

# 2016 TRAFFIC DATA COLLECTION PROGRAM

V 2.0 [07/25/2016]

**Final Report**  
July 2016



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## 1 BACKGROUND

The National Road Authority (NRA) is responsible for the planning, construction, supervision and maintenance of Cayman Islands roads. Whose main objective is to ensure the provision of a safe and efficient network to the users.

Assuming that traffic data is the basis of the ground transport system, this information serves as a tool in the process to make better decisions and with more support. Which almost always they are involved in the allocation of funds for continuous improvement of transport. So the impact that involves collecting traffic data, is extremely important.

On this occasion the NRA has decided to conduct a traffic study of wide coverage, after about 17 years since the last study of this kind.

The NRA has launched a bid that **SEMIC** won. SEMIC has conducted the field and office activities to carry out the project *2016 Traffic Data Collection Program*.

In this document the activities undertaken to achieve project objectives and results are described.

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## 2 PROJECT OBJECTIVES

The first objective of this project as part of the Cayman Islands traffic data collection is:

- 2.1. The study of *Turning Movement Counts (TMC)* at 41 previously selected sites.

The second objective is:

- 2.2. The study of *Automated Traffic Recorder Counts and Classification (ATR)* at 153 previously selected sites. This study was carried out using *Automatic Traffic Classifiers*.

Both studies were conducted over a period of time between February and March; which comprises the high tourist season in Grand Cayman Island.

Traffic data collection comprises the following features: *volume* and *vehicle classification* for both studies; and *point speed* only for the ATR sites.

### 3 SCOPE AND METHODOLOGY

#### • *TMC Scope and Methodology*

The Turning Movement Count study consisted in performing a log of the number and type of vehicles that were running each of the directional movements present in 41 intersections in a period of time.

#### • *TMC Equipment*

The equipment used to perform the TMC were manual counters, video cameras and laptops.

#### • *TMC Counting Periods*

The vehicle counts were performed for seven hours, divided into three periods, as shown below:

- From 07:00 to 09:00.
- From 11:00 to 13:00.
- From 15:00 to 18:00.

In one of the TMC sites (ID - 56) the vehicle count was performed, simultaneously with the pedestrian movements counts. This was done in three periods, with a total duration of eight hours:

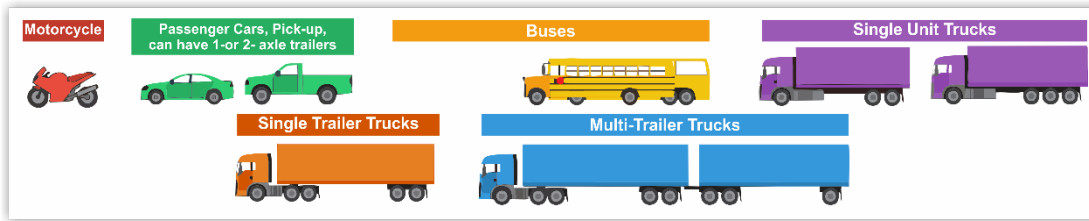
- From 07:00 to 09:00.
- From 11:00 to 13:00.
- From 14:00 to 18:00.

The vehicle log was performed with periods of 15 minutes on the field sheet. This was to determine the *peak hours* and the *peak hour factors* (PHF).

The field log sheet used to perform the TMC is shown on the Appendix 1. This sheet was used for each period of 15 minutes.

• *TMC Vehicle Classification*

Six vehicle classifications were considered for the TMC (Figure 3.1), see below each of those:



Source: Made by SEMIC

*Figure 3.1 TMC Vehicle Classification*

- Motorcycle
- Passenger cars, Pick-up, can have 1 – or 2 – axle trailers
- Buses
- Single Unit Trucks
- Single Trailer Trucks
- Multi – Trailer Trucks

• *TMC Number of Sites*

The number of intersections in which the TMC was performed were 41 sites.

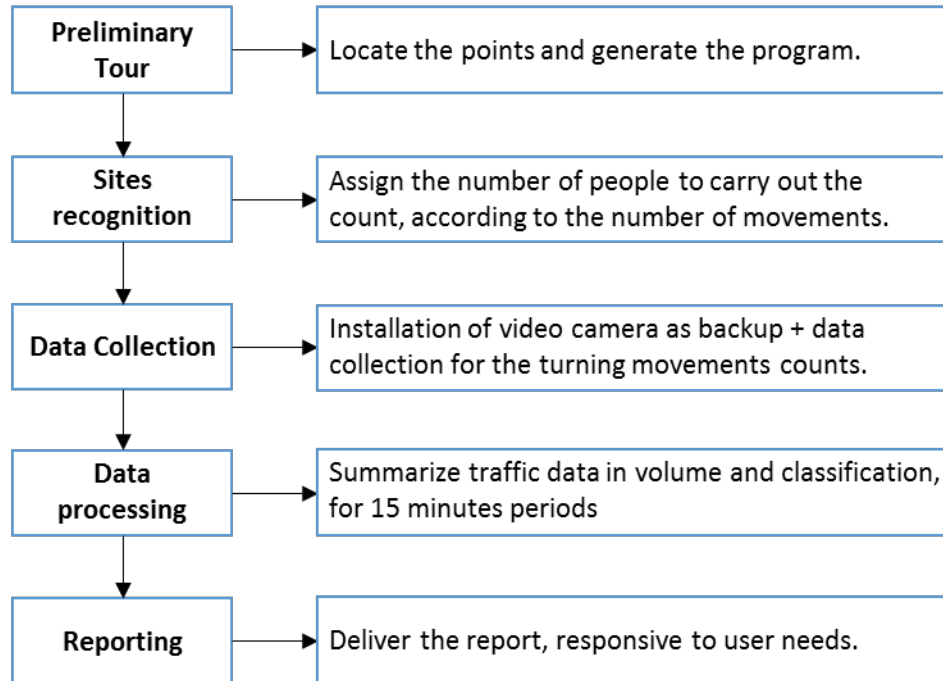
At one of the 41 intersection, simultaneously the pedestrians count and traffic counts and classification were performed.

These intersections were cataloged by the NRA into two types, based on the number of staff required to perform the TMC. The first type corresponds to those intersections where the TMC could be performed with one person, and the second type to those in which the TMC could be performed with 2 people.

All these intersections were selected and proposed by the NRA to be studied.

• *TMC Flowchart*

The activities proposed to carry out the study of traffic engineering are required to ensure optimum sample of the characteristics of vehicular traffic, shown in the figure below.



Source: Made by SEMIC

*Figure 3.2 TMC Flowchart*

- *TMC Pictures*

A member of the SEMIC team performing the TMC on the site where the pedestrian registry included (ID – 56) is displayed in the next figure.



Source: SEMIC.

*Figure 3.3 TMC ID - 56*

- *ATR Scope and Methodology*

The study of traffic data collection through ATR, consisted of recording the vehicle volumes presented at 153 points of roads, proposed by the NRA. In addition to volume, the device recorded the type of vehicle and the point speed for each.



- *ATR Equipment*

The sensors used for the automated traffic counts and classification were "Road Tubes". Which it involves the installation of a pair of tubes perpendicular to the axis of the road and a connection to a device that records and stores each of the pulses of air generated by vehicles passing over the tube, see the figure below.



Source: Cayman Compass

*Figure 3.4 ATR Road Tubes*

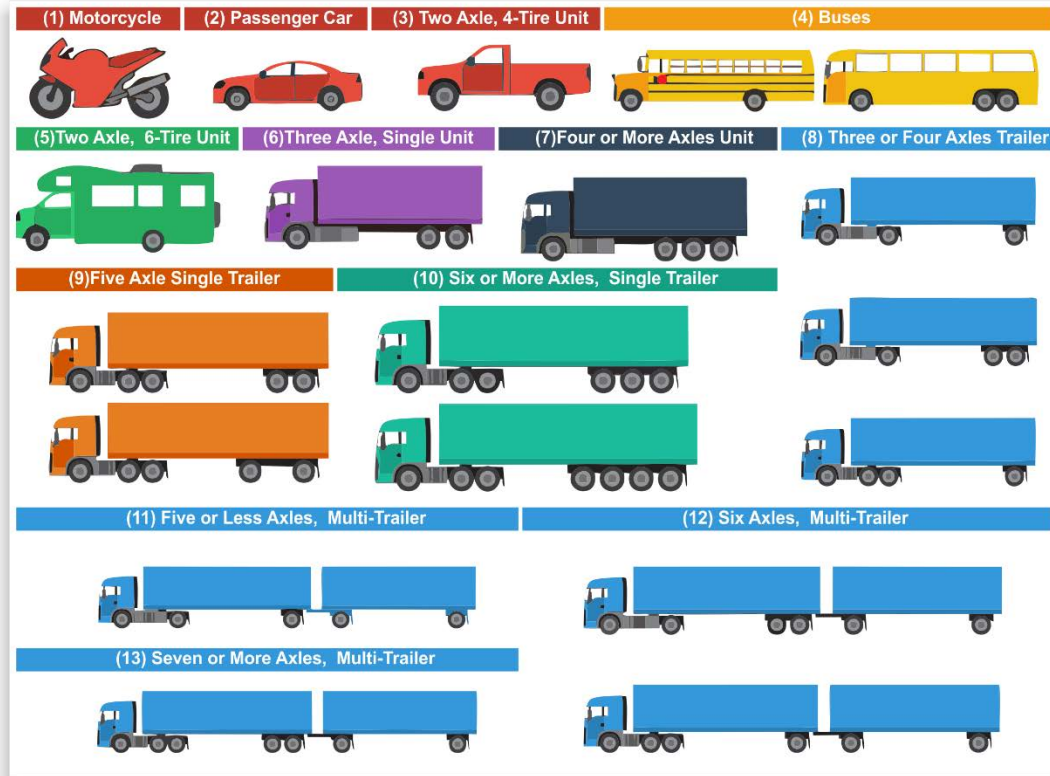
- *ATR Counting Periods*

The ATR's devices were programmed to record a period of 7 days 24 hours. The programming of the devices took into account both traffic directions (if this was the case).

The log was generated with periods every 15 minutes, for a better manipulation and usefulness of the data collected.

- *ATR Vehicle Classification*

The devices used to perform the ATR, were programmed according to the classification proposed by the FHWA, shown in the next figure.



Source: FHWA

*Figure 3.5 FHWA Vehicle Classification*

It was agreed with the NRA that the vehicle classification be summarized in the following points, according to the previous figure:

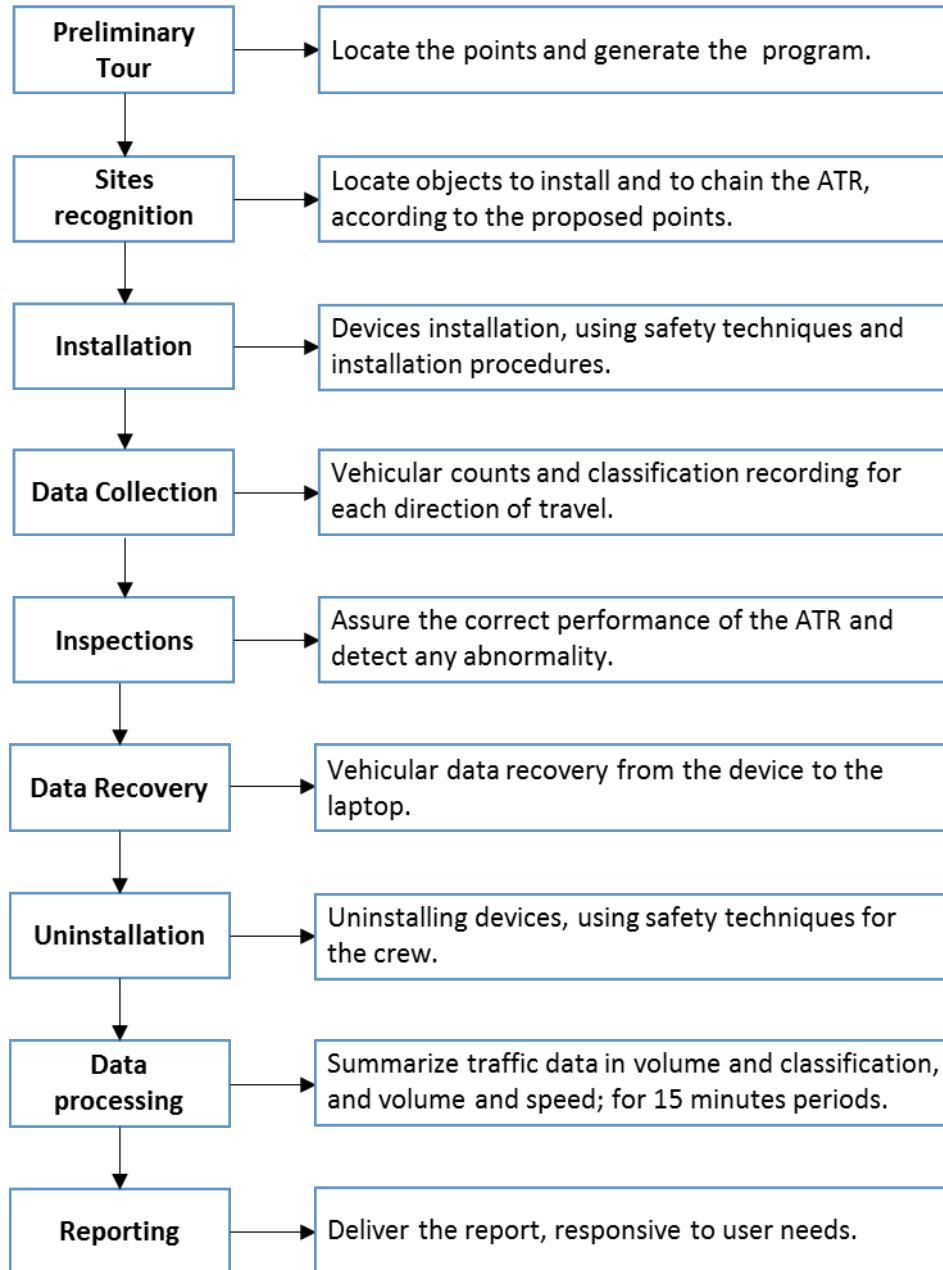
- **Cars: (1), (2) y (3).**
- **Buses: (4).**
- **2A – SU: (5).**
- **3A – SU: (6).**
- **4A – SU: (7).**
- **5A – ST: (9).**
- **6A – ST: (10).**
- **Others: (8), (11), (12) and (13).**

• *ATR Number of Sites*

The ATRs were executed on 153 sites throughout the island. These sites include points of: roads near residential areas, shopping malls, tourist area and the downtown.

• *ATR Flowchart*

The following figure outlines the flowchart considered for achieving the vehicular traffic by the ATR. Each of the activities was essential to obtain a representative sample of transit.



Source: Made by SEMIC

*Figure 3.6 ATR Flowchart*



- *ATR Pictures*

Given that the study involves determining the type of vehicle and speed, the configuration used in the placement of ATR stations consisted of tube pairs separated at a preset distance.



Source: SEMIC

*Figure 3.7 ATR Station*



The road tubes were tensioned to be installed firmly to the pavement, by using road tube clamps.



Source: SEMIC

*Figure 3.8 Road Tubes Clamps*



The devices were secured to fixed elements adjacent to the roads with chains and padlocks security.



Source: SEMIC

*Figure 3.9 ATR Device*



The following figure shows the use of plastic bridge suggested by the NRA on one of the sites located in the George Town's downtown. This tool allowed to record reliable vehicle data without errors, due to the protection of the road tubes from the constant presence of parked vehicles over these.



Source: SEMIC

*Figure 3.10 Plastic Bridges*

## 4 QA / QC

The company SEMIC presents data from Automatic Traffic Counts in periods of 7 days and 24 hours to the scheduled and / or requested dates. It should be mentioned that within our QA/ QC standards, all the ATR devices were placed before the scheduled date. This was in order to collect data generated in longer periods than those requested, and to assure reliable data.

## 5 LOCATIONS

### • *TMC Locations*

In each of the 41 sites, a number of SEMIC personnel was assigned in order to cover all the movements made by vehicles. This was based on the previous tour and recognition visits to all sites. See Appendix 2, the distribution of these intersections in Grand Cayman Island.

### • *ATR Locations*

The 153 ATR sites were conducted in two stages. In the 1st stage, the sites located in the north and center of the island they were considered; and for the 2nd stage, sites in the south and east of the island were considered. This was done in stages in order to conduct reviews of all the stations in one day, having short traveling distances between sites.

The locations of the ATR sites are shown in Appendix 3 and 4, corresponding to the 1st stage (pink circle) and for the 2nd stage (green circle) respectively.

## 6 SCHEDULE

In order to collect samples of vehicular traffic for representative days (typical days) of the year; both studies were conducted on dates that did not coincide with the school holidays. This was done by referring to the calendar published by the Cayman Islands Government and by express instructions of the NRA through the Terms of Reference.

The TMCs were developed on Tuesdays, Wednesdays and Thursdays; considered these as days when the vehicular behavior is more representative. And the ATRs were conducted in periods of one week, considering seven continuous days of recording.

The following table summarizes the schedule considered, and shows the number of sites per day and per study.



• Table 6.1 Schedule

## February

Nu.	CORE SERVICES	Locations	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
			Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo
1	TMC (1person count)	25		0	3	5													4	5					2	0	6				
2	TMC (2 person count)	15		0	1	1														1					2	2	1				
3	8 hr TMC with Pedestrian	1																	1												
4	ATR (1 automatic counter)	124																			I				60				U		
5	ATR (2 automatic counters)	29																			I				17				U		

■ Workable days     
 ■ School Holidays     
 ■ Instalation     
 ■ Uninstalation

## March

Nu.	CORE SERVICES	Locations	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
			Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa
1	TMC (1person count)	25								0	0											
2	TMC (2 person count)	15								3	3	1										
3	8 hr TMC with Pedestrian	1																				
4	ATR (1 automatic counter)	124				I				64												U
5	ATR (2 automatic counters)	29				I				12												U

Source: Made by SEMIC.

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## 7 RESULTS

### • *Turning Movements Counts Summary*

The Table 7.1 summarizes the time and volume for the AM and PM *Peak Hour*, the total volume and number of movements for each sites in which the TMC was performed. The volumes presented correspond to the total of the movements made at the intersection.

Subsequently it is shown as an example the *Chart Summary Sheet* obtained for the following sites: ID - 02, ID - 29 and ID - 28. These charts were generated for the fractional peak hour per TMC site.

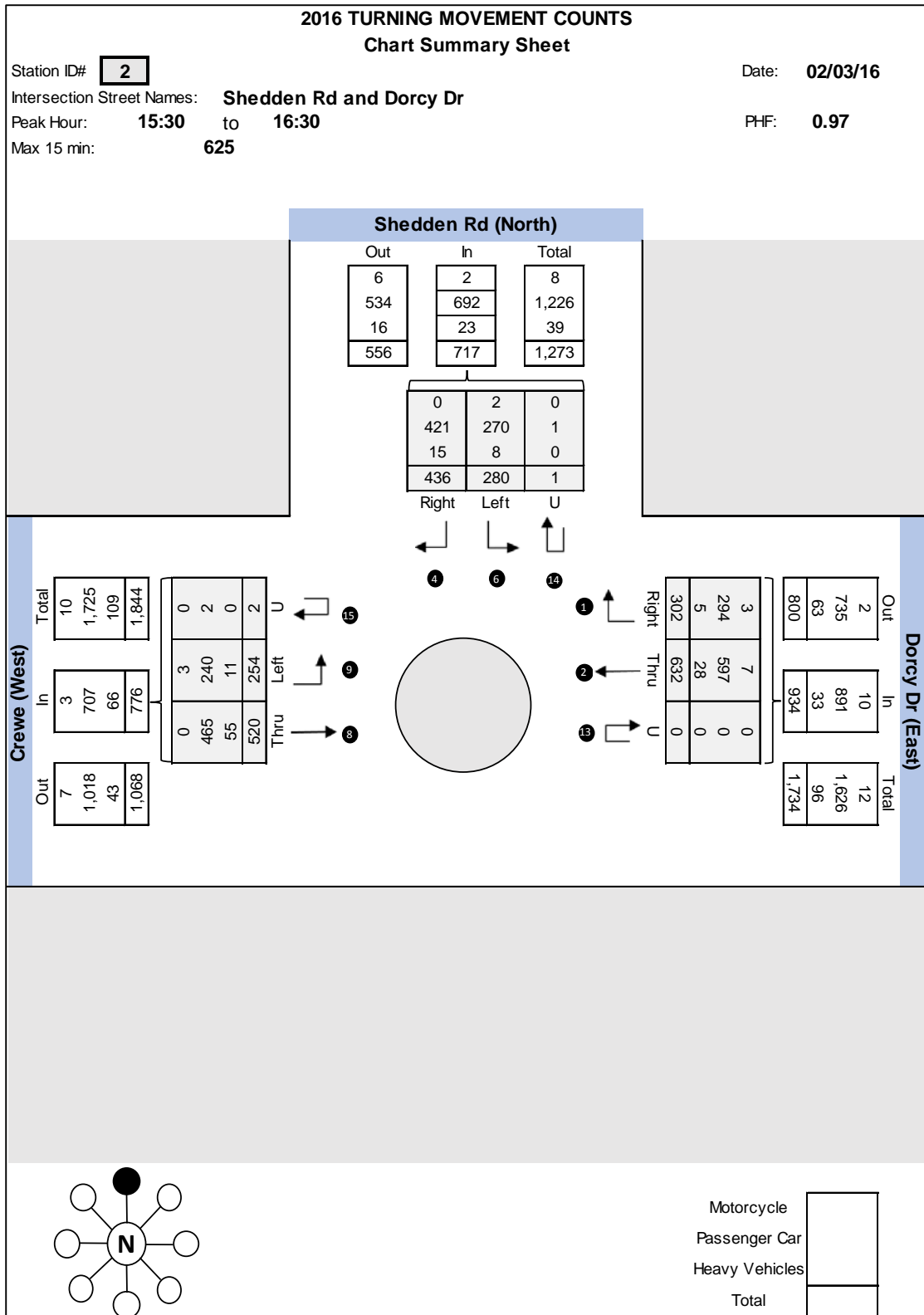
See Appendix 5, corresponding to the data recorded for each of the intersections, which includes the *Summary Sheet* and their respective *Chart Summary Sheet*.

• *Table 7.1 TMC Peaks Summary*

ID #	Intersection	Intersection type	# Mov.	AM Peak		PM Peak		Duration of counting (hr)	Total vehicle volume registered	Latitude	Longitude
				Hour	Volume	Hour	Volume				
1	Shedden Rd and Thomas Russell/North Sound Rd	Signal - 4 legs	12	11:00	2,764	16:00	3,229	7	20,560	19.293048	-81.371951
2	Shedden Rd and Dorcy Dr	Mini-roundabout	9	08:00	2,194	16:00	2,419	7	14,820	19.291679	-81.368305
3	Huldah Ave / Thomas Russell Way and Elgin Avenue	Roundabout - 3 legs	12	08:00	2,944	12:00	3,031	7	18,847	19.290812	-81.373707
4	Crewe Road and Agnes Way	Unsignalized T-Junction	7	08:00	2,085	16:00	2,274	7	13,730	19.288802	-81.368273
5	Smith Road and Crewe Road	Unsignalized T-Junction	6	08:00	2,470	16:00	2,530	7	15,989	19.288480	-81.370006
6	Huldah Avenue / Bobby Thompson Way and Smith Rd	Signal - 4 legs	12	08:00	2,854	17:00	2,930	7	17,816	19.287614	-81.373033
7	Eastern Avenue and Shedden Road	Signal - 3 legs	12	11:00	1,477	12:00	1,783	7	10,509	19.295670	-81.375840
8	ETH / North Sound Rd and Godfrey Nixon Way	Roundabout - 4 legs	16	08:00	3,780	12:00	3,659	7	23,605	19.299275	-81.371842
9	Godfrey Nixon Way and Eastern Avenue	Signal - 3 legs	6	11:00	1,643	12:00	1,990	7	11,769	19.300068	-81.376039
10	LPH and Agnes Way	Unsignalized T-Junction	12	07:00	1,820	17:00	1,905	7	10,819	19.285923	-81.366792
11	Crewe Road and LPH	Roundabout - 4 legs	16	07:00	3,447	17:00	3,057	7	17,958	19.285788	-81.350939
12	ETH and Lawrence Blvd	Roundabout - 4 legs	16	08:00	2,233	17:00	2,416	7	15,893	19.319244	-81.377817
13	Eastern Ave and North Church St/West Bay Road	Signal - 3 legs	6	11:00	1,791	17:00	1,875	7	12,281	19.306481	-81.383355
14	Shamrock Rd / Crewe Rd and South Sound Road	Roundabout - 4 legs	16	07:00	3,409	17:00	2,970	7	18,757	19.281177	-81.347018
15	EWA and Prospect Point Road/AutoSpa	Roundabout - 4 legs	16	07:00	3,147	16:00	2,283	7	15,445	19.278182	-81.339588
16	South Sound Rd and Walkers Road	Unsignalized T-Junction	6	08:00	1,542	17:00	1,135	7	6,407	19.268156	-81.386361
17	LPH and Bobby Thompson Way	Small Roundabout - 3 legs	9	07:00	1,812	15:00	1,746	7	10,095	19.283438	-81.372875
18	West Bay Rd and Gecko Link	Small Roundabout - 3 legs	16	11:00	1,668	12:00	2,065	7	12,345	19.325074	-81.381543
19	ETH and Gecko Link	Roundabout - 4 legs	16	07:00	1,973	16:00	2,053	7	13,309	19.325095	-81.380477
20	West Bay Rd and Lawrence Blvd	Signal - 3 legs	6	08:00	1,979	12:00	2,162	7	13,380	19.319405	-81.382469
21	ETH and West Bay Rd / Peninsula Ave	Roundabout - 4 legs	16	07:00	2,266	17:00	2,104	7	12,656	19.348854	-81.379999
22	ETH and Yacht Dr / West Bay Rd	Oval Roundabout - 4 legs	16	07:00	1,839	17:00	1,846	7	10,889	19.357800	-81.384761

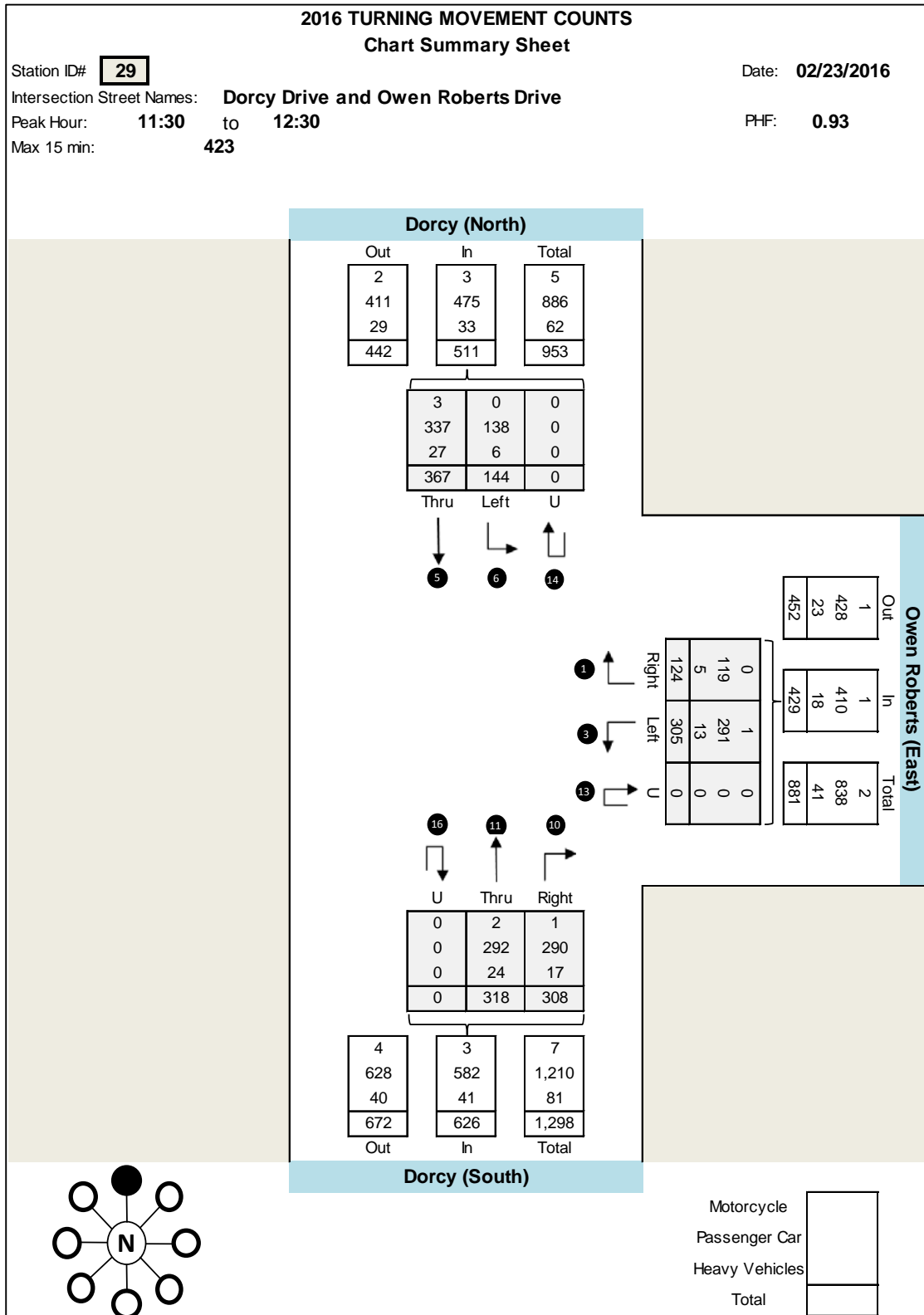
ID #	Intersection	Intersection type	# Mov.	AM Peak		PM Peak		Counting duration (hr)	Total vehicle volume registered	Latitude	Longitude
				Hour	Volume	Hour	Volume				
23	West Bay Road and Willie Farrington	Unsignalized Junction	6	07:00	1,034	17:00	1,106	7	6,326	19.369635	-81.397598
24	ETH and Batabano Road	Unsignalized Junction	6	07:00	905	17:00	607	7	4,019	19.377906	-81.388965
26	West Church Street and Rev Blackman Road	Unsignalized T-junction	6	07:00	596	17:00	573	7	3,491	19.375986	-81.398949
27	Willie Farrington and ETH Connector	Unsignalized T-junction	6	07:00	119	15:00	113	7	714	19.374332	-81.395949
28	North Sound Rd and Dorcy Dr/Kentsville Dr	Mini-Roundabout - 4 legs	12	11:00	1,808	12:00	1,979	7	11,932	19.299703	-81.367762
29	Dorcy Drive and Owen Roberts Drive	Unsignalized T-junction	9	11:00	1,558	16:00	1,552	7	9,910	19.294218	-81.365644
30	Shedden Road and Edward Street	Unsignalized Junction	5	08:00	1,392	16:00	1,461	7	9,332	19.294450	-81.381421
31	Elgin Avenue and LOUISE LLEWELLYN WAY	Mini-Roundabout	6	08:00	1,264	15:00	1,337	7	8,563	19.294084	-81.381494
32	Elgin Avenue and Hospital Road	Small Roundabout	6	08:00	1,497	17:00	1,864	7	10,441	19.292695	-81.379873
33	Smith Rd / Walkers Rd and Hospital Road	All-way stop (4 legs)	12	08:00	1,429	17:00	1,501	7	9,484	19.290532	-81.380909
34	Elgin Avenue and Humber Lane	Unsignalized T-junction	6	08:00	1,659	12:00	1,447	7	9,267	19.292510	-81.378498
35	Smith Road and Anthony Drive	Unsignalized Junction	16	07:00	1,296	16:00	1,386	7	8,862	19.289350	-81.377776
36	Walkers Road and Goring Avenue	Unsignalized T-junction	6	08:00	1,373	17:00	1,412	7	9,078	19.291294	-81.383117
37	Walkers Road and Boilers Road	Unsignalized T-junction	6	08:00	1,461	17:00	1,580	7	9,490	19.290454	-81.384390
38	Shamrock Rd at EWA	Roundabout - 4 legs	16	07:00	1,735	17:00	2,543	7	12,500	19.275303	-81.332512
39	Shamrock Rd and Hirst Rd	Unsignalized Channelized	13	07:00	1,779	17:00	1,714	7	9,236	19.272607	-81.297104
40	East West Arterial and Hirst Road	Unsignalized T-junction	6	07:00	1,066	17:00	991	7	5,259	19.283010	-81.299215
56	Harbour Drive/North Church Street	Signalized T-intersection	6	07:00	1,266	17:00	1,373	8	8,272	19.296760	-81.382840
62	Red Gate Road at North Sound Road	Unsignalized T-junction	6	11:00	980	15:00	1,092	7	6,611	19.299934	-81.365977

Source: Made by SEMIC.



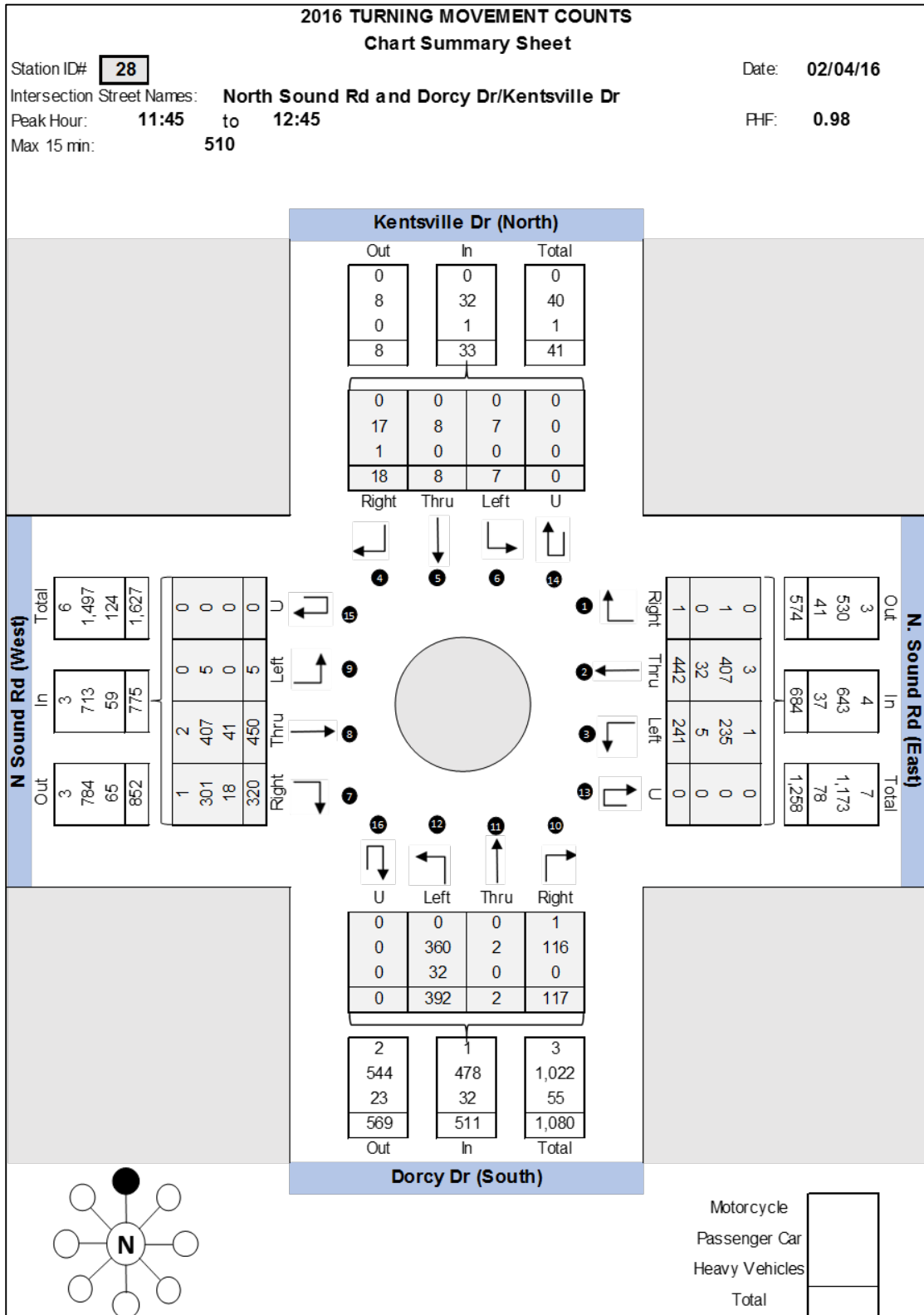
Source: Made by SEMIC.

Figure 7.1 Example Chart Summary Sheet ID-02



Source: Made by SEMIC.

Figure 7.2 Example Chart Summary Sheet ID-29



Source: Made by SEMIC.

Figure 7.3 Example Chart Summary Sheet ID-28

• *Automatic Traffic Counts Summary*

Table 7.2 summarizes the *Weekly Average Daily Traffic* for each of the ATR sites, its vehicle composition, flow direction and the trip generator point. This corresponds to the flow recorded in both directions of movement.

• *Table 7.2 ATR Volume and Classification Report Summary*

ID #	Reference Point	WADT	Vehicular Composition			Latitude	Longitude
			Cars	Bus	Trucks		
101	WEST BAY RD. S/O 4- WAY STOP	10,252	96.5%	0.8%	2.7%	19.369029	-81.400517
102	Willie Farrington Dr, south of Hydesville Cl	1,576	99.7%	0.0%	0.3%	19.37025	-81.396957
103	North West Point Rd, west of Town Hall Rd	4,779	99.3%	0.1%	0.6%	19.370787	-81.405015
104	West Church St, south of Rev Blackman Rd	5,012	99.4%	0.1%	0.5%	19.375681	-81.399091
105	Town Hall Rd, east of Farrington Ln	4,658	99.4%	0.0%	0.6%	19.371161	-81.404374
106	Rev Blackman Rd, west of Anglin Rd	6,609	99.3%	0.1%	0.6%	19.376862	-81.399943
107	West Church St, north of Rev Blackman Rd	5,041	99.2%	0.2%	0.6%	19.376324	-81.398257
108	Mount Pleasant Rd, north of West Church St	5,651	99.2%	0.2%	0.6%	19.378159	-81.394599
109	Batabano Rd, west of Laurel Cl	6,868	99.3%	0.1%	0.6%	19.376965	-81.394105
110	Batabano Road, east of ETH	3,672	99.4%	0.1%	0.5%	19.378295	-81.388116
111	Connector to Willie Farrington Dr.	633	99.8%	0.1%	0.1%	19.373558	-81.392681
112	ETH south of Batabano Road	7,236	99.5%	0.0%	0.5%	19.375608	-81.388489
113	West Bay Road north of old Yacht Drive	12,970	99.1%	0.3%	0.6%	19.357833	-81.386222
114	ETH south of Willie Farrington Connector	7,667	99.3%	0.1%	0.6%	19.370367	-81.387322
115	ETH South of Yacht Drive	22,344	98.8%	0.1%	1.1%	19.356786	-81.383893
202	West Bay Rd, west of Raleigh Quay	578	98.2%	1.1%	0.7%	19.354791	-81.385908
203	West Bay Rd, between Palm Heights Dr & Lizard Run Dr	19,390	99.2%	0.3%	0.5%	19.326715	-81.381438
204	West Bay Rd, south of Camana Way (north of Royal Palm entrance)	18,670	98.8%	0.5%	0.7%	19.322161	-81.382078



ID #	Reference Point	WADT	Vehicular Composition			Latitude	Longitude
			Cars	Bus	Trucks		
205	ETH, north of Lime Tree Bay Ave	17,521	98.7%	0.1%	1.2%	19.341973	-81.377961
206	ETH, north of Ritz-Carlton bridge	20,337	98.4%	0.2%	1.4%	19.336848	-81.377641
207	ETH, south of Canal Point Dr	20,925	98.7%	0.1%	1.2%	19.331188	-81.379195
208	ETH, north of Britannia Dr	21,555	98.6%	0.2%	1.2%	19.326451	-81.380786
209	ETH, north of Lawrence Blvd	23,250	98.4%	0.5%	1.1%	19.320182	-81.378782
210	West Bay Rd, south of Lawrence Blvd	28,123	98.7%	0.6%	0.7%	19.319006	-81.382559
211	ETH, south of Britannia Dr	22,350	98.3%	0.6%	1.1%	19.323926	-81.380296
212	Lawrence Blvd, east of West Bay Rd	10,329	96.8%	0.2%	3.0%	19.319431	-81.381335
215	Canal Point Road between West Bay Rd and ETH	6,026	98.9%	0.1%	1.0%	19.332256	-81.380625
216	West Bay Road, south of Canal Point Rd	17,677	98.6%	0.5%	0.9%	19.331789	-81.381156
217	ETH south Island Heritage Roundabout	20,865	98.7%	0.1%	1.2%	19.332786	-81.378377
220	ETH south of Ritz Bridge	20,023	98.5%	0.2%	1.3%	19.334889	-81.378083
221	Gecko Link -off of ETH and West Bay Road	8,732	98.7%	1.0%	0.3%	19.324967	-81.381164
222	Lime Tree Bay Ave by Governor's Square	5,135	99.6%	0.2%	0.2%	19.340812	-81.379241
223	ETH south of West Bay Rd (new)	16,358	98.8%	0.1%	1.1%	19.347577	-81.379399
224	West Bay Road south of Public Beach	9,010	99.0%	0.2%	0.8%	19.347058	-81.381963
302	Eastern Ave - North of Washington Rd	15,433	98.5%	0.4%	1.1%	19.302128	-81.378164
303	Godfrey Nixon Way, west of Grackle Rd	17,513	98.6%	0.4%	1.0%	19.300211	-81.373325
304	Eastern Ave, south of Godfrey Nixon Way	13,841	97.8%	0.9%	1.3%	19.299066	-81.37562
305	North Sound Rd, east of Bronze Rd	18,158	96.8%	1.1%	2.1%	19.299561	-81.36998
307	North Sound Rd, west of Caterpillar Ln	11,320	97.2%	0.3%	2.5%	19.299807	-81.366917
308	Dorcy Rd, north of Portland Rd	11,098	97.5%	0.3%	2.2%	19.298368	-81.367377
309	Portland Rd, west of "Tortuga Way"	3,169	95.2%	0.4%	4.4%	19.297316	-81.369169
310	North Sound Rd, west of Dorcy Dr	14,463	96.0%	1.4%	2.6%	19.299841	-81.36806

ID #	Reference Point	WADT	Vehicular Composition			Latitude	Longitude
			Cars	Bus	Trucks		
311	West Bay Road, south of Marbel Drive	24,493	99.3%	0.2%	0.5%	19.30979	-81.38424
312	ETH, north of Woodlake Dr, United Pentecostal Church (at 13D428)	22,522	97.4%	0.4%	2.2%	19.306222	-81.374851
313	North Sound Road, south of Portland Road/Sound Way Intersection	25,918	98.3%	0.2%	1.5%	19.29675	-81.371301
314	North Church St, south of Eastern Ave	16,017	98.9%	0.3%	0.8%	19.303157	-81.382714
315	Eastern Ave, west of Watlers Dr.	12,959	98.8%	0.3%	0.9%	19.3055	-81.381148
316	West Bay Rd, south of Shadow Ln	23,975	98.9%	0.5%	0.6%	19.307735	-81.38406
317	Eastern Ave, north of Godfrey Nixon Way	14,449	99.1%	0.3%	0.6%	19.301191	-81.377074
318	Bodden Road, west of Eastern Avenue	1,717	98.0%	0.3%	1.7%	19.301837	-81.38106
401	North Church St, south of Mary St	13,434	97.3%	1.3%	1.4%	19.297351	-81.382649
402	Fort St, east of Edward St	4,768	99.3%	0.3%	0.4%	19.297256	-81.380681
403	Fort St, west of Albert Panton St	4,160	99.1%	0.3%	0.6%	19.296525	-81.382044
404	Harbour Drive, north of Cardinal Ave	14,457	97.8%	1.0%	1.2%	19.296311	-81.38304
405	Edward St, north of Dr Roys Dr	7,345	99.3%	0.0%	0.7%	19.29608	-81.381532
406	Edward St, south of Cardinal Ave, west of post office building	8,395	97.8%	1.9%	0.3%	19.29462	-81.381377
407	Cardinal Ave, west of Albert Panton St	1,846	95.8%	0.4%	3.8%	19.294892	-81.382421
408	Main St, west of Ped Crossing by Thompson Building	7,419	98.5%	0.9%	0.6%	19.294799	-81.380808
409	Shedden Rd, west of Linwood St	10,352	99.1%	0.2%	0.7%	19.294866	-81.379498
410	Shedden Rd, between Edward & Main, east of PED crossing by Anderson Sq	9,579	96.4%	3.3%	0.3%	19.294611	-81.380726
411	Shedden Rd, west of Edward St	3,059	98.2%	0.5%	1.3%	19.294387	-81.381725
412	Harbour Dr, south of Cardinal Ave	12,969	97.6%	0.9%	1.5%	19.29467	-81.382833
413	Elgin Ave, west of Syms Ln, east of Louise Llewellyn Way	10,836	99.4%	0.2%	0.4%	19.293164	-81.380389
414	Mary St, west of Rock Hole Rd	4,071	99.2%	0.2%	0.6%	19.298294	-81.381711
415	Dr Roys Dr, east of Genesis Cl	1,715	98.8%	0.1%	1.1%	19.295911	-81.379802
416	Albert Panton st, north of PED crossing, one-way section by Scotiabank	2,438	99.0%	0.3%	0.7%	19.295696	-81.381958

ID #	Reference Point	WADT	Vehicular Composition			Latitude	Longitude
			Cars	Bus	Trucks		
417	Mary Street, north of Shedden Road	4,709	99.3%	0.2%	0.5%	19.29622	-81.377951
418	Mary St, west of Mcfield Ln	3,938	99.6%	0.0%	0.4%	19.296912	-81.378789
419	Edward St, north of Main St, south of Dr Roys Dr	7,636	99.0%	0.4%	0.6%	19.295453	-81.381442
420	Shedden Rd, west of Eastern Ave	10,880	96.9%	1.5%	1.6%	19.295963	-81.376812
421	Eastern Ave, north of Shedden Rd	11,552	99.0%	0.3%	0.7%	19.29665	-81.375569
422	Shedden Rd, east of Eastern Ave	12,519	98.1%	0.2%	1.7%	19.294875	-81.374836
423	Cardinal Ave, east of Albert Panton	2,317	98.1%	1.4%	0.5%	19.294982	-81.381832
424	Elgin Ave, north of Louise Llewellyn Way	17,594	99.5%	0.2%	0.3%	19.294227	-81.381438
425	Louise Llewellyn Way, south of Elgin Ave	8,934	98.2%	1.1%	0.7%	19.293843	-81.381928
426	Elgin Avenue, west of Humber Lane by Essex House	11,304	98.6%	1.2%	0.2%	19.295696	-81.381958
501	North Sound Rd, North of Shedden	24,452	98.3%	0.3%	1.4%	19.294764	-81.371405
502	South Church Street, South of Boilers Rd	12,980	97.6%	0.9%	1.5%	19.293021	-81.385178
503	Shedden Rd, west of North Sound Rd	12,442	97.3%	1.0%	1.7%	19.293638	-81.373432
505	Smith Rd, west of Crewe Rd junction	14,411	99.1%	0.1%	0.8%	19.288216	-81.371219
506	Walkers Rd, just south of Boilers Rd	15,362	98.5%	0.4%	1.1%	19.289512	-81.384881
507	Shedden Rd, east of North Sound Rd	15,613	98.7%	0.4%	0.9%	19.29276	-81.370593
508	Owen Roberts Drive, just east of fire station	5,250	98.1%	0.9%	1.0%	19.294966	-81.36025
509	Crewe Road - end of runway	22,877	98.4%	0.3%	1.3%	19.289895	-81.370522
510	Crewe Rd, east of Lyndhurst Ave	20,856	98.0%	0.5%	1.5%	19.289115	-81.367392
511	Elgin Avenue West of Huldah	13,831	99.5%	0.2%	0.3%	19.291668	-81.374898
512	Dorcy Dr, north of Owen Roberts Dr (Airport Dr)	11,872	98.1%	0.2%	1.7%	19.295286	-81.365715
513	Huldah Ave, opposite Credit Union	22,538	98.6%	0.3%	1.1%	19.289974	-81.373628
514	Goring Ave, south of Warwick Dr	6,090	99.5%	0.1%	0.4%	19.292295	-81.382561
515	Hospital Rd, north of Smith Rd	7,359	99.3%	0.2%	0.5%	19.291479	-81.380446

ID #	Reference Point	WADT	Vehicular Composition			Latitude	Longitude
			Cars	Bus	Trucks		
516	Smith Rd, east of Hospital Rd	10,803	98.7%	0.4%	0.9%	19.289808	-81.37836
517	Anthony Dr, south of Pines Dr	6,646	99.6%	0.1%	0.3%	19.287691	-81.378279
518	Bobby Thompson Way, north of John Greer Blvd	15,012	99.3%	0.2%	0.5%	19.285347	-81.373001
519	Crewe Rd/Smith Rd - West of Agnes Way	28,417	98.1%	0.7%	1.2%	19.288833	-81.368803
520	Agnes Way, south of Lyndhurst Ave	7,601	99.1%	0.1%	0.8%	19.286772	-81.367526
521	Crewe Road, west of Desmond Dr	19,899	98.4%	0.2%	1.4%	19.289377	-81.365978
522	Hospital Rd, south of Walkers Rd	3,682	98.3%	0.6%	1.1%	19.290347	-81.381127
523	Walkers Rd, west of Hospital Rd	10,434	99.2%	0.1%	0.7%	19.290726	-81.381548
524	Thomas Russell Ave	23,624	98.8%	0.4%	0.8%	19.292106	-81.372584
525	Smith Rd, east of Huldah Ave	14,262	98.9%	0.2%	0.9%	19.28806	-81.37185
526	Smith Rd, west of Huldah Ave	14,015	99.1%	0.2%	0.7%	19.287728	-81.374649
601	Walkers Rd, south of	5,268	99.3%	0.0%	0.7%	19.269417	-81.386622
602	Walkers Road, north of Windermere St	5,356	99.2%	0.1%	0.7%	19.275306	-81.387062
603	Walkers Road, north of Windsor Park Road	12,328	99.2%	0.1%	0.7%	19.285806	-81.386414
604	South Church St, west of Walkers Rd	4,730	99.7%	0.0%	0.3%	19.268367	-81.387121
605	Fairbanks Rd, west of Outpost St	6,651	99.0%	0.2%	0.8%	19.276076	-81.378513
606	Linford Pierson Highway, east of Bobby Thompson Way	12,231	99.1%	0.3%	0.6%	19.283194	-81.371095
608	Academy Way, opposite 599 Walkers Rd, b/w Catholic & Family Life Centre	4,693	98.8%	0.2%	1.0%	19.276329	-81.385571
609	Bobby Thompson Way, south of LPH	7,999	98.3%	0.5%	1.2%	19.282416	-81.37296
610	Walkers Rd, south of Coemer Dr, at Eden Shopping Centre	10,159	98.7%	0.3%	1.0%	19.281375	-81.387221
611	South Sound Rd, east of Walkers	8,879	99.0%	0.2%	0.8%	19.267589	-81.385049
701	Shamrock Rd, east of Marina Dr	6,686	98.4%	0.1%	1.5%	19.277555	-81.333297
702	South Sound Rd, east of Sunshine Blvd - South Leg of Grand Harbour Rbt	6,840	98.8%	0.2%	1.0%	19.280393	-81.348341
705	Shamrock Rd, east of Cascade Dr	18,186	97.6%	0.6%	1.8%	19.273533	-81.32222

ID #	Reference Point	WADT	Vehicular Composition			Latitude	Longitude
			Cars	Bus	Trucks		
706	Shamrock Rd, east of Admirals Ave	11,712	99.1%	0.1%	0.8%	19.278295	-81.336313
707	Shamrock Rd, west of Prospect Dr	11,357	98.8%	0.2%	1.0%	19.278116	-81.33455
708	LPH, west of Crewe (west of silver oaks)	18,416	98.6%	0.3%	1.1%	19.285642	-81.352925
709	Old Crewe Rd, north of Sunrise Blvd	2,258	98.9%	0.1%	1.0%	19.282851	-81.351257
710	Crewe Rd, south of Silver Oaks/ LPH Roundabout, north of Lions Centre	31,912	97.6%	0.8%	1.6%	19.284796	-81.349804
711	Red Bay Connector, Shamrock Road to EWA by AutoSpa Roundabout	5,376	98.8%	0.4%	0.8%	19.278625	-81.3388
712	Crewe Road, north of Tropical Gardens Rd	16,575	98.2%	0.3%	1.5%	19.287463	-81.351564
713	Shamrock Rd, west of Admirals Ave	11,871	99.1%	0.1%	0.8%	19.278505	-81.336971
714	Shamrock Road, west of Selkirk Drive	36,301	98.4%	0.4%	1.2%	19.280565	-81.343748
715	EWA, east of Shamrock Rd (across Birdhouse Close)	9,200	99.2%	0.1%	0.7%	19.275433	-81.330961
716	Shamrock Road, south of Shamrock/EWA Roundabout	24,845	98.1%	0.6%	1.3%	19.274567	-81.331723
717	EWA, east of Red Bay roundabout	22,262	98.4%	0.2%	1.4%	19.276972	-81.338833
718	Prospect Point Road, near Monument	1,225	93.4%	3.5%	3.1%	19.273557	-81.338543
719	Shamrock Road - EB slip lane at EWA (by Dilbert's Plaza)	7,951	99.2%	0.0%	0.8%	19.279778	-81.340561
801	Shamrock Rd, west of Galaxy Way - By Sav Primary School	16,710	98.2%	0.2%	1.6%	19.271832	-81.299578
802	Shamrock Rd, east of Homestead Crescent	17,232	97.2%	0.8%	2.0%	19.274602	-81.295084
803	Hirst Rd, south of Edison Dr	7,310	98.5%	0.3%	1.2%	19.27346	-81.297398
804	Hirst Rd, at ICCI campus, south of Farrell Rd	5,822	99.0%	0.0%	1.0%	19.288232	-81.302132
805	EWA, opposite 383 Hirst Road	8,108	99.3%	0.0%	0.7%	19.282908	-81.300202
806	Hirst Road, north of EWA	8,757	99.0%	0.1%	0.9%	19.284045	-81.299415
807	Hirst Road, south of EWA	7,726	98.7%	0.3%	1.0%	19.282623	-81.299025
808	Shamrock Rd, east of Buddys Way	17,849	97.6%	0.7%	1.7%	19.273549	-81.302371
901	Shamrock Rd, west of Spice Dr.	9,050	97.5%	0.1%	2.4%	19.274054	-81.256816
902	Bodden Town Rd, west of Frank Sound Rd	6,053	97.5%	0.1%	2.4%	19.300768	-81.183063

ID #	Reference Point	WADT	Vehicular Composition			Latitude	Longitude
			Cars	Bus	Trucks		
903	Sea View Rd, east of Frank Sound Rd	2,972	97.3%	0.0%	2.7%	19.301367	-81.181632
904	Shamrock Rd, west of Will T Rd	15,316	97.9%	0.2%	1.9%	19.279126	-81.278949
905	Condor Rd, south of Easy St	2,603	98.7%	0.0%	1.3%	19.277389	-81.258002
906	Frank Sound Rd, north of Mastic Rd, opposite 14 Mastic Rd	3,199	98.4%	0.0%	1.6%	19.313824	-81.182115
907	Frank Sound Rd, south of Off The Beaten Path Rd	3,810	97.7%	0.0%	2.3%	19.305392	-81.182391
908	Anton Bodden Drive, opposite 445b Bodden Town Rd (police station)	1,679	98.1%	0.1%	1.8%	19.282733	-81.246452
909	Bodden Town Rd, east of Anton Bodden Drive & cemetery	8,410	97.3%	0.0%	2.7%	19.283127	-81.24468
910	Will T Rd, south of Puffin Cl	1,175	98.5%	0.1%	1.4%	19.279026	-81.278179
911	Starapple Rd, north of Shamrock Rd	1,053	99.5%	0.2%	0.3%	19.279291	-81.277378
912	Shamrock Rd, east of Midnight Rd	14,668	98.1%	0.1%	1.8%	19.278102	-81.277674
913	Shamrock Rd, east of Northward Rd	13,110	97.3%	0.5%	2.2%	19.276502	-81.267497
914	Northward Rd, south of Locust Ln	3,442	98.6%	0.1%	1.3%	19.277103	-81.267939
915	Sea View Road, west of High Rock Drive	2,482	96.8%	0.0%	3.2%	19.293812	-81.135848
916	Beach Bay Road, south of Shamrock Rd	1,613	97.4%	0.2%	2.4%	19.276482	-81.272394
313-C	Sound Way, sidewalk in front of KLT	4,432	98.8%	0.2%	1.0%	19.297241	-81.372483

Source: Made by SEMIC.

In Appendix 6, the information corresponding to the data recorded for each of the ATR sites, with their respective *Summary Sheet Volume and Classification* is shown.

• *Example ATR ID – 102 Volume and Classification*

The following summary table is an example of the total hourly vehicle volume per day, for both direction of travel; belonging to the station ID - 102. This table indicate the volumes recorded during the day and at night as well as the Weekly Average Daily Traffic.

• *Table 7.3 ID – 102 Volume Both Directions*

National Roads Authority  
 2016 AUTOMATIC TRAFFIC RECORDERS (ATR) 153 LOCATIONS  
 7 day count (Volume, Speed & Classification)



Site ID: 102  
 STREET ADDRESS: 10 WILLIEFARRINGTON DRIVE  
 REFERENCE POINT: Willie Farrington Dr, south of Hydesville Cl  
 PERIOD FROM: 02/20/2016  
 TO: 02/26/2016  
 BOTH DIRECTIONS

Time	FLOWS						
	Sat. 02/20/2016	Sun. 02/21/2016	Mon. 02/22/2016	Tue. 02/23/2016	Wed. 02/24/2016	Thu. 02/25/2016	Fri. 02/26/2016
00:00	11	19	15	13	10	16	7
01:00	14	10	4	8	5	2	11
02:00	6	13	2	5	0	0	6
03:00	8	2	7	4	9	3	3
04:00	9	3	3	4	4	8	7
05:00	9	11	8	11	14	14	16
06:00	22	18	41	47	48	41	49
07:00	75	38	85	85	94	101	89
08:00	96	41	82	86	82	82	76
09:00	96	51	78	79	79	74	73
10:00	105	59	80	77	74	73	72
11:00	103	66	92	83	83	76	77
12:00	99	73	90	89	85	91	80
13:00	107	73	86	87	82	83	87
14:00	104	80	86	96	81	84	92
15:00	107	69	106	98	100	97	94
16:00	123	71	128	141	124	125	119
17:00	129	70	153	169	162	160	157
18:00	131	72	143	131	142	143	150
19:00	114	58	112	114	132	105	98
20:00	107	52	78	95	93	68	82
21:00	94	49	74	73	75	67	71
22:00	78	37	54	61	50	58	72
23:00	41	22	25	25	18	23	44
DAY-TIME FLOW	1612	940	1514	1550	1536	1470	1466
NIGHT-TIME FLOW	176	117	118	131	110	124	166
TOTAL DAILY FLOW	1788	1057	1632	1681	1646	1594	1632
<b>WADT</b>							<b>1575</b>

Source: Made by SEMIC.

The following table is an example of the summarizing of the vehicle volume and classification for one (1) day of recording in their respective flow direction for the site ID - 102.



• Table 7.4 ID – 102 Volume and Classification per Day

Date: 02/20/2016 Sat.

Time	NORTH BOUND									SOUTH BOUND									BOTH DIRECTIONS											
	Cars	Buses	2A-SU	3A-SU	5A-ST	6A-ST	9A-MT	Other	Total	Cars	Buses	2A-SU	3A-SU	5A-ST	6A-ST	9A-MT	Other	Total	Cars	Buses	2A-SU	3A-SU	5A-ST	6A-ST	9A-MT	Other	Cars	Buses	Trucks	Total
00:00	8	0	0	0	0	0	0	0	8	3	0	0	0	0	0	0	0	3	11	0	0	0	0	0	0	0	11	0	0	11
01:00	7	0	0	0	0	0	0	0	7	7	0	0	0	0	0	0	0	7	14	0	0	0	0	0	0	0	14	0	0	14
02:00	6	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	6	0	0	6
03:00	3	0	0	0	0	0	0	0	3	5	0	0	0	0	0	0	0	5	8	0	0	0	0	0	0	0	8	0	0	8
04:00	4	0	0	0	0	0	0	0	4	5	0	0	0	0	0	0	0	5	9	0	0	0	0	0	0	0	9	0	0	9
05:00	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	9	9	0	0	0	0	0	0	0	9	0	0	9
06:00	9	0	0	0	0	0	0	0	9	13	0	0	0	0	0	0	0	13	22	0	0	0	0	0	0	0	22	0	0	22
07:00	36	0	0	0	0	0	0	0	36	39	0	0	0	0	0	0	0	39	75	0	0	0	0	0	0	0	75	0	0	75
08:00	48	0	0	0	0	0	0	0	48	48	0	0	0	0	0	0	0	48	96	0	0	0	0	0	0	0	96	0	0	96
09:00	46	0	0	0	0	0	0	0	46	49	0	0	1	0	0	0	0	50	95	0	0	1	0	0	0	0	95	0	1	96
10:00	55	0	0	0	0	0	0	0	55	50	0	0	0	0	0	0	0	50	105	0	0	0	0	0	0	0	105	0	0	105
11:00	54	0	0	0	0	0	0	0	54	49	0	0	0	0	0	0	0	49	103	0	0	0	0	0	0	0	103	0	0	103
12:00	55	0	0	0	0	0	0	0	55	44	0	0	0	0	0	0	0	44	99	0	0	0	0	0	0	0	99	0	0	99
13:00	62	0	1	0	0	0	0	0	63	44	0	0	0	0	0	0	0	44	106	0	1	0	0	0	0	0	106	0	1	107
14:00	61	0	0	0	0	0	0	0	61	43	0	0	0	0	0	0	0	43	104	0	0	0	0	0	0	0	104	0	0	104
15:00	58	0	0	0	0	0	0	0	58	49	0	0	0	0	0	0	0	49	107	0	0	0	0	0	0	0	107	0	0	107
16:00	71	0	0	0	0	0	0	0	71	52	0	0	0	0	0	0	0	52	123	0	0	0	0	0	0	0	123	0	0	123
17:00	77	0	0	0	0	0	0	0	77	52	0	0	0	0	0	0	0	52	129	0	0	0	0	0	0	0	129	0	0	129
18:00	79	0	0	0	0	0	0	0	79	52	0	0	0	0	0	0	0	52	131	0	0	0	0	0	0	0	131	0	0	131
19:00	66	0	0	0	0	0	0	0	66	48	0	0	0	0	0	0	0	48	114	0	0	0	0	0	0	0	114	0	0	114
20:00	64	0	0	0	0	0	0	0	64	43	0	0	0	0	0	0	0	43	107	0	0	0	0	0	0	0	107	0	0	107
21:00	52	0	0	1	0	0	0	0	53	41	0	0	0	0	0	0	0	41	93	0	0	1	0	0	0	0	93	0	1	94
22:00	44	0	1	0	0	0	0	0	45	33	0	0	0	0	0	0	0	33	77	0	1	0	0	0	0	0	77	0	1	78
23:00	29	0	0	0	0	0	0	0	29	12	0	0	0	0	0	0	0	12	41	0	0	0	0	0	0	0	41	0	0	41
Daily Totals	994	0	2	1	0	0	0	0	997	790	0	0	1	0	0	0	0	791	1784	0	2	2	0	0	0	0	1784	0	4	1788
Percent	99.7%	0.0%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%		99.9%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%			99.8%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%		99.8%	0.0%	0.2%	

Source: Made by SEMIC.



A summary of the volumes recorded for each hour in seven days and the *Weekly Average Daily Traffic* obtained, appears in the Table 7.5. It can be seen that the volumes are grouped per vehicle type in three categories: Cars, Buses and Trucks. The “Volume of 7 days” part refers to the total volume registered, and the “W A D T” part to the average of each hour per day.

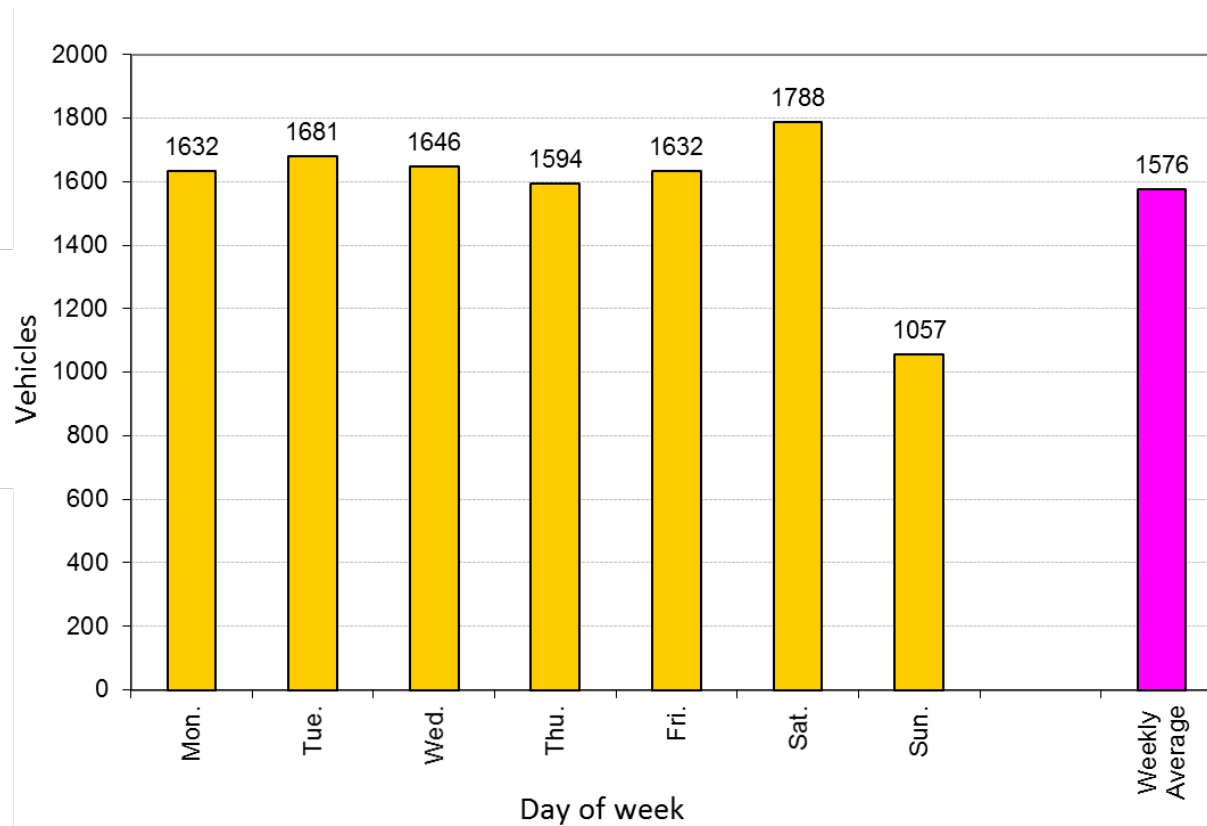
• *Table 7.5 ID – 102 Summary of Volumes in Both Directions*

**SUMMARY OF VOLUMES BOTH DIRECTIONS**

Time	Volume of 7 days				W A D T			
	Cars	Buses	Trucks	TOTAL	Cars	Buses	Trucks	TOTAL
00:00	91	0	0	91	13	0	0	13
01:00	54	0	0	54	8	0	0	8
02:00	32	0	0	32	5	0	0	5
03:00	36	0	0	36	5	0	0	5
04:00	38	0	0	38	5	0	0	5
05:00	83	0	0	83	12	0	0	12
06:00	264	1	1	266	38	0	0	38
07:00	567	0	0	567	81	0	0	81
08:00	544	0	1	545	78	0	0	78
09:00	527	0	3	530	76	0	0	76
10:00	536	0	4	540	76	0	1	77
11:00	577	0	3	580	83	0	0	83
12:00	605	0	2	607	86	0	0	86
13:00	604	0	1	605	86	0	0	86
14:00	621	0	2	623	89	0	0	89
15:00	666	0	5	671	95	0	1	96
16:00	829	1	1	831	119	0	0	119
17:00	1000	0	0	1000	143	0	0	143
18:00	912	0	0	912	130	0	0	130
19:00	733	0	0	733	105	0	0	105
20:00	572	1	2	575	82	0	0	82
21:00	502	0	1	503	72	0	0	72
22:00	408	0	2	410	59	0	0	59
23:00	198	0	0	198	28	0	0	28
Daily Totals	10999	3	28	11030	1572	0	4	1576
Percent	99.7%	0.0%	0.3%		DIRECTIONAL FACTOR = 0.575			

Source: Made by SEMIC.

The total volume recorded for each day of counting (recorded in both directions) and the Weekly Average for the ID – 102 is displayed in the figure below. The volume considered is the sum of all registered classifications. This is an example of the figures included in all the ATR stations reports.



Source: Made by SEMIC.

*Figure 7.4 ID – 102 Weekly Daily Volume (Both Directions)*

The following table is a summary example of the general vehicular composition for each direction of travel at the ATR station ID - 102.

• *Table 7.6 ID – 102 General Composition*

**NORTH BOUND**

Cars	Buses	2A-SU	3A-SU	5A-ST	6A-ST	9A-MT	Other	Total
6323	3	16	2	1	0	0	0	6345
99.7%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%

**SOUTH BOUND**

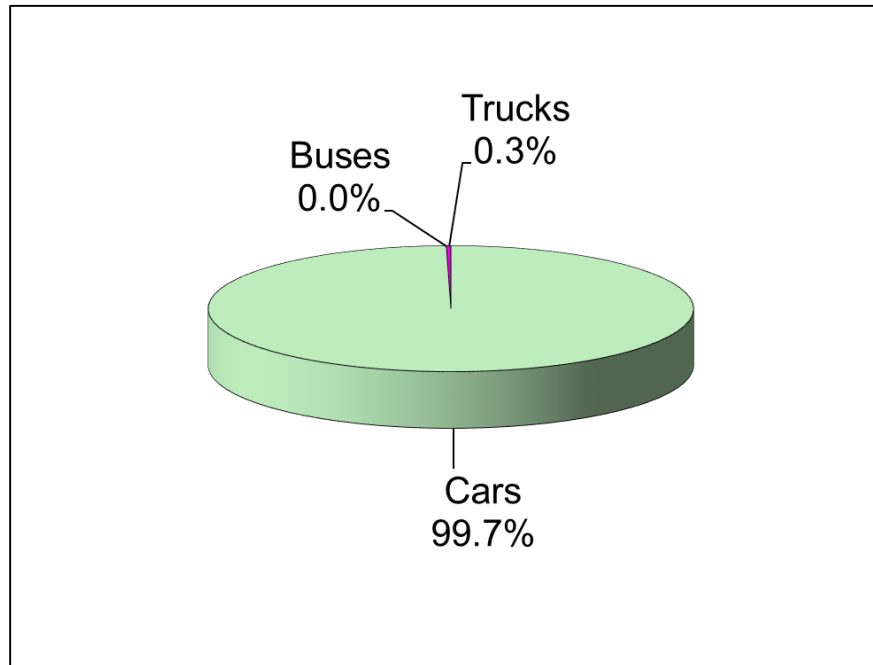
Cars	Buses	2A-SU	3A-SU	5A-ST	6A-ST	9A-MT	Other	Total
4676	0	5	4	0	0	0	0	4685
99.8%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	100.0%

**BOTH DIRECTIONS**

Cars	Buses	2A-SU	3A-SU	5A-ST	6A-ST	9A-MT	Other	Total
10999	3	21	6	1	0	0	0	11030
99.7%	0.0%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	100.0%

Source: Made by SEMIC.

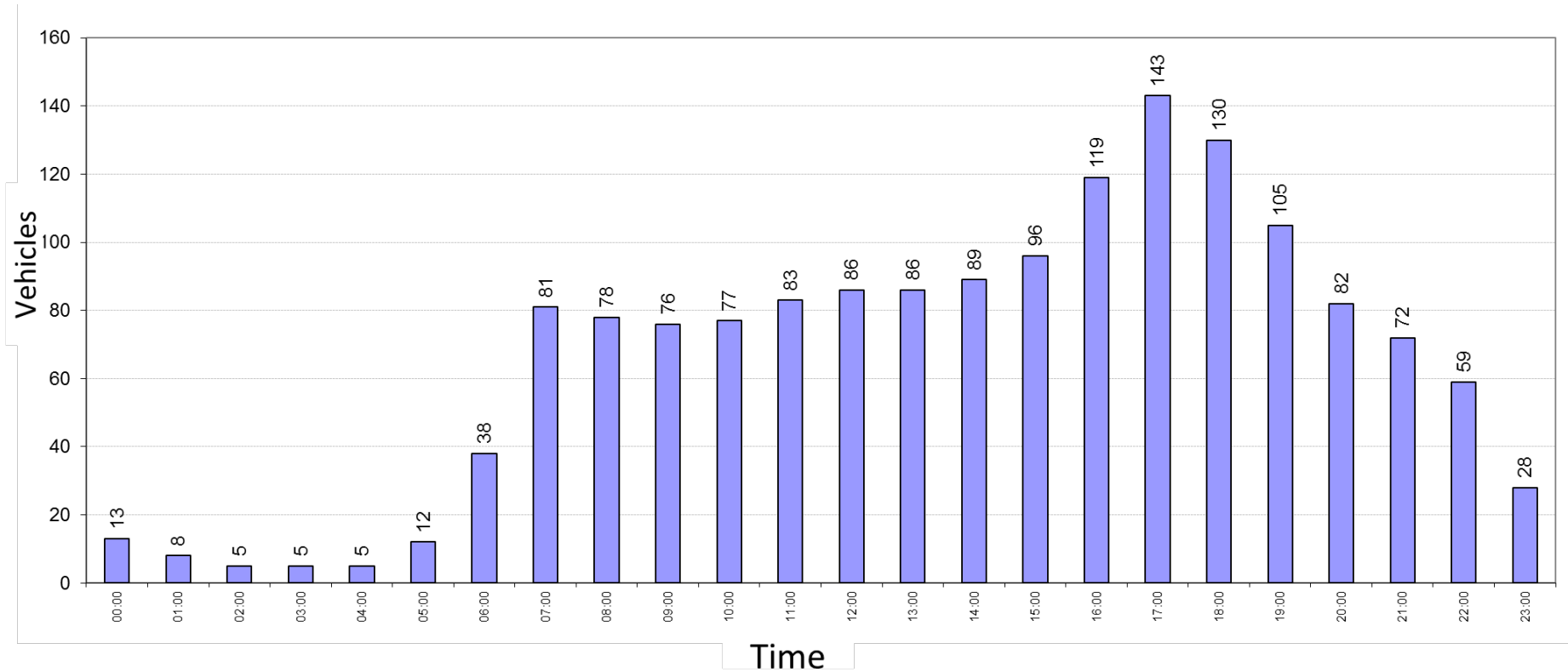
The following figure outlines the average vehicle distribution for the seven days of recording at the ID - 102. This is summarized in three current vehicular classifications: Cars (motorcycles, cars, trucks), Buses and Trucks (Unit Trucks and Trailers).



Source: Made by SEMIC.

*Figure 7.5 ID - 102 Vehicular Composition (Both Directions)*

The Average Hourly Traffic for all week in study at ID – 102 is shown in the next figure. The general traffic behavior throughout the day can also be seen.



Source: Made by SEMIC.

*Figure 7.6 ID – 102 Average Hourly Traffic (Both Directions)*

• *ATR Speed Report Summary*

Table 7.7 summarizes the data collected for the average speed and 85th percentile speed in each of the ATR sites. This average speed was obtained from the point speed, which is a general sample of the travel speed of the roadway.

The 85th percentile is used by many states and cities for establishing regulatory speed zones, and as input for road inspections softwares as ViDA.

• *Table 7.7 ATR Speed Report Summary*

ID #	Reference Point	Average Speed (mi/h)	85th Percentile Speed (mi/h)	Direction	Latitude	Longitude
101	WEST BAY RD. S/O 4- WAY STOP	18.16	19.50	E	19.369029	-81.400517
102	Willie Farrington Dr, south of Hydesville Cl	27.18	30.60	S	19.37025	-81.396957
103	North West Point Rd, west of Town Hall Rd	29.29	31.70	W	19.370787	-81.405015
104	West Church St, south of Rev Blackman Rd	23.22	25.40	S	19.375681	-81.399091
105	Town Hall Rd, east of Farrington Ln	28.96	31.50	E	19.371161	-81.404374
106	Rev Blackman Rd, west of Anglin Rd	24.78	26.70	W	19.376862	-81.399943
107	West Church St, north of Rev Blackman Rd	28.12	30.60	W	19.376324	-81.398257
108	Mount Pleasant Rd, north of West Church St	25.10	26.80	S	19.378159	-81.394599
109	Batabano Rd, west of Laurel Cl	28.44	31.40	E	19.376965	-81.394105
110	Batabano Road, east of ETH	27.81	30.50	W	19.378295	-81.388116
111	Connector to Willie Farrington Dr.	41.24	44.40	E	19.373558	-81.392681
112	ETH south of Batabano Road	41.40	44.40	S	19.375608	-81.388489
113	West Bay Road north of old Yacht Drive	31.13	32.50	W	19.357833	-81.386222
114	ETH south of Willie Farrington Connector	50.91	56.30	N	19.370367	-81.387322
115	ETH South of Yacht Drive	43.01	47.40	N	19.356786	-81.383893
202	West Bay Rd, west of Raleigh Quay	32.08	37.00	S	19.354791	-81.385908
203	West Bay Rd, between Palm Heights Dr & Lizard Run Dr	28.64	31.30	N	19.326715	-81.381438
204	West Bay Rd, south of Camana Way (north of Royal Palm entrance)	28.40	31.00	S	19.322161	-81.382078
205	ETH, north of Lime Tree Bay Ave	31.36	32.60	N	19.341973	-81.377961
206	ETH, north of Ritz-Carlton bridge	38.25	41.00	N	19.336848	-81.377641
207	ETH, south of Canal Point Dr	40.64	44.00	S	19.331188	-81.379195
208	ETH, north of Britannia Dr	35.25	37.60	S	19.326451	-81.380786
209	ETH, north of Lawrence Blvd	25.96	26.90	S	19.320182	-81.378782
210	West Bay Rd, south of Lawrence Blvd	25.26	26.70	S	19.319006	-81.382559
211	ETH, south of Britannia Dr	27.97	30.50	S	19.323926	-81.380296
212	Lawrence Blvd, east of West Bay Rd	29.47	32.40	W	19.319431	-81.381335
215	Canal Point Road between West Bay Rd and ETH	20.10	20.70	W	19.332256	-81.380625
216	West Bay Road, south of Canal Point Rd	24.95	29.00	N	19.331789	-81.381156
217	ETH south Island Heritage Roundabout	35.02	38.10	N	19.332786	-81.378377
220	ETH south of Ritz Bridge	38.29	41.00	N	19.334889	-81.378083
221	Gecko Link -off of ETH and West Bay Road	18.89	20.50	W	19.324967	-81.381164

ID #	Reference Point	Average Speed (mi/h)	85th Percentile Speed (mi/h)	Direction	Latitude	Longitude
222	Lime Tree Bay Ave by Governor's Square	27.73	31.60	W	19.340812	-81.379241
223	ETH south of West Bay Rd (new)	37.67	40.40	N	19.347577	-81.379399
224	West Bay Road south of Public Beach	34.63	37.60	S	19.347058	-81.381963
302	Eastern Ave - North of Washington Rd	27.22	30.90	S	19.302128	-81.378164
303	Godfrey Nixon Way, west of Grackle Rd	26.94	29.60	E	19.300211	-81.373325
304	Eastern Ave, south of Godfrey Nixon Way	28.66	31.20	S	19.299066	-81.37562
305	North Sound Rd, east of Bronze Rd	20.84	24.50	W	19.299561	-81.36998
307	North Sound Rd, west of Caterpillar Ln	25.56	26.90	W	19.299807	-81.366917
308	Dorcy Rd, north of Portland Rd	23.72	25.90	N	19.298368	-81.367377
309	Portland Rd, west of "Tortuga Way"	26.51	30.60	W	19.297316	-81.369169
310	North Sound Rd, west of Dorcy Dr	17.69	19.90	W	19.299841	-81.36806
311	West Bay Road, south of Marbel Drive	28.56	31.10	N	19.30979	-81.38424
312	ETH, north of Woodlake Dr, United Pentecostal Church (at 13D428)	37.08	38.90	N	19.306222	-81.374851
313	North Sound Road, south of Portland Road/Sound Way Intersection	33.20	36.50	S	19.29675	-81.371301
314	North Church St, south of Eastern Ave	24.48	26.30	N	19.303157	-81.382714
315	Eastern Ave, west of Watlers Dr.	25.76	29.80	S	19.3055	-81.381148
316	West Bay Rd, south of Shadow Ln	25.47	27.00	N	19.307735	-81.38406
317	Eastern Ave, north of Godfrey Nixon Way	26.77	29.70	N	19.301191	-81.377074
318	Bodden Road, west of Eastern Avenue	23.14	25.50	E	19.301837	-81.38106
401	North Church St, south of Mary St	19.34	20.60	S	19.297351	-81.382649
402	Fort St, east of Edward St	21.39	24.00	S	19.297256	-81.380681
403	Fort St, west of Albert Panton St	17.70	19.90	W	19.296525	-81.382044
404	Harbour Drive, north of Cardinal Ave	19.07	20.50	S	19.296311	-81.38304
405	Edward St, north of Dr Roys Dr	18.04	20.30	N	19.29608	-81.381532
406	Edward St, south of Cardinal Ave, west of post office building	13.69	14.30	N	19.29462	-81.381377
407	Cardinal Ave, west of Albert Panton St	17.26	19.50	E	19.294892	-81.382421
408	Main St, west of Ped Crossing by Thompson Building	18.14	19.90	S	19.294799	-81.380808
409	Shedden Rd, west of Linwood St	21.80	24.90	W	19.294866	-81.379498
410	Shedden Rd, between Edward & Main, east of PED crossing by Anderson Sq	15.50	18.50	W	19.294611	-81.380726
411	Shedden Rd, west of Edward St	17.32	19.90	W	19.294387	-81.381725
412	Harbour Dr, south of Cardinal Ave	18.33	20.00	N	19.29467	-81.382833
413	Elgin Ave, west of Syms Ln, east of Louise Llewellyn Way	22.35	24.80	W	19.293164	-81.380389
414	Mary St, west of Rock Hole Rd	15.84	17.10	E	19.298294	-81.381711
415	Dr Roys Dr, east of Genesis Cl	20.07	23.80	W	19.295911	-81.379802
416	Albert Panton st, north of PED crossing, one-way section by Scotiabank	14.19	14.70	S	19.295696	-81.381958
417	Mary Street, north of Shedden Road	18.03	19.60	W	19.29622	-81.377951
418	Mary St, west of Mcfield Ln	23.87	26.20	W	19.296912	-81.378789
419	Edward St, north of Main St, south of Dr Roys Dr	18.96	22.00	N	19.295453	-81.381442

ID #	Reference Point	Average Speed (mi/h)	85th Percentile Speed (mi/h)	Direction	Latitude	Longitude
420	Shedden Rd, west of Eastern Ave	20.84	23.30	W	19.295963	-81.376812
421	Eastern Ave, north of Shedden Rd	23.09	25.60	S	19.29665	-81.375569
422	Shedden Rd, east of Eastern Ave	25.55	28.20	W	19.294875	-81.374836
423	Cardinal Ave, east of Albert Panton	14.41	16.30	E	19.294982	-81.381832
424	Elgin Ave, north of Louise Llewellyn Way	11.82	13.10	S	19.294227	-81.381438
425	Louise Llewellyn Way, south of Elgin Ave	14.21	14.30	E	19.293843	-81.381928
426	Elgin Avenue, west of Humber Lane by Essex House	27.54	31.10	E	19.295696	-81.381958
501	North Sound Rd, North of Shedden	26.67	30.80	S	19.294764	-81.371405
502	South Church Street, South of Boilers Rd	21.99	24.80	S	19.293021	-81.385178
503	Shedden Rd, west of North Sound Rd	25.61	27.00	E	19.293638	-81.373432
505	Smith Rd, west of Crewe Rd junction	35.64	39.00	W	19.288216	-81.371219
506	Walkers Rd, just south of Boilers Rd	25.08	27.40	N	19.289512	-81.384881
507	Shedden Rd, east of North Sound Rd	25.99	28.50	E	19.29276	-81.370593
508	Owen Roberts Drive, just east of fire station	29.80	33.60	W	19.294966	-81.36025
509	Crewe Road - end of runway	30.03	31.90	S	19.289895	-81.370522
510	Crewe Rd, east of Lyndhurst Ave	29.81	32.30	E	19.289115	-81.367392
511	Elgin Avenue West of Huldah	30.48	32.40	W	19.291668	-81.374898
512	Dorcy Dr, north of Owen Roberts Dr (Airport Dr)	25.33	26.70	S	19.295286	-81.365715
513	Huldah Ave, opposite Credit Union	28.76	32.10	N	19.289974	-81.373628
514	Goring Ave, south of Warwick Dr	25.11	26.90	N	19.292295	-81.382561
515	Hospital Rd, north of Smith Rd	24.95	26.80	N	19.291479	-81.380446
516	Smith Rd, east of Hospital Rd	24.24	26.10	E	19.289808	-81.37836
517	Anthony Dr, south of Pines Dr	22.17	24.10	W	19.287691	-81.378279
518	Bobby Thompson Way, north of John Greer Blvd	33.43	36.40	N	19.285347	-81.373001
519	Crewe Rd/Smith Rd - West of Agnes Way	29.70	32.30	E	19.288833	-81.368803
520	Agnes Way, south of Lyndhurst Ave	29.96	31.90	N	19.286772	-81.367526
521	Crewe Road, west of Desmond Dr	30.83	32.60	W	19.289377	-81.365978
522	Hospital Rd, south of Walkers Rd	14.16	14.50	S	19.290347	-81.381127
523	Walkers Rd, west of Hospital Rd	24.35	26.10	E	19.290726	-81.381548
524	Thomas Russell Ave	30.23	32.60	S	19.292106	-81.372584
525	Smith Rd, east of Huldah Ave	35.65	39.00	W	19.28806	-81.37185
526	Smith Rd, west of Huldah Ave	27.74	30.80	W	19.287728	-81.374649
601	Walkers Rd, south of	30.70	32.60	S	19.269417	-81.386622
602	Walkers Road, north of Windermere St	32.42	35.80	S	19.275306	-81.387062
603	Walkers Road, north of Windsor Park Road	28.07	30.90	S	19.285806	-81.386414
604	South Church St, west of Walkers Rd	31.81	32.80	W	19.268367	-81.387121
605	Fairbanks Rd, west of Outpost St	32.02	34.70	W	19.276076	-81.378513
606	Linford Pierson Highway, east of Bobby Thompson Way	33.74	36.70	E	19.283194	-81.371095
608	Academy Way, opposite 599 Walkers Rd, b/w Catholic & Family Life Centre	26.28	28.10	W	19.276329	-81.385571



ID #	Reference Point	Average Speed (mi/h)	85th Percentile Speed (mi/h)	Direction	Latitude	Longitude
609	Bobby Thompson Way, south of LPH	21.28	22.90	N	19.282416	-81.37296
610	Walkers Rd, south of Coemer Dr, at Eden Shopping Centre	28.19	31.90	S	19.281375	-81.387221
611	South Sound Rd, east of Walkers	29.72	31.90	E	19.267589	-81.385049
701	Shamrock Rd, east of Marina Dr	30.10	33.70	W	19.277555	-81.333297
702	South Sound Rd, east of Sunshine Blvd - South Leg of Grand Harbour Rbt	30.94	33.00	E	19.280393	-81.348341
705	Shamrock Rd, east of Cascade Dr	43.24	47.60	W	19.273533	-81.32222
706	Shamrock Rd, east of Admirals Ave	36.22	39.10	W	19.278295	-81.336313
707	Shamrock Rd, west of Prospect Dr	31.31	35.60	E	19.278116	-81.33455
708	LPH, west of Crewe (west of silver oaks)	34.03	37.30	E	19.285642	-81.352925
709	Old Crewe Rd, north of Sunrise Blvd	28.91	31.90	N	19.282851	-81.351257
710	Crewe Rd, south of Silver Oaks/ LPH Roundabout, north of Lions Centre	34.22	37.60	S	19.284796	-81.349804
711	Red Bay Connector, Shamrock Road to EWA by AutoSpa Roundabout	22.95	25.10	N	19.278625	-81.3388
712	Crewe Road, north of Tropical Gardens Rd	28.04	30.90	W	19.287463	-81.351564
713	Shamrock Rd, west of Admirals Ave	34.77	38.70	E	19.278505	-81.336971
714	Shamrock Road, west of Selkirk Drive	37.64	41.70	E	19.280565	-81.343748
715	EWA, east of Shamrock Rd (across Birdhouse Close)	36.21	39.30	E	19.275433	-81.330961
716	Shamrock Road, south of Shamrock/EWA Roundabout	34.31	40.10	W	19.274567	-81.331723
717	EWA, east of Red Bay roundabout	38.49	41.30	E	19.276972	-81.338833
718	Prospect Point Road, near Monument	18.81	20.70	W	19.273557	-81.338543
719	Shamrock Road - EB slip lane at EWA (by Dilbert's Plaza)	30.66	34.40	W	19.279778	-81.340561
801	Shamrock Rd, west of Galaxy Way - By Sav Primary School	30.93	35.00	W	19.271832	-81.299578
802	Shamrock Rd, east of Homestead Crescent	33.63	36.70	E	19.274602	-81.295084
803	Hirst Rd, south of Edison Dr	21.91	23.90	N	19.27346	-81.297398
804	Hirst Rd, at ICCI campus, south of Farrell Rd	28.36	30.50	N	19.288232	-81.302132
805	EWA, opposite 383 Hirst Road	34.18	37.00	E	19.282908	-81.300202
806	Hirst Road, north of EWA	32.64	35.70	S	19.284045	-81.299415
807	Hirst Road, south of EWA	28.06	30.60	S	19.282623	-81.299025
808	Shamrock Rd, east of Buddys Way	31.78	35.50	W	19.273549	-81.302371
901	Shamrock Rd, west of Spice Dr.	32.53	34.10	E	19.274054	-81.256816
902	Bodden Town Rd, west of Frank Sound Rd	34.91	42.90	W	19.300768	-81.183063
903	Sea View Rd, east of Frank Sound Rd	45.84	50.80	W	19.301367	-81.181632
904	Shamrock Rd, west of Will T Rd	35.52	38.10	E	19.279126	-81.278949
905	Condor Rd, south of Easy St	25.81	27.50	N	19.277389	-81.258002
906	Frank Sound Rd, north of Mastic Rd, opposite 14 Mastic Rd	43.95	50.00	S	19.313824	-81.182115
907	Frank Sound Rd, south of Off The Beaten Path Rd	42.17	46.80	S	19.305392	-81.182391
908	Anton Bodden Drive, opposite 445b Bodden Town Rd (police station)	28.85	31.50	W	19.282733	-81.246452

ID #	Reference Point	Average Speed (mi/h)	85th Percentile Speed (mi/h)	Direction	Latitude	Longitude
909	Bodden Town Rd, east of Anton Bodden Drive & cemetery	30.47	32.20	W	19.283127	-81.24468
910	Will T Rd, south of Puffin Cl	18.05	19.60	N	19.279026	-81.278179
911	Starapple Rd, north of Shamrock Rd	17.33	19.50	N	19.279291	-81.277378
912	Shamrock Rd, east of Midnight Rd	34.73	37.90	W	19.278102	-81.277674
913	Shamrock Rd, east of Northward Rd	32.43	34.00	E	19.276502	-81.267497
914	Northward Rd, south of Locust Ln	26.37	29.20	S	19.277103	-81.267939
915	Sea View Road, west of High Rock Drive	44.18	50.70	W	19.293812	-81.135848
916	Beach Bay Road, south of Shamrock Rd	18.90	20.40	S	19.276482	-81.272394
313-C	Sound Way, sidewalk in front of KLT	21.94	25.40	W	19.297241	-81.372483

Source: Made by SEMIC.

In Appendix 7, the corresponding data recorded for each of the ATR sites, with their respective Summary Sheet Volume and Speed is displayed.

**• Example of ATR ID – 102 Volume and Speed Report**

The following table shows an example of the *Speed Report*, for the ATR station ID – 102. The number of vehicles passing over the point for different speed ranges were recorded and displayed on this. The table contains the log for one (1) of the seven days of the study.

**• Table 7.8 ID - 102 Speed Report Summary**

See below Table 7.8.



2016 TRAFFIC DATA COLLECTION PROGRAM

SITE ID: 102

STREET ADDRESS: 10 WILLIEFARRINGTON DRIVE

VEHICLE TYPE: All Vehicles

PERIOD FROM: 02/20/2016

REFERENCE POINT: Willie Farrington Dr, south of Hydesville CI

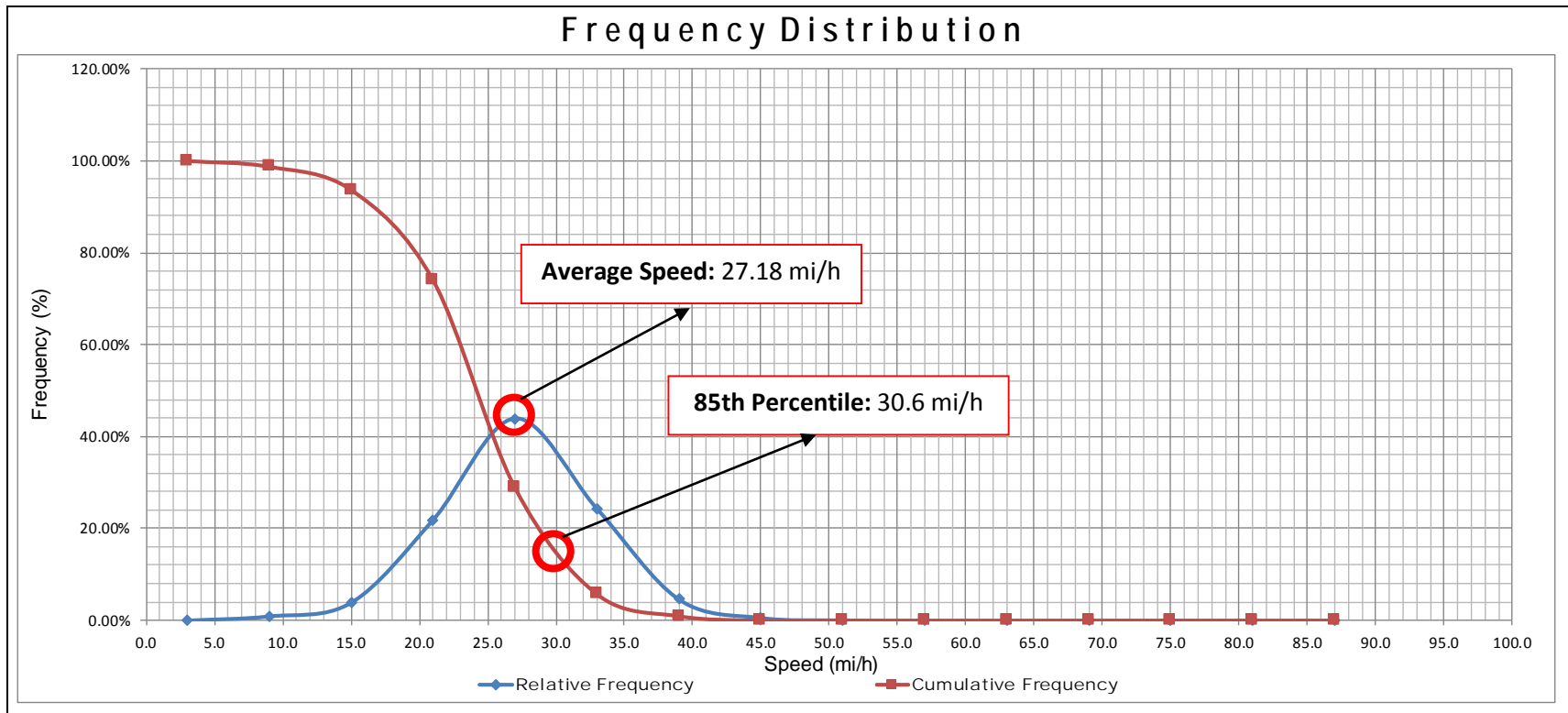
DIRECTION: SOUTH

TO: 02/26/2016

Date	Time	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	#14	#15
		0.0 6.0	6.0 12.0	12.0 18.0	18.0 24.0	24.0 30.0	30.0 36.0	36.0 42.0	42.0 48.0	48.0 54.0	54.0 60.0	60.0 66.0	66.0 72.0	72.0 78.0	78.0 84.0	84.0 >84
02/20/2016	00:00	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0
	01:00	0	0	0	3	2	1	1	0	0	0	0	0	0	0	0
	02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	03:00	0	0	0	0	2	3	0	0	0	0	0	0	0	0	0
	04:00	0	0	1	1	2	1	0	0	0	0	0	0	0	0	0
	05:00	0	0	0	6	2	1	0	0	0	0	0	0	0	0	0
	06:00	0	0	0	4	7	0	2	0	0	0	0	0	0	0	0
	07:00	0	0	0	9	11	16	2	1	0	0	0	0	0	0	0
	08:00	0	0	2	13	18	14	1	0	0	0	0	0	0	0	0
	09:00	0	0	3	10	23	14	0	0	0	0	0	0	0	0	0
	10:00	0	0	2	15	21	11	1	0	0	0	0	0	0	0	0
	11:00	0	1	3	8	27	7	3	0	0	0	0	0	0	0	0
	12:00	0	0	0	8	20	12	4	0	0	0	0	0	0	0	0
	13:00	1	0	2	11	18	11	1	0	0	0	0	0	0	0	0
	14:00	0	0	2	9	15	17	0	0	0	0	0	0	0	0	0
	15:00	0	0	2	12	18	17	0	0	0	0	0	0	0	0	0
	16:00	0	2	0	7	32	11	0	0	0	0	0	0	0	0	0
	17:00	0	3	4	9	20	10	4	2	0	0	0	0	0	0	0
	18:00	0	0	2	13	27	7	3	0	0	0	0	0	0	0	0
	19:00	0	1	2	16	18	11	0	0	0	0	0	0	0	0	0
	20:00	0	1	1	19	17	5	0	0	0	0	0	0	0	0	0
	21:00	0	1	3	12	19	5	0	1	0	0	0	0	0	0	0
	22:00	0	0	4	5	16	7	0	0	1	0	0	0	0	0	0
	23:00	0	0	1	3	4	4	0	0	0	0	0	0	0	0	0
Daily Totals:		1	9	34	193	341	186	22	4	1	0	0	0	0	0	0
Percent:		0.13%	1.14%	4.30%	24.40%	43.11%	23.50%	2.78%	0.51%	0.13%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Average Speed (mi/h):		26.65														

Source: Made by SEMIC.

Based on the speed tables for each day, the following figure was generated. It helps in order to identify the peak traveling speed of the vehicles on this site, and it also helps to identify the 85th percentile. This figure is included for each ATR site on the speed summary.



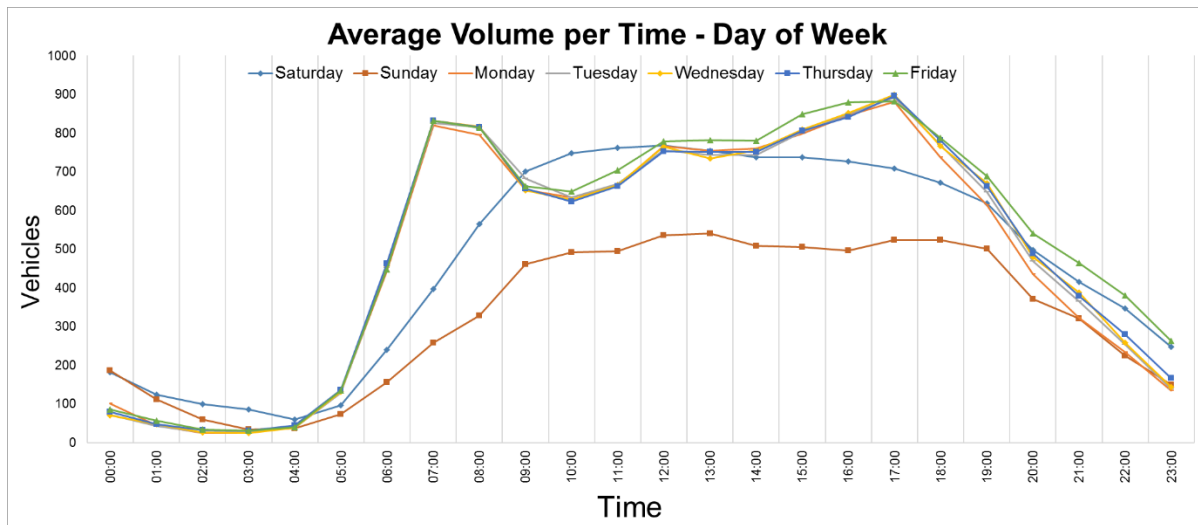
Source: Made by SEMIC.

*Figure 7.7 ID – 102 Speed Frequency Distribution*

## 8 FINAL COMMENTS AND CONCLUSIONS

- The Turning Movement Counts were performed at the forty-one (41) NRA selected intersections successfully. Thereby, obtaining obtain the traffic characteristics, such as: vehicular volume, vehicle classification, peak hour and peak hour factor.
- Six (6) of the forty-one (41) intersections studied had a total vehicle volume within the range of 16,000 - 24,000 vehicles. The total vehicle volume, corresponds to the sum of the three study periods of the day.
- Twenty-eight (28) of the forty-one (41) intersections studied showed a vehicular volume in a range of 8,000 - 16,000 vehicles. Again, the total vehicle volume, corresponds to the sum of the three study periods of the day.
- The seven (7) remaining intersections, presented a vehicular volume lower than 8,000 vehicles. Again, the total vehicle volume, corresponds to the sum of the three study periods of the day.
- At the intersection with ID - 28 located on North Sound Road and Dorcy Drive / Kentsville Drive, the highest percentage of heavy vehicles (Bus + Trucks) was observed during the study period (7.1%, 851 vehicles).
- At the intersection ID - 34 (Elgin Avenue and Humber Lane) the lowest percentage of heavy vehicles (Bus + Trucks) was observed, of the order of 1.7%.
- At the intersection ID-05 located on Smith Road and Crewe Road, the highest flow of vehicles turning right (4,397 vehicles, from east to the north) in the study period was observed. In terms of road capacity and level of service, that movement (the right turn) is of the greatest impact.
- At the intersection ID - 56, located on Harbour Drive / North Church Street, a high presence of pedestrians was observed during the study period, this flow was of 3,117 pedestrians.
- Approximately in the 50% of the intersections a PHF of more than 0.95 was presented, this value reflects high traffic volumes and road capacity problems.
- In four (4) intersections (IDs 10, 20, 28 and 34) the highest value of PHF was observed, this value was around 0.98. The lowest value of PHF, 0.77 was observed at the intersection ID-40.
- Approximately 50% of the intersections presented the peak hour between 07:00 and 09:00 am.
- The study of Automated Traffic Counts and Classification Record was executed successfully. Whereby it was possible to collect traffic data in the 153 pre-set sites by the NRA.
- In 23 (15%) ATR stations (15% of the total number of stations) the WADT observed was in the range of 20.000 to 37.000 vehicles.

- In 56 ATR stations (37% of the total number of stations) the WADT observed was in the range of 10,000 - 20,000 vehicles.
- In the remaining 74 ATR stations (48% of the total number of stations) the WADT observed was in the range of 0 to 10,000 vehicles.
- The station that presented the highest percentage of *trucks* (4.4%) was the ID - 309 located on Portland Rd (west of Tortuga Way).
- The station ID – 718 located at Prospect Point Road (near Monument), was presented the highest percentage of buses 3.5%.
- The station ID - 714 located at Shamrock Road, west of Selkirk Drive registered the highest value of WADT, which was of 36,301 veh/day.
- Considering the observed traffic flows across the network 98.5% are cars, 0.4% buses and 1.1% trucks.
- The chart below shows the average hourly traffic flows observed for each day throughout the network. It is noted that traffic flows on weekdays display a similar pattern of behaviour. It is evident that traffic flows on weekend days are different to those from Monday to Friday. The peak hours on weekdays are: for the a.m. period at 7:00 and for p.m. period at 17:00.



Source: Made by SEMIC.

**Figure 8.1 ATR's Average Hourly Traffic (Both Directions) per Week Day**

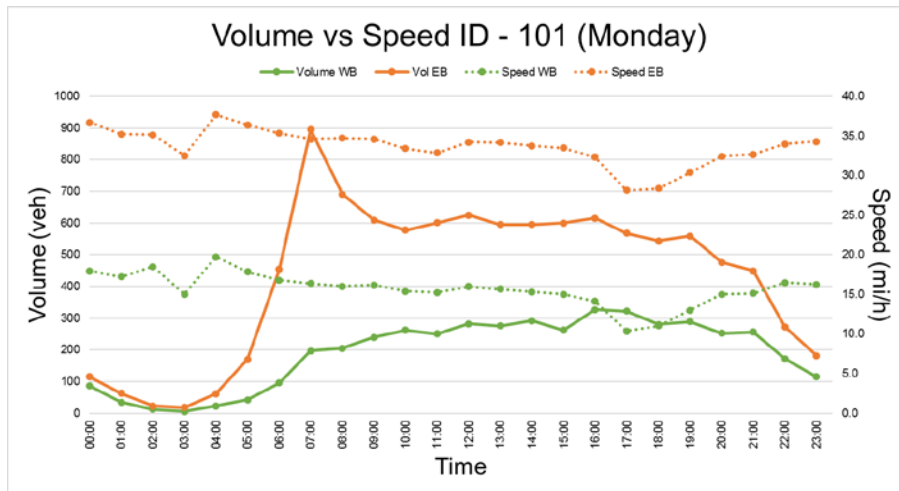
Analysing the direction with higher value of average speed in each station, the following information was determined:

- In 56 stations (37%), the average point speed was in the range of 30 - 55 mph.
- In 72 stations (47% of the total) the average point speed was in the range of 20 - 30 mph.



- In 25 stations (16% of the total) the average point speed was below 20 mph.
- The maximum average point speed 50.91 mph was observed at the ID station - 114 (ETH south of Willie Farrington Connector). Here, the maximum value of the 85th percentile of the point speed was recorded, this value was of 56.30 mph.
- In 87 (57% of the total) stations, the 85th percentile point speed was in the range 30 - 57 mph.
- In 49 stations (32% of the total), the 85th percentile point speed was in the range 20 - 30 mph.
- In 17 stations (11% of the total), the 85th percentile point speed was below 20 mph.

The following chart corresponds to the ID - 101 station. Contains the Monday values at different scales, the hourly traffic flows and the average hourly traffic point speed. For the period of 00:00 -17:00 hours it can be seen that the speed does not depend on the vehicle flows. For the remaining period it is noted the dependence on such variables.



Source: Made by SEMIC.

*Figure 8.2 ATR ID – 101 Volume vs Speed of one day (Monday and Both Directions)*

Based on data traffic flows (demand) at the intersection ID-14 and related to its physical characteristics (supply), a capacity analysis and the levels of service (according to the HCM 2010) was undertaken. One intersection’s arm (Southbound) performs at level of service "F". This means that the supply does not meet demand, therefore it is convenient the modernization of that intersection. Such modernization will involve the analysis of alternative solutions ranging from geometric adjustments, changes in the type of operation, flyover, etc.

The demand on the studied network remained fully characterized, based on field and office work. The following steps to the present study could be to characterize the offer, and to confront demand versus supply.

