Grand Cayman at the end of 2021 is approximately 69,000. George Town and West Bay account for 74% of Grand Cayman’s population whilst Bodden Town (inclusive of Savannah and Newlands) accounts for 21%. Bodden Town continues to be the fastest growing district for residential with a population growth rate of 5.6% per annum.

With economic growth occurring on the western end of the Island and the residential population growing fastest towards the east of Red Bay, an increasing number of road users will continue to





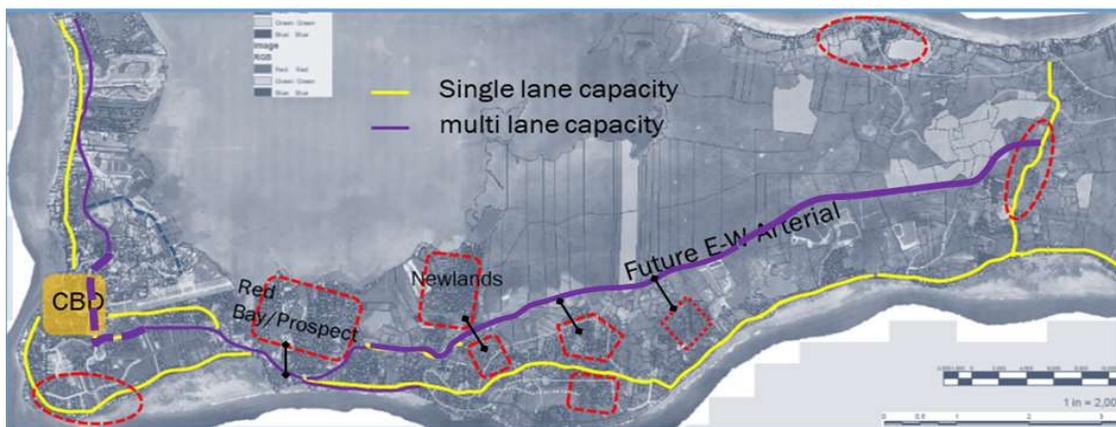
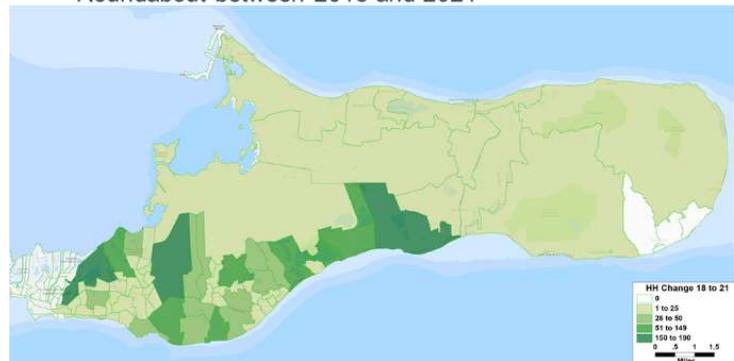
be forced to traverse areas of the network that are currently experiencing the highest levels of congestion. The map of trip production versus trip attractions shows clearly that trip attractions (i.e. mainly employment centres) are most prominent in the CBD, the industrial park, and along ETH & West Bay Roads. The land-use development graphic below depicts areas where approximately 2,000 new households were added east of the Prospect constituency between 2018 and 2021. The growing traffic congestion problem at the eastern parts of Grand Cayman is due in large part to the fact that:

- 1) there is not enough highway lane capacity to facilitate the increasing travel demand brought on by *home-work-home* weekday travel, and
- 2) there are not enough trip attractions (i.e. employment centres) east of Grand Harbour to significantly reduce the need for 26% of the population to travel from the eastern districts along a constrained road network to the employment centres located in the George Town, Camana Bay, etc.

Traffic congestion adversely impacts quality of life and the economic productivity of the country and thus the NRA wholeheartedly embraces the Government’s focus on resolving this issue which if left unchecked threatens the economic viability of the country in many ways. The NRA are strong advocates for a multi-pronged approach to addressing this problem. These in short include solutions such as congestion management; transportation modeling and traffic analysis; better land-use planning; transportation infrastructure financing (including PPPs); investment in multi-modal transport (including public buses); investment in road safety, and stronger regulatory framework. The NRA plays a role in all of these strategies but none more-so than ensuring the development of lane capacity and intersection improvements that are needed to allow the safe and efficient movement of people, goods and services throughout the island both now and for decades to come.

LAND USE DEVELOPMENT

- ~2000 additional households to the east of Tomlinson Roundabout between 2018 and 2021



2026 target: build and expand approximately 5 lane miles of new primary arterial by 2026.



Stakeholder Analysis

Development of the Strategic Plan took into account the strategic priorities of the following four main stakeholders:

General Public: The General Public consists of citizens, visitors and local businesses. These groups are interested in the safe and efficient use of the road network. They require a high quality, aesthetically pleasing network with sufficient interconnectivity to get to their various points of interest in the shortest period of time. In delivering this outcome, appropriate care must be taken to respect the environment, and maximize value for money. In delivering these outcomes, the NRA will:

- Aim to achieve an average PCI rating of at least 80, i.e. “very good” on all primary, secondary and collector roads;
- Increase network capacity on primary and secondary arterials to reduce travel times during peak hours. **Major emphasis will be placed on the expansion of The East-West Arterial, Linford Pierson Highway, and Airport Connector road projects.**
- Perform lighting, friction testing, and general safety audits of the network;
- Make greater provisions for the safety of pedestrians and other vulnerable road users;
- Create greater interconnectivity in strategic areas such as the central business district, the Walkers Road schools area, and the North Sound and industrial park areas;
- Improve the aesthetics of the network through signs and lines and improved roadside vegetation management; and

- Expand the network with due regard to environmental stewardship practices, procedures and policies.

The Government: The Government represents the people and is therefore interested in citizens’ overall well-being from a macro level. As a service-based economy, the Government is interested in the efficient movement of its residents and visitors to increase productivity and economic growth.

The road network is the Government’s single largest asset with an estimated net book value of some \$800 million as at December 2021. The road network drives economic activity; every item consumed in the local community traveled across the network at some point. It enables new housing and commercial developments and attracts investment to areas it unlocks.

Worldhighways.com notes that road infrastructure is the most important of all public assets. The public road network provides access to employment, social, health, and education services. The public road network also acts as the main conveyance for public utilities such as electricity, telecommunications, water, sewer, and drainage.

Effective maintenance is therefore essential to preserving and enhancing the benefits of the public road asset. The World Bank recommends that annual maintenance funding should be approximately 1.75% to 2.5% of the asset’s value to keep roads to an acceptable standard. That would equate to \$14m p.a. to maintain at a ‘fair’ level and \$20m p.a. to maintain at a ‘good’ level based on the PCI range.

As a 100% shareholder, the Government must also be heavily invested in an efficient NRA that is responsive to policy; promotes good governance; facilitates timely and effective maintenance, and is



adequately equipped to provide an appropriate response in the event of disasters.

To achieve the interests of the Government, the NRA will:

- Work to expand the network in strategic areas in accordance with Government policy;
- Advise the Government on all threats to the public road network and provide effective plans and strategies for ensuring a sustainable road network.
- Prepare and present a road hierarchy and asset management schemes for the Grand Cayman road network;
- Promote value for money through efficient procurement policies, increased worker productivity and innovation;
- Update the disaster response strategy and ensure annual refresher training for disaster response personnel.

To facilitate our private sector partners, the NRA will:

- Design the road network with due regard for future land use;
- Provide relevant expertise and advise for private sector led initiatives to add capacity to the network;
- Provide project management & Q/A services during construction; and
- Be approachable to discuss future development initiatives and their potential impact on the network.
- Be supportive of mobility and access concerns
- Work with private sector interests in promoting congestion relief strategies such as: e-commerce, employee flex time and work-from-home, park-n-ride, hybrid learning, and decentralization of commercial zoning and major employment centres.

Private Sector Development

Partners: Private Sector Development Partners have played a key role in the expansion of the road network over the past decade. With limited Government investment and continued economic growth, it is expected that private sector developers will continue to play an important role in adding capacity to the network. From a stakeholder perspective, Developers are interested in ensuring adequate access to future customers of their development projects. They also want to ensure that network expansion is cost effective and that the NRA will provide the necessary expertise and guidance in engineering, design and quality control matters. Communication is key among developers as they would like to ensure open communication in the planning and execution of future road works which may have impacts on planned area developments.

The National Roads Authority:

As stewards of the road network, the National Roads Authority are a key stakeholder whose desire is to achieve a high road user satisfaction rating, stable and predictable road funding, a safe and pleasant working environment for staff, and access to modern equipment and technology to drive efficiency and innovation. To achieve these goals, the NRA will:

- Measure user satisfaction through increased engagement with the public;
- Plan future road programmes in a consultative manner;
- Seek commitments from the Government for the funding of future road development and maintenance programmes;

- Prepare proposals to amend the National Roads Authority Act and the Roads Act where necessary and also draft recommendations for accompanying regulations for implementation;
- Invest in more training and apprenticeship programmes for both technical and non-technical employees;
- Invest in modern machinery and equipment;
- Measure worker satisfaction through surveys and implement programs to foster a positive working environment;
- Invest more in staff safety training including traffic work zone safety practices;
- Promote a culture of learning and general awareness of various roles at the NRA through investments in lunch-and-learn programmes
- Enhance the manpower and capabilities of the Transportation Unit and promote greater utilization of NRA’s macro and micro Travel demand modelling and traffic analysis computer programs
- Increase media communications and promotion of NRA plans and activities.





Stakeholder Analysis Summary

Area of Interest	What is Desired	Reason	Strategies to Deliver	
General Public	<ul style="list-style-type: none"> Safety and Efficiency of the Road Network Quality of network Commuting time Connectivity Value for money environment 	<ul style="list-style-type: none"> Safe Roads Efficient Travel Ability to access network efficiently High Quality roads Interconnectivity between points of interest Lower taxes Less noise, greater aesthetics, minimal destruction to natural environment, less pollution 	<ul style="list-style-type: none"> Reduce accidents Reduce travel time Improve productivity Reduce vehicle operating costs Improve quality of life Reduce cost of living Gain access 	<ul style="list-style-type: none"> Goal 1 Goal 3 Goal 4
Government	<ul style="list-style-type: none"> Economic Growth Efficiency of Organization Policy Delivery Good governance Disaster response Management 	<ul style="list-style-type: none"> Network where residents and visitors can move efficiently and commerce is facilitated Well maintained road assets Achieving value for money Adherence to policies, procedures and laws Capacity for effective and efficient disaster response 	<ul style="list-style-type: none"> Improve visitor experience and citizen productivity Maximize returns for taxpayer Maintain law and order Keep citizens safe 	<ul style="list-style-type: none"> Goal 2 Goal 5 Goal 6 Goal 8
Private Sector Development Partners	<ul style="list-style-type: none"> Accessibility Cost Partnership Design Location 	<ul style="list-style-type: none"> Ability for customers to access investment projects Lower cost infrastructure Assistance with cost, engineering and design Designs conducive to development projects Road location that is conducive to future development opportunities 	<ul style="list-style-type: none"> To improve attractiveness of investment to customers To make projects financially viable To ensure compliance and project viability To ensure proper access and alignment To maximize investment value 	<ul style="list-style-type: none"> Goal 1 Goal 2 Goal 5
National Roads Authority	<ul style="list-style-type: none"> Road user satisfaction Stable and predictable funding Conducive Legislative Framework Adequate Resources Safety 	<ul style="list-style-type: none"> High approval rating among users Ring fenced funding for future maintenance and development Modern legislative framework to enable required actions Modern equipment and highly qualified staff A safe and pleasant working environment 	<ul style="list-style-type: none"> To enable effective planning To update laws and regulations to account for changes in operating environment To be innovate, efficient and serve our customers better We owe it to our employees 	<ul style="list-style-type: none"> Goal 4 Goal 5 Goal 6 Goal 7 Goal 8



Strategic Analysis (SWOT)

We will seek to leverage our strengths, improve our weaknesses, exploit our opportunities; and minimize our threats.

Strengths: As a service-based entity,

our greatest strengths are in our people.

Forty-five (45) percent of our employees have been with the Authority for 20 or more years, this represents a tremendous amount of organizational memory, commitment experience and training.

Strengths

- Highly dedicated and experienced staff
- Relatively good existing infrastructure
- Partially stable funding source
- Organization goodwill
- High staff commitment

Weaknesses

- Outdated Legislation
- Aged Equipment & Technology
- Inadequate long term planning
- Insufficient resource to address existing road issues
- Lack of specialist skills in certain areas
- Lack of road and associated asset data

Threats

- Monopoly in material supply market
- Uncertain political environment
- Landowner litigation
- Inadequate funding
- Natural disasters
- Reduced autonomy

Opportunities

- Support from the Minister/Ministry
- Willing private sector partners
- Funds to invest in plant & equipment
- Willingness to embrace longer term planning
- Country Infrastructure growth phase
- Demand for road to support other infrastructure projects

With a 2020 average pavement condition index of 78, we will leverage our **past gains in road improvements** to achieve our stated target of an average minimum PCI grade of 80 and above on all classification of roads within 3 years. The NRA presently **enjoys goodwill**, both with the public and the Ministry. This will be a key factor when seeking cooperation and understanding for necessary traffic interruptions due to necessary road expansions, repairs and upgrades.

In 2016, the Government amended the NRA Act to provide **\$10 million in annual recurrent funding** to

via the Road Fund. The amendment (Section 19) unfortunately also included a cap on that \$10m. The removal of the cap and allowance of a significantly greater portion of the Road Fund revenue is now paramount as the NRA is no longer able to provide adequate routine maintenance services or staff the Authority sufficiently beyond 2021. Despite operational funding woes the NRA has a good governance structure under the effective stewardship of the Minister of Infrastructure and the Board of Directors. The NRA also has a sound financial management framework and consistently receives clean audit opinions from the Office of the Auditor General.

Weaknesses:

The Authority has made significant strides in modernizing its plant and equipment however with the Government's

forecast of a robust Capital Roads Improvement Programme there will be the need for further investment in more road construction heavy equipment and machinery.

Another current weakness lies in the lack of key management and technical staff resources. The NRA has operated in earnest over the past three years with no deputy managing director. The Authority has also (due to the limitations of its operating budget) not had the benefit of key in-house staff resources such as a traffic engineer, stormwater specialist, project manager, design engineer and communications officer.



The **NRA Act has not had a significant review or revision since it was first enacted in July 2004**. The Act was meant to be complemented by regulations, however, these were never developed. Consequently, the legislative framework under which the Authority operates requires update and revision. The Authority through its Board of Directors has spent considerable time and effort over the past 3 years in developing recommended amendments and in 2020 also prepared a request to the Ministry of infrastructure for the commencement of drafting instructions to Office of Legal Drafting.

Under the current structure, investment in major capital works remains at the prerogative of the Government of the day. The NRA through its Board of Directors makes recommendations to the Minister and by extension the Cabinet however it is Cabinet that decides on which capital improvement projects are to be funded and at what funding levels. The uncertainty of funding for major capital road projects, changes in Government policy, and in an austere environment, the Authority is limited in its ability to adequately forecast and fund **long-term major roads projects**. Consequently, the Authority's approach to the expansion of the road network has sometimes lacked the level of strategic context required and has led to piecemeal improvements which may sometimes give the appearance that the Authority and or Government is not doing enough, or not making the right improvements in the right areas.

Growth in the population and their proximity to the central areas of commerce and economic activity has created additional demands on the existing road infrastructure. Network capacity has therefore become a major issue in recent years, with parts of the network becoming increasingly congested. It is important that we continue to address this to ensure that the network sustains, instead of constrains economic growth. This

scenario creates the need for accelerated investment in the network to meaningfully address the various capacity issues. **Such funding has not always been consistent throughout the last decade** due to a number of factors however there is renewed optimism in recent years as traffic and congestion was indeed one of the most hotly debated issues in the 2021 general elections.

While the NRA enjoys a committed and hardworking workforce, there are specific skill gaps in areas such as project management, supervisory management, and tertiary level training. **Only 13% of our staff has received tertiary level education**, and very few of our supervisors and managers have been exposed to supervisory management, leadership, coaching and mentoring training opportunities. This situation can create issues for succession planning and limit the Authority's ability to innovate and sustain positive employee morale. Further investment in our human capital will be necessary to address this situation.

Opportunities: The Authority presently enjoys the **support of its Board and Minister** as a key policy instrument to deliver on several Government initiatives and policy priorities. This creates a great opportunity (at least in the next 4 years) to improve the quality and capacity of the network in key areas.

The Authority also recognises the potential for private sector investment opportunities in providing improvements to the road network. In recent years we have seen local private financiers step up to partner with the Government in developing segments of both primary arterials and collector roads. There is continued optimism that more private sector interests will come forward and partner with Government in developing not just major road projects but perhaps public transportation initiatives and area revitalization or street enhancement projects as well.



The approval of this strategic plan will signal the willingness of key stakeholders to **embrace longer term planning** for the care and management of the road network. This will be a key opportunity as the country goes through a careful assessment of **infrastructure growth**. Traffic congestion management, sustainable land-use, stormwater management and environmental stewardship are all key issues with which the people of the Cayman Islands have to contend.

Threats: A growing concern for the NRA is the lack of competition in two sectors where it is most dependent, 1) Asphalt Paving, and 2) Aggregate fill materials. Since 2015 there has been a monopoly on hot mix asphalt paving in Grand Cayman. The NRA has been forced to utilise sole-source procurement since that time. Prices of asphalt continue to rise and there is little incentive by the sole source provider to change to the use of more modern paving methods such as performance grade asphalts (aka superpave®), or recycled asphalt pavement (RAP).

The NRA has a heavy reliance on local quarrying for road building materials because the cost of importing higher quality road building fill material is significantly more expensive due to added costs such as licensing fees, import duties, and transport of such heavy and bulky materials. Future supply of local quarry materials is limited which could translate to significant increases in the costs of road projects in the medium to long term future. Given that the island is relatively flat, most of the fill materials are mined from beneath the surface of artificial lakes. The quality of these materials continues to be marginally adequate for road building, and material properties vary between quarries.

Overall, **monopolies in key road building sectors** limits the quality of roads as well as the ability of the Authority to force competitive pricing.

Significant changes in Government can come potentially every four years. While the Authority is apolitical, **changes in the political environment** could result in changes to Government's policy priorities with resultant significant changes to the medium-term strategic plans of the Authority.

Litigation from landowners due to compensation or other disputes could significantly delay or alter network investment programmes. The Roads Act is outdated and presents several challenges when it comes to the process of compulsory acquisition of land needed for new road development. There are also serious challenges with forty-plus year-old public road declarations and surveys that have not been properly registered such that they present major challenges for the NRA today in terms of road widening and boundary adjustments. Authority's current strategy is to adopt a public consultation process for complex matters, however this still remains a significant threat as the general public are not so understanding or forgiving when it comes to land being lost.

Lack of proper road planning and land-use planning has led to the current congestion woes being experienced on the Island. The issue is not that successive Governments did not develop long range road and land-use plans, but rather that many of them were never implemented or only partially implemented. As the development boom continued across the island varying compromises were made in future roads infrastructure, land-use zoning, and environmental protection.

Inadequate funding is a significant threat to future network investments. Over the years, funding allocation has never been adequate to cover the growing operations and maintenance costs of an expanding but also aging network of roads. Whilst the Government has committed \$10 million in annual funding, additional resources will be necessary for material network expansion and upgrades. The threat of hurricanes and other



natural disasters are always a serious concern and yet year to year the NRA has no budget provisions to adequately perform pre-disaster or post-disaster maintenance and recovery. Road drainage in particular has historically lacked adequate funding. The NRA has not had access to funds necessary to install adequate storm drain systems (particularly in older pre-existing neighbourhoods) and it has had to rely hand-in-hat on the Government for emergency funding to mount post-disaster responses.

Changes to the autonomy of the NRA will significantly impact future network plans.

If the Authority's core mandate is changed to one where it becomes an oversight body, this will lead to a monopoly in the local market for road construction and maintenance activities. Based on past experience, this would likely result in increased costs for goods and services, reduced value for money and reduced capacity for the Government to provide an effective and reliable response to natural disasters and other calamities.

Inadequate capacity of the road design and engineering industry. The local industry remains without adequate capacity in terms of qualified and experienced engineers and technicians for road design, supervision and implementation of road infrastructure projects. The NRA being also limited in these areas often has to utilize overseas design firms for its major roadworks. Other technical limitations include the lack of any stormwater engineering or traffic engineering professionals on island.

Inadequate support services and participation from statutory undertakers. Lack-luster response of some statutory undertakers (i.e. licensed public utility providers of electricity, water, telecoms, sewer) continues to have a major impact on the NRA's ability to deliver planned major road improvements in a preferable timeframe. The statutory undertakers are often very slow in

relocation of existing services, as well as slow in the implementation of new services at new roads under construction. Most of the Government's recent road projects have been severely delayed on account of slow responses of some and sometimes all of the utility service providers.

Price Escalations. External economic forces are always a threat to the performance targets of planned work. Price escalations in 2020 and 2021 on raw materials such as lumber, bitumen, and steel are a clear indicator of unstable macro-economic conditions.

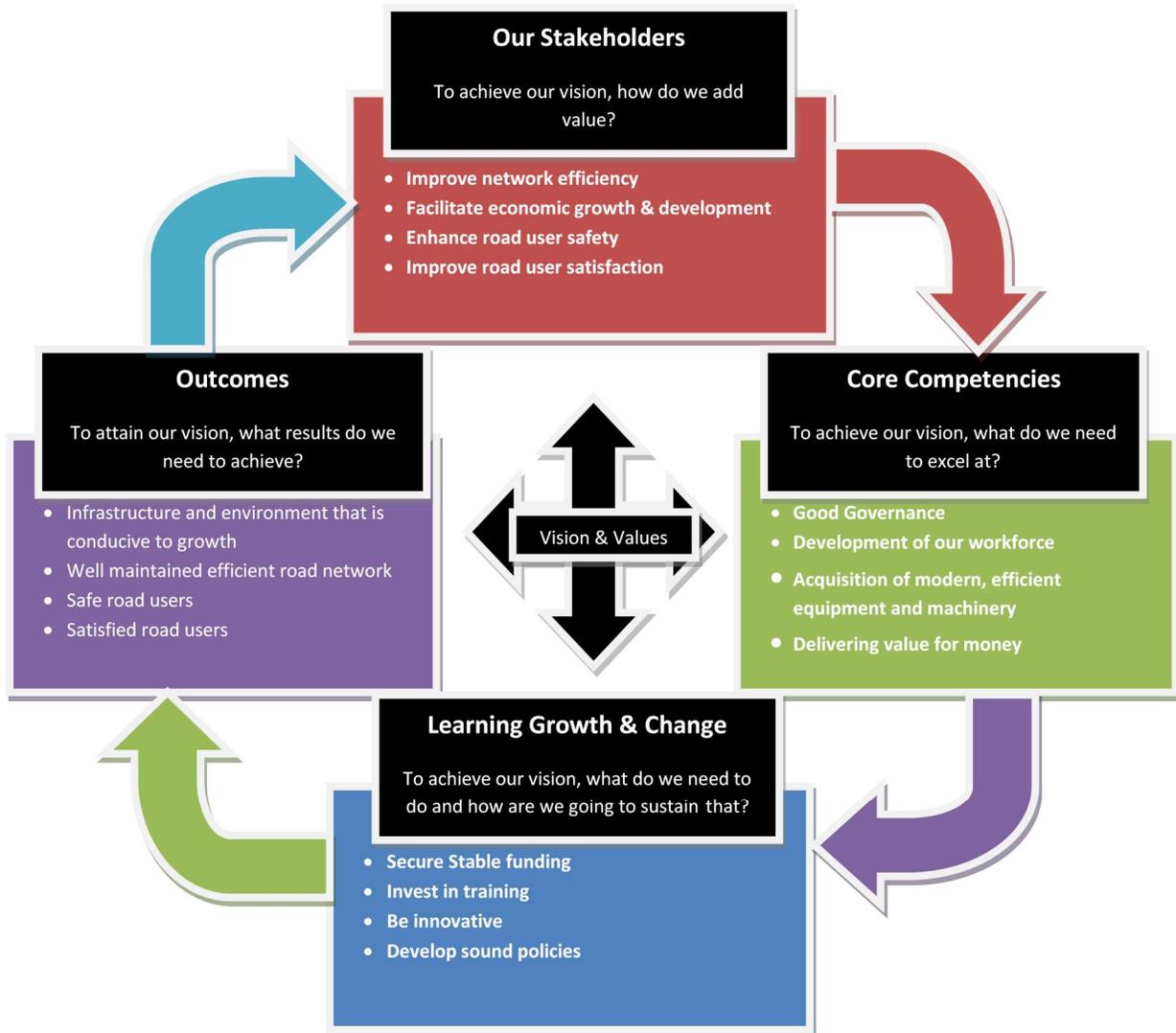
If **the global pandemic** continues through 2022 and 2023 it threatens to bring major challenges to the NRA's ability to achieve planned targets. The challenges include the threat of future lockdowns, and other restrictions, the change of pace for NRA workers and subcontractors, travel restrictions, and the ability to protect staff on-site, as well as manage supply chain interruptions.

Climate change. The NRA recognizes that climate is changing and this is increasing the risk of damage to the road infrastructure. Sea level rise and warming of the planet's oceans signal potential dangers for the Grand Cayman such as beach erosion, overtopping of canals during 'king tide' events, stronger hurricanes, and fewer but more intense rainstorms. The existing road network faces potential high cost of repair of damages caused by climate change. The absence of a comprehensive stormwater management system for Grand Cayman is leading to increasing experiences with short but severe flooding in low-lying areas with existing drain-well systems proving to be insufficient to cope with surface runoff.



Balanced Scorecard

Our balanced scorecard shows the alignment of our strategic initiatives with the vision and values of the Authority. It illustrates a measurement framework to improve organizational performance by concentrating on what matters, aligning the work our staff perform on a day to day basis with strategy, and focusing on the drivers of future performance.





Grand Strategy

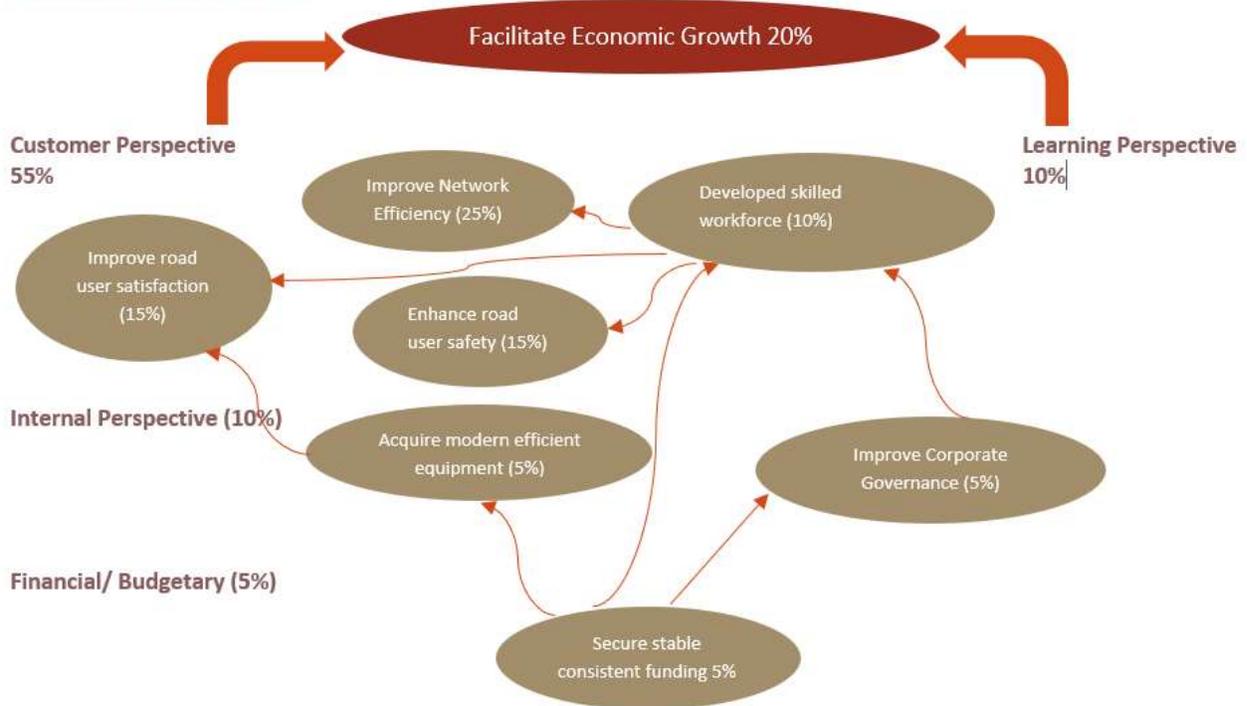
The development of the Grand Strategy is informed by stakeholder analysis and the mission and vision of the Authority. It includes efforts to improve the overall quality of the network, facilitate economic development, enhance value for money, improve road safety and user satisfaction, increase private sector participation, improve governance, and develop human and physical capital assets.

The weighting assigned to each strategy is meant to clearly prioritize elements of the three-year strategic operations plan and to guide the implementation of programmes and policies.

Grand Strategies		
1.	Improve Network Efficiency	25%
2.	Facilitate Economic Development	20%
3.	Enhance road user safety	15%
4.	Improve road user satisfaction	15%
5.	Develop skilled and motivated workforce	10%
6.	Acquire modern efficient equipment	5%
7.	Secure stable consistent funding	5%
8.	Improve Corporate Governance	5%

Grand Strategy Map

Stakeholder Perspective 20%





Planned major asset Improvements over the next 3 years

NRA's traffic data collection programme indicates that the roadway the Lions Centre and Selkirk Drive remains the most congested roadway segment on Grand Cayman with slightly over 40,000 vehicle trips per average weekday. The two major roundabouts at Grand Harbour Development and Kings Sports Centre rank as the 4th and 5th busiest intersections on Grand Cayman behind the Butterfield Roundabout, CNB Roundabout and traffic signal on North Sound Road.

A major segment of the primary arterial network between Bobby Thompson Way and Grand Harbour remains with constrained lane capacity. Road improvements are being proposed in the area of the Linford Pierson Highway which will provide more lane capacity for motorists travelling to and from the Eastern Districts. The traffic statistics for the Hurley Merren Blvd and Crewe Road segments are in direct correlation with elections office, and planning department statistics which show that residential growth is occurring at a faster pace in the areas east of Red Bay and Prospect. The Savannah and Newlands areas in particular have seen the most residential growth making them the fastest growing constituencies.

NRA shares Government's goal of providing congestion relief on roadway segments and at intersections that are critical to the effective movement of people, goods, and services; and particularly for residents during their daily home-work-home commute.

The NRA knows full well that we cannot build our way out of congestion. There is a limit to the amount of roads infrastructure as well as vehicular traffic this tiny island can accommodate before we adversely affect other key sectors such as tourism and the natural environment.

To this end the NRA, under the leadership of its Board of Directors, is in the process of developing a long-term road plan for Grand Cayman that will also be validated through proposed computerized travel demand and traffic operations models. These models allow the NRA to run 'what if' scenarios and test sustainability of the road network for both the short and long term. The models can run growth scenarios as far out as 30+ years. The results of these scenarios will help Government make sound policy decisions regarding ground transportation on these islands that will most likely include some or all of the following strategies:

- Continued major investment in road improvements;
- Investment in public transportation;
- Limitation of used car imports;
- Promotion of other forms of motorized and non-motorized transport;
- Promotion of employee flex time and working from home (particularly in a COVID age);
- Promotion of e-business and e-government

Proposed Major Capital Roads Projects for 2022 through 2024 is given in the table below. Of key importance are 1) Phase 2 of the Linford Pierson Highway Expansion between Agnes Way and Bobby Thompson Signal, and 2) The extension of the East-West Arterial from Hirst Road to Look-Out Gardens in Bodden Town. Completion of the Linford Pierson roadway widening project to four (4) lanes is expected to bring much needed relief for commuters to and from the eastern districts; especially during the heavy peak periods. Travel delays for some motorists east of Bodden Town central have been reported as being well in excess of one (1) hour during the AM peak period of the regular school term.



The addition of over 2 miles of new travel lane capacity, coupled with other intersection improvements in George Town is expected to drastically reduce traffic congestion and travel times for residents in the eastern districts. Other notable improvements to the road network serving the eastern districts include a planned expansion of parts of Hurley Merren Blvd and Crewe Road (by Lions Centre) from 4-lane capacity to 6-lane capacity.

Forecasted Capital Road Asset Improvements
National Roads Authority of the Cayman Islands
3 Year Annual Programme 2022- 2024

	Project Name	2022	2023	2024
Road Safety Improvements	Bicycle Lane (HMA) at West Bay Road - Salt Creek RAB to West Bay Fire Station			
	Bicycle Sharrow Markings on Eastern Avenue			
	Guardrail Installation on Linford Pierson Hwy by Equestrian Centre			
	Guardrail Installation on Rex Crighton Blvd (east bound lane)			
	Guardrail Installation on Shamrock Road on bend near Tuckerman Lane			
	Guardrail Installation on Seaview Road by Blowholes & Lovers Wall			
	Guardrail Installation on Linford Pierson Hwy by Equestrian Centre			
	Lighted Pedestrian Crossings on Eastern Avenue by Kirk Market			
	Lighted Pedestrian Crossing at Butterfield Roundabout by Arch Automotive			
	Lighted Pedestrian Crossing on Godfrey Nixon Way by Paddington Place			
	Lighted Pedestrian Crossing on Owen Roberts Drive by Customs HQ			
	Lighted Pedestrian Crossing South Sound Road by Jetty			
	Lighted school crossing at East End Primary			
	Frank Sound Road and Seaview Road Intersection - additional turn lanes, signage and markings			
	Road Shoulder Improvements along Seaview Road			
	Road Shoulder Improvements at Queens Highway			
	Road Shoulder Improvements at Lower Valley & Pedro area			
	Island-Wide LED Roadway Lighting Improvement Program			

Planned Road Safety Improvements

Forecasted Capital Road Asset Improvements
National Roads Authority of the Cayman Islands
3 Year Annual Programme 2022- 2024

	Project Name	2022	2023	2024
Primary Arterials	Airport Connector Road - ETH to Sparky Drive			
	Airport Connector Road - North Sound Road to 19E 40 - Burkes PPP			
	Linford Pierson Hwy - Widening adjacent to Equestrian Centre & along Bobby Thompson Way			
	Linford Pierson Hwy Extension - Outpost to Olympic Way			
	East-West Arterial Road - Hirst Road to Woodland Drive Area			
	East-West Arterial Road - Woodland Area to Lookout Road			
	East-West Arterial Road - Extension to Frank Sound Road			
	Godfrey Nixon Extension to North Church Street			
	Shamrock Road & Hurley Merren Blvd 6 lane widening (westbound)			
	Crewe Road 6 lane widening by Lions Centre (eastbound)			
	Shamrock Road & Crewe Road 6 lane widening by First Baptist (westbound)			
CUC Roundabout & Kings Bypass				

Planned Primary Arterial Projects



Forecasted Capital Road Asset Improvements
National Roads Authority of the Cayman Islands
3 Year Annual Programme 2022- 2024

	Project Name	2022	2023	2024
Secondary Arterials	Esterley Tibbetts Highway - Coralstone Roundabout leg extensions to WB Road and Snug Harbour			
	Walkers Road Widening - Academy Way to South Sound Road			
	Mcfield Lane - Widening and road surface upgrades			
	Anton Bodden Road - Extension to Rankins Jerk Stand			
	Willie Farrington - Reverend Blackman Connector			
	Olympic Way Connector - Olympic Way to Academy Way thru JGHS Campus			
	Eclipse Drive - Surface & Drainage Upgrades			
	Red Bay & Prospect Service Road			
	Commerical Avenue			
	Road to Fairbanks Prison & C.E.C - (part of South Sound Bypass)			
	Agnes Way Southward Extension (600ft) - Rankins PPP			

Planned Secondary Arterial Projects

Forecasted Capital Road Asset Improvements
National Roads Authority of the Cayman Islands
3 Year Annual Programme 2022- 2024

	Project Name	2022	2023	2024
	Beach Bay Road HMA resurfacing (bottom half)			
	Northward Road (Shamrock Road intersection to HM Prison)			
	Hirst Road (Countryside to Marine base)			
	Godfrey Nixon Way (Eastern Avenue to Butterfield RAB)			
	Portland Road			
	Marina Drive			
	Prospect Drive			
	Seaview Road (East End)			
	Seaview Road (Health Clinic to Knot St)			
	Seaview Road (Knot St to Skipwith Link)			
	Frank Sound Road HMA Resurfacing			
	Water Cay Road - Island Houses to Finger Cay Road			
	Sand Pointe Road - Cayman Kai Area			
	Hutland Road Northside			
	High Rock Drive - Seaview Road to KP's Quarry Entrance			
	High Rock Drive - KP's to Long Term Mental Health Facility			
	West Bay Road - Eastern Avenue to Helen Drive			
	West Bay Road - Pizza Hut to Helen Drive southbound lane			
	West Bay Road - Safehaven Road to Public Beach			
	Eastern Avenue - Shedden Rd to Godfrey Nixon Way			
	Eastern Avenue - Godfrey Nixon Way to North Church Street			
	South Church Street - Boilers Rd to Denham Thompson Way			
	South Church Street - Denham Thompson Way to Walkers Road			
	Walkers Road - Boilers Road to Denham Thompson Way			
	Walkers Road - Denham Thompson Way to South Sound Road			
	South Sound Road/Walkers Road Intersection to Rugby Club			
	South Sound Road - Rugby Club to Old Crewe Road			
	Shamrock Road - Woodland Drive to Will T Drive			
	Shamrock Road - Will T Drive to Manse Road			
	Shamrock Road - Northward Rd to Manse Road			

Planned Hot Mix Asphalt Rehabilitation Programme (Main Roads)



Consistent Maintenance – a key strategic priority

As the strategy map shows, 75% of our efforts will go toward improving the user experience on the road network. NRA is encouraged by the Government’s commitment to facilitating major roads expansion projects such as the East-West Arterial and the Airport Connector Road. Our success in delivering the strategic outcomes outlined is largely dependent on Government’s support of this strategic plan.

Effective maintenance of the existing road network is also vitally important. The NRA currently maintains approx. 324 lane-miles of road, with that number increasing as more new roads are added to the network both in the area of 1) subdivision roads (public, unscheduled and collector), and 2) major highways (primary and secondary). Core maintenance activities include;

- Roads Resurfacing (mill & pave or overlays);
- Subdivision roads upgrade (spray n chip);
- Roadside grass verge cutting;
- Road shoulder maintenance;
- New drainwell installations & maintenance;
- Pothole patching;
- Guardrails (safety barrier) installation;
- Signals maintenance;
- Lighted Pedestrian crossing Installation;
- Signs & roadway lines/markings installation and maintenance;
- Mechanical roadway sweeping;
- Speed humps & tables installation;
- Street lights Installation (public roads and subdivisions)

Poorly maintained roads constrain mobility, raise vehicle operating costs, contribute to

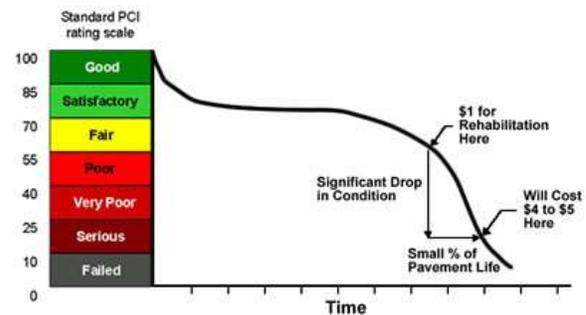
increased accident rates and can stifle economic growth.

Unfortunately, the importance of road maintenance to the local economy is not often reflected in the level of annual budgetary funding afforded to this key activity.

What is preventative maintenance?

Preventative maintenance is primarily geared at preserving the road asset as opposed to upgrading it or adding capacity. This entails activities to preserve pavements, drainage facilities, shoulders, medians, signs, lines and other road assets as near as possible to as new conditions.

A pavement management system involves preventative maintenance measures applied to the road surface before the critical failure point is reached.



The critical PCI on most pavements is 70. Asphalt roads typically require some form of preventative maintenance around 8 to 10 years of life. Preventative maintenance performed around this time will usually prolong the life of the pavement by 5 to 7 years. If no preventative maintenance is performed then the pavement passes the critical repair point and complete failure occurs more rapidly. Once pavement condition drops below “very poor” conditions the cost to rehab is 4 to 5 times more than the cost of preventative maintenance.



The Importance of regular

maintenance: With a net book value of some \$800 million as at 31st December 2021, the road network is the highest valued asset owned by the Cayman Islands Government. For the benefits and value provided by this asset to be maintained, maintenance of the network must entail a strategically planned and adequately funded maintenance program.

The case for the NRA staying ahead of the curve on maintenance costs is justified in the following ways:

1. Poorly maintained roads increase costs not just to the Government but also to the road user through added wear and tear on vehicles, decreased travel times, and increased fuel consumption
2. Deferring maintenance makes fixes drastically more expensive later;
3. It is easier to allocate money for roads maintenance more efficiently than it is for new construction projects. Maintenance funding gets spread around to all constituencies rather than to prioritized major areas as is typically the case with new construction.
4. Maintaining roads to a high standard increases property values

Without regular maintenance, the quality of the network could rapidly deteriorate, leading to congestion, higher future maintenance cost, or large-scale reconstruction efforts costing several times more than regular maintenance. This means the asset loses value, road user satisfaction decreases as the network becomes more difficult to navigate while safety reduces.

Resources required: The goals and strategies outlined in this plan seeks to provide the NRA with the workforce, equipment and funding required to properly maintain the road asset. Our success in these efforts will markedly improve our ability to deliver the desired outcomes for our customers and other key stakeholders.





Goals and Strategies

Goal 1. Improve network Efficiency

Greater efficiency will be pursued through improvements to the network that add greater access and mobility. Interconnectivity of streets and neighbourhoods and a clearly defined road hierarchy are important in making public transport and services such as garbage collection, food delivery, package delivery, etc more efficient and attractive.

Objectives	How	Performance Measures	Targets
1.1. Increase existing network capacity	<ul style="list-style-type: none"> Build added lane capacity on major roadways where necessary Review speed limits and implement changes where appropriate 	<ul style="list-style-type: none"> Miles of additional lanes added Intersection improvements 	<ul style="list-style-type: none"> Extend the EW Arterial to Lookout Gardens by Dec 2024 Widen Bobby Thompson way to 6 lanes by Dec. 2023 Widen Linford Pierson Hwy by Equestrian Centre to 4 & 6 lanes by Dec 2023
1.2. More efficient road design	<ul style="list-style-type: none"> Amend NRA Act & Roads Act to allow for regulations and/or guidelines on road design standards 	<ul style="list-style-type: none"> Development of NRA operations manual Approval of NRA Law/Roads Law amendments 	<ul style="list-style-type: none"> Development of subdivision road standards by March 2023
1.3. Ensure strategic access and departure to and from major roadways	<ul style="list-style-type: none"> Formalize access management plan for primary arterials Construct additional medians to reduce vehicle crossings Build in right and left hand turn lanes, accel/decel lanes where possible 	<ul style="list-style-type: none"> Approval and adoption of access management plan Linear feet of additional medians built 	<ul style="list-style-type: none"> Access management plan/guidelines for primary arterials to be completed and approved by Dec 2022 Turn lane upgrades to Frank Sound and Seaview Road intersection by Dec 2022 New major Intersection at Hirst Road and Rex Crighton Blvd by June 2023
1.4. Measure performance of road network	<ul style="list-style-type: none"> Measure and assess travel speeds and travel times on the network Measure and assess link through volumes and volume/capacity ratios on roads with higher classification within the network Measure and assess delay (travel delay and intersection delay) parameters at key intersections and links throughout the network 	<ul style="list-style-type: none"> Traffic data collection programme conducted Measure and assess road surface characteristics Measure and assess ride quality 	<ul style="list-style-type: none"> Annual pavement condition surveys completed and catalogued in micropaver database Annual pavement friction testing on select link road and intersections Annual traffic data collection programme Traffic Impact Assessments or Traffic reports for select intersections or PADs Produce the Grand Cayman future roadway congestion heat map and update annually using PTV traffic software.
1.5. Increase interconnectivity	<ul style="list-style-type: none"> Gazette new link road systems within neighbourhoods Work with Department of Planning to implement policy on interconnectivity between neighbouring developments 	<ul style="list-style-type: none"> Miles of additional connecting roads 	<ul style="list-style-type: none"> Savannah-Newlands Collector (by Woodland) road constructed by Dec 2022 Extend Olympic Way from Truman Bodden Complex to Academy Way by Dec 2024 Connector for Willie Farrington to Reverend



				<p>Blackman drive by Dec. 2024 (dependent on West Bay RCIPS Station relocate)</p> <ul style="list-style-type: none"> • Connector for Elgin Avenue to Eastern Avenue by 1st Qtr 2025 • Godfrey Nixon extension to North Church St. by Dec. 2023 • High participation in ongoing Plan Cayman committee meetings
<p>1.6. Develop strategies to reduce travel demand on existing road arteries</p>	<ul style="list-style-type: none"> • Construct bypass and alternative routes • Provide planning guidance for walkable communities and interconnected subdivisions • Work with local media and other interest groups to promote flex-time, work from home, and other strategies. • Work with Govt and private sector entities to review and implement used car import legislation 	<ul style="list-style-type: none"> • Number of media campaigns held • Number of initiatives made with joint stakeholders in promoting alternative modes of transport • Greater participation in national development plan efforts 	<ul style="list-style-type: none"> • Quarterly meetings with Ministry of Education to review schools busing routes and catchment areas; understand causes and effects of school start times, locations and busing policies on AM peak hour traffic • Work with local media and private interest groups annually to educate road users on road traffic issues 	
<p>1.7. Alternative strategies to reduce peak period congestion</p>	<ul style="list-style-type: none"> • Work with Chamber of Commerce and other interest groups to educate and inform public on congestion management strategies • Work with employers to promote flexi-time, hybrid learning, etc • Outreach programmes promoting green transportation alternatives 	<ul style="list-style-type: none"> • Number of strategy meetings held and policies developed • Number of outreach programs 	<ul style="list-style-type: none"> • Promote strategies such as flex-time, work-from-home, park n ride, hybrid learning through media campaigns and collaborative efforts with local advocacy groups. 	



Goal 2. Facilitate Economic Development

Medium term economic forecasts from the Ministry of Finance are that the domestic economy is expected to recover beginning with a growth of 1.2 percent in 2021. Economic activity is expected to accelerate further by 4.7 percent in 2022 and an average of 2.9 percent per year between 2023 and 2025. With tourism uncertain due to the global pandemic, the economic recovery is to be led by the construction sector with both private sector and government sector projects offering major contributions.

The multiplier effect of the growth in the construction sector is expected to boost activities in some auxiliary sectors such as electricity/water, telecoms, and wholesale/retail.

With the objectives and measures outlined below, the NRA will do its part to facilitate economic development through road infrastructure provisions that facilitate workers to jobs, students to schools, sick to the hospital, tourists to activities and so on.

Objectives	How	Performance Measures	Targets
2.1. Support major public infrastructure projects	<ul style="list-style-type: none"> Secure/lobby for adequate and sustainable sources of funding for major works Consult with steering groups for Port, Airport and George Town redevelopment Provide studies and infrastructure designs to facilitate projects 	<ul style="list-style-type: none"> Transportation/traffic modeling Strict adherence to procurement laws and regulations Road corridor plans and designs Public-private stakeholder consultations on land-use and transportation issues 	<ul style="list-style-type: none"> Semi-annual participation in economic forums, real-estate and land development forums 100% reliance on the macro and micro traffic models to justify selection of projects. Road corridor plans and studies developed on sound transportation principles
2.2. Enhance climate resiliency of the core network	<ul style="list-style-type: none"> Identify flood prone areas Identify natural disaster road risks Sensitize all stakeholders on the climate impacts on the road network Work more closely with the Environmental Assessment Board (EAB) to consider environmental impacts of projects 	<ul style="list-style-type: none"> Stormwater management plan Disaster management plan – emergency routes, evacuation zones etc 	<ul style="list-style-type: none"> Develop a climate resilient EW-Arterial from Hirst to Lookout Gardens by Dec 2025 Establish minimum road height levels required for new roads to ensure they remain above flood stages by January 2023 Develop SWM strategies and countermeasures for existing public roads to control inland flooding from rainstorms and/or storm surge. Procure consultant for comprehensive review of SWM issues by June 2022 Develop a steering committee to work with EAB in overseeing the development of an Environmental Impact Study for the EW Arterial to Frank Sound – select EIA consultant by March 2022



<p>2.3. Reduce lost productivity</p>	<ul style="list-style-type: none"> • Reduce commute times for residents in the eastern and western districts • Increase access and mobility throughout the Island 	<ul style="list-style-type: none"> • Reduction in time for travel from various points • Number of additional road connection points • Level of provision and usability of non-motorised transport 	<ul style="list-style-type: none"> • Minimum 25% reduction in peak hour travel times on congested roadways by 2024 • Peak hour level of service 'D' or better on Linford Pierson Hwy and Hurley Merren Blvd by 2024
<p>2.4. Improve the experience of Tourists and visitors using the network</p>	<ul style="list-style-type: none"> • Improve connectivity from the airport to Seven Mile Beach • Improve signage (directional and regulatory) along the roadways 	<ul style="list-style-type: none"> • Reduce speed limits around local tourist attractions to 25 mph and enhance signage and pedestrian crossing systems • Improve signage throughout the Island • Improve pedestrian and biking facilities allowing visitors a safe and friendly walking and biking experience 	<ul style="list-style-type: none"> • Make West Bay Road more accessible and safe to NMT's (bicycles, scooters, segways, skateboards, etc) by adding dedicated bicycle lanes along the entire West Bay Road corridor; improve lighting and add more crosswalks by December 2023 • Signage audit and review of signage standards by Dec 2023 • Improvement of wayfinding signage to facilitate better movement of tourists throughout Grand Cayman • Develop in conjunction with the Department of Tourism a social media programme that provides road user information and rules of the road for visitors by Dec 2023

Goal 3. Enhance Road User Safety

The NRA plays a pivotal role in road user safety in the Cayman Islands. The 2021-2032 National Roads Safety Strategy is intently focused on the three E's (Engineering, Education, Enforcement) of road safety aimed at making Cayman's roads safer. The NRA's main area of the 3E's initiative is engineering however, there are small points of intersection with providing road safety education, and with enforcement of laws; particularly roadway standards and encroachments.

Objectives	How	Performance Measures	Targets
<p>3.1. Reduce number of accidents attributable to road factors</p>	<ul style="list-style-type: none"> • Redesign adverse camber roundabouts (where necessary) to enhance safety • Gather collision statistics from RCIPS and review for implementation of potential engineering countermeasures • Improve overall road surface ride quality • Review iRAP safety audit and make appropriate recommendations • Reduce or eliminate roadside hazards 	<ul style="list-style-type: none"> • Intersection and lane improvements based on RCIPS collision data • PCI network rating • Safety audit reviewed and report prepared • Implementation of iRAP 2014 report recommendations • Number of hazards identified and actioned 	<ul style="list-style-type: none"> • All major roundabouts retrofitted to include lane discipline markings by Dec 2022 • Achieve PCI rating of at least 80 on all primary and secondary road surfaces (subject to funding availability) • 90% implementation of iRAP safety countermeasures implemented by December 2024



<p>3.2. Improve safety and usability for non motorized transport (i.e. pedestrians, bicycles, scooters, etc)</p>	<ul style="list-style-type: none"> • Construct dedicated bike lanes where space and resources permit • Build additional sidewalks in high pedestrian traffic areas • Improve lighting on busy roadways • Improve road shoulders in rural areas • Install new pedestrian crossings 	<ul style="list-style-type: none"> • Miles of dedicated bike lane on the network • length of sidewalk constructed • Number of areas with improved lighting • Miles of road shoulders improved • Number of additional pedestrian crossings 	<ul style="list-style-type: none"> • Improve capacity for bicycle and pedestrians over 20 miles of arterial and collector roads by 2024 • Remove encroachments on all primary arterials by Dec 2023 • Remove encroachments on all secondary arterials by Dec 2024 • Implement annual road shoulder improvement programme with the following targets: Frank Sound (2022); Seaview Rd (2022) Queens Highway (2023/4) • Addition of at least 15 new pedestrian crossings on Grand Cayman by Dec 2024
<p>3.3. Improve education among road users</p>	<ul style="list-style-type: none"> • Media adverts • Working with the licensing department to enhance drivers' education program for road testing • Partnerships with the RCIPS and road safety advocacy groups to promote safe driving 	<ul style="list-style-type: none"> • Number of road user education campaigns • Recommendations for revisions to road code handbooks • Adoption of national Road Safety Strategy • Number of meetings attended for Traffic Management Panel (TMP) 	<ul style="list-style-type: none"> • Annual review of the Road Code and revisions • Re-instate Annual road safety conference workshop in 2023 • Promote the development of a road safety advisory council • Review and make necessary amendments to the National Road Safety Strategy by Dec 2024
<p>3.4. Improve road design standards and practices</p>	<ul style="list-style-type: none"> • Adopt AASHTO road geometric design standards and specifications • Adopt UK model for road safety audits • Strengthen strategic linkages with overseas consulting engineers and road agencies in other countries in order to enhance capacity to plan, design and manage projects. 	<ul style="list-style-type: none"> • Road performance audits • Improvements in road designs implemented • Work more closely with the Dept of Planning to 1) ensure that project designs do not primarily rely on the road network as the primary drainage tool 	<ul style="list-style-type: none"> • Prepare terms of reference for road safety audits July 2023 • Complete training of key technical staff on UK based road safety audits and formally adopt methodology by March 2023 • Key personnel to complete annual training in IRF Safer Roads by Design workshops by Dec 2022
<p>3.5. Road Safety in residential neighborhoods</p>	<ul style="list-style-type: none"> • Collaborative efforts with residents, RCIP community officers to address neighbourhood road safety concerns 	<ul style="list-style-type: none"> • Number of traffic calming measures (i.e. speed humps) • Street lighting • Street name signs • Speed limit signs 	<ul style="list-style-type: none"> • 80% implementation of <u>approved</u> traffic calming measures annually



Goal 4. Improve Road User Satisfaction

The satisfaction of network users is an important measure of both the NRA’s performance and the quality of the network. It can also serve to highlight areas where greater attention or investment is needed. Satisfaction levels also reflect expectations. Users have a right to expect a high performing network; this creates increased demand for better performance,

while encouraging the NRA to improve on existing satisfaction levels.

A safe and highly efficient road network is important to our economic wellbeing as a country, and our personal wellbeing as individuals and families. We therefore want to improve the experience on the network and allow users to drive at consistent speeds and enjoy predictable travel on our roads.

	How	Performance Measures	Targets
4.1. Reduce network congestion	<ul style="list-style-type: none"> Build additional lane capacity Encourage car pooling Encourage public transport use Improved road designs 	<ul style="list-style-type: none"> Miles of additional lanes added media campaigns promoting the use of public transport, carpooling, etc Reduction in average travel times 	<ul style="list-style-type: none"> Construct 5 lane-miles of new primary arterial roadway by Dec 2024 Improve travel capacity on at least 5 miles of existing arterial roads by 2024 Annual collaborative efforts with advocacy groups for promoting the use of alternative car-free modes of transport Improve geometry and lane capacity at the following major intersections by 2024: Hirst/Rex Crighton Blvd junction, CUC RAB, Bobby Thompson RAB
4.2. Improve aesthetics of the network	<ul style="list-style-type: none"> Clearly visible signs and lines Landscaping of medians Maintenance of road shoulders Appropriate lighting 	<ul style="list-style-type: none"> Signs and lines condition audit Customer satisfaction surveys Number of miles of roadway routinely maintained High standard of street lighting 	<ul style="list-style-type: none"> 80% or better rating on signs and lines condition audit Expand road sweeping to include at least once monthly sweeps of outlying areas such as ETH, Hurley Merren Blvd Increase font size and reflectivity on all street name signs on or intersecting with a primary or secondary arterial by Dec 2023 100% of all primary and secondary arterials to have raised pavement markers (RPM) on centerline and/or edge-lines to provide added guidance for motorists in inclement weather and low light conditions by Dec 2024 Expand road shoulder verge cutting and trimming programme to include full time dedicated machines and crewmen for all districts Work with CUC to ensure 90% functioning of all street lights and establish standards for streetlight repair with CUC
4.3. Improve road surface quality on the network	<ul style="list-style-type: none"> Repair failing road network Perform regular road condition audits Ensure appropriate design for road surface mix 	<ul style="list-style-type: none"> Miles of road repaired or rehabilitated Routine PCI surveys NRA standards for road surface mixes 	<ul style="list-style-type: none"> PCI survey of 1/2 of Grand Cayman road network performed annually Road network kept at an average PCI of 80 or above (subject to funding) Implement planned hot mix asphalt rehabilitation programme for 2022 thru 2024 (subject to funding)



Objectives	How	Performance Measures	Targets
4.4. Cut and Trim vegetation along the network	<ul style="list-style-type: none"> • Deploying bush personnel and equipment to maintain road shoulders • Develop brush cutting schedule for all roads • Ensure functioning of equipment for maintenance 	<ul style="list-style-type: none"> • Number of miles cut • Revisions to brush cutting schedule • Percentage availability of equipment 	<ul style="list-style-type: none"> • 90% of bush cutting sorties carried out on schedule • Bush cutting schedule revised based on changes in network • Equipment maintained and functioning 95% of the year
4.5. Increase availability of the network	<ul style="list-style-type: none"> • Reduce road closures due to NRA maintenance work • Reduce closures due to maintenance by Statutory Undertakers • Perform maintenance work during off peak seasons and off peak hours 	<ul style="list-style-type: none"> • Number of unscheduled road closures, percentage of time road closures extend beyond period planned • Number of unscheduled roadway interventions by statutory undertakers • Percentage of maintenance work carried out during annual summer break 	<ul style="list-style-type: none"> • Hold monthly meetings with statutory undertakers to review and agree on the implementation of scheduled road utilities work • Perform 90% of striping and signage installation works on major arterials at night and/or during weekend off-peak hours • Publish planned roadworks and/or full or partial road closures at least 24 hours in advance
4.6. Improved customer focus	<ul style="list-style-type: none"> • Develop customer service charter and action plan • Conduct customer satisfaction surveys • Promote customer complaint numbers • Improve communication with our customers 	<ul style="list-style-type: none"> • Completion of customer charter and plan • Completion of satisfaction survey • Number of signs erected and media placements • Press releases ahead of all major network intervention efforts 	<ul style="list-style-type: none"> • Implement Customer service charter by August 2022 • Customer satisfaction surveys to be conducted at least once annually • 100% compliance with Freedom of Information (FOI) legislation at all times • Procure services of media consultant to help development communications strategy re: NRA projects, plans and practices by April 2022 • Review and update social media page and sites weekly • Build capacity for full-time communications officer by July 2022



Goal 5. Develop skilled and motivated workforce

As a service-based Authority, the NRA is highly dependent on the skills, knowledge and experience of our human capital asset. To develop a skilled and motivated workforce, it is important for the NRA to be an exemplary employer across the entire spectrum of staff.

Staff are happiest when they feel appreciated and valued. Our development policies must therefore include efforts to ensure fair compensation, effective performance management, and an open

management culture that encourages the sharing of ideas, dialogue and engagement.

We will continue to place workplace safety at the forefront of the Authority, invest in training, instill a culture of lifelong learning, and be fair and compassionate while also promoting a culture of pride and ownership at all levels of the Authority.

Whilst the NRA currently performs well in employee retention with nearly 80% of staff having a tenure of 10 years or more, it is an area where complacency can never be allowed. We will therefore continually invest in our people as the catalyst for positive change, growth and innovation within the Authority.

Objectives	How	Performance Measures	Targets
5.1. Improve worker safety standards	<ul style="list-style-type: none"> Improve standards for work zone safety Provide appropriate gears and equipment 	<ul style="list-style-type: none"> Implementation of relevant standards Areas identified and implemented Number of sessions conducted Staff safety inspection results 	<ul style="list-style-type: none"> Work zone safety and vehicle operator safety training to be conducted quarterly Random staff safety inspection to yield 90% or above compliance with standards
5.2. Improve competence levels in strategic areas	<ul style="list-style-type: none"> Support certification training Support tertiary education efforts Provide coaching and mentoring 	<ul style="list-style-type: none"> Number of staff undertaking certification courses Number of staff support opportunities offered Number of mentoring programs developed 	<ul style="list-style-type: none"> All technical and supervisory staff to undertake relevant levels of project management training by March 2023 Further Education support opportunities to be offered to minimum 5% of staff Employee internship program to be implemented by September 2022
5.3. Foster a culture of training and lifelong learning	<ul style="list-style-type: none"> Promote succession planning Effective performance management Enable exposure to new technology and working practices Staff awards/recognition programmes Train supervisory and management staff in basic HR Mgt Provide supervisory and management training to existing managers. 	<ul style="list-style-type: none"> Succession plan developed Performance agreements and appraisals Staff incentive programmes 	<ul style="list-style-type: none"> Succession plan to be developed by September 2022 100% of staff with performance agreement within 60 days of fiscal year end Implement staff mentoring policy by July 2022 Establish quarterly lunch n learn programme by September 2022 Provide a human resources management plan to NRA Board by September 2022



Objectives	How	Performance Measures	Targets
<p>5.4. A fair, caring and compassionate employer</p>	<ul style="list-style-type: none"> • Ensuring fair compensation practices • Be an equal opportunity employer • Encourage staff well-ness programs • Provide staff with access to counselling support services • Create and maintain an internal social committee 	<ul style="list-style-type: none"> • Compensation reviews • Staff access to Employee Assistance Programme • social committee activeness • staff wellness programmes 	<ul style="list-style-type: none"> • Equal opportunity hiring policy • Subscription to the Employee Assistance Programme • Social committee activities report twice annually
<p>5.5. Instill pride, performance and ownership at all levels</p>	<ul style="list-style-type: none"> • Staff recognition programmes • Open management • Staff communication • Host monthly management meeting • Host organizational wide meetings • Provide high quality office facilities and infrastructure • Provide conducive work environment 	<ul style="list-style-type: none"> • Opportunities to be recognized for good work • Inclusion of front-line staff in management decision making • Staff satisfaction survey • Number of monthly management meetings • Number of organizational wide meetings • Improved visibility communications and employee collaboration 	<ul style="list-style-type: none"> • Policy for staff assessment and recognition • Open participative management framework • 80% or higher score for communication on staff satisfaction surveys
<p>5.6. Attract and retain adequately qualified HR Capital</p>	<ul style="list-style-type: none"> • Build capacity for required expertise to meet the goals and targets of the NRA operational plan • Identify staffing gaps in various specialized areas 	<ul style="list-style-type: none"> • Staffing levels vs workload • Recruitment of human resources required for the planning, design, construction, maintenance and rehabilitation of public roads 	<ul style="list-style-type: none"> • Recruit traffic engineer by December 2022 • Recruit stormwater engineer by August 2023 • Recruit Deputy managing director by December 2022 • Recruit Deputy Chief Finance Officer by September 2022 • Recruit senior project manager by September 2022



Goal 6. Acquire modern efficient equipment

The ownership and operations of our equipment and vehicles fleet has a significant impact on our operations. In addition to acquiring modern equipment the NRA’s focus shall also be on ensuring effective fleet management in order to support our business objectives in a cost-effective manner.

Through a rigorous evaluation and assessment strategy, we will seek to replace aging, failure prone and high maintenance equipment and vehicles in a systematic manner over the next 3 years. Going forward, we will develop an asset replacement policy and increase the annual depreciation fund to ensure that future funds will be available to replace equipment assets as they come to the end of their useful lives.

Objectives	How	Performance Measures	Targets
6.1. Evaluate condition of existing equipment	<ul style="list-style-type: none"> Visual and mechanical inspection Assess optimum useful life assumptions Assess annual cost of repair and maintenance Prepare equipment fleet status report Prepare fleet utilization reports that signal which vehicles and equipment are under-utilized or are not necessary 	<ul style="list-style-type: none"> Completion of inspection report Preparation of optimum useful life reports Preparation of fleet utilization report 	<ul style="list-style-type: none"> Annual visual and mechanical inspection reports by Dec of each year Revised useful life report by Dec each year Maintenance cost report by Dec each year Comprehensive fleet status report by 1st Qtr each year
6.2. Assess fitness for purpose against strategy (Demand Analysis)	<ul style="list-style-type: none"> Evaluate existing equipment suitability against future organizational needs Research new technologies that could markedly Improve efficiency 	<ul style="list-style-type: none"> Suitability and demand analysis report of NRA fleet over the next 5 years 	<ul style="list-style-type: none"> Report on new equipment technology and any change in construction and maintenance strategies by 1st Qtr each year
6.3. Fleet Acquisition Plan	<ul style="list-style-type: none"> Develop fleet acquisition plan Board review and approval of fleet replacement plan and policy 	<ul style="list-style-type: none"> Completion of plan Board approval 	<ul style="list-style-type: none"> Submit phased fleet acquisition plan (2022-2024) by March 2022 Board review and approval of fleet acquisition plan by March 2022
6.4. Reduce annual maintenance cost	<ul style="list-style-type: none"> Decommission high maintenance equipment; Procurement policy for acquisition of light vehicles Procurement policy for acquisition of Good Used (i.e. late model/low mileage) heavy equipment Standardization of equipment Continued training of operators and maintenance crew 	<ul style="list-style-type: none"> Decommission report and acceptance by Board PPC acceptance of NRA procurement policy 	<ul style="list-style-type: none"> Annual decommission report and used equipment auction reports 100% adherence to approved equipment procurement policy



Goal 7. Secure stable consistent funding

Effective asset stewardship, through monitoring and management, is vital to the successful operation and maintenance of the road network. It helps to identify problems and potential solutions before failures occur.

Whilst effective maintenance programmes have been underfunded in recent years, the road asset still remains in fair condition with an average PCI rating of 78. The NRA will continue current asset valuation exercises and harness new technology to improve data collection techniques to provide a more meaningful data and analysis.

The introduction of preventative maintenance strategies is a strategic goal over the next three years. Currently hot mix asphalt pavements are allowed to fail past their critical repair point leading

to high pavement rehabilitation costs which include necessary milling of old deteriorated pavement and full replacement of new asphalt at higher than original placement costs.

Adequate, secure and stable funding will enable the NRA to move away from the current spray n chip (surface treatment) policy and adopt thin asphalt pavement strategy for subdivision roads coupled with preventative maintenance strategies such as micro-surfacing on major arterials. Continued underinvestment is no longer a realistic option – as our roads age and our population grows, our network will increasingly fail to meet the social and economic aspirations of the Cayman Islands. It is therefore imperative that the NRA is afforded stable and consistent funding over the medium to long-term in order to continue supporting Government’s efforts to build a smart modern infrastructure while growing the economy.

Objectives	How	Performance Measures	Targets
7.1. Ensure adequate provisions for road network needs in overall government plans	<ul style="list-style-type: none"> • Create linkages and alignment with internal strategic planning and Government’s strategic policy statement • Seek endorsement for NRA’s strategic plans • Identify interlinks with planned road programs and other Government initiatives 	<ul style="list-style-type: none"> • Submission of strategic operations plan for approval by Minister/Cabinet 	<ul style="list-style-type: none"> • Strategic operations plan to be submitted and approved by June 2022
7.2. Secure sufficient funding to properly manage network	<ul style="list-style-type: none"> • Seek Government’s commitment to future road work programmes • Properly cost future road intervention programmes • Present fully argued business cases for budget requests 	<ul style="list-style-type: none"> • Ownership Agreements • Operations Budget • Capital Projects planned expenditure • Number of business cases 	<ul style="list-style-type: none"> • Ministry approval of annual work plans that align with the Government’s strategic policy statement (SPS) • Cost estimates prepared for major works and district roads programme • 100% compliance with PPC business case requirements for planned projects
7.3. Evaluate road user funding schemes	<ul style="list-style-type: none"> • Research funding schemes in similar jurisdictions • Prepare business case for Cayman context • Seek Cabinet’s approval for relevant changes 	<ul style="list-style-type: none"> • Number of reports prepared 	<ul style="list-style-type: none"> • Advise Board and Minister on road user charges and road impact fee alternatives periodically



Goal 8. Improve Governance

How the Authority is managed and governed is a key success factor for this strategic plan. As the Authority further matures, so too will our governance and management frameworks. Over the period of this strategic plan, the NRA will undergo efforts to enhance our financial management capabilities, develop an enterprise risk management framework and create policies

and procedures which are conducive to good governance.

These efforts will improve our efficiency by ensuring consistency in our approach, adequate information for decision making, and effective future planning. It will also help to improve communication, provide a standard by which actions will be assessed and ensure we remain compliant with all relevant legislation.

Objectives	How	Performance Measures	Targets
8.1. Practice Sound Financial Management	<ul style="list-style-type: none"> Comply with the PMFA Prepare quarterly financial management reports and presentations Preparation of business cases for expenditures above a certain threshold Revamp fixed assets register and inventory management Invest in modern financial accounting system 	<ul style="list-style-type: none"> Audit opinion Report Business Case new accounting system 	<ul style="list-style-type: none"> Annual unqualified Audit Opinion and favorable audit reports Full financial performance reports presented to the Board quarterly 100% compliance with procurement laws and regulations Source and implement modernized computer-based accounting system by June 2022
8.2. Comply with all Acts and internal policies and controls	<ul style="list-style-type: none"> Staff training and familiarity with financial laws policies and procedures Staff trained by CFO on all relevant internal finance related policies and controls 	<ul style="list-style-type: none"> Number of breaches of law Stockpile management Credit card policy Vehicle usage policy ICT policy 	<ul style="list-style-type: none"> No breaches of the law 100% compliance with NRA internal policies and controls
8.3. Develop policies and procedures framework	<ul style="list-style-type: none"> Complete personnel manual Complete operations manual Complete vehicle use policy Complete media communications policy 	<ul style="list-style-type: none"> Personnel manual Operations manual Vehicle use policy Communications policy Safety policy 	<ul style="list-style-type: none"> Manuals and policies to be reviewed/completed by Dec 2022
8.4. Implement enterprise risk management (ERM)	<ul style="list-style-type: none"> Complete enterprise wide risk assessment Train managers on ERM Monitor compliance to ERM 	<ul style="list-style-type: none"> ERM framework 	<ul style="list-style-type: none"> ERM Framework developed by Dec 2022
8.5. Review relevant legislation and policy guidelines	<ul style="list-style-type: none"> Establish Board subcmte to review the Roads Act and NRA Act Establish law review Cmte with Legal Drafting Develop draft Bills 	<ul style="list-style-type: none"> Proposed amendments accepted by Minister/Cabinet 	<ul style="list-style-type: none"> Section 19 Roads Act amended by 3rd Qtr 2022 Roads Act (Revision) by Dec 2024 NRA Act (Revision) by Dec 2024



Financial Projections

Summary

The Financial Projections show a fiscally prudent NRA which maintains a minimum 90 day cash on hand reserve while investing in modern equipment, improving the road network

and building staff capacity. The projections also show tangible contributions to the Authority’s post retirement pension scheme, as well as the post-retirement health liability fund.

Timely agreement for future funding will be critical in providing the ability to plan for the long-term and the opportunity to drive increased efficiency.

The Road Fund



In 2015, the National Roads Authority Act was amended to provide direct funding to the Authority using two direct revenue streams, specifically, payments collected from customs duties on gasoline and diesel, and fees collected by the Licensing Department for motor vehicle drivers’ licences.

The amendment (Roads Act - Section 19(1)) provided for up to \$10 million in annual payments to the Authority via the Road Fund (“the fund”). Proceeds from the fund are used to cover the Authority’s annual operating costs which also includes routine maintenance activities on public roads.

Since 2016 the NRA has operated with a capped operations budget of \$10M per anum. The restriction:

1. Limits the potential of the NRA to address increasing maintenance costs;
2. Limits the ability of the NRA to contend with rising raw materials costs;
3. Results in an increase of unfunded maintenance projects (backlog);
4. Prevents NRA from addressing key man-power vacancies;
5. Restricts NRA’s ability to adequately address long term liabilities such as post-retirement healthcare, and past-service pension;
6. Prevents the NRA from achieving desired levels of vehicle and equipment assets;
7. Restricts the NRA’s ability to build its own office accommodations and general use compound.



For this strategic plan to be successful the present \$10M cap on revenue generated by the road fund must be removed to allow the NRA to receive increased funding for its operations over the period 2022-2024. Since the cap the NRA has been forced to reduce its full-time staff levels from some 130+ employees down to 82 full time employees. The Authority currently operates with vacancies at key areas such as senior management, engineering design, planning and traffic, finance, and others. Personnel costs for these vacant posts amount to approximately \$1M per year.

Capital Works Program

Strategic Planning Estimates indicate that the Government will invest an average \$15 million per annum or \$75 million over the three-year plan period to build additional capacity on the road network through its capital works programme. This we hope will be augmented by an additional forecasted \$14M annual average allocation from the Road Fund for NRA operations and maintenance.

Combined capital and operations investments over the period covered by this strategic plan (2022-2024) are forecasted at around \$145 million.

Sale of Outputs to Central Government

Approximately 10% of the current \$10M annual amount provided by the Road Fund is pass-through cost paid by the NRA for street lighting. Another 20% of the Road Fund revenue goes to payment of post-retirement health and pension benefit schemes the Authority inherited from workers who transitioned from the Central Government as employees in 2004.

When the administrative, management and other overheads are considered, actually funds available to spend on core road network maintenance activities become significantly limited. To achieve Government's objectives with regards to road

maintenance the Ministry will have to continue with funding of district roads maintenance as a capital improvement (executive asset) as part of the Government's normal budgeting process.

Financial Position

The NRA's strategic plan imagines a stable financial position for the Authority going forward provided that operational revenue is increased as planned. Key features include total assets of over **\$6 million**, and an improving net-worth position as it works to offset the long-term pension and post-retirement health liabilities. Over the forecast period, \$2.0 million will further invest in modern equipment, vehicles, and also establish a fund for land and accommodations to be used for a permanent future home for the NRA.

Forecasted Expenditures

Success of this plan relies heavily on funding estimates being recognized as planned. Successive Governments have shown strong commitment to funding of new capital works in the last 10 years however funding for maintenance activities (which fall within the NRA's operations budget) has not been adequate due in part to the NRA's need to offset cost increases in raw materials, personnel costs, etc.

The maintenance purchasing component of the \$10M received from the Road Fund has diminished so significantly that it now threatens the ability of the NRA to provide consistently good maintenance service levels for routine maintenance of stormwater drains, road sweeping, road markings and signage, and roadside vegetation management. With the majority of the \$10M going directly to increasing personal emolument costs (salaries, pension and health) there is less money available for the hiring of maintenance subcontractors, and purchase of materials (bitumen, fill materials, sign making material, etc).



Forecast Operating Statement

SCENARIO 1 - Status Quo, Operations Budget at \$10M annually

NATIONAL ROADS AUTHORITY
Comparative Statement of Financial Performance \$10M
 For the Fiscal periods 2022 to 2024
 (expressed in Cayman Islands Dollars)

	Budget FY 2022	Budget FY 2023	Budget FY 2024
Revenue			
Roads Maintenance Services	9,500,000	9,500,000	9,500,000
Road Construction Services	-	-	-
Storm Water Management	500,000	500,000	500,000
Road Development Services	-	-	-
Explosives management	-	-	-
Sales of Services Interdepartmental/Others	300,000	300,000	300,000
Interest revenue & other	8,400	8,400	8,400
Total revenue	10,308,400	10,308,400	10,308,400
Cost of Sales			
Labour	2,634,839	2,634,839	2,766,581
Hired equipment	-	-	-
Materials	205,714	205,714	216,000
Subcontractors	205,714	205,714	216,000
Total Cost of Sales	3,046,267	3,046,267	3,198,580
Gross Profit	7,262,133	7,262,133	7,109,820
General & Admin. Exp.			
Staff costs	4,566,826	4,566,826	4,795,167
Expenses and supplies	30,286	31,800	33,390
Motor vehicles expenses	645,429	667,755	701,143
Street lighting	1,200,000	1,300,000	1,365,000
Utilities	33,623	35,304	37,070
Telephone	60,134	63,140	66,297
Advertising	27,232	28,594	30,023
Professional fees	57,097	59,952	62,950
Office rental-PWD	49,380	51,849	54,441
Computer maintenance & fees	182,569	191,697	201,282
Repairs & maintenance	1,290	1,355	1,423
Depreciation - vehicles	204,029	200,545	168,107
Depreciation - furniture & fittings	13,311	13,041	12,888
Depreciation - computer hardware	12,630	2,670	2,434
Depreciation - computer software	8,356	8,356	8,356
Depreciation - office equipment	1,509	1,509	407
Depreciation - other equipment	298,941	266,026	203,781
Depreciation - leasehold improvements	-	-	-
Doubtful debt expense	-	-	-
Insurance - property & liability	15,343	15,784	16,573
Bank charges and interest	8,400	8,400	8,820
Total Expenses	7,416,385	7,514,603	7,769,552
Other Expenses			
Post-Employment Health Care	3,067,000	3,067,000	3,067,000
Net Surplus (Loss) for the period	(3,221,252)	(3,319,470)	(3,726,732)



SCENARIO 2 - Operations Budget increased \$14-\$15M annually over the Plan period

**NATIONAL ROADS AUTHORITY
Comparative Statement of Financial Performance
For the Fiscal periods 2022 to 2024
(expressed in Cayman Islands Dollars)**

	Budget FY 2022	Budget FY 2023	Budget FY 2024
Revenue			
Roads Maintenance Services	12,125,000	12,600,000	12,905,000
Road Construction Services	0	0	0
Storm Water Management	1,200,000	1,260,000	1,325,000
Road Development Services	600,000	700,000	700,000
Explosives management	75,000	75,000	100,000
Sales of Services Interdepartmental/Others	300,000	300,000	300,000
Interest revenue & other	8,400	8,400	6,000
Total revenue	14,308,400	14,943,400	15,336,000
Cost of Sales			
Labour	3,134,839	3,134,839	2,766,581
Hired equipment	0	0	0
Materials	1,180,714	1,239,750	1,301,737
Subcontractors	1,205,714	1,266,000	1,329,300
Total Cost of Sales	5,521,267	5,640,588	5,397,618
Gross Profit	8,787,133	9,302,812	9,938,382
General & Admin. Exp.			
Staff costs	5,766,826	6,055,167	6,357,926
Expenses and supplies	30,286	31,800	33,390
Motor vehicles expenses	779,585	667,755	701,143
Street lighting	1,200,000	1,300,000	1,365,000
Utilities	33,623	35,304	37,070
Telephone	60,134	63,140	66,297
Advertising	50,000	60,000	60,000
Professional fees	57,097	59,952	62,950
Office Maintenance-PWD	49,380	51,849	54,441
Computer maintenance & fees	182,569	191,697	201,282
Repairs & maintenance	31,282	1,355	1,423
Depreciation - vehicles	204,029	200,545	168,107
Depreciation - furniture & fittings	13,311	13,041	12,888
Depreciation - computer hardware	12,630	2,670	2,434
Depreciation - computer software	8,356	8,356	8,356
Depreciation - office equipment	1,509	1,509	407
Depreciation - other equipment	298,941	266,026	203,781
Depreciation - leasehold improvements			0
Doubtful debt expense			0
Insurance - property & liability	15,343	15,784	16,573
Bank charges and interest	15,000	15,750	16,538
Total Expenses	8,809,901	9,041,701	9,370,005
Other Expenses			
Post-Retirement Health Care	3,067,000	3,067,000	3,067,000
Net Surplus (Loss) for the period	(3,089,768)	(2,805,889)	(2,498,622)



OPERATIONS (ROAD FUND) EXPENDITURE ESTIMATES

NRA 5: Planning and Development of New Public Roads				
SP#	Description in Service Agreement:	Provision of medium to long term plans for road development in keeping with Government's efforts to develop a long-term transportation plan and to identify and seek approval for funding of projects necessary for improving the public road network.		
		Budgeted 2021	Forecast 2022	Forecast 2023
				Forecast 2024
	Road Fund Revenue (RFR):	\$250,000	\$400,000	\$450,000
	SUBTOTAL			\$450,000
NRA 6: Minor District Works				
SP#	Description in Service Agreement:	Materials, labour, and equipment for construction plus project management services for minor works and enhancements such as sidewalks, bicycle lanes, curb adjustments, IRAP safety countermeasures, etc		
		Budgeted 2021	Forecast 2022	Forecast 2023
				Forecast 2024
	Road Fund Revenue (RFR):	\$0	\$775,000	\$1,150,000
	SUBTOTAL			\$1,170,000
NRA 7: Training and Development				
SP#	Description in Service Agreement:	Provision of further education support opportunities, internships, regular internal training and certification, supervisory management, coaching and mentoring programmes		
		Budgeted 2021	Forecast 2022	Forecast 2023
				Forecast 2024
	Road Fund Revenue (RFR):	\$0	\$300,000	\$300,000
	SUBTOTAL			\$300,000
NRA 8: Stormwater Maintenance (e.g. storm drains & culverts)				
SP#	Description in Service Agreement:	Routine programmed maintenance activities for storm drainage systems - wells, culverts, swales, etc		
		Budgeted 2021	Forecast 2022	Forecast 2023
				Forecast 2024
	Road Fund Revenue (RFR):	\$700,000	\$1,200,000	\$1,260,000
	SUBTOTAL			\$1,325,000
NRA 9: Maintenance of Roads - Grand Cayman				
SP#	Description in Service Agreement:	Materials, labour, and equipment for construction plus project management services related to the general maintenance and upkeep of public roadways. The road network consists of: 14 miles of arterial roads, 108 miles of collector roads, 80 miles of public residential roads, and 122 miles of		
		Budgeted 2021	Forecast 2022	Forecast 2023
				Forecast 2024
	Road Fund Revenue (RFR):	\$6,000,000	\$7,200,000	\$7,300,000
	SUBTOTAL			\$7,400,000
NRA 10: Street Lighting - Grand Cayman				
SP#	Description in Service Agreement:	Management of Government Street lighting Program		
		Budgeted 2021	Forecast 2022	Forecast 2023
				Forecast 2024
	Road Fund Revenue (RFR):	\$1,100,000	\$1,200,000	\$1,300,000
	SUBTOTAL			\$1,365,000
NRA 11: Roads Asset Management Programmes, Traffic Signal & electronic signs maintenance				
SP#	Description in Service Agreement:	Asset Management Unit: Survey Audits & Inspections. Testing & Lab Equipment and Services. PCI Surveys, Streetview Surveys, Friction Testing, Signs Asset Inspection & Inventory. Traffic signals maintenance, maintenance of electronic signal systems, speed check signs, electronic school zone signs, lighted crosswalks, metered traffic signals, etc		
		Budgeted 2021	Forecast 2022	Forecast 2023
				Forecast 2024
	Road Fund Revenue (RFR):	\$100,000	\$300,000	\$300,000
	SUBTOTAL			\$300,000
NRA 12: Emergency/Disaster Recovery Activities				
SP#	Description in Service Agreement:	Traffic signals maintenance, maintenance of electronic signals systems, speed check signs, electronic school zones signs, lighted crosswalks signs, metering signals		
		Budgeted 2021	Forecast 2022	Forecast 2023
				Forecast 2024
	Road Fund Revenue (RFR):	\$0	\$500,000	\$700,000
	SUBTOTAL			\$800,000
NRA 13: Explosives and Blasting Management				
SP#	Description in Service Agreement:	Provision of emergency services including initial clearance, drainage/flood response to storms, replacement of street furniture (eg. Damaged or lost signs, signals, poles, etc)		
		Budgeted 2021	Forecast 2022	Forecast 2023
				Forecast 2024
	Road Fund Revenue (RFR):	\$50,000	\$75,000	\$75,000
	SUBTOTAL			\$100,000
NRA 14: Building & Accommodations Development Fund				
SP#	Description in Service Agreement:	NRA Office Accommodations & Compound Development		
		Budgeted 2021	Forecast 2022	Forecast 2023
				Forecast 2024
	Road Fund Revenue (RFR):	\$0	\$500,000	\$500,000
	SUBTOTAL			\$500,000
NRA 15: Provision for Other Costs				
SP#	Description in Service Agreement:	Business Development & Investment		
		Budgeted 2021	Forecast 2022	Forecast 2023
				Forecast 2024
	Road Fund Revenue (RFR):	\$1,800,000	\$2,000,000	\$2,200,000
	SUBTOTAL			\$2,300,000
	Grand Total Outputs	\$10,000,000	\$14,450,000	\$15,535,000
				\$16,010,000



CAPITAL WORKS (EA 36 & EA 148) EXPENDITURE ESTIMATES

The NRA performs capital improvements for the Cabinet via two main executive asset outputs.

1. **EA 36 – Miscellaneous Road Improvements** consists primarily of the following category of road works:

- Subdivision roads (hot mix asphalt or spray n chip surface)
- Road shoulder improvements
- Guardrail installations
- New drain-well & catch basin installations
- Traffic calming of neighbourhoods (speed humps, tables, etc)
- School zones, lighted pedestrian crossings, electronic signs, etc

Capital Projects: EA-36: Misc Road Upgrades			
	2022	2023	2024
New Guardrail Installations (all constituencies)	\$300,000	\$300,000	\$400,000
New Drainwell & Catch Basins (all constituencies)	\$150,000	\$150,000	\$300,000
District Roads Upgrades Programme (all constituencies) timed rehabilitation of local subdivision access roads including collector roads	\$2,000,000	\$2,000,000	\$3,000,000
Road shoulder upgrades (all constituencies)	\$400,000	\$400,000	\$500,000
Traffic Calming/School Zones/Crosswalks/speed humps	\$150,000	\$150,000	\$150,000
EA 36 TOTAL CAPITAL BUDGET:	\$3,000,000	\$3,000,000	\$4,350,000

2. **EA 148 – Major Road Works** refers to the development of *new* road construction projects mostly for the primary & secondary arterial roads. They consist of new road expansions into virgin territory, lane widening of existing main roads, hot mix rehabilitation of primary arterials, and construction or upgrade of major intersections. Budget forecasts for the 2022-2024 include three major new projects necessary to increase highway capacity, decrease travel times during peak congestion periods, and provide added access and mobility to motorists. These key projects are:

- a) Linford Pierson Highway – Phase II (~\$6.5M) which involves an expansion of the current 2 lane section of LPH and Bobby Thompson Way (vicinity of the Equestrian Centre) to a 3+3 lane system with central median
- b) Airport Connector Road (ETH to Sparky Drive) (\$8M) – provides a new primary arterial roadway connection from the roundabout by the landfill inland to Sparky Drive. Future phases of the ACR will involve an extension from Sparky Drive to the long-term carpark at Owen Roberts International Airport.
- c) East-West Arterial (Hirst to Lookout Gardens) (\$24M) – Provides an additional 2.5 miles of new arterial roadway with the potential future expansion to 6 travel lanes. This segment of roadway will provide quicker more accessible links for residential neighbourhoods in the BT, Savannah and Newlands constituencies. Future expansion of the EW Arterial will also facilitate safer, and more efficient journeys for all neighbourhoods east of Savannah.

EA 148 - Major Road Projects Timeline (2022 - 2024)			
Project / Description	2022	2023	2024
Cayman Kai Roads (Northside)			
Finger Cay, Sand Point Rd, Water Cay Rd	\$1,000,000		
Frank Sound/Seaview Road Intersection Upgrade			
add westbound turning lane, eastbound dedicated left, splitter islands	\$300,000		
North Side Road/Old Robin Road Intersection Upgrade			
upgrade intersection vertical/horizontal profile and sightlines		\$400,000	
East-West Arterial Hirst to Woodland Dr			
Hydrological Analysis	\$20,000		
main road construction including bow-tie roundabout	\$1,500,000	\$1,500,000	
Shamrock Road Connector including rbt at Agricola Drive		\$1,000,000	
East-West Arterial Woodland Dr to Lookout Area			
Environmental Impact Assessment [EIA]	\$250,000	\$200,000	
Segment B - mainroad construction to Northward		\$7,000,000	
construction of Northward Connector			
Segment C - mainroad construction to Lookout Gardens			\$7,000,000
Rex Crighton Blvd - lane expansion			
2nd lane expansion Poindexter RAB to Hirst Rd - eastbound	\$300,000		
2nd lane expansion Poindexter RAB to Hirst Rd - westbound		\$300,000	
Shamrock Rd and Hurley Merren Blvd 6 lane Widening			
segment B - Grand Harbour Rbt to red Bay Roundabout	\$1,500,000		
segment A - CUC Roundabout to Grand Harbour Roundabout	\$1,000,000	\$1,000,000	
Kings Connector & CUC Roundabout Upgrades			
CUC Roundabout Upgrade and Service Road Construction	\$1,500,000	\$500,000	
Kings Parking Lot design and re-construction	\$450,000		
Edgewater Way road and drainage upgrades	\$200,000		
Linford Pierson Hwy Phase I - widening			
3rd lane expansion Agnes RAB to CUC RAB (by Kings) - eastbound			\$350,000
3rd lane expansion CUC RAB (by Kings) to Agnes RAB - westbound		\$350,000	
Linford Pierson Hwy Phase II			
Segment A - Agnes Roundabout to BBT Roundabout	\$2,000,000		
Segment B - BBT Roundabout to BBT Traffic Signal	\$2,000,000		
Segment C - BBT Roundabout to Outpost Street			\$2,000,000
BBT Roundabout	\$1,000,000	\$500,000	
Godfrey Nixon Extension			
Segment A - North Church St to Diaz Lane	\$400,000		
Segment B - Diaz Lane to Grescott Ln		\$600,000	
Segment C - Grescott Ln to Eastern Avenue		\$400,000	
Eastern Avenue/Godfrey Nixon Way Traffic Signal Upgrades		\$300,000	
Airport Connector Road			
Road Access to 19E 40 700 ft section of ACR - BURKES PPP	\$400,000		
CM Services Contract with DECCO	\$300,000		
Base Fill Construction		\$1,500,000	\$1,500,000
Geotechnical Services	\$100,000		
Culvert Installation		\$1,300,000	
HMA Paving		\$350,000	\$350,000
West Bay Road Complete Streets			
Mill n Pave - WB Road Safehaven Drive to Governors House	\$500,000		
Mill n Pave - WB Road Governors House to Public Beach		\$500,000	
Mill n Pave - WB Road Wharf Restaurant to Pizza Hut		\$600,000	
Concrete Works - WB Road Wharf Restaurant to Lawrence Blvd		\$300,000	
Street Print & bike green lanes - WB Road Wharf Rest to Lawrence Blvd		\$200,000	
EVR Overhead Gantry Truss			
truss manufacture	\$200,000		
truss installation (2 locations)		\$400,000	
Commercial Avenue Reconstruction			
drainage, concrete works, paving upgrades	\$200,000		
Eclipse Drive			
PPP Construction Project - drains, concrete works, paving	\$225,000		
Agnes Way - South leg - Rankins PPP			
drains, concrete works, paving		\$450,000	
Road to Fairbanks Prison & CEC - C.E.C. PPP			
basefill, drains, concrete works, paving	\$600,000	\$500,000	
Mcfield Lane			
drains, concrete works, paving	\$450,000		
Eastern Avenue - Complete Streets Redesign			
drains, concrete works, paving			\$1,500,000
Esterley Tibbetts Hwy 6 lane widening (Butterfield to ACR)			
3rd lane expansion Butterfield RAB to ACR - northbound		\$250,000	
3rd lane expansion ACR to Butterfield RAB - southbound		\$250,000	
Academy Way/Olympic Way Connector thru John Grey HS			
drains, concrete works, paving			\$1,000,000
LPH/Elgin Ave/Shedden Rd North-South Arterial			
drains, concrete works, paving			\$2,000,000
HOT MIX ASPHALT REHABILITATION PROGRAMME	\$1,000,000	\$2,000,000	\$2,000,000
EA 148 ESTIMATED TOTALS	\$18,895,000	\$24,150,000	\$19,200,000



Team

The Managing Director will be tasked with responsibility for the implementation of this plan. He will be assisted by a management team consisting of a Deputy Managing Director, Chief Human Resources Officer, and Chief Financial Officer.

The senior management team will be supported by a team of engineers, transportation planners, and managers. At end of the 3-year period, the NRA is expected to have adequately addressed staff vacancies and be able to deliver the goals and objectives of this plan.

Critical Success Factors

The NRA is depending on the following as critical factors for the successful implementation of the strategic plan. They represent conditions and factors which are essential to the achievement of the stated outcomes.





Implementation process

Implementation of this Strategic Plan will begin by educating the various stakeholders of its contents and its importance to the future of our transportation infrastructure. Key stakeholders include the Cabinet, the Ministry of Finance, and private sector partners and key suppliers.

The NRA’s Board of Directors will sign a performance agreement with the Authority’s Managing Director on an annual basis. That performance agreement will include goals and objectives for that year that align with the goals and objectives of this strategic plan.

The NRA will be mindful to the objectives set out in the government’s strategic policy statement 2022-2024 however, appreciating that some activities may need to be realigned from time to time to be consistent with long term goals.





Assumptions and Risks

The table below shows key assumptions and risks identified by the NRA in the strategic planning process.

Assumptions	Risks	Assessment of Risks
NRA operations budget cap (Section 19 NRA Act) will be removed and the Authority will have a starting operating budget of at least \$14M in 2022	<ul style="list-style-type: none"> Changes in legislation to remove dedicated road fund revenue No changes in legislation to remove \$10M cap on the Roads Fund 	<ul style="list-style-type: none"> MEDIUM RISK, the Minister of Infrastructure has affirmed his commitment to having the Road Fund revenue restriction removed in 2022. A lack of commitment to increasing the Road Fund revenue retards the NRA's ability to staff adequately and also to deliver high level of road maintenance services
Significant Increases in Raw Materials costs	<ul style="list-style-type: none"> Global forces impact prices on oil, lumber, steel Increased cost of doing business Global supply chain problems 	<ul style="list-style-type: none"> HIGH RISK, The lingering effects of the COVID 19 pandemic may continue to impact global supply chains and continue to drive up prices on oil, lumber, steel, etc.
Availability of quality aggregate and other materials in the local market	<ul style="list-style-type: none"> Fill material of the required quality not available in the local market Inability of sole provider to produce asphalt demand 	<ul style="list-style-type: none"> HIGH RISK, local quarries are limited, and quarry yield from greater depths may not produce appropriate quality fill materials leaving the Govt to source materials from overseas at increased costs A monopoly exists with asphalt supply on the island which could mean higher prices for the consumer and less incentive on the part of the asphalt supplier to be efficient or maintain high quality standards.
Investment in modern equipment	<ul style="list-style-type: none"> Central Govt may refuse equity investments in fleet Asset replacement fund may be utilized for other purposes 	<ul style="list-style-type: none"> LOW RISK, The PACT Government has given its commitment to ensuring that the NRA is afforded the vehicle and equipment assets needed to deliver a successful works programme. The NRA Board endorses the strategic plan and is committed to providing oversight.
No major disasters	<ul style="list-style-type: none"> Hurricanes Earthquakes tsunami 	<ul style="list-style-type: none"> MEDIUM RISK, The Cayman Islands is susceptible to both hurricanes and earthquakes however major natural disasters are difficult to predict at any level
Government does not prioritize congestion management or transportation infrastructure improvements	<ul style="list-style-type: none"> There is a change in infrastructure priorities by Govt Capital budget outlay is cut due to significant events 	<ul style="list-style-type: none"> LOW RISK, Congestion relief and the need to provide citizens with proper road infrastructure spans political divides
Adherence to the strategic operations plan	<ul style="list-style-type: none"> Ad hoc approach to road planning and management Lack of funding 	<ul style="list-style-type: none"> MEDIUM, Funding is a concern. The purpose of a strategic plan is to mitigate ad-hoc road management.
Stable organization	<ul style="list-style-type: none"> change in status from a statutory authority 	<ul style="list-style-type: none"> LOW RISK, The Authority's return to core Govt is often debated however there are no significant reasons or concerns why a change in the Authority's status should occur in the short term



Key performance indicators

In order to assess performance, we’ve set a number of Key Performance Indicators for the Authority. These will be augmented by a framework that shows a more detailed view of the performance of the NRA and the road network we manage. Our goal is to improve existing measures and develop new ones for future strategic planning.

Our success will be measured by our ability to:

- ✚ **Improve network efficiency** by increasing network capacity, improving designs, better access management, reducing load factors and reducing peak congestions;
- ✚ **Facilitate economic development** by supporting major project, reducing lost productivity from time spent in traffic and improving the experience of tourists and visitors;
- ✚ **Enhance road user safety** by reducing road accidents caused by road factors, improving safety for cyclists and pedestrians, improving drainage time for water settling on roadways and by making driving in neighborhoods safer;
- ✚ **Improve road user satisfaction** by reducing network congestions, improving the aesthetics and quality of the road network, better maintaining our medians and road shoulders, and improving our customer focus;
- ✚ **Develop our workforce** by improving our worker safety standards, training, and the continued development of a positive workplace culture;
- ✚ **Acquire modern and efficient equipment** by investing in modern, innovative, efficient technology;
- ✚ **Secure stable consistent funding** by demonstrating value of good road network to the Country and seeking support from our stakeholders; and
- ✚ **Improve Governance** putting in place relevant governance structures, developing policies and procedures, complying with all Acts and effectively managing risks.

Assessments against or Vision, Mission, Goals and Objectives will be carried out using the following criterion.

Strategy level	Corresponding Indicators	Monitoring and Evaluation
Vision	Impact Indicators	<ul style="list-style-type: none"> ✓ Baseline assessment in year 1 ✓ Survey assessment at end of year 3
Mission	Outcome Indicators	<ul style="list-style-type: none"> ✓ Baseline assessment in year 1 ✓ Survey assessment in year 3
Goals and Objectives	Output Indicators	<ul style="list-style-type: none"> ✓ Staff performance agreements ✓ Quarterly progress reports ✓ Annual Reports



Monitoring and evaluation

Each strategic goal outlined in this plan is supported by specific objectives, methods, performance measures and targets. These will be key components in the monitoring and evaluation of the plan execution.

To enable effective monitoring evaluation, the plan ensured that the measures outlined to achieve the various objectives were specific, measurable, achievable, results focused and where possible, time specific (SMART).

To promote accountability and instill discipline, these measures should form part of the staff performance agreement discussed in the implementation process. The monitoring and evaluation method will therefore be synonymous with staff annual performance evaluation.

Linking the successful execution of agreed strategy to the individual performance of each staff will promote a healthy level of ownership throughout the Authority and assist in the overall education process.

What	Indicator	How we measure
<input type="checkbox"/> Quality of Network	<input type="checkbox"/> Pavement condition index	<input type="checkbox"/> Condition Audit
<input type="checkbox"/> Efficiency of Network	<input type="checkbox"/> Average speed at peak times	<input type="checkbox"/> Performance Audit
<input type="checkbox"/> Safety of Network	<input type="checkbox"/> Accidents due to road conditions	<input type="checkbox"/> Police accident reports
<input type="checkbox"/> User Satisfaction	<input type="checkbox"/> Feedback rating	<input type="checkbox"/> Road user surveys
<input type="checkbox"/> Financial Management	<input type="checkbox"/> Financial Health	<input type="checkbox"/> Audit reports
<input type="checkbox"/> Good Governance	<input type="checkbox"/> Compliance	<input type="checkbox"/> Governance audit and no evidence to the contrary



APPENDIX 1- Key Major Projects (2022 – 2024) Profile

Project Name/Description	
<p>East West Arterial (Hirst to LookOut Gardens) - a 2.5 mile extension of the EW Arterial from Hirst Road eastward to the back of Woodland Drive. The road has the capacity for 6 lanes on full buildout but will include only 2 lanes initially with a wide central grass median for future expansion. Cost ~\$14M</p>	<ul style="list-style-type: none">• EWA Extension to Lookout Gardens 
<p>Hirst Road-Rex Crighton Blvd Roundabout – This major new intersection forms part of the EW expansion. Cost ~ \$1.5M (excluding land acquisition costs)</p>	



Shamrock Road and Hurley Merren Blvd widening – expansion of the existing primary arterial between Kings Sports Centre and Chrissie Tomlinson Roundabout from 4 lanes to 6 lanes ~\$8M



Kings Connector & CUC Roundabout Upgrades
Cost ~\$3M
Modification of the current dual lane roundabout to a larger higher capacity bow-tie design roundabout that also facilitates a new service road extension through the part of the parking lot of Kings Sports Centre to connect with Edgewater Drive by Grand Harbour Development.

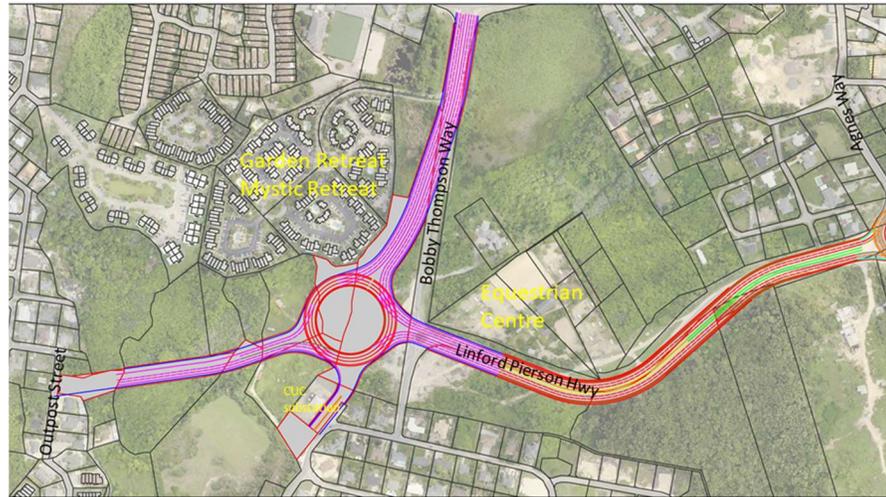




Linford Pierson Highway Phase II
Cost ~\$6.5M

The final phase of widening for the Linford Pierson Highway in the vicinity of the equestrian centre. LPH is to be widened to a 3+3 lane highway with central median and linked with Bobby Thompson Way via a large modern 3-lane roundabout. Bobby Thompson way will also be widened to a 3+3 lane road with central median.

- LPH Extension to Outpost Street



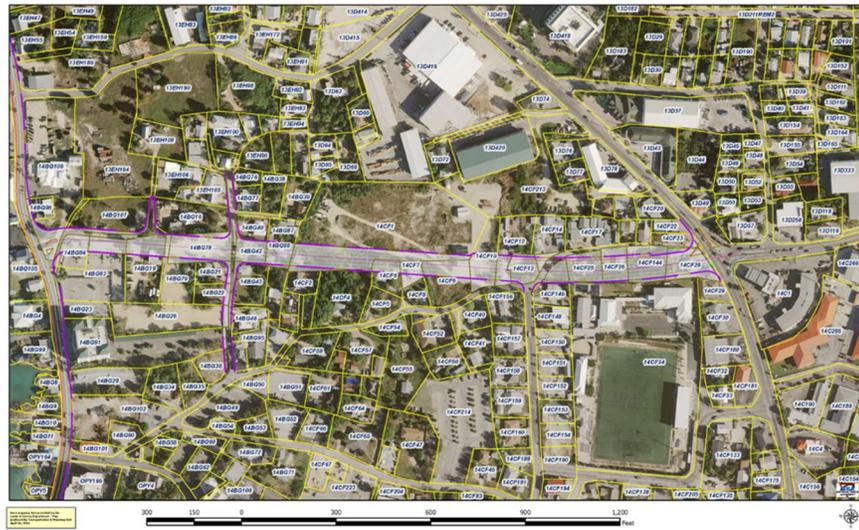
Airport Connector Road – phase 1
includes a new road linking Esterley Tibbetts Highway to Sparky Drive adjacent to the GT Landfill

Cost ~ \$8M



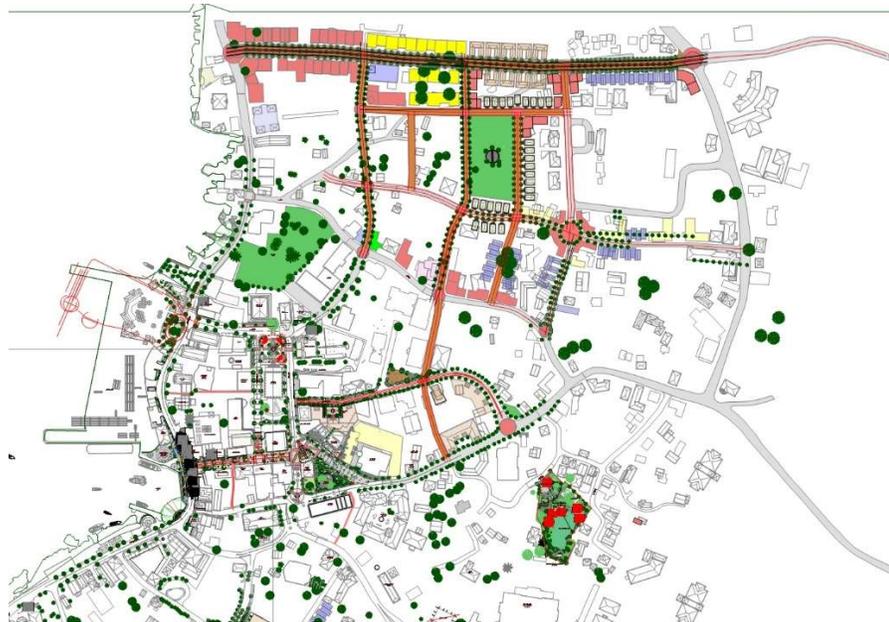


Godfrey Nixon Extension – new roadway link from Eastern Avenue to North Church Street through the Rock Hole Community. This project also forms part of the GT Revitalization effort and will feature complete street and green design elements
Cost ~\$5M



Godfrey Nixon Way – GT Revitalization Master Concept

Godfrey Nixon way forms the northern limits of the proposed GT Revitalization project which is a long term planning effort to rejuvenate the CBD using proven urban planning principles and techniques.





APPENDIX 2- MICROPAVER 5-Yr PCI Forecast (main roads)

BranchName	Surface	From	To	2022	2023	2024	2025	2026
AGNES WAY	AC	LYNDHURST AVE.	LINFORD PIERSON HWY.	93.15	89.25	85.43	81.71	78.10
AIRPORT POST OFFICE (MINI)	AC	DORCY DRIVE	OWEN ROBERTS DRIVE	72.40	69.13	65.99	62.99	60.14
ALBERT PANTON ST	AC	FORT ST.	CARDINALL AVE.	89.86	86.03	82.30	78.67	75.16
ANTHONY DR	ST	TEMPLETON ST	WILLIAMS DR	89.29	85.12	80.79	76.32	71.79
ANTON BODDEN DR	AC	CONDOR RD	VERNEICE BODDEN DR	84.22	80.54	76.97	73.51	70.19
ANTON BODDEN DR	AC	HARVEY STEPHENSON DR	BODDEN TOWN RD	92.45	88.56	84.76	81.06	77.47
APOLLO LINK	AC	EAST BLVD.	WINDSOR PARK RD.	66.42	63.40	60.54	57.81	55.25
ASPIRATION DR	AC	ACADEMY WAY	1,186 FT N. OF ACADEMY WAY	47.97	46.06	44.29	42.66	41.18
ASPIRATION DR	ST	1,186 FT N. OF ACADEMY WAY	LIGUINEA CIR.	82.82	78.41	73.91	69.36	64.82
BAMBOO ST	AC	MARINA DR.	PATRICKS AVE.	98.53	95.08	91.30	87.23	82.98
BANKERS RD	ST	BIRCH TREE HILL RD.	E END	78.92	74.43	69.89	65.34	60.85
BODDEN RD	AC	NORTH CHURCH ST.	EASTERN AVE.	33.57	32.88	32.22	31.58	30.94
BOILERS RD	AC	SOUTH CHURCH ST.	WALKERS RD.	85.01	81.31	77.72	74.23	70.89
BOLTINS AVE	ST	TOWN HALL RD.	TOWN HALL RD.	92.80	88.85	84.67	80.30	75.83
BONNEVILLE DR	AC	BATABANO RD.	861 FT E. OF BATABANO RD.	64.68	61.75	58.97	56.33	53.85
BONNEVILLE DR	ST	861 FT E. OF BATABANO RD.	GLADE DR.	68.68	64.15	59.68	55.29	51.04
BORDER DR	ST	OUTPOST ST.	OAK MILL ST.	93.13	89.20	85.03	80.68	76.22
CANAL POINT DR	AC	WEST BAY RD	ESTERLEY TIBBETTS HWY	87.91	84.13	80.45	76.88	73.43
CARDINAL AVE	AC	HARBOUR DR	MAIN ST.	69.80	65.26	60.77	56.35	52.07
CLAUDE HILL RD	AC	ELGIN AVE.	SMITH RD	85.00	81.30	77.71	74.22	70.88
CONDOR RD	AC	ANTON BODDEN DR.	START of ST	91.47	87.43	83.18	78.77	74.27
CONDOR RD	ST	START of ST	SHAMROCK RD.	93.53	89.63	85.48	81.15	76.70
DENHAM THOMPSON WAY	AC	S. CHURCH ST.	WALKERS RD.	57.44	54.90	52.51	50.27	48.19
DORCY DR	AC	SHEDDEN RD.	OWEN ROBERTS DR.	68.50	65.39	62.43	59.60	56.94
DR ROYS DR	AC	EDWARD ST.	SHEDDEN RD	71.56	68.32	65.21	62.25	59.44
EASTLAND DR	AC	SEA VIEW RD.	JOHN MCLEAN DR	89.61	85.79	82.06	78.44	74.94
EASTLAND DR	ST	JOHN MCLEAN DR	END	89.49	85.34	81.01	76.55	72.02
ELGIN AVE	AC	THOMAS RUSSELL AVE.	SHEDDEN RD.	89.98	86.15	82.41	78.78	75.27
ELGIN AVE RAB	AC	ELGIN AVE	HOSPITAL RD	94.84	90.90	87.05	83.29	79.63
ELGIN AVE RBC MINI RAB	AC	ELGIN AVE	LOUISE LL WAY	89.95	86.12	82.38	78.75	75.24
ELIZABETH ST	ST	WEST CHURCH RD.	WILL. FARR	80.21	75.75	71.22	66.66	62.15
FAIRBANKS RD	AC	ASPIRATION DR.	FERN CL	33.64	32.95	32.29	31.65	31.01
FARM RD	AC	JOHN MCLEAN DR.	221 FARM RD	87.62	83.85	80.18	76.61	73.18
FARM RD	ST	221 FARM RD	WATER AUTHORITY	93.67	89.78	85.65	81.32	76.87
FARM RD	ST	WATER AUTHORITY	HIGH ROCK RD	57.85	53.52	49.33	45.31	41.49
FARRELL RD	ST	RACKLEY RD.	END	79.34	74.85	70.31	65.76	61.26
FERN CIR	AC	BOBBY THOMPSON WAY	FAIRBANKS RD.	93.06	89.16	85.35	81.63	78.03
FERN CIR	ST	BOBBY THOMPSON WAY	FAIRBANKS RD.	70.28	65.74	61.24	56.81	52.51
FINCH DR	ST	BIRCH TREE HILL RD.	FOUNTAIN RD	92.85	88.90	84.71	80.35	75.88
FURTHER RD	ST	NORTH SIDE RD.	END	93.83	89.95	85.83	81.50	77.06
GODFREY NIXON WAY	AC	BUTTERFIELD RNDABOUT	DMS	86.20	82.46	78.83	75.31	71.92
GORING AVE	AC	SOUTH CHURCH ST.	WALKERS RD.	64.45	61.53	58.76	56.13	53.67
HARVEY STEPHENSON DR	ST	ANTON BODDEN DR.	END	93.54	89.64	85.50	81.16	76.71
HICKORY DR	ST	PROSPECT DR.	HOLLY DR.	89.10	84.93	80.58	76.11	71.58
HIGH ROCK DR	ST	SEA VIEW RD.	START OF AC	59.81	55.42	51.17	47.06	43.16
HIGH ROCK DR	AC	START OF AC	START OF PCC	47.62	45.74	43.99	42.39	40.93
HIGH ROCK DR	PCC	START OF PCC	START OF ST	29.49	28.07	26.66	25.23	23.82
HIGH ROCK DR	ST	START OF ST	START OF AC	55.44	51.19	47.09	43.17	39.48
HIGH ROCK DR	AC	START OF AC	END	40.50	39.21	38.03	36.97	36.00
HOLLY DR	ST	PROSPECT DR.	MORNINGSIDE DR.	62.09	57.65	53.33	49.14	45.13
HOSPITAL RD	AC	ELGIN AVE.	WALKERS RD.	80.51	76.94	73.49	70.17	66.99
HUTLAND RD	AC	RUM PT. DR.	HOUSE #199	61.43	58.67	56.06	53.59	51.28
HUTLAND RD	ST	HOUSE #199	END	30.32	27.60	25.15	22.97	21.08

Main Road segments in red require maintenance or full rehab over the next 5 years.



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JADE DR	AC	CAPT REG PARSONS	West of CHING CHING LN	92.90	88.95	84.77	80.41	75.95
JADE DR	ST	West of CHING CHING LN	CRYSTAL VALLEY CRES.	94.65	94.04	93.43	92.82	92.20
JOHN MCLEAN DR	AC	EASTLAND DR.	AUSTIN CONOLLY DR.	92.59	88.70	84.90	81.19	77.60
JOHN MCLEAN DR	ST	EASTLAND DR	END	84.40	82.74	81.08	79.41	77.75
LANCELOT DR	AC	SHAMROCK RD	86FT NORTH of SHAMROCK RD	82.93	81.31	79.69	78.07	76.45
LANCELOT DR	ST	86FT North of SHAMROCK RD.	N. END	39.25	35.81	32.61	29.67	27.01
LAWRENCE BLVD	AC	CAMANA BAY ROUNDABOUT	WEST BAY RD	89.08	85.27	81.56	77.95	74.47
LEEWARD DR	AC	SOUTHWARD DR.	END	87.40	83.64	79.97	76.41	72.99
LIME TREE BAY AVE	AC	WEST BAY RD.	ESTERLY	85.68	81.96	78.35	74.84	71.47
LINCOLN DR	AC	SEYMOUR RD.	END	76.80	73.36	70.05	66.86	63.82
LOUISE LLEWELLYN WAY	AC	ELGIN AVE	GORING AVE.	83.09	79.44	75.91	72.49	69.21
LYNDHURST AVE	AC	CREWE RD.	CRUSADER WAY	65.56	62.58	59.76	57.08	54.55
LYNDHURST AVE	AC	CRUSADER WAY	END	73.97	70.64	67.43	64.37	61.45
MANGO TURN	AC	THERESA DR.	SHORT LN	88.03	84.25	80.57	76.99	73.54
MARINA DR	AC	SHAMROCK RD.	ALMOND AVE	85.30	81.59	77.99	74.49	71.14
MARINA DR	AC	ALMOND AVE	END	83.12	79.47	75.94	72.52	69.24
MARY ST	AC	NORTH CHURCH ST.	SHEDDEN RD.	67.38	64.32	61.41	58.63	56.02
MEADOW AVE	ST	UP THE HILL RD.	MT PLEASANT	78.14	73.64	69.10	64.55	60.07
MELMAC AVE	AC	SOUTH CHURCH ST.	WALKERS RD.	66.36	63.35	60.48	57.76	55.20
NORTHWARD RD	AC	SHAMROCK RD.	END	70.64	67.44	64.38	61.46	58.69
OAK MILL ST	ST	ANTHONY DR.	BORDER DR.	93.19	89.26	85.10	80.75	76.29
OLYMPIC WAY	AC	UCCI	WALKERS RD	93.48	90.48	87.48	84.48	81.48
PARKERS (MINI)	AC	NORTH SOUND ROAD	DORCY DRIVE	68.48	65.37	62.40	59.58	56.92
PARTY LN	ST	MARINA DR.	MARINA DR.	76.25	71.73	67.18	62.65	58.21
PATRICKS AVE	ST	POINDEXTER RD.	#136 PATRICKS AVE	51.43	47.32	43.41	39.69	36.21
PEDRO CASTLE RD	AC	SHAMROCK RD.	PEDRO ST JAMES	77.45	73.99	70.65	67.44	64.38
PENINSULA AVE	ST	ESTERLEY TIBBETTS HWY.	END	44.84	41.05	37.48	34.15	31.09
POINDEXTER RD	ST	SHAMROCK RD.	1,223 FT N. OF SHAMROCK RD.	78.31	73.81	69.27	64.72	60.24
POINDEXTER RD	AC	1,223 FT W. OF SHAMROCK RD.	1,922 FT N. OF SHAMROCK RD.	75.37	71.98	68.73	65.60	62.62
POINDEXTER RD	ST	1,922 FT W. OF SHAMROCK RD.	2,449 FT N. OF SHAMROCK RD.	89.10	84.93	80.58	76.11	71.58
POINDEXTER RD	AC	2,449 FT N. OF SHAMROCK RD.	4,459 FT N. OF SHAMROCK RD.	56.51	54.02	51.69	49.50	47.48
POINDEXTER RD	ST	4,459 FT N. OF SHAMROCK RD.	DEVON RD.	80.42	75.95	71.42	66.87	62.35
PORTLAND RD	AC	DORCY DR.	NORTH SOUND RD.	60.49	57.77	55.21	52.80	50.54
POWELL SMITH RD	ST	REV BLACKMAN RD.	TOWN HALL DR.	71.33	66.78	62.27	57.82	53.49
PROSPECT DR	ST	SHAMROCK RD.	HOLLY DR	93.27	89.35	85.19	80.85	76.39
PROSPECT DR	ST	HOLLY DR	END	89.10	84.93	80.58	76.11	71.58
RACKLEY BLVD	AC	HIRST RD.	SOUTHWARD DR.	86.26	81.97	77.54	73.01	68.47
RAVEN AVE	AC	CHIME ST.	END OF AC	59.74	57.07	54.55	52.17	49.96
RAVEN AVE	ST	END OF AC	END	76.31	71.79	67.24	62.72	58.27
SAFEHAVEN DR	AC	ESTERLEY TIBBETS HWY	SAFEHAVEN DR main	94.92	94.78	94.64	94.50	94.36
SAFEHAVEN DR	AC	SAFEHAVEN DR main	ESTERLEY TIBBETS HWY	94.92	94.78	94.64	94.50	94.36
SEA SPRAY DR	ST	BEACH BAY RD	W END	87.91	83.69	79.30	74.81	70.27
SELKIRK DR	AC	SHAMROCK RD.	LORDS WAY	98.51	95.06	91.27	87.21	82.95
SELKIRK DR	AC	LORDS WAY	END	98.51	95.06	91.27	87.21	82.95
SEYMOUR DR	AC	NORTH SOUND RD	BARNES DR	96.74	92.77	88.88	85.06	81.36
SEYMOUR DR	AC	BARNES DR	N END	55.92	53.47	51.17	49.02	47.03
SKIPWITH LINK	AC	SEA VIEW RD	N END	93.58	89.67	85.85	82.11	78.49
SMITH RD RAB	AC	SMITH RD	ANTHONY DR	87.91	84.13	80.46	76.88	73.44
SOUND WAY	AC	SHEDDEN RD.	NORTH SOUND RD.	52.20	49.99	47.92	46.01	44.24
SOUTHWARD DR	AC	WINDWARD RD.	W END	87.96	84.18	80.50	76.92	73.47
SPARKYS DR	AC	N. SOUND RD.	N END	87.45	83.69	80.02	76.46	73.03
SPOTTS NEWLANDS RD	AC	SHAMROCK RD.	CHIME ST.	91.25	87.39	83.62	79.95	76.40
SUNNYFIELD RD	ST	QUEENS HWY	E END	90.57	86.48	82.19	77.75	73.25
TROPICAL GARDENS RD	AC	CREWE RD	SORREL DR	70.46	67.26	64.21	61.29	58.53
UP THE HILL RD	ST	BONNEVILLE DR.	N END	81.20	76.75	72.23	67.67	63.15
VERNEICE BODDEN DR	AC	ANTON BODDEN DR.	HARVEY STEPHENSON DR	92.43	88.55	84.75	81.05	77.46
WAHOO CL	ST	NORTH CHURCH ST.	E END	89.13	84.96	80.62	76.14	71.62
WALKERS RD	AC	HOSPITAL RD.	ROWLEY RISE	60.29	57.58	55.03	52.63	50.39
WALKERS RD	AC	ROWLEY RISE	SOUTH CHURCH ST	67.45	64.38	61.47	58.69	56.08
WILL T DR	ST	SHAMROCK RD.	END	90.10	85.98	81.68	77.23	72.71
WILLIAMS DR	AC	MANGO TURN	ANDY DR.	88.06	84.27	80.59	77.01	73.56
WILLIE FARRINGTON DR	AC	W. BAY RD.	BATABANO RD.	72.81	69.52	66.37	63.35	60.48
WINDSOR PARK RD	AC	WALKERS RD.	MANGO TURN	47.01	45.17	43.47	41.91	40.49
WINDWARD RD	AC	SOUTHWARD DR.	N END	87.96	84.18	80.50	76.92	73.47



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AGNES RAB	AC	LINFORD PIERSON HWY	AGNES WAY	91.06	88.06	85.06	82.06	79.06
AIRPORT CONNECTOR RAB	AC	ESTERLEY TIBBITTS HWY	MINERVA DR	91.16	88.17	85.17	82.16	79.16
ALAMO RAB	AC	LINFORD PIERSON HWY	ALAMO WAY	91.07	88.07	85.07	82.06	79.07
BOBBY THOMPSON WAY	AC	SMITH RD.	FERN CIRCLE	80.27	76.71	73.27	69.96	66.78
BOBBY THOMPSON WAY (MINI)	AC	BOBBY THOMPSON WAY	LINFORD PIERSON HIGHWAY	80.15	76.60	73.16	69.85	66.68
BUTTERFIELD RAB	AC	GODFREY NIXON WAY	NORTH SOUND ROAD	78.37	74.87	71.50	68.25	65.15
CAMANA BAY RAB	AC	ESTERLEY TIBBITTS HIGHWAY	LAWRENCE BVLD	89.99	86.16	82.42	78.79	75.28
CHIME ST RAB	AC	EAST WEST ARTERIAL	REX CRIGHTON BLVD	84.01	80.34	76.78	73.33	70.02
CORAL STONE (ISLAND HERITAGE)	AC	ESTERLEY TIBBITTS HIGHWAY	CANAL POINT DRIVE	92.92	89.03	85.22	81.50	77.90
CREWE RD	AC	GRAND HARBOUR RAB	TROPICAL GARDENS RD	69.00	66.86	64.72	62.58	60.44
EDUCATION (CNB) RAB	AC	HULDAH AVENUE	ELGIN AVENUE	88.97	85.17	81.46	77.85	74.37
ELGIN AVE	AC	CNB RAB	MANGO TREE RAB	93.42	90.43	87.43	84.42	81.42
ELGIN AVE	AC	MANGO TREE RAB	CNB RAB	93.42	90.43	87.43	84.42	81.42
ESTERLEY TIBBITTS HIGHWAY	AC	GOVERNORS ROUNDABOUT	YACHT CLUB ROUNDABOUT	92.83	88.94	85.14	81.42	77.82
ESTERLEY TIBBITTS HIGHWAY	AC	YACHT CLUB ROUNDABOUT	GOVERNORS ROUNDABOUT	85.92	82.19	78.57	75.05	71.68
ESTERLEY TIBBITTS HIGHWAY	AC	YACHT CLUB ROUNDABOUT	REV BLACKMAN ROUNDABOUT	92.83	88.94	85.14	81.42	77.82
ESTERLEY TIBBITTS HIGHWAY	AC	REV BLACKMAN ROUNDABOUT	YACHT CLUB ROUNDABOUT	92.83	88.94	85.14	81.42	77.82
ESTERLEY TIBBITTS HIGHWAY	AC	REV BLACKMAN ROUNDABOUT	BATABANO	92.83	88.94	85.14	81.42	77.82
ESTERLEY TIBBITTS HIGHWAY	AC	BATABANO	REV BLACKMAN ROUNDABOUT	92.83	88.94	85.14	81.42	77.82
ESTERLEY TIBBITTS HIGHWAY	AC	REV BLACKMAN ROUNDABOUT	WILLIE FARRINGTON	89.87	86.04	82.31	78.67	75.17
ESTERLEY TIBBITTS HIGHWAY	AC	BUTTERFIELD ROUNDABOUT	AIRPORT CONNECTOR RAB	89.99	86.16	82.42	78.79	75.28
ESTERLEY TIBBITTS HIGHWAY	AC	AIRPORT CONNECTOR RAB	BUTTERFIELD ROUNDABOUT	91.16	88.17	85.17	82.16	79.16
ESTERLEY TIBBITTS HIGHWAY	AC	CAMANA BAY RAB	AIRPORT CONNECTOR RAB	92.97	89.08	85.27	81.55	77.95
ESTERLEY TIBBITTS HIGHWAY	AC	AIRPORT CONNECTOR RAB	CAMANA BAY RAB	89.99	86.16	82.42	78.79	75.28
ESTERLEY TIBBITTS HIGHWAY	AC	GALLERIA ROUNDABOUT	ISLAND HERITAGE ROUNDABOUT	84.08	80.40	76.84	73.38	70.07
ESTERLEY TIBBITTS HIGHWAY	AC	ISLAND HERITAGE ROUNDABOUT	GALLERIA ROUNDABOUT	89.01	85.21	81.50	77.89	74.41
ESTERLEY TIBBITTS HIGHWAY	AC	ISLAND HERITAGE ROUNDABOUT	LIME TREE BAY ROUNDABOUT	89.01	85.21	81.50	77.89	74.41
ESTERLEY TIBBITTS HIGHWAY	AC	LIME TREE BAY ROUNDABOUT	ISLAND HERITAGE ROUNDABOUT	85.06	81.36	77.76	74.28	70.93
ESTERLEY TIBBITTS HIGHWAY	AC	LIME TREE BAY ROUNDABOUT	GOVERNORS ROUNDABOUT	85.92	82.19	78.57	75.05	71.68
ESTERLEY TIBBITTS HIGHWAY	AC	GOVERNORS ROUNDABOUT	LIME TREE BAY ROUNDABOUT	83.94	80.27	76.71	73.26	69.95
GOVERNORS RAB	AC	ESTERLEY TIBBITTS HIGHWAY	WEST BAY ROAD	92.83	88.94	85.14	81.42	77.82
GRAND HARBOUR RAB	AC	CREWE ROAD	SHAMROCK ROAD	89.84	86.01	82.28	78.65	75.14
HULDAH AVE	AC	THOMAS RUSSELL RAB	SMITH RD	74.94	71.57	68.33	65.22	62.26
HURLEY MERREN BLVD	AC	DILBERTS PLAZA	TOMLINSON RAB	82.34	78.71	75.20	71.81	68.56
HURLEY MERREN BLVD	AC	TOMLINSON RAB	DILBERTS PLAZA	93.22	89.32	85.51	81.78	78.17
LANTERN POINT RAB	AC	EAST WEST ARTERIAL	SHAMROCK ROAD	98.11	94.12	90.20	86.36	82.62
LIME TREE BAY RAB	AC	ESTERLEY TIBBITTS HIGHWAY	LIME TREE BAY AVENUE	86.65	82.90	79.26	75.73	72.32
LINFORD PIERSON HWY	AC	SILVER OAKS RAB	ALAMO RAB	93.15	89.25	85.43	81.71	78.10
LINFORD PIERSON HWY	AC	ALAMO RAB	SILVER OAKS RAB	94.89	94.64	94.40	94.16	93.91
LINFORD PIERSON HWY	AC	ALAMO RAB	AGNES RAB	94.89	94.64	94.40	94.16	93.91
LINFORD PIERSON HWY	AC	AGNES RAB	ALAMO RAB	94.89	94.64	94.40	94.16	93.91
LINFORD PIERSON HWY	AC	AGNES RAB	BOBBY THOMPSON WAY	40.68	37.85	35.03	32.20	29.38
MORRISON RAB	AC	CREWE RD	PRINTER WAY	93.42	90.43	87.43	84.42	81.42
NORTH SOUND RD	AC	BUTTERFIELD RAB	END	75.91	72.50	69.22	66.07	63.07
NORTH SOUND RD	AC	BUTTERFIELD RAB	JACQUES SCOTT SIGNAL	95.60	91.65	87.79	84.00	80.32
NORTH SOUND RD	AC	JACQUES SCOTT SIGNAL	BUTTERFIELD RAB	95.60	91.65	87.79	84.00	80.32
NORTH SOUND RD	AC	JACQUES SCOTT SIGNAL	SOUND WAY	95.60	91.65	87.79	84.00	80.32
POINDEXTER RAB	AC	EAST WEST ARTERIAL	POINDEXTER AVENUE	89.84	86.01	82.28	78.65	75.14
RED BAY RAB	AC	EAST WEST ARTERIAL	SHAMROCK ROAD	89.84	86.01	82.28	78.65	75.14
REV BLACKMAN RAB	AC	ESTERLEY TIBBITTS HIGHWAY	ESTERLEY TIBBITTS HIGHWAY	89.55	85.73	82.01	78.39	74.89
REX CRIGHTON BLVD	AC	TOMLINSON RAB	POINDEXTER RD	90.82	86.97	83.21	79.55	76.01
REX CRIGHTON BLVD	AC	POINDEXTER RD	HIRST RD	91.32	87.46	83.70	80.02	76.47
SHAMROCK RD	AC	DMS RAB	DILBERTS PLAZA	92.14	88.27	84.48	80.78	77.20
SHEDDEN RD	AC	HARBOUR DR.	CREWE RD.	85.00	81.30	77.71	74.22	70.88
THOMAS RUSSELL AVE	AC	THOMAS RUSSELL RAB	SHEDDEN RD	95.95	92.00	88.12	84.33	80.64
YACHT CLUB RAB	AC	ESTERLEY TIBBITTS HIGHWAY	YATCH DRIVE	89.55	85.73	82.01	78.39	74.89
ANDRESEN RD	ST	COONCH POINT RD.	TOPSAIL ST.	67.67	63.15	58.69	54.32	50.11
AUSTIN CONOLLY DR	AC	QUEENS HWY.	JOHN MCLEAN DR.	82.67	79.03	75.51	72.11	68.85
BATABANO RD	AC	WILLIE FARRINGTON DR.	E END	86.57	82.82	79.18	75.65	72.25
BIRCH TREE HILL RD	ST	REV BLACKMAN	HERITAGE PARK	92.85	88.90	84.71	80.35	75.88
BIRCH TREE HILL RD	AC	HERITAGE PARK	ANDRESEN RD.	87.38	83.61	79.95	76.39	72.97
BOATSWAIN BAY RD	AC	WATERCOURSE RD.	FOUNTAIN RD	89.53	85.71	81.99	78.37	74.87
BODDEN TOWN RD	AC	Police Station	Moon Bay	60.37	57.66	55.11	52.70	50.45
BODDEN TOWN RD	AC	Moon Bay	Midland Acres	93.50	89.60	85.78	82.04	78.43
BODDEN TOWN RD	AC	Midland Acres	Breakers	90.52	86.68	82.93	79.28	75.75
BODDEN TOWN RD	AC	Breakers	Breakers	98.47	94.48	90.55	86.70	82.95
BODDEN TOWN RD	AC	Breakers	Frank Sound	91.52	87.65	83.88	80.20	76.64



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CAPT REGINALD PARSONS DR	AC	MOUNT PLEASANT RD.	CONCH POINT RD.	78.04	74.55	71.20	67.96	64.88
CONCH POINT RD	AC	ANDRESEN RD.	POWERY RD	89.34	85.53	81.81	78.19	74.70
CONCH POINT RD	AC	POWERY RD	END	92.83	88.94	85.14	81.42	77.82
CREWE RD	AC	DORCY DR.	MANGO TREE RAB	93.15	89.25	85.43	81.71	78.10
CREWE RD	AC	MANGO TREE RAB	DORCY DR	93.60	90.60	87.60	84.59	81.60
CREWE RD	AC	MANGO TREE RAB	LARKSPUR WAY	81.37	80.03	78.69	77.35	76.01
CREWE RD	AC	MANGO TREE RAB	HOUSE #294	92.76	92.24	91.71	91.19	90.67
CREWE RD	AC	LARKSPUR WAY	NAVIS CL	79.31	75.78	72.37	69.09	65.96
CREWE RD	AC	NAVIS CL	TROPICAL GARDENS RD	93.07	91.10	89.13	87.15	85.17
DAVID FOSTER DR	AC	OLD JOES WAY	NORTH SOUND RD	88.54	86.64	84.73	82.82	80.91
DUMP ROAD (MINI)	AC	SEYMOUR DRIVE	NORTH SOUND ROAD	80.25	76.69	73.25	69.94	66.76
EASTERN AVE	AC	SHEDDEN RD.	NORTH CHURCH ST.	47.59	45.71	43.97	42.36	40.90
FORT ST	AC	MARY ST	NORTH CHURCH ST	60.24	57.53	54.99	52.59	50.34
FOUNTAIN RD	AC	HELL RD.	END	89.53	85.71	81.99	78.37	74.87
FRANK SOUND RD	AC	BODDEN TOWN RD	OLD ROBIN RD	62.38	59.56	56.90	54.38	52.02
GALLERIA (MINI)	AC	WEST BAY ROAD	GALLERIA PLAZA	72.62	69.34	66.19	63.18	60.32
HELL RD	AC	REV BLACKMAN RD.	WATERCOURSE RD.	80.78	77.20	73.75	70.41	67.22
HIRST RD	AC	SHAMROCK RD.	END	60.82	58.08	55.50	53.07	50.80
MAIN ST	AC	EDWARD ST.	SHEDDEN RD.	89.86	86.03	82.30	78.67	75.16
MOUNT PLEASANT RD	AC	WEST CHURCH ST.	PARKVIEW CRES.	48.04	46.12	44.35	42.71	41.22
NAPA (MINI)	AC	CREWE ROAD	SHEDDEN ROAD	93.16	89.26	85.45	81.72	78.11
NORTH CHURCH ST	AC	EASTERN AVE.	MARY ST	81.70	78.09	74.60	71.23	68.01
NORTH SIDE RD	AC	OLD ROBIN RD.	HUTLAND RD.	88.27	84.48	80.79	77.21	73.75
NORTH WEST POINT RD	AC	TOWN HALL RD.	#979 BOATSWAIN BAY RD	74.09	70.75	67.54	64.47	61.55
OLD CREWE RD	AC	KINGS ROUNDABOUT	270 FT OLD CREWE RD	89.19	85.38	81.67	78.06	74.57
OLD CREWE RD	ST	270 FT OLD CREWE RD.	SOUTH SOUND RD.	85.98	81.67	77.24	72.71	68.16
OLD ROBIN RD	AC	FRANK SOUND RD.	QUEENS HWY.	87.51	83.74	80.07	76.51	73.08
QUEENS HWY	AC	OLD ROBIN RD.	AUSTIN CONOLLY DR.	86.53	82.79	79.15	75.62	72.22
REV BLACKMAN RD	AC	TOWN HALL RD.	W.CHURCH	78.88	75.36	71.97	68.71	65.59
RUM POINT DR	AC	HUTLAND RD.	OTTO'S AVE	89.39	85.58	81.86	78.24	74.75
RUM POINT DR	AC	OTTO'S AVE	WATER CAY RD	90.37	86.53	82.79	79.14	75.62
SEA VIEW RD	AC	FRANK SOUND RD.	23,226 FT E. OF FRANK SOUND RD.	74.76	71.39	68.16	65.06	62.11
SEA VIEW RD	AC	23,226 FT E. OF FRANK SOUND RD.	25,047 FT E. OF FRANK SOUND RD.	86.54	82.80	79.16	75.63	72.23
SEA VIEW RD	AC	25,047 FT E. OF FRANK SOUND RD.	JOHN MCLEAN DR.	60.00	57.31	54.77	52.39	50.16
SEAFEARERS WAY	AC	MARY ST.	FORT ST	82.58	81.79	81.00	80.20	79.41
SEAFEARERS WAY	AC	FORT ST.	CARDINALL AVE.	94.75	90.82	86.97	83.20	79.55
SEAFEARERS WAY	AC	CARDINALL AVE	BOILERS RD	98.41	95.41	92.41	89.40	86.41
SHAMROCK RD	AC	SELKIRK DR	ON THE RUN (GS) RED BAY	93.14	89.24	85.42	81.70	78.10
SHAMROCK RD	AC	HIRST RD	WHISTLING WAY	75.48	72.09	68.83	65.69	62.71
SHAMROCK RD	AC	HIRST RD	WILL T DR	64.68	61.75	58.96	56.33	53.85
SHAMROCK RD	AC	WILL T DR	BODDEN TOWN RD	79.42	75.89	72.48	69.20	66.06
SHAMROCK RD	AC	MARINA DR	CTMH ROUNDABOUT	93.14	89.24	85.42	81.70	78.10
SHAMROCK RD	AC	CTMH ROUNDABOUT	ADMIRALS AVE	94.13	90.21	86.37	82.62	78.99
SHAMROCK RD	AC	ADMIRALS AVE	ON THE RUN (GS) RED BAY	83.24	79.59	76.05	72.63	69.34
SHAMROCK RD	AC	CTMH ROUNDABOUT	SPOTTS NEWLANDS RD	98.10	94.11	90.19	86.35	82.61
SHAMROCK RD	AC	SPOTTS NEWLANDS RD	CTMH ROUNDABOUT	98.10	94.11	90.19	86.35	82.61
SHAMROCK RD	AC	SPOTTS NEWLANDS RD	WHISTLING WAY	68.60	65.49	62.52	59.69	57.01
SHAMROCK RD	AC	WHISTLING WAY	HIRST RD	88.32	84.53	80.84	77.25	73.80
SMITH RD	AC	HOSPITAL RD.	BOBBY THOMPSON INTERSECTION	92.92	89.03	85.22	81.50	77.90
SOUTH CHURCH ST	AC	WALKERS RD.	BOILERS RD.	75.37	71.98	68.73	65.60	62.62
SOUTH SOUND RD	AC	WALKERS RD.	9547 FT E. OF WALKER RD.	56.77	54.26	51.92	49.71	47.67
SOUTH SOUND RD	AC	9547 FT E. OF WALKERS RD.	11,047 FT E. OF WALKERS RD.	89.98	86.15	82.41	78.78	75.27
SOUTH SOUND RD	AC	11,047 FT E. OF WALKERS RD.	SHAMROCK RD.	70.68	67.47	64.41	61.48	58.72
STADIUM DR	ST	REV BLACKMAN RD.	BIRCH TREE HILL RD.	88.31	84.10	79.73	75.24	70.70
TOWN HALL RAB	AC	TOWN HALL RD	HELL RD	87.54	83.77	80.10	76.54	73.10
TOWN HALL RD	AC	NORTHWEST POINT RD	HELL RD.	86.57	82.82	79.18	75.65	72.25
WATERCOURSE RD	AC	NW PT RD	BOATSWAIN BAY RD.	88.52	84.72	81.03	77.44	73.97
WEST BAY RD	AC	EASTERN AVE.	LAWRENCE BLVD	61.60	58.83	56.20	53.73	51.41
WEST BAY RD	AC	SAFEHAVEN DR	GOVERNORS RAB	56.46	53.98	51.65	49.47	47.44
WEST BAY RD	AC	YACHT DR	#1883 WEST BAY RD	87.19	86.61	86.03	85.45	84.86
WEST BAY RD	AC	#1883 WEST BAY RD	YACHT DR	92.53	92.19	91.85	91.51	91.17
WEST BAY RD	AC	#1883 WEST BAY RD	CEMETERY RD	79.88	76.33	72.90	69.60	66.44
WEST BAY RD	AC	CEMETERY RD	W. CHURCH ST.	76.04	72.63	69.35	66.19	63.19
WEST CHURCH ST	AC	W BAY RD.	MT PLEASANT RD.	64.52	61.60	58.83	56.20	53.73



APPENDIX 3 – SUGGESTED DISTRICT ROADS PROGRAMME (EA 36)

District roads (subdivision access roads) listed below are suggested maintenance priorities derived from the NRA’s pavement management database. Funding for these projects is approved in Parliament as executive assets. Constituency members are afforded the opportunity to review the list and provide final input on the priority scheduling of these projects.

Year	BranchName	Surface	Section Length	Section Width	PCI	Constituency
2022	PESETA DR	ST	1,027	18	63	BTE
2022	NOEL DR	ST	600	24	54	BTE
2022	PASTURE DR	ST	700	24	60	BTE
2022	SCHOOL HOUSE LN	ST	1,000	15	63	BTE
2022	GOLDSMITH ST	ST	1,000	24	40	BTE
2022	MAGPIE CL	ST	250	15	45	BTE
2022	SAFFRON CL	ST	600	24	56	BTE
2022	WORDSWORTH ST	ST	900	26	53	BTE
2022	NETTY LEVY CT	ST	128	15	61	BTE
2022	SILVERDALE CL	ST	331	20	61	BTW
2022	TEAKWOOD CL	ST	302	24	61	BTW
2022	TRUMBACH DR	ST	653	14	61	BTW
2022	DOMINICA DR	ST	938	26	64	BTW
2022	AUNT SHANNYS RD	ST	800	24	62	BTW
2022	HUDSON DR	ST	370	24	67	BTW
2022	LEMON RD	ST	800	24	43	BTW
2022	PAULEACH RD	ST	1,300	28	64	BTW
2022	TIMBERLAND CL	ST	800	30	68	BTW
2022	SUMMERWOOD CL	ST	300	20	63	BTW
2022	MIDWAY CL	ST	1,063	20	64	BTW
2022	SCHOOL RD	HMA	1,162	26	49	GTC
2022	TAKOMA CL	ST	200	15	55	GTC
2022	ORCHARD LN	ST	300	20	65	GTC
2022	BOWIE CL	ST	200	20	61	GTC
2022	ALCAN LN	ST	270	24	63	GTC
2022	TROPICAL GARDENS RD	HMA	2,100	24	55	GTC
2022	STAFFORD LN	ST	400	12	61	GTC
2022	PALMDALE AVE	ST	3,200	24	61	GTC
2022	OLD RED GATE RD	ST	420	20	7	GTC
2022	MCFIELD LN	ST	450	20	35	GTC
2022	RANDYKE WAY	HMA	1,414	24	66	GTE
2022	ROSE LN	ST	280	20	63	GTE
2022	GLENMONT CL	ST	650	15	60	GTE
2022	RANKIN DR	HMA	1,070	24	68	GTE
2022	EDGEWATER WAY	HMA	1,752	24	67	GTE
2022	ARTHURS WAY	ST	380	15	42	GTN
2022	BRINKLEY DR	ST	350	15	65	GTN
2022	LUNA LN	ST	200	15	33	GTN
2022	ROSEHALL LN	PCC	200	15	59	GTN
2022	WHITEHALL GDNS	PCC	600	20	35	GTN
2022	PALM HEIGHTS DR	HMA	380	24	30	GTN
2022	SHADOW LN	ST	450	15	62	GTN
2022	WASHINGTON RD	HMA	653	24	66	GTN
2022	BRINKLEY DR	ST	351	12	62	GTN
2022	ALLIE B DR	HMA	1,283	24	66	GTN
2022	BRUSHY AVE	HMA	942	24	65	GTN
2022	MAYFAIR CL	ST	200	20	64	GTS
2022	FAIRFAX WAY	ST	400	30	60	GTS
2022	COEMER DR	ST	1,135	30	67	GTS



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Year	BranchName	Surface	Section Length	Section Width	PCI	Constituency
2022	FURTHER RD	ST	300	30	55	NORTHSIDE
2022	UNION ST	ST	1,100	24	60	NORTHSIDE
2022	EAGLE ST	ST	1,000	24	60	NORTHSIDE
2022	CONSTANTINE	ST	600	24	60	NORTHSIDE
2022	GRANT ST	ST	450	24	60	NORTHSIDE
2022	WATER CAY RD	ST	5,200	24	52	NORTHSIDE
2022	FINGER CAY RD	ST	1,100	24	50	NORTHSIDE
2022	SANDPOINT RD	ST	2,400	24	50	NORTHSIDE
2022	MASTIC RD	ST	2,119	26	63	NORTHSIDE
2022	KNOT ST	ST	750	20	53	EAST END
2022	HIGH ROCK DR	HMA	10,000	26	63	EAST END
2022	WELCOME (FARM ROAD)	GR	1,800	24	34	EAST END
2022	LAKEPORT ST	ST	500	24	60	NEWLANDS
2022	BRENDA ST	ST	400	24	60	NEWLANDS
2022	TENFOOT CL	ST	436	24	61	NEWLANDS
2022	FLEET AVE	ST	843	30	61	NEWLANDS
2022	GREEN ST	ST	436	28	61	NEWLANDS
2022	HAZEL ST	ST	413	26	61	NEWLANDS
2022	JACKIE ST	ST	417	28	61	NEWLANDS
2022	MERVIN ST	ST	433	30	61	NEWLANDS
2022	RANCH RD	ST	800	20	47	SAVANNAH
2022	CHIME ST	ST	950	24	62	SAVANNAH
2022	TUCKERMAN LN	ST	1,273	24	38	SAVANNAH
2022	TROPHY CRESC	ST	1,500	24	66	RED BAY
2022	DOGWOOD ST	ST	400	24	60	PROSPECT
2022	MIDSUMMER DR	ST	400	24	60	PROSPECT
2022	CAPT JOE & OSBERT RD	ST	2,000	24	59	WBC
2022	APPLE BLOSSOM GDNS	ST	1,700	24	49	WBC
2022	BOXELDER ST	ST	250	15	28	WBC
2022	CLINKER CL	ST	260	15	63	WBC
2022	GLADE DR	ST	1,700	24	62	WBC
2022	HETTIES LN	ST	700	15	53	WBC
2022	JUPITER LINK	ST	260	20	63	WBC
2022	MERCURY CL	ST	270	15	63	WBC
2022	VIBE LN	ST	1,000	15	56	WBC
2022	SONNY POWERYS DR	ST	580	30	58	WBN
2022	THISTLE LN	ST	1,100	20	45	WBN
2022	LENDERS CL	ST	680	15	37	WBN
2022	TURTLE CRESC	ST	1,400	15	46	WBN
2022	DUXIES LN	ST	853	15	62	WBN
2022	NICKEL LN	ST	656	15	64	WBN
2022	CAPT CHARLIE RD	ST	230	15	42	WBS
2022	CHESTNUT DR	ST	550	15	63	WBS
2022	VIOLET LN	ST	300	15	28	WBS
2022	CRESCENT CL	ST	670	30	62	WBW
2022	EVANS CL	ST	200	15	63	WBW
2022	SKY WAY	ST	300	24	44	WBW
2022	THIRD AVE	ST	250	15	51	WBW
2022	TULIP CL	ST	160	15	33	WBW
2022	DELACREE CT	ST	150	15	63	WBW
2022	MISS DAISY LN	ST	1,000	15	47	WBW
2022	EDLIN AND GARNELL DR	ST	397	14	60	WBW
2022	GLIDDEN LN	ST	1,145	24	62	WBW
2022	SWALLOW RD	ST	300.00	15.00	65	WBW
2022	RENNIE EBANKS RD	ST	450.00	15.00	20	WBW



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Year	BranchName	Surface	Section Length	Section Width	PCI	Constituency
2023	WILDE ST	ST	561	24	54	BTE
2023	ABIU CL	GR	425	16	60	BTE
2023	JOHN CARTER DR	HMA	1,010	24	61	BTE
2023	KIPLING ST	HMA	1,302	24	59	BTE
2023	LAKE DESTINY DR	GR	1,258	28	59	BTE
2023	MIJALL RD	ST	1,450	24	65	BTE
2023	PUFFIN CL	ST	449	28	64	BTW
2023	ROSELYN CL	ST	515	30	53	BTW
2023	SHIRLEY TOWBIS LN	ST	804	26	65	BTW
2023	CLEARVIEW DR	ST	732	24	65	BTW
2023	LOCUST LN	ST	351	24	65	BTW
2023	PAULEACH RD	ST	1,342	28	54	BTW
2023	BLUHILL DR	ST	384	14	61	EAST END
2023	BROADLEAF CL	HMA	781	24	58	EAST END
2023	ALAMO DR	ST	730	30	53	GTC
2023	SOMERSET DR	ST	213	16	63	GTC
2023	TROPICANA CRES	ST	2,507	24	67	GTC
2023	WILTSHIRE DR	ST	289	18	54	GTC
2023	INDUSTRIAL WAY	HMA	1,713	26	67	GTC
2023	CRUSADER WAY	ST	617	20	63	GTE
2023	ROSEHALL LN	PCC	190	14	58	GTN
2023	WATLERS DR	ST	1,450	22	64	GTN
2023	EUPHRATES CL	ST	128	12	52	GTN
2023	GRACKLE RD	AC	531	24	68	GTN
2023	BARNES DR	HMA	1,227	30	69	GTN
2023	EAST BLVD	HMA	863	20	59	GTS
2023	COLUMBUS CL	ST	456	28	54	GTW
2023	ASHRIDGE RD	HMA	410	20	68	GTW
2023	MIDDLE RD	ST	856	20	65	GTW
2023	NEWPORT AVE	ST	1,457	30	54	GTW
2023	CUNNINGHAM ST	ST	427	30	55	NEWLANDS
2023	FOYE ST	ST	410	26	53	NEWLANDS
2023	GREGORY ST	ST	495	30	53	NEWLANDS
2023	KITTY LN	ST	1,070	24	64	NEWLANDS
2023	TRIDELPHIA WAY	HMA	436	24	58	NEWLANDS
2023	BRENDA ST	ST	449	28	55	NEWLANDS
2023	SAILORS WAY	ST	574	30	54	NORTHSIDE
2023	WATERGATE ST	ST	417	24	64	NORTHSIDE
2023	BOUNTY CL	ST	472	30	65	NORTHSIDE
2023	CAYMANITE AVE	ST	705	26	53	NORTHSIDE
2023	CLIFFROCK DR	ST	804	26	53	NORTHSIDE
2023	GALLEON CL	ST	322	30	54	NORTHSIDE
2023	DEVON RD	ST	1,178	26	56	PROSPECT
2023	BUENA VISTA DR	HMA	948	22	53	SAVANNAH
2023	WEST LN	ST	1,493	20	55	SAVANNAH
2023	HOMESTEAD CRES	ST	1,463	26	56	SAVANNAH
2023	SCHOLARS DR	HMA	1,549	24	70	WBC
2023	CINDER LN	ST	617	18	65	WBC
2023	COMET CL	ST	171	14	56	WBC
2023	LEONA LN	ST	820	14	62	WBC
2023	LYNNETTE CRES	HMA	502	24	69	WBC
2023	ORRETT CL	ST	236	22	65	WBC
2023	SAND HOLE RD	ST	843	16	64	WBN
2023	TURTLE CRES	ST	482	12	56	WBN
2023	VIXVILLE DR	ST	269	13	56	WBN
2023	VULGUNNERS DR	ST	883	24	54	WBN
2023	LIZETTE LN	GR	584	20	60	WBN
2023	MARY MOLLIE HYDES RD	ST	725	16	55	WBS
2023	TULIP CL	ST	164	14	56	WBW
2023	ZACHARIAS RD	ST	249	22	56	WBW
2023	CRESCENT CL	ST	663	30	53	WBW
2023	EVANS CL	ST	213	12	56	WBW



Year	BranchName	Surface	Section Length	Section Width	PCI	Constituency
2024	SITWELL RD	ST	2,119	28.00	64	BTE
2024	BRACKEN CL	ST	236	20.00	64	BTE
2024	MIMOSA LN	ST	837	22.00	64	BTE
2024	ANGLE RIDGE DR	HMA	850	24.00	69	BTW
2024	ANTIGUA DR	ST	220	24.00	62	BTW
2024	RYAN RD	ST	869	16.00	65	GTC
2024	CORNWALL LN	ST	203	16.00	62	GTC
2024	HALPINE RD	GR	233	14.00	56	GTC
2024	OWEN ROBERTS DR	HMA	2,300	30.00	64	GTC
2024	BLUE LAGOON DR	GR	521	24.00	55	GTN
2024	BRONZE RD	ST	492	24.00	57	GTN
2024	CYPROS RD	HMA	686	24.00	69	GTN
2024	GREENWOOD DR	HMA	1,072	24.00	54	GTN
2024	HOWARD ST	HMA	492	24.00	68	GTN
2024	HINDS WAY	HMA	1,745	24.00	68	GTS
2024	HOLMES TURN	HMA	449	20.00	68	GTS
2024	TUREN LINK	ST	276	26.00	61	GTW
2024	GLEN EDEN RD	ST	446	26.00	62	GTW
2024	MEMORIAL AVE	HMA	958	26.00	64	GTW
2024	MERRENDALE DR	HMA	225	24.00	68	GTW
2024	ROYAL CL	HMA	190	24.00	67	NEWLANDS
2024	COCOPLUM LN	HMA	430	24.00	55	NEWLANDS
2024	COLESVILLE WAY	HMA	410	24.00	67	NEWLANDS
2024	ARLENE AVE	HMA	1,352	24.00	69	NEWLANDS
2024	MONTROSE WAY	HMA	463	24.00	67	NEWLANDS
2024	CASCADE DR	HMA	1,243	24.00	69	PROSPECT
2024	LAKESIDE DR	HMA	2,195	24.00	67	RED BAY
2024	LOCH LOMOND WAY	ST	561	24.00	62	RED BAY
2024	CHARITY LN	ST	804	20.00	62	SAVANNAH
2024	MEADOWLARK RD	ST	180	24.00	64	SAVANNAH
2024	CLINKER CL	ST	266	10.00	48	WBC
2024	ADONIS DR	HMA	1,083	24.00	68	WBC
2024	PARKVIEW CRES	ST	1,096	26.00	63	WBC
2024	TURTLE CRES	GR	574	12.00	49	WBN
2024	HILLARD DR	HMA	991	24.00	69	WBS
2024	MORGANS LN	ST	502	16.00	63	WBS
2024	VELMA BANKS DR	HMA	1,417	24.00	68	WBW
2024	FOURTH AVE	GR	129	18.00	54	WBW



APPENDIX 3 – FLEET PROCUREMENT PLAN

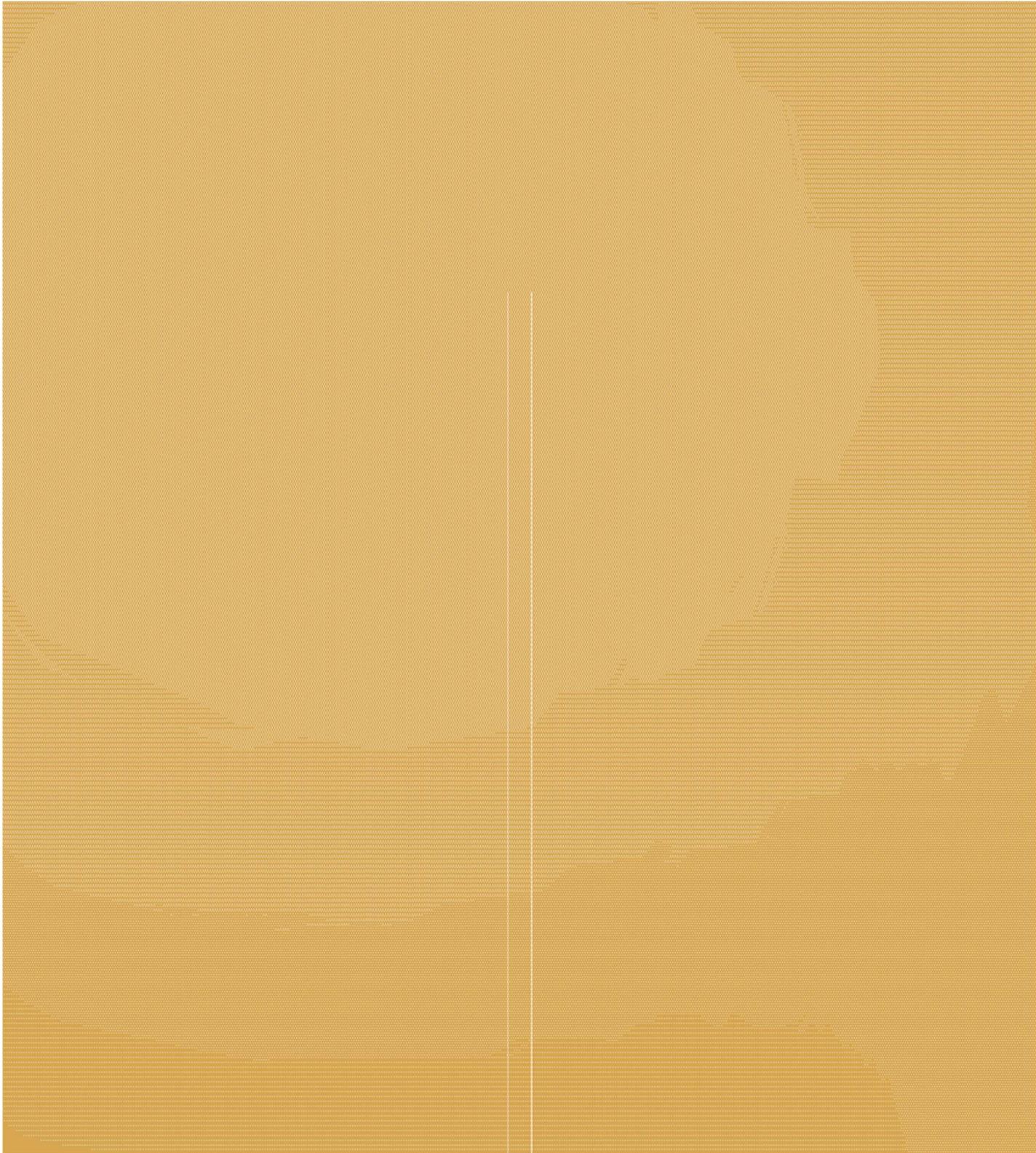
Fleet Acquisitions Tranche "C3" to December 2021 - June 2022			
1	Large Loader 36,000 Class EROPS 2018 CAT938M EROPS GP Bucket	NRA-L4	\$130,000.00
1	Large Single Drum Compactor 2021 Hamm 311 OROPS w/15 hrs	NRA-R7	\$85,000.00
1	Medium Loader 19-22K Class, EROPS 2019 CAT 918M EROPS GP Bucket	ADDITION	\$130,000.00
1	Tracked-Type Tractor 2019 CAT D6K XL	NRA-D3	\$175,000.00
1	Compact Rubber Tracked Excavator 2018 Yanmar VI080 w/Enclosed Cab & Thumb	NRA-D1	\$80,000.00
1	3-Wheel self-Propelled Broom 2021 Broce BW260 Enclosed Cab	ADDITION	\$35,000.00
1	Small Water Truck / 33K GVW, Class 7	NRA-606	\$100,000.00
		Est Total	\$735,000.00

QTY.	Description	Equipment being Replaced	ESTIMATED KYD Amount
2023 Proposed Fleet Acquisitions Tranche "D"			
1	Grader enclosed Cab, 12 ft Blade, Scarifier	NRA-G4	\$250,000
1	Vacuum Truck with Tipping Body & Compressor, 66k GVW, Class 8	NRA-538	\$250,000
1	Large Compressor 400 cfm	NRA-CT6	\$50,000
1	Tractor Head, 58k GVW, Class 8, 18 Speed	NRA-602	\$110,000
2	Zero Turn Mowers, 52 inch	NRA-BC2S, NRA-BC3S	\$15,000
2	Crew Cab, 10k GVW, F250/350 Class 3	NRA-609, NRA-610	\$90,000
1	Crew Cab, 19k GVW, F550 Class 5	NRA-611	\$60,000
4	Crew Cab, 6k GVW, Colorado/Hilux Class 1	NRA-534, 586, 607 & 608	\$90,000
3	Mobile Variable Message Sign Board, Wanco Sign Trailer Class	NRA-ST10, ST11 & ST12	\$48,000
1	Vacuum Truck with Tipping Body, 66k, Class 8	Addition	\$250,000
2	Dewatering Pumps, 6 inch, Diesel, Trailer,	Addition	\$70,000
			\$1,283,000



QTY.	Description	Equipment being Replaced	ESTIMATED KYD Amount
2024 Proposed Fleet Acquisitions Tranche "E"			
1	Full -sized Crawler Excavator, 40-45 Ton Class, with Hydraulic Thumb, 72" HD (3c.y. straight edge)and 54" SD (2c.y. teeth and side protectors) buckets	NRA-E4	\$275,000
1	Compact Tracked Loader, Enclosed Cab, Side Door, Hi Flow Hydraulics	NRA-L9	\$70,000
1	Loader Backhoe, Enclosed Cab, 16k Class	NRA-10	\$70,000
1	Small Hatchback vehicle	NRA-619	\$18,000
3	Crew Cab, 19k GVW, F550 Class 5	NRA-613, 614 & 615	\$180,000
1	Low Boy Trailer, 100k GVW, Air Ride, Detachable Goose Neck	NRA-FT5	\$100,000
1	Vacuum Truck with Tipping Body, 66k, Class 8	Addition	\$250,000
			\$963,000





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