
Kenmount Hill Comprehensive Development Scheme Traffic Impact Study

**Prepared For:
The City of Mount Pearl**

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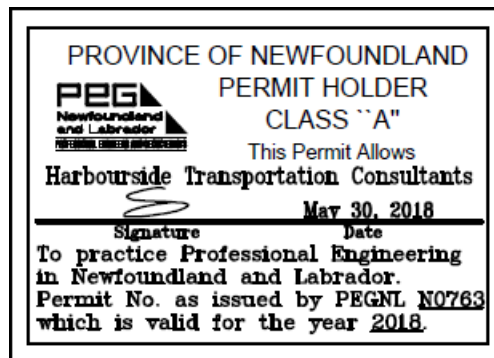
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1.0 Introduction

The City of Mount Pearl has nearly built out to its municipal boundary with the exception of the lands above the 190 metre contour elevation in the Kenmount Hill area, which comprises approximately 100 hectares of vacant land. Development in this area has not been possible due to the lack of municipal water and sewer services. In recent years, provincial and municipal planning policies restricting the expansion of municipal services to the lands above the 190 metre contour have been amended to allow consideration of these lands for development.

The City of Mount Pearl commissioned a study to establish a detailed plan to guide the development of the lands above the 190 metre contour line. The Kenmount Hill Comprehensive Development Scheme (CDS) provides the basis for the revision of the City's planning policies required to permit development of the lands. The study, currently in its final draft stages, provides a development scenario which will direct the future servicing needs for the area. The study identified the need to quantify the impacts of the proposed development scenario on the surrounding road network.

Harbourside Transportation Consultants (HTC) was retained by the City of Mount Pearl to prepare a Traffic Impact Study (TIS) to quantify the transportation impacts of the proposed development scenario identified in the Kenmount Hill CDS.

2.0 Study Area Context

2.1 Study Area

The lands above the 190m contour elevation in the City of Mount Pearl are located in the northern portion of the City. The study area for this traffic impact study is shown in Figure 1. Key intersections in the study area include:

- Kenmount Road & Brougham Drive/Allston Street
- Kenmount Road & H3 Access #1/Brant Drive (future)
- Kenmount Road & H3 Access #2 (future)
- Kenmount Road & Mount Carson Avenue
- Kenmount Road & Great Eastern Avenue
- Mount Carson Avenue & Wyatt Boulevard
- Mount Carson Avenue & Lasalle Drive/Brodie Street
- Topsail Road & Mount Carson Avenue/Commonwealth Avenue
- Topsail Road & Farrell Drive
- Topsail Road & Marlin Drive/Hemmer Jane Drive
- Topsail Road & Moffatt Road/Humber Drive



Figure 1: Study Area

There are three key roadways in the study area road network:

- **Topsail Road:** An arterial roadway that runs east-west through the City of Mount Pearl and connects to the City of St. John's to the east and the Town of Paradise to the west. Topsail Road has two travel lanes in each direction and a two way left turn lane as well as auxiliary turning lanes at intersections. Topsail Road has a posted speed limit of 60 km/h.
- **Kenmount Road:** An arterial roadway located in the City of St. John's that runs northeast-southwest and connects to central St. John's to the east and the Town of Paradise to the west. Kenmount Road provides connections to other key roadways in the region including the Trans-Canada Highway and the Team Gushue Highway. Kenmount Road has two travel lanes in each direction with auxiliary turning lanes at intersections. Kenmount Road has a posted speed limit of 60 km/h.
- **Mount Carson Avenue:** An arterial roadway that runs north-south connecting Topsail Road and the areas south of the Waterford River corridor to Kenmount Road. Mount Carson Avenue has one travel lane in each direction with auxiliary turning lanes at intersections, Mount Carson Avenue has a posted speed limit of 50 km/h.

2.2 Data Collection

Traffic counts were gathered at the five study intersections using Miovision Scout video data collection units. Traffic counts were collected in December 2017 during the AM (7:00am to 9:00am), midday (11:00am to 1:00pm) and PM (4:00pm to 6:00pm) peak hours. Traffic counts were gathered at the following intersections:

- Kenmount Road & Brougham Drive/Allston Street
- Kenmount Road & Mount Carson Avenue
- Kenmount Road & Great Eastern Avenue
- Mount Carson Avenue & Wyatt Boulevard
- Mount Carson Avenue & Lasalle Drive/Brodie Street

Traffic counts were available from the Integrated Transportation Plan for four intersections, including:

- Topsail Road & Moffatt Road/Humber Drive
- Topsail Road & Marlin Drive/Hemmer Jane Drive
- Topsail Road & Mount Carson Avenue/Commonwealth Avenue
- Topsail Road & Farrell Drive

The traffic count data can be found in Appendix A.

2.3 Study Horizons

Two study horizons were selected for the purpose of this study. The horizon years for the study are 2022, a 5-year projection of growth and development, and 2027, a 10-year projection of growth and development.

2.4 Background Traffic Forecasting

Existing traffic volumes were factored using a background traffic growth rate of 0.8 percent per year to reflect normal increases in traffic on the study area road network. To provide a complete outlook of future conditions for the study timeframes, significant developments in the vicinity of the study area were also included in the analysis. There are two main developments currently under construction in the area:

- **H3 Development Limited:** A 190-acre commercial/industrial development with frontage on Kenmount Road between Brant Drive and Mount Carson Avenue. The development will be constructed in two phases. Phase 1, which is currently under construction, consists of the commercial portion of the development. Phase 2 will consist of the industrial portion of the development. For the purpose of this study, it was assumed that the first phase will be completed by 2022 and the second phase by 2027.
- **Moffatt Road/Brant Drive Area:** Approximately 162 residential lots remain to be developed in this area. It was assumed that the development will be completed by 2022.

The trip generation rates for the proposed background developments were quantified using the 10th edition of the *Trip Generation Manual* published by the Institute of Transportation Engineers (ITE). Three land use codes were used:

- 110 – General Light Industrial
- 210 – Single-Family Detached Housing
- 815 – Free Standing Discount Store

The trip generation rates for the background developments are summarized in Tables 1 and 2 for the 5-year and 10-year horizons respectively. The trips were reduced to reflect pass-by trips for the commercial land use. Pass-by trips are defined as trips that are generated by a particular land use but are not considered new trips on the road network, rather they are trips attracted from existing traffic passing by the site. It was assumed that 25 percent of commercial trips will consist of pass-by trips, where 25 percent of trips is less than 10 percent of the adjacent street volume. Where 25 percent of commercial trips were greater than 10 percent of the adjacent street volume, a reduction of 10 percent of the adjacent street volume was used for pass-by trips. Overall, the background developments are expected to generate 702 trips in the AM peak hour (508 trips in/194 trips out) and 1759 trips in the PM peak hour (800 trips in/959 trips out).

Table 1: Trip generation rates for the background developments included in the 5-year horizon

Use	Number	Unit	1000 sq ft GFA * Coverage	ITE Code	AM Peak Rate	AM Peak Trip Gen	AM Peak In	AM Peak Out	PM Peak Rate	PM Peak Trip Gen	PM Peak In	PM Peak Out
H3 Development												
Commercial Highway	314,830	sq. ft	314.8	815	1.17	369	255	114	4.83	1521	761	760
Moffatt Road/Brant Drive Area												
Single-Family Detached Housing	162	DU	-	210	0.74	120	30	90	0.99	161	102	59
Total Trips						489	285	204		1682	863	819
Pass-by Trips						92	46	46		198	99	99
Trips Added to Adjacent Streets						397	239	158		1484	764	720

Table 2: Trip generation rates for the background developments included in the 10-year horizon

Use	Number	Unit	1000 sq ft GFA * Coverage	ITE Code	AM Peak Rate	AM Peak Trip Gen	AM Peak In	AM Peak Out	PM Peak Rate	PM Peak Trip Gen	PM Peak In	PM Peak Out
H3 Development												
Industrial	434,937	sq. ft	435	110	0.70	305	269	36	0.63	275	36	239
Trips Added to Adjacent Streets						305	269	36		275	36	239

3.0 Development Proposal

The proposed land use plan for the Kenmount Hill comprehensive development scheme is shown in Figure 2. The development includes residential and commercial highway developments and can be broken down into four main areas:

- Residential area east of Wyatt Boulevard
- Commercial area east of Wyatt Boulevard
- Commercial area west of Wyatt Boulevard
- Residential area north of Masonic Park

In the area east of Wyatt Boulevard zoned residential, 714 dwelling units are proposed. It is anticipated that 50 percent of the dwelling units will be built by 2022 and the other 50 percent by 2027.

The commercial area east of Wyatt was not included in the analysis. The area, owned by Avalon Ford, currently serves as a car lot for the dealership. The 113,602-sq. ft. of commercial space included in the Kenmount Hill CDS is not anticipated to materialize within the study timeframe.

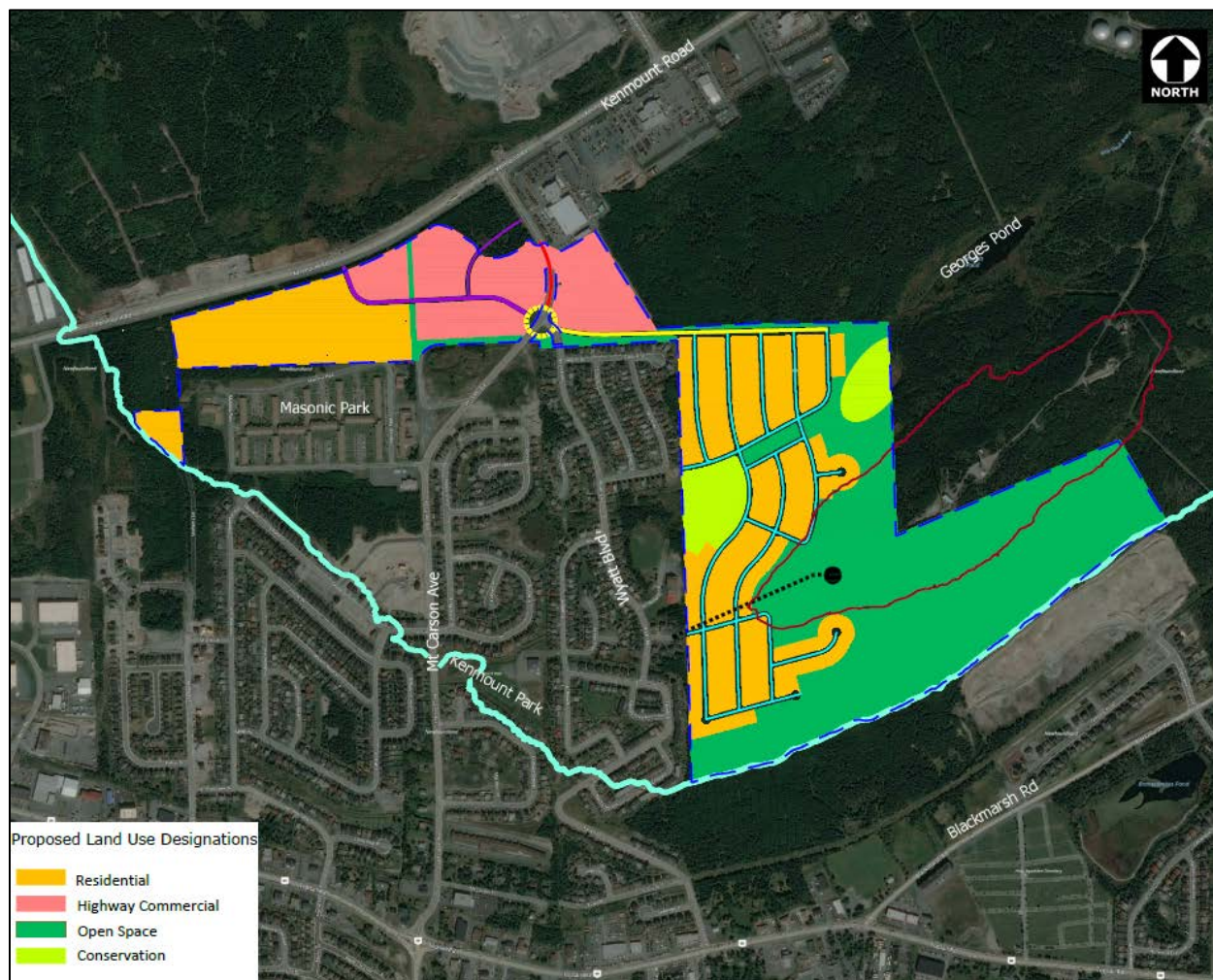


Figure 2: Kenmount Hill comprehensive development scheme – land use

In the commercial area west of Wyatt Boulevard, the Penney Group is proposing approximately 262,000 square feet of commercial space and 300 residential dwelling units. Current known land uses for the area include a gas station with food service, a pharmacy and a grocery store. It should be noted that the pharmacy and gas station are located below the 190 metre contour line. The residential portion of the development will consist of three 7-storey apartment buildings with ground floor commercial (included in the 262,000 square feet), and each building will have 100 units. The developer has indicated that the gas station, grocery store, pharmacy and 50 percent of the remaining commercial space will be developed by 2022. The remaining commercial and the 300 residential units will be developed by 2027.

The residential area north of Masonic Park is proposed to be developed as an expansion to Masonic Park, an independent senior adult housing complex. A total of 222 senior adult housing units are estimated for the development. The development's only road connection would be to Masonic Park's internal road network. This development is anticipated for the 5 to 10-year timeframe.

3.1 Trip Generation

The trip generation rates for the proposed background developments were quantified using the 10th edition of the *Trip Generation Manual* published by the Institute of Transportation Engineers (ITE). Seven land use codes were used:

- 210 – Single-Family Detached Housing
- 221 – Multifamily Housing (Mid-Rise)
- 251 – Senior Adult Housing - Detached
- 815 – Free Standing Discount Store
- 850 – Supermarket
- 880 – Pharmacy/Drugstore without Drive-Through Window
- 945 – Gasoline/Service Station with Convenience Market

The trip generation rates for the proposed developments are summarized in Tables 3 and 4 for the 5-year and 10-year horizons respectively. The trips were reduced to reflect pass-by trips for commercial land uses. It was assumed that 25 percent of commercial trips will consist of pass-by trips where 25 percent of trips is less than 10 percent of the adjacent street volume. Where 25 percent of commercial trips were greater than 10 percent of the adjacent street volume, a reduction of 10 percent of the adjacent street volume was used for pass-by trips. Overall, the proposed developments are expected to generate 1038 trips in the AM peak hour (444 trips in/594 trips out) and 2018 trips in the PM peak hour (1118 trips in/900 trips out).

It should be noted that the trip generation for the Penney Group Development is slightly higher than what was included in the Kenmount Hill CDS. The Penney Group development plan includes a pharmacy and gas station which are located below the 190 metre contour elevation and were therefore excluded from the CDS. However, from a transportation study perspective, these land uses must be included to quantify the full impact of development in the area on the surrounding road network.

Table 3: Trip generation rates for the proposed developments included in the 5-year horizon

Use	Number	Unit	1000 sq ft GFA * Coverage	ITE Code	AM Peak Rate	AM Peak Trip Gen	AM Peak In	AM Peak Out	PM Peak Rate	PM Peak Trip Gen	PM Peak In	PM Peak Out
Penney Group Development												
Gas Station	10	pumps	-	945	12.47	125	64	61	13.99	140	72	68
Supermarket	39,934	sq. ft	39.9	850	3.82	153	92	61	9.24	369	189	180
Pharmacy	10,456	sq. ft	10.5	880	2.94	31	21	10	8.51	89	44	45
Commercial	105,749	sq. ft	105.7	815	1.17	124	86	38	4.83	511	256	255
Area East of Wyatt Boulevard												
Single-Family Detached Housing	261	DU	-	210	0.74	194	49	145	0.99	259	164	95
Multifamily Housing (Mid-Rise)	96	DU	-	221	0.36	35	10	25	0.44	43	27	16
Total Trips						662	322	340		1411	752	659
Pass-by Trips						108	54	54		277	139	139
Trips Added to Adjacent Streets						554	268	286		1134	614	521

Table 4: Trip generation rates for the proposed developments included in the 10-year horizon

Use	Number	Unit	1000 sq ft GFA * Coverage	ITE Code	AM Peak Rate	AM Peak Trip Gen	AM Peak In	AM Peak Out	PM Peak Rate	PM Peak Trip Gen	PM Peak In	PM Peak Out
Area North of Masonic Park												
Senior Adult Housing	222	DU	-	251	0.24	54	18	36	0.3	67	41	26
Penny Group Development												
Commercial	105,749	sq. ft	105.7	815	1.17	124	86	38	4.83	511	256	255
Multifamily Housing (Mid-Rise)	300	DU	-	221	0.36	108	29	79	0.44	132	81	51
Area East of Wyatt Boulevard												
Single-Family Detached Housing	261	DU	-	210	0.74	194	49	145	0.99	259	164	95
Multifamily Housing (Mid-Rise)	96	DU	-	221	0.36	35	10	25	0.44	43	27	16
Total Trips						515	192	323		1012	569	443
Pass-by Trips						31	16	15		128	64	64
Trips Added to Adjacent Streets						484	176	308		884	505	379

3.2 Trip Distribution

The St. John's Regional PTV Visum models were used to distribute projected background and development traffic onto the study area road network. PTV Visum is a macroscopic transportation planning modelling software used to model transportation networks and travel demand to forecast traffic flows. In 2011, the City of St. John's developed AM and PM peak hour regional models for traffic conditions in 2025. These models were updated and calibrated for the Mount Pearl area as part of Phase 1B of the Mount Pearl Integrated Transportation Plan.

The proposed road networks for the new development and eight project zones were added to the model to reflect proposed developments in the area. The zones listed below were coded using the ITE trip generation rates described in sections 2.4 and 3.1.

- Zone 538 – H3 Development (0-5 year)
- Zone 534 – H3 Development (5-10 year)
- Zone 551 – Moffatt Road/Brant Drive Area Residential Development (0-5 year)
- Zone 552 – Area North of Masonic Park (5-10 year)
- Zone 553 – Penney Group Development (0-5 year)
- Zone 554 – Penney Group Development (5-10 year)
- Zone 555 – Residential Development East of Wyatt (0-5 year)
- Zone 556 – Residential Development East of Wyatt (5-10 year)

The trips associated with each zone were distributed to the road network along defined multipoint assignments (MPAs). The MPAs were manually coded for each zone based on existing travel patterns and local knowledge of the study area. The "select zone analysis" feature of the software was used to obtain traffic volumes at intersections in the model that are associated with the specified zones. These volumes were then superimposed on the base volumes for each of the defined scenarios to produce design volumes.

4.0 Assessment Scenarios

A number of assessment scenarios were performed to quantify the impact of the proposed development on the study area road network. The study included the assessment of three scenarios:

- Scenario 0 – Existing Conditions (2017)
- Scenario 1 – 5-year Horizon (2022)
- Scenario 2 – 10-year Horizon (2027)

The scenarios are further described in the following subsections. The traffic volumes for each scenario can be found in Appendix B.

4.1 Scenario 0 – Existing Conditions

The Existing Conditions scenario is an assessment of current operations in the study area. The recent traffic counts, existing lane configurations and signal timing plans were used to reflect existing conditions.

4.2 Scenario 1 – 5-year Horizon (2022)

Scenario 1 included the assessment of three sub-scenarios:

- Scenario 1A – 5-year Horizon with Background Traffic: This scenario includes background traffic growth, full-build out of the residential development in the Moffatt Road/Brant Drive area and Phase 1 of the H3 Development.
- Scenario 1B – 5-year Horizon with Development Projections: This scenario includes the background traffic included in Scenario 1A and the 5-year development projection for the development.
- Scenario 1C – 5-year Horizon with Development Projection and Improvements: This scenario reflects improvements required to accommodate the volumes from Scenario 1B.

4.3 Scenario 2 – 10-year Horizon (2027)

Scenario 2 included the assessment of three sub-scenarios. It should be noted that the following scenarios include the improvements identified in Scenario 1C:

- Scenario 2A – 10-year Horizon with Background Traffic: This scenario includes background traffic growth, full-build out of the residential development in the Moffatt Road/Brant Drive area, full build-out of the H3 Development and the 5-year development projection.
- Scenario 2B – 10-year Horizon with Development Projections: This scenario includes the background traffic included in Scenario 2A and the 10-year development projection for the development.
- Scenario 2C – 10-year Horizon with Development Projection and Improvements: This scenario reflects improvements required to accommodate the volumes from Scenario 2B.

5.0 Intersection Performance and Capacity Analysis

The performance of an intersection can be evaluated using a number of measures of effectiveness. Delay and level of service (LOS), volume-to-capacity ratio (v/c) and vehicle queuing are the primary measures of effectiveness used in traffic analyses.

Delay is defined in the Highway Capacity Manual as the additional travel time experienced by a motor vehicle, pedestrian or cyclist attributable to the presence of traffic control (unsignalized or signalized intersection) and conflicting traffic. Delay is used as the basis to calculate LOS, a qualitative measure used to describe operational conditions based on service measures such as freedom to maneuver, travel time, speed, and traffic interruptions. LOS is expressed as a scale from 'A' to 'F', where LOS A represents free flow conditions or very low delay and LOS F represents delay times that are unacceptable to motorists using the facility. The level of service criteria for unsignalized (stop/yield controlled and roundabouts) and signalized intersections are described in Table 5.

The volume-to-capacity ratio relates the estimated traffic volume (demand volume) to the theoretical maximum volume that could be accommodated (capacity volume/adjusted saturation flow rate). As the v/c ratio approaches 1.0, the movement has reduced ability to accommodate any additional volume of traffic.

Vehicle queuing at intersections is critical to the performance of the network. The 95th percentile queue length is typically used to determine if sufficient vehicle storage is available to maintain efficient traffic flow. The 95th percentile queue length is the length of queue which is exceeded only 5 percent of the time.

Table 5: LOS Criteria Signalized and Unsignalized Intersections

LOS	Level of Service (LOS) Description	Signalized Intersection Control Delay	Unsignalized Intersection Control Delay
A	Very low delay. Majority of through traffic on main street does not stop at all. (Excellent)	≤ 10 sec/veh	≤ 10 sec/veh
B	Somewhat higher delay. More vehicles have to stop for red lights. (Very Good)	10-20 sec/veh	10-15 sec/veh
C	Higher level of congestion and vehicles wait through more than one signal indication, occasionally backups may develop, however traffic flow is still stable and acceptable. (Good)	20-35 sec/veh	15-25 sec/veh
D	Congestion is noticeable and delays may become extensive. Most cars have to wait more than one red light to pass. This threshold is the upper limit for design. (Satisfactory)	35-55 sec/veh	25-35 sec/veh
E	Congested conditions. Traffic fills intersection capacity with long queues and delays. Many vehicles need to wait more than one green indication. The LOS is nearing capacity and is unsatisfactory. (Unsatisfactory)	55-80 sec/veh	35-50 sec/veh
F	Very congested conditions. Traffic demand exceeds capacity of the intersection with very long queues and delays. The LOS is generally considered to be unacceptable. (Unacceptable)	≥ 80 sec/veh	≥ 50 sec/veh

The Synchro Studio (Version 10) software package was used as the primary evaluation tool. Synchro, an analysis and optimization software package, was used to analyze network intersections based on the methodology of the *Highway Capacity Manual* 6th edition (2016) published by the Transportation Research Board. SimTraffic, the micro-simulation component of the software package, was also used in the course of the analysis to check delay, illustrate and identify interactions between individual driver types and to illustrate the effects of adjacent or closely spaced intersections.

The combination of the two components within the software allows the analyst to review the intersections using two different approaches. The Synchro software models each intersection in isolation, while the SimTraffic software analyzes the network as a whole. SimTraffic will identify external influences on intersections such as spillbacks from upstream and/or downstream intersections include in the model. Synchro Studio was used to analyze signalized and unsignalized intersections (stop controlled).

The Junctions 8 ARCADY software was used to analyze roundabouts. ARCADY uses an empirical model based on the application of statistical regression of a large data set of observed roundabout operations in the United Kingdom. The tool is intended to aid designers in selecting the best geometry for a given location and traffic demand.

6.0 Scenario 0 - Existing Conditions (2017)

The level of service conditions for the AM and PM peak hours of Scenario 0 are summarized in Figure 3. It should be noted that the level of service results displayed in Figure 3 are the results of the Synchro analysis. A summary of both the Synchro and SimTraffic results and the detailed reports are included in Appendix C. Results of the analysis show some operational problems during the AM and PM peak hours.

The following intersections experience poor levels of service during the AM peak hour:

- Kenmount Road & Great Eastern Avenue: SimTraffic shows the northbound through movement operating at LOS E.
- Mount Carson & Wyatt Boulevard: The westbound left-turn movement operates at LOS E in Synchro; the same movement operates at LOS C in SimTraffic.
- Mount Carson Avenue & Lasalle Drive/Brodie Street: The eastbound left turn movement operates at LOS F and the westbound left turn operates at LOS E in Synchro; these movements operate at acceptable levels of service in SimTraffic.
- Topsail Road & Mount Carson Avenue/Commonwealth Avenue: The northbound left turn and the southbound left turn movements operate at LOS E in Synchro. The northbound through movement operates at LOS F and is over capacity. All movements operate at acceptable levels of service in SimTraffic.
- Topsail Road & Marlin Drive/Hemmer Jane Drive: The southbound left turn movement is over capacity and operates at LOS F in Synchro and SimTraffic.
- Topsail Road & Moffatt Road/Humber Drive: The southbound left turn operates at LOS F in Synchro; the same movement operates at LOS E in SimTraffic.

The following intersections experience poor levels of service during the PM peak hour:

- Kenmount Road & Brougham Drive/Allston Street: SimTraffic shows the northbound through movement operating at LOS E.
- Kenmount Road & Mount Carson Avenue: The westbound left turn movement operates at LOS D and is at capacity in Synchro; the same movement operates at LOS E in SimTraffic.
- Mount Carson & Wyatt Boulevard: The westbound left turn movement operates at LOS F in Synchro; the movement operates at LOS C in SimTraffic.
- Mount Carson Avenue & Lasalle Drive/Brodie Street: The eastbound left turn movement operates at LOS F and the westbound left turn operates at LOS E in Synchro; these movements operate at acceptable levels of service in SimTraffic.
- Topsail Road & Mount Carson Avenue/Commonwealth Avenue: The northbound left turn operates at LOS F in Synchro and is nearing capacity; the same movement operates at LOS E in SimTraffic. The SimTraffic analysis also shows the southbound through movement operating at LOS F.
- Topsail Road & Marlin Drive/Hemmer Jane Drive: The northbound movements operate at LOS E in Synchro, in SimTraffic only the northbound left turn movement is operating at LOS F. The southbound left turn movement operates at LOS F in both Synchro and SimTraffic.
- Topsail Road & Moffatt Road/Humber Drive: The northbound movements operate at LOS F in Synchro. In SimTraffic, the northbound left turn movement operates at LOS F and the northbound through movement operates at LOS E. The southbound left turn movement is over capacity and operates at LOS F in both Synchro and SimTraffic.



PLAN— SCENARIO 0 – EXISTING CONDITIONS (2017)
N.T.S.

LEGEND	
## (##)	TRAFFIC VOLUMES – AM (PM)
	LOS A–D
	LOS E
	LOS F
	INTERSECTION LOS – AM (PM)
	ROUNDABOUT LOS – AM (PM)

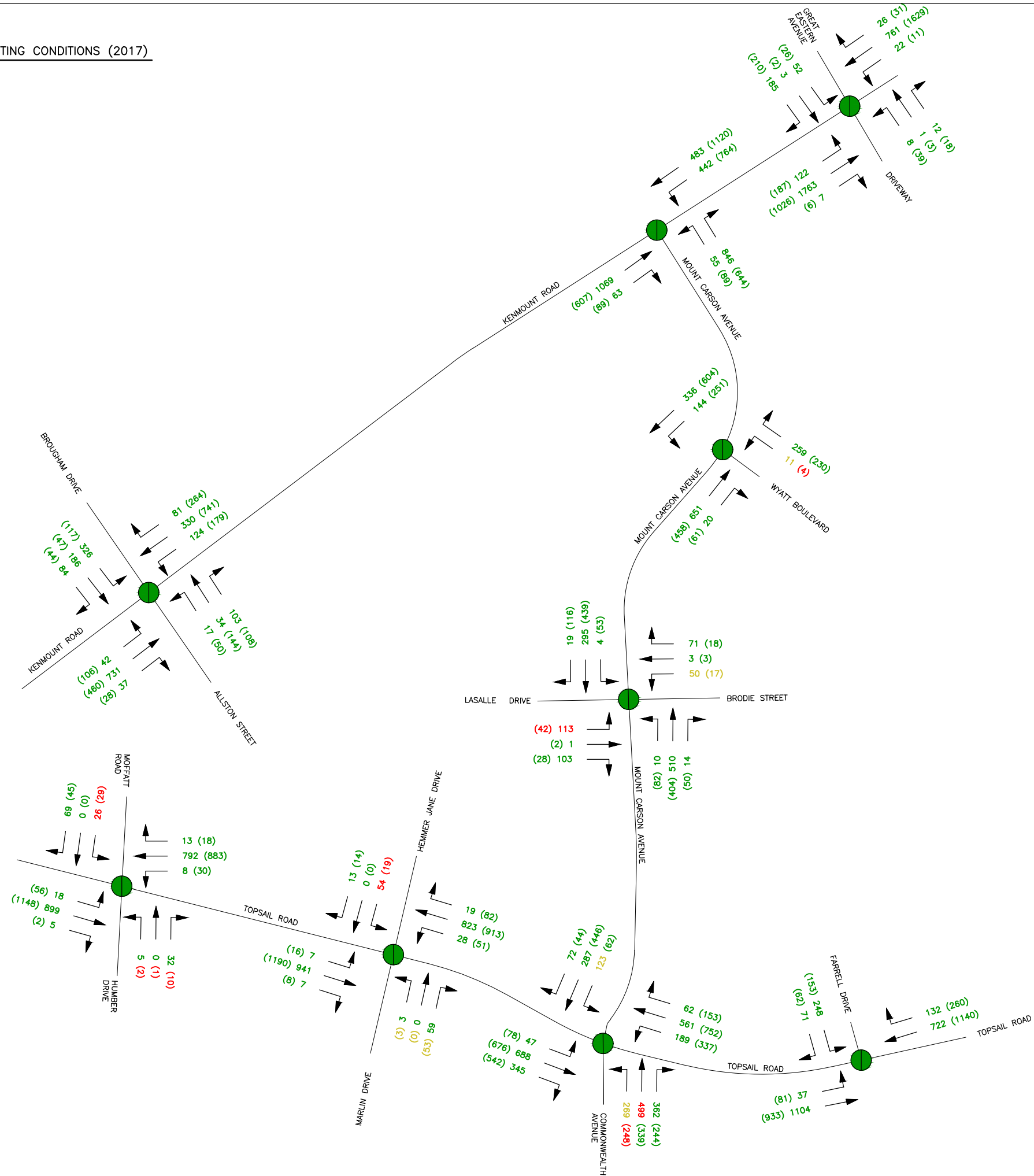


Figure 3: Scenario 0 - Existing Conditions (2017) Synchro LOS results

6.1 Traffic Signal Warrant Analysis

The Transportation Association of Canada's (TAC) developed the Canadian Traffic Signal Warrant Matrix Procedure in 2005 to provide a basis for making rational, defensible decisions on the installation of traffic signals. The matrix uses a "cumulative factors methodology" to evaluate vehicle to vehicle and vehicle to pedestrian interactions while considering local factors such as demographics and roadway characteristics. The procedure also incorporates collision prediction theory which anticipates the amount of collisions based on traffic volume and intersection geometry. However, it should be noted that some of the data required for this warrant procedure is subjective in nature, such as the intersection being located "near a school". The matrix provides a final score for the intersection, and in order for traffic signals to be considered, an intersection must score 100 priority points or more. A traffic signal installation would be deemed unwarranted if the scoring is less than 100 points.

The matrix was used to evaluate if traffic signals should be considered for all the study intersections under existing traffic volumes. The intersections scored as follows:

- Mount Carson Avenue & Wyatt Boulevard = 97 points
- Mount Carson Avenue & Lasalle Drive/Brodie Street = 69 points
- Topsail Road & Marlin Drive/Hemmer Jane Drive = 57 points
- Topsail Road & Moffatt Road/Humber Drive = 49 points

The traffic signal warrant analyses indicate that traffic signals are not warranted at this time. It should be noted that the intersection of Mount Carson Avenue and Wyatt Boulevard scores 97 of 100 points, therefore traffic signals will likely be warranted in the near future. The traffic signal warrant worksheets can be found in Appendix D.

7.0 Scenario 1 – 5-year Horizon

The following sub scenarios include all existing intersections and two new signalized intersections on Kenmount Road. These intersections are Kenmount Road and H3 Access #1/Brant Drive and Kenmount Road and H3 Access #2/Penney Access.

The intersection of Kenmount Road and H3 Access #1/Brant Drive is currently under construction. A concept plan for the second intersection, Kenmount Road and H3 Access #2/Penney Access is shown in Figure 4, and a full-size drawing can be found in Appendix E. It should be noted that under Scenario 1A, this intersection is modelled as a T-intersection. The south leg of the intersection provides access to the commercial development which is not included in the analysis until Scenario 1B.

Due to the number of closely spaced traffic signals on Kenmount Road, Kenmount Road was modelled as a coordinated corridor in each scenario.

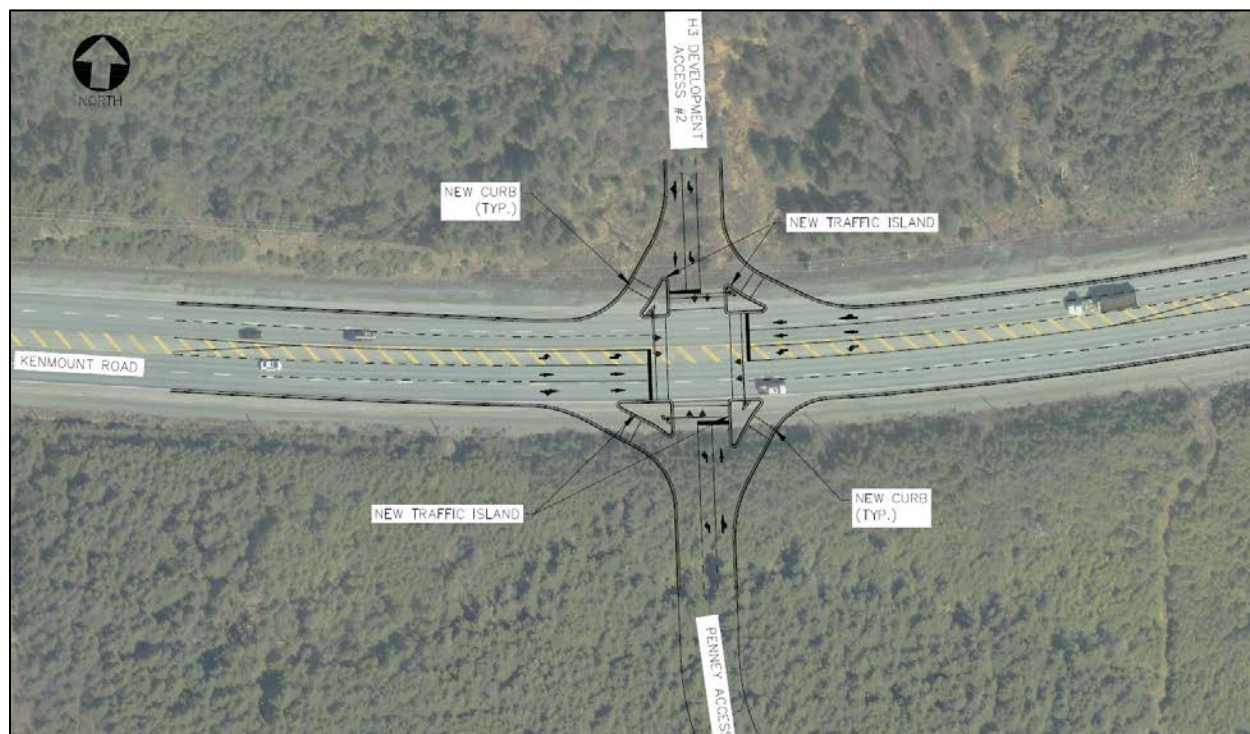


Figure 4: Signalized intersection at Kenmount Road & H3 Access #2/Penney Access

7.1 Scenario 1A - 5-year Horizon with Background Traffic (2022)

The level of service conditions for the AM and PM peak hours of Scenario 1A are summarized in Figure 5. The detailed Synchro/SimTraffic reports are included in Appendix C. Results of the analysis show some operational problems during the AM and PM peak hours.

The following intersections experience poor levels of service during the AM peak hour:

- Kenmount Road & Brougham Drive/Allston Street: The southbound left and right turn movements operate at LOS E in Synchro. SimTraffic shows the southbound left-turn and through movements operating at LOS F and the southbound right-turn and northbound through movements operating at LOS E.
- Kenmount Road & H3 Access #1/Brant Drive: SimTraffic shows the northbound and southbound through movements operating at LOS E.
- Kenmount Road & H3 Access #2: The southbound left turn movement operates at LOS E in both Synchro and SimTraffic.
- Kenmount Road & Mount Carson Avenue: The northbound left turn movement operates at LOS E in both Synchro and SimTraffic.
- Kenmount Road & Great Eastern Avenue: The northbound right turn movement operates at LOS E in Synchro; the same movement operates at LOS C in SimTraffic. The SimTraffic analysis shows the northbound left turn and through movements operating at LOS E.
- Mount Carson Avenue & Wyatt Boulevard: The westbound left turn movement operates at LOS F in Synchro; the same movement operates at LOS C in SimTraffic.
- Mount Carson & Lasalle Drive/Brodie Street: The eastbound and westbound left turn movements operate at LOS F in Synchro; these movements operate at LOS C in SimTraffic.

- Topsail Road & Mount Carson Avenue/Commonwealth Avenue: The westbound and northbound left turn movements operate at LOS E in Synchro, only the westbound left turn movement operates at LOS E in SimTraffic. It should be noted that the northbound left movement is nearing capacity. The northbound through movement is over capacity and operates at LOS F in both Synchro and SimTraffic.
- Topsail Road & Marlin Drive/Hemmer Jane Drive: The southbound left turn movement is over capacity and operates at LOS F in Synchro and SimTraffic. SimTraffic also show the southbound right turn operating at LOS E.
- Topsail Road & Moffatt Road/Humber Drive: The southbound left turn movement is over capacity and operates at LOS F in Synchro and SimTraffic. SimTraffic also show the northbound left turn operating at LOS E.

The following intersections experience poor levels of service during the PM peak hour:

- Kenmount Road & Brougham Drive/Allston Street: The northbound through and the southbound left turn movements operate at LOS E in Synchro. SimTraffic shows all northbound movements operating at LOS F and the southbound left turn movement operating at LOS E.
- Kenmount Road & H3 Access #1/Brant Drive: The northbound through and southbound left turn movements operate at LOS E and LOS F in Synchro. It should be noted that the southbound left turn is nearing capacity. These movements operate at the same levels of service in SimTraffic. The SimTraffic analysis also shows the southbound through movement operating at LOS E.
- Kenmount Road & H3 Access #2: The southbound left turn movement operates at LOS E in both Synchro and SimTraffic. The SimTraffic also shows the eastbound movements operating at LOS F; this is caused by queues from the adjacent Kenmount Road & Mount Carson Avenue intersection spilling back into the intersection.
- Kenmount Road & Mount Carson Avenue: The westbound left turn and northbound left turn movements operate at LOS F and LOS E in both Synchro and SimTraffic. The westbound left turn movement is over capacity. The SimTraffic analysis also shows the eastbound movements operating at LOS F.
- Kenmount Road & Great Eastern Avenue: The eastbound left turn movement is over capacity and operates at LOS F in Synchro; the same movement operates at LOS E in SimTraffic. The northbound left turn operates at LOS E in Synchro; the same movement operates at LOS D in SimTraffic. SimTraffic also shows the westbound left turn and through movements operating at LOS F and the westbound right turn and southbound left turn and through movements operating at LOS E.
- Mount Carson Avenue & Wyatt Boulevard: The westbound left turn movement operates at LOS F in both Synchro and SimTraffic.
- Mount Carson & Lasalle Drive/Brodie Street: The eastbound and westbound left turn movements operate at LOS F in Synchro. The eastbound left turn movement operate at LOS E in SimTraffic.
- Topsail Road & Mount Carson Avenue/Commonwealth Avenue: The westbound and northbound left turn movements are over capacity and operate at LOS F in Synchro and SimTraffic. The southbound through movement operates at LOS E in Synchro and is nearing capacity; the same movement operates at LOS F in SimTraffic. SimTraffic also shows the westbound and northbound through movements operate at LOS E.
- Topsail Road & Marlin Drive/Hemmer Jane Drive: The northbound movements operate at LOS F in Synchro, in SimTraffic the left turn movement operates at LOS F and the right turn movement

operates at LOS E. The southbound left turn movement is over capacity and operates at LOS F in both Synchro and SimTraffic. SimTraffic also show the southbound right turn operating at LOS F.

- Topsail Road & Moffatt Road/Humber Drive: The northbound movements operate at LOS F in Synchro; in SimTraffic, only the left turn and through movements operate at LOS F. The southbound left turn movement is over capacity and operates at LOS F in both Synchro and SimTraffic. The southbound through and right turn movement operate at LOS E in Synchro and LOS F in SimTraffic.

Poor levels of service are observed on many of the side streets at Kenmount Road intersections, this is mainly caused by the coordination of traffic signals along the corridor.

7.2 Scenario 1B - 5-year Horizon with Development Projections (2022)

The level of service conditions for the AM and PM peak hours of Scenario 1B are summarized in Figure 6. The detailed Synchro/SimTraffic reports are included in Appendix C. Results of the analysis show some operational problems during the AM and PM peak hours.

The following intersections experience poor levels of service during the AM peak hour:

- Kenmount Road & Brougham Drive/Allston Street: The southbound left and right turn movements operate at LOS E in Synchro. The SimTraffic analysis shows the southbound left-turn and through movements operating at LOS F and the southbound right-turn and northbound through movements operating at LOS E.
- Kenmount Road & H3 Access #1/Brant Drive: The SimTraffic analysis shows the southbound through movement operating at LOS E.
- Kenmount Road & Mount Carson Avenue: The westbound left turn and northbound left turn movements operate at LOS F and LOS E in Synchro. SimTraffic shows the northbound left turn and through movements operating at LOS E.
- Kenmount Road & Great Eastern Avenue: The northbound right turn movement operates at LOS E in Synchro; the same movement operates at LOS C in SimTraffic. SimTraffic shows the northbound left turn operating at LOS E and through movement operating at LOS F.
- Mount Carson Avenue & Wyatt Boulevard: All eastbound and westbound movements are over capacity and operate at LOS F in Synchro. SimTraffic shows the eastbound through and westbound left and through movements operating at LOS F.
- Mount Carson & Lasalle Drive/Brodie Street: The eastbound and westbound left turn movements operate at LOS F in Synchro; these movements operate at acceptable levels of service in SimTraffic. The eastbound left turn movement is over capacity.
- Topsail Road & Mount Carson Avenue/Commonwealth Avenue: The westbound left turn movement operates at LOS E in Synchro and SimTraffic. The northbound left turn and through movements are over capacity and operate at LOS F in Synchro, SimTraffic shows the left turn movement operating at LOS E and the through movement operating at LOS F. SimTraffic also shows the northbound right and southbound left turn movements operating at LOS E.
- Topsail Road & Marlin Drive/Hemmer Jane Drive: The southbound left turn movement is over capacity and operates at LOS F in Synchro and SimTraffic. SimTraffic also shows the northbound left turn operating at LOS E.
- Topsail Road & Moffatt Road/Humber Drive: The southbound left turn is over capacity and operates at LOS F in Synchro and SimTraffic. SimTraffic also shows the northbound left turn operating at LOS E.

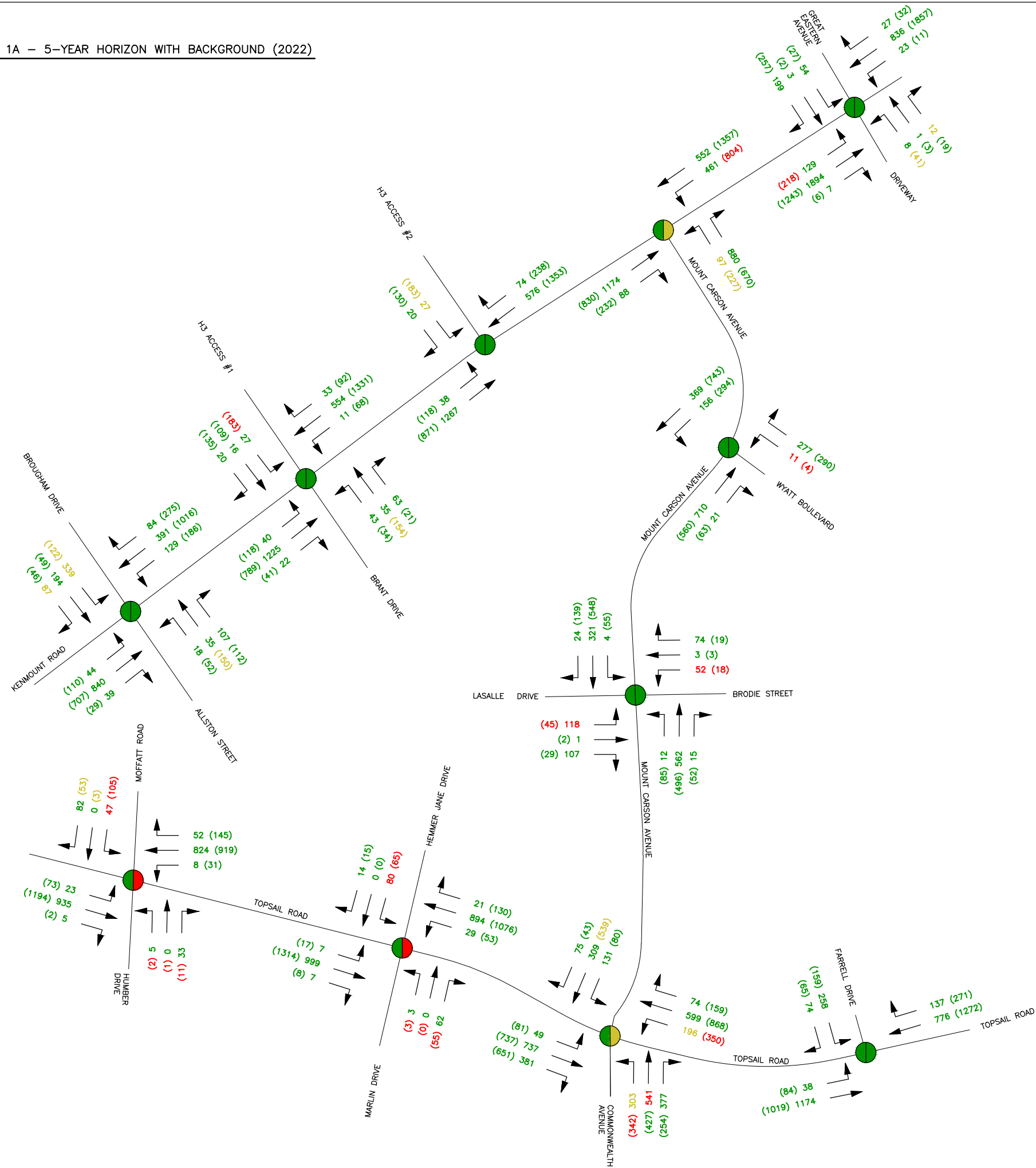
The following intersections experience poor levels of service during the PM peak hour:

- Kenmount Road & Brougham Drive/Allston Street: The northbound through and the southbound left turn movements operate at LOS E in Synchro. SimTraffic shows all northbound movements operating at LOS F and the southbound left turn movement operating at LOS E.
- Kenmount Road & H3 Access #1/Brant Drive: The northbound through and southbound left turn movements operate at LOS E and LOS F in Synchro. These movements operate at the same levels of service in SimTraffic. The SimTraffic analysis also shows the southbound through movement operating at LOS E.
- Kenmount Road & H3 Access #2/Penney Access: The northbound through and southbound left turn movements operate at LOS E in Synchro. Both movements operate at LOS F in SimTraffic. SimTraffic also shows the northbound left turn movement operates at LOS E and the eastbound movements operating at LOS F. The eastbound delays are caused by queues from the adjacent Kenmount Road & Mount Carson Avenue intersection extending into the intersection.
- Kenmount Road & Mount Carson Avenue: The westbound left turn and northbound left turn movements operate at LOS F and LOS E in Synchro. The westbound left turn movement is over capacity. SimTraffic shows the eastbound movements and the westbound left turn movement operating at LOS F.
- Kenmount Road & Great Eastern Avenue: The eastbound left turn movement is over capacity and operates at LOS F in Synchro; the same movement operates at LOS E in SimTraffic. The westbound through movement is over capacity and operates at LOS F in Synchro and LOS E in SimTraffic. The northbound left turn operates at LOS E in Synchro and SimTraffic. SimTraffic also shows the westbound left turn movement operating at LOS F and the southbound left turn and through movements operating at LOS E.
- Mount Carson Avenue & Wyatt Boulevard: All eastbound and westbound movements are over capacity and operate at LOS F in both Synchro and SimTraffic.
- Mount Carson & Lasalle Drive/Brodie Street: The eastbound and westbound left turn movements operate at LOS F in Synchro and SimTraffic. The eastbound left turn movement is over capacity. SimTraffic also shows the eastbound and westbound through movements operating at LOS F.
- Topsail Road & Mount Carson Avenue/Commonwealth Avenue: The westbound and northbound left turn movements are over capacity and operate at LOS F in Synchro and SimTraffic. The northbound and southbound through movement operates at LOS E and LOS F in Synchro; both operate at LOS F in SimTraffic. The northbound through movement is nearing capacity and the southbound through movement is over capacity. SimTraffic also shows the westbound through movement operating at LOS E.
- Topsail Road & Marlin Drive/Hemmer Jane Drive: The northbound movements operate at LOS F in Synchro; in SimTraffic the left turn movement operates at LOS F and the right turn movement operates at LOS E. The southbound left turn movement is over capacity and operates at LOS F in both Synchro and SimTraffic. SimTraffic also shows the southbound right turn operating at LOS F.
- Topsail Road & Moffatt Road/Humber Drive: The northbound movements operate at LOS F in Synchro; in SimTraffic, only the left turn and through movements operate at LOS F. The southbound movements operate at LOS F in both Synchro and SimTraffic; the left turn movement is over capacity.

Poor levels of service are observed on many of the side streets at Kenmount Road intersections, this is mainly caused by the coordination of traffic signals along the corridor.



PLAN— SCENARIO 1A – 5-YEAR HORIZON WITH BACKGROUND (2022)
N.T.S.



LEGEND

(##) TRAFFIC VOLUMES – AM (PM)

LOS A-D

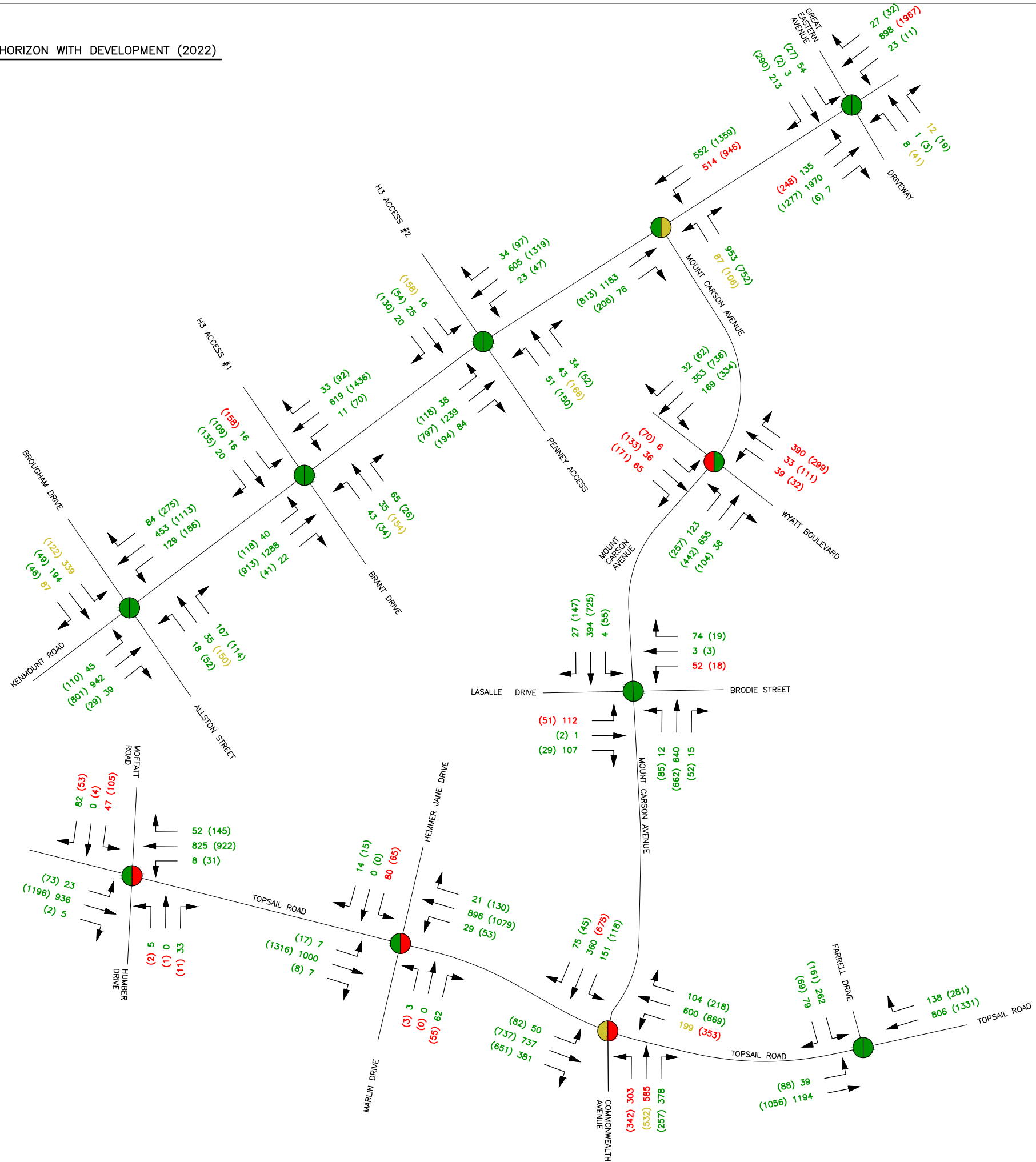
LOS E

LOS F

INTERSECTION LOS – AM (PM)

ROUNDABOUT LOS – AM (PM)

Figure 5: Scenario 1A - 5-year Horizon with Background Traffic (2022) Synchro LOS results



LEGEND

(##) TRAFFIC VOLUMES – AM (PM)

 LOS A–D

 LOS E

 LOS F

 INTERSECTION LOS – AM (PM)

 ROUNDABOUT LOS – AM (PM)

Figure 6: Scenario 1B - 5-year Horizon with Development Projections (2022) Synchro LOS results

7.3 5-year Horizon Improvements

Many of the study intersections experience poor levels of service during both the AM and PM peak hours under the 5-year horizon. A number of improvements are proposed to improve operations throughout the study area.

The intersection of Kenmount Road & Mount Carson Avenue shows poor levels of service in 2022. The westbound left turn movement is over capacity in both peak hours. While providing a dual left turn improves capacity for the movement it does not significantly improve delay at the intersection. In addition, the signal timings cannot be optimized to improve operations for the eastbound movements during the PM peak. Even with coordination in place on Kenmount Road, the eastbound queues create problems at the adjacent intersection of Kenmount Road & H3 Access #2/Penney Access. In order to improve operations, a multilane roundabout could be installed at Kenmount Road & Mount Carson Avenue. A concept plan for the roundabout is shown in Figure 7, and a full-size drawing can be found in Appendix E.

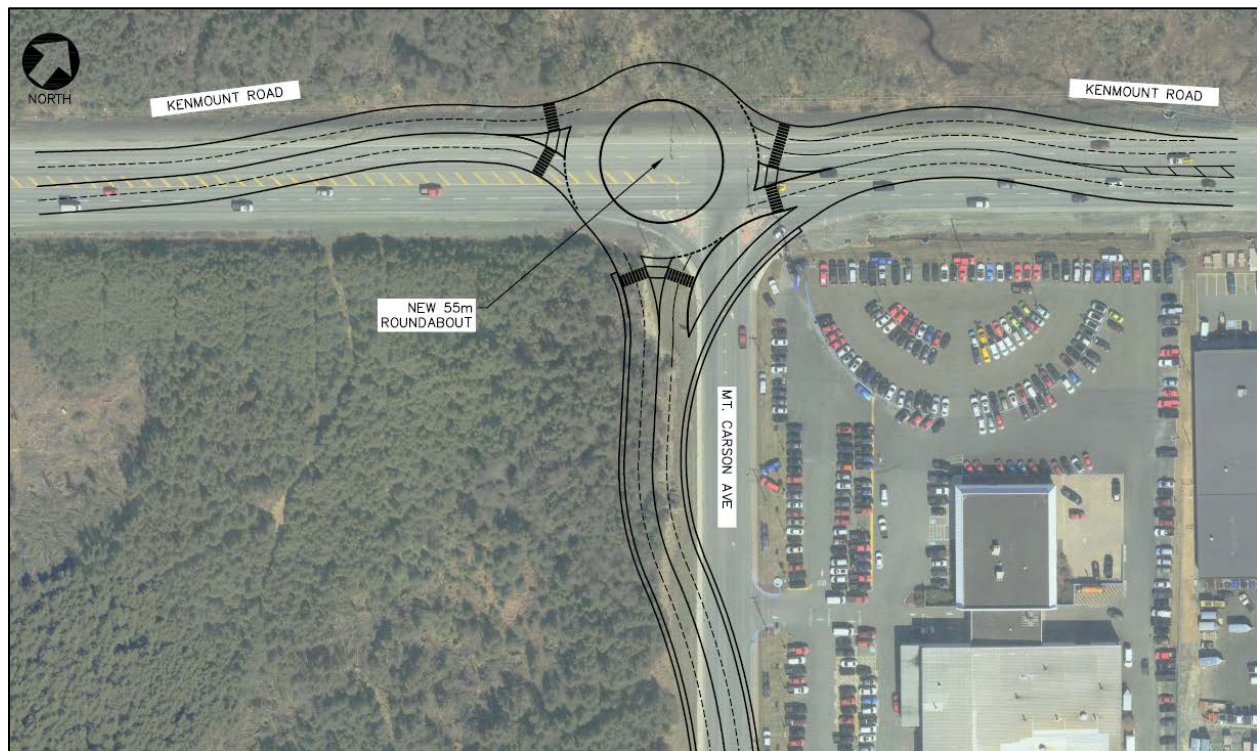


Figure 7: Roundabout at Kenmount Road & Mount Carson Avenue

With the development projections, the unsignalized intersection of Mount Carson Avenue & Wyatt Boulevard/Penney Access becomes a major access point for the residential development east of Wyatt and the Penney Group commercial property. The side street volumes are high and experience high delays in both peak hours. As shown in the development plan, a multilane roundabout could be installed at Mount Carson Avenue & Wyatt Boulevard/Penney Access. A concept plan for the roundabout is shown in Figure 8, and a full-size drawing can be found in Appendix E.

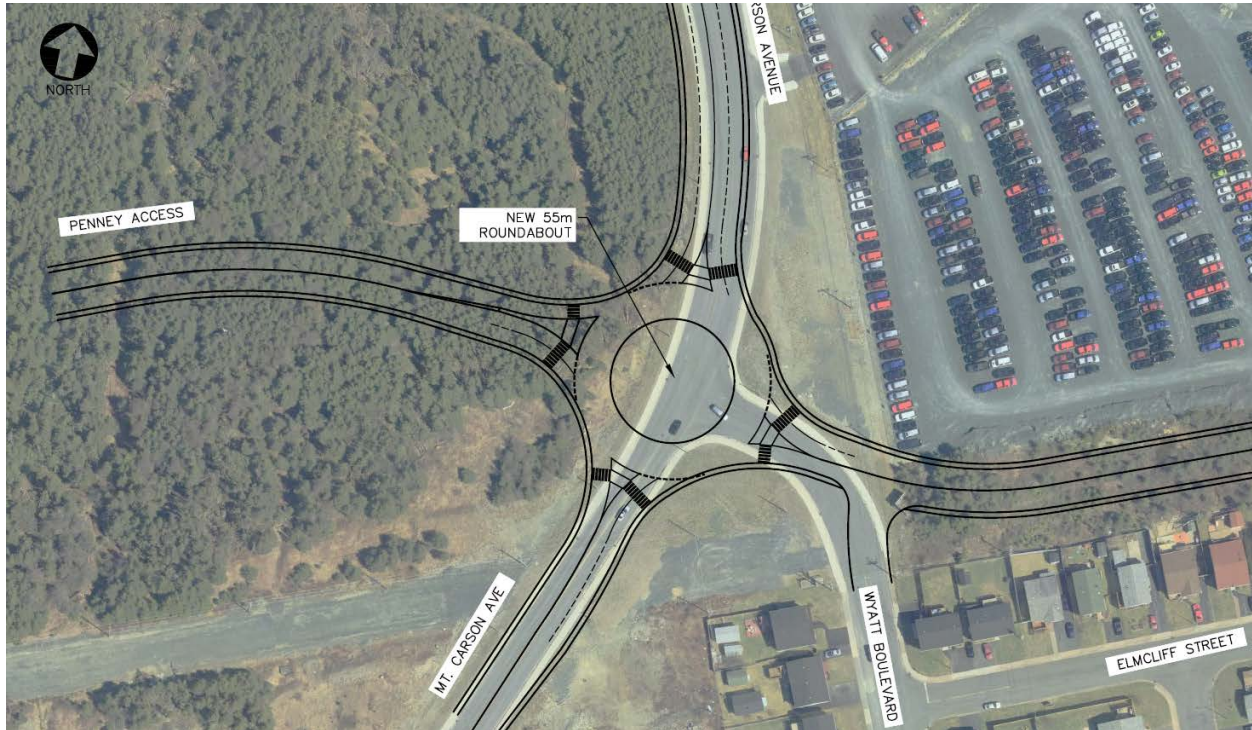


Figure 8: Roundabout at Mount Carson Avenue & Wyatt Boulevard

Side street movements at the unsignalized intersection of Mount Carson Avenue and Lasalle Drive/Brodie Street experience high delays in both peak hours due to the high through volumes on Mount Carson Avenue. Installing traffic signals at Mount Carson Avenue & Lasalle Drive/Brodie Street would improve level of service conditions for the side street movements.

The intersection of Topsail Road and Mount Carson Avenue/Commonwealth Avenue operates at an overall LOS E in the AM peak hour and LOS F in the PM peak hour. A number of movements are over capacity in both peak hours. In order to improve operations, a multilane roundabout could be installed at Topsail Road and Mount Carson Avenue/Commonwealth Avenue. A concept plan for the roundabout is shown in Figure 9. It should be noted that the concept plan works from a horizontal layout perspective, however there are significant grade changes on Commonwealth Avenue and Mount Carson Avenue leading up to the intersection. Survey information and a preliminary design is required to determine if the roundabout is feasible. A full-size drawing can be found in Appendix E.

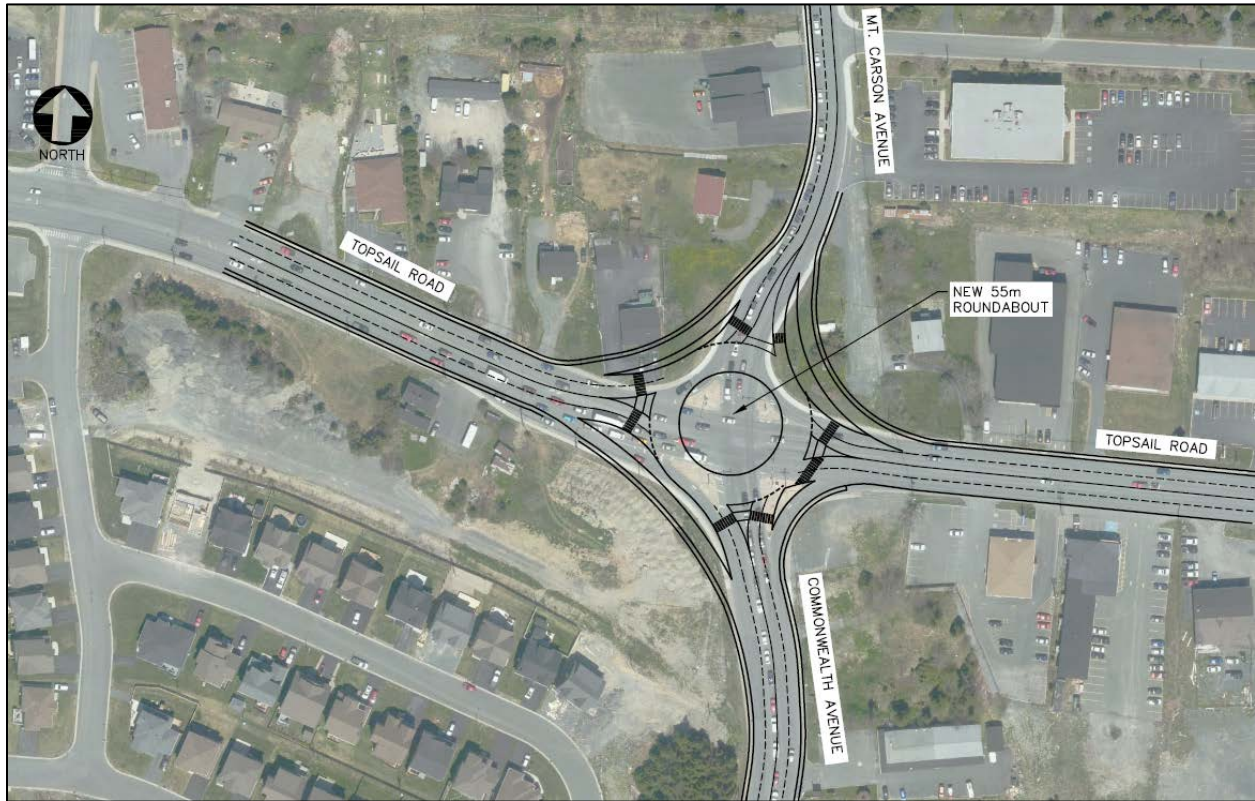


Figure 9: Roundabout at Topsail Road & Mount Carson Avenue/Commonwealth Avenue

7.4 Scenario 1C - 5-year Horizon with Improvements (2022)

Scenario 1C reflects the improvements discussed in the previous section. The improvements were modelled to determine their impact on operations. It should be noted that due to the installation of a roundabout at Kenmount Road and Mount Carson Avenue, the signalized intersection of Kenmount Road and Great Eastern Avenue is no longer coordinated with the remaining traffic signals on Kenmount Road.

The level of service conditions for the AM and PM peak hours of Scenario 1C are summarized in Figure 10. The detailed Synchro/SimTraffic and ARCADY reports are included in Appendix C and F respectively. Results of the analysis show some operational problems during the AM and PM peak hours.

The following intersections experience poor levels of service during the AM peak hour:

- Kenmount Road & Brougham Drive/Allston Street: The southbound left and right turn movements operate at LOS E in Synchro. SimTraffic shows the southbound left-turn and through movements operating at LOS F and the southbound right-turn and northbound through movements operating at LOS E.
- Kenmount Road & H3 Access #1/Brant Drive: SimTraffic shows the southbound through movement operating at LOS E.
- Kenmount Road & Great Eastern Avenue: The eastbound through and right turn movement are over capacity and operate at LOS F in Synchro; these movements operate at acceptable levels of service in SimTraffic.
- Topsail Road & Marlin Drive/Hemmer Jane Drive: The southbound left turn movement is over capacity and operates at LOS F in Synchro and SimTraffic. SimTraffic also shows the northbound left turn and southbound right turn operating at LOS F.

- Topsail Road & Moffatt Road/Humber Drive: The southbound left turn movement is over capacity and operates at LOS F in Synchro and SimTraffic. SimTraffic also shows the northbound left turn operating at LOS E.

The following intersections experience poor levels of service during the PM peak hour:

- Kenmount Road & Brougham Drive/Allston Street: The northbound through and the southbound left turn movements operate at LOS E in Synchro. The SimTraffic analysis shows all northbound movements operating at LOS F and the southbound left turn movement operating at LOS E.
- Kenmount Road & H3 Access #1/Brant Drive: The northbound through and southbound left turn movements operate at LOS E and LOS F in Synchro. Both movements operate at LOS E in SimTraffic. SimTraffic also shows the southbound through movement operating at LOS E.
- Kenmount Road & H3 Access #2/Penney Access: The northbound through and southbound left turn movements operate at LOS E in Synchro. In SimTraffic, the northbound through operates at LOS F and the south left turn operates at LOS E. SimTraffic also shows the northbound left turn movement operates at LOS E.
- Kenmount Road & Great Eastern Avenue: The eastbound left turn movement is over capacity and operates at LOS F in Synchro; the same movement operates at LOS D in SimTraffic. The westbound through movement is over capacity and operates at LOS F in Synchro and SimTraffic. The SimTraffic analysis also shows the westbound left turn movement operating at LOS F and the westbound right turn movement operating at LOS E.
- Topsail Road & Marlin Drive/Hemmer Jane Drive: The northbound movements operate at LOS F in Synchro and SimTraffic. The southbound left turn movement is over capacity and operates at LOS F in both Synchro and SimTraffic. SimTraffic also shows the southbound right turn operating at LOS F.
- Topsail Road & Moffatt Road/Humber Drive: The northbound movements operate at LOS F in Synchro; in SimTraffic, only the left turn and through movements operate at LOS F. The southbound movements operate at LOS F in both Synchro and SimTraffic; the left turn movement is over capacity.

The analysis shows that the LOS conditions are restored to acceptable levels at the four intersections with improvements. Poor levels of service are still observed on many of the side streets on Kenmount Road intersections due to the coordination of the traffic signals along Kenmount Road.



PLAN— SCENARIO 1C – 5-YEAR HORIZON WITH IMPROVMENTS (2022)
N.T.S.

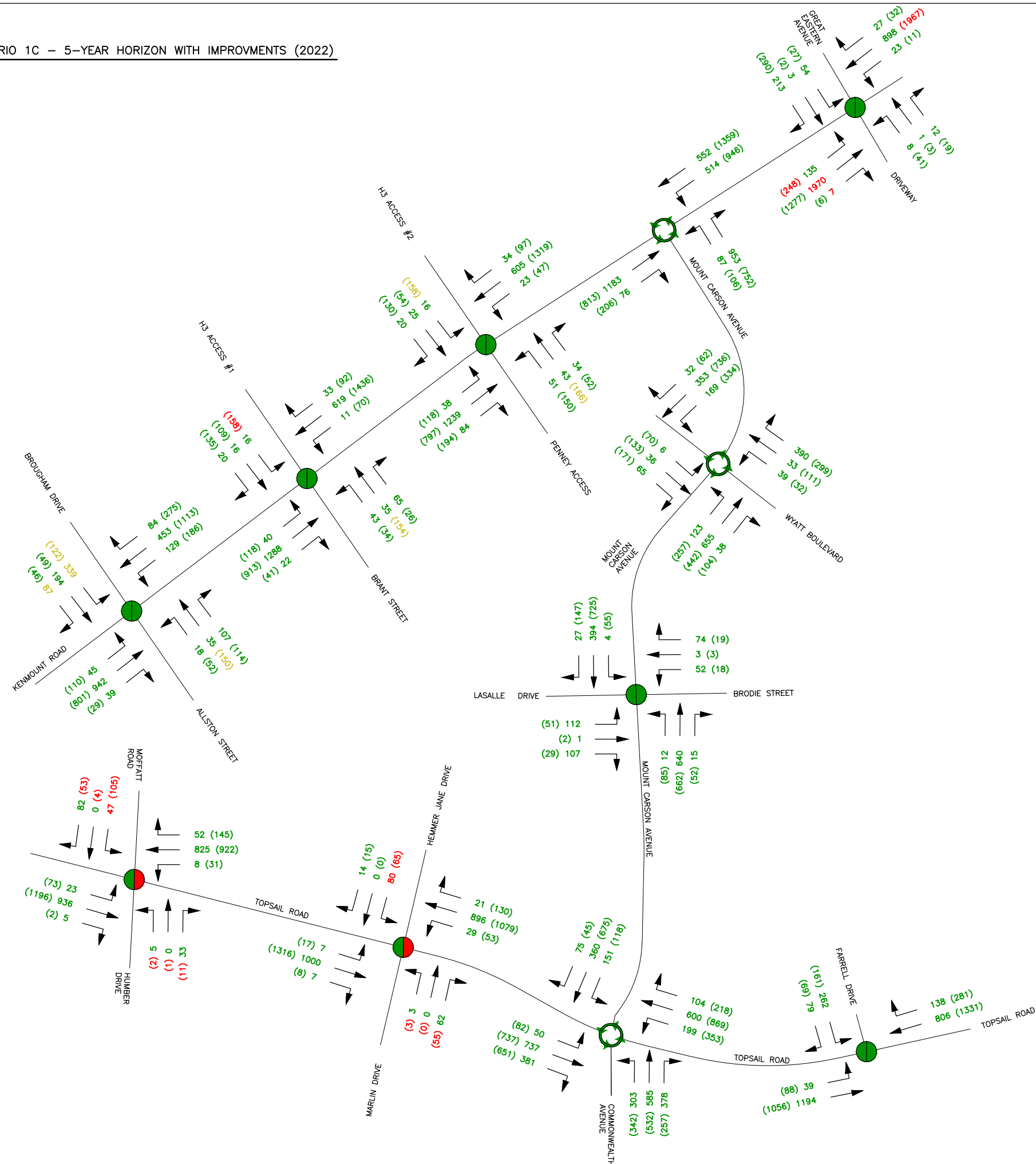


Figure 10: Scenario 1C - 5-year Horizon with Improvements (2022) Synchro LOS results

8.0 Scenario 2 – 10-year Horizon

The following sub scenarios reflect the 5-year improvements included in Scenario 1C:

- Multilane roundabout at Kenmount Road & Mount Carson Avenue
- Multilane roundabout at Mount Carson Avenue & Wyatt Boulevard/Penney Access
- Signalized intersection at Mount Carson Avenue & Lasalle Drive/Brodie Street
- Multilane roundabout at Topsail Road & Mount Carson Avenue/Commonwealth Avenue

8.1 Scenario 2A - 10-year Horizon with Background Traffic (2027)

The level of service conditions for the AM and PM peak hours of Scenario 2A are summarized in Figure 11. The detailed Synchro/SimTraffic and ARCADY reports are included in Appendix C and F respectively. Results of the analysis show some operational problems during the AM and PM peak hours.

The following intersections experience poor levels of service during the AM peak hour:

- Kenmount Road & Brougham Drive/Allston Street: The southbound left and right turn movements operate at LOS F and LOS E in Synchro. It should be noted that the southbound left turn movement is nearing capacity. SimTraffic shows all southbound movements operating at LOS F and the northbound through movement operating at LOS E.
- Kenmount Road & H3 Access #1/Brant Drive: SimTraffic shows the northbound through movement operating at LOS E.
- Kenmount Road & Great Eastern Avenue: The eastbound through and right turn movement are over capacity and operate at LOS F in Synchro; these movements operate at acceptable levels of service in SimTraffic.
- Topsail Road & Marlin Drive/Hemmer Jane Drive: The southbound left turn movement is over capacity and operates at LOS F in Synchro and SimTraffic. SimTraffic also shows the northbound left turn and southbound right turn operating at LOS F.
- Topsail Road & Moffatt Road/Humber Drive: The southbound left turn movement is over capacity and operates at LOS F in both Synchro and SimTraffic. The northbound movements operate at LOS E in Synchro. SimTraffic only shows the northbound left turn operating at LOS F.

The following intersections experience poor levels of service during the PM peak hour:

- Kenmount Road & Brougham Drive/Allston Street: The northbound through and the southbound left turn movements operate at LOS E in Synchro. SimTraffic shows all northbound movements operating at LOS F and the southbound left turn movement operating at LOS E.
- Kenmount Road & H3 Access #1/Brant Drive: The northbound through and southbound left turn movements operate at LOS E and LOS F in Synchro and SimTraffic. The southbound left turn is over capacity. SimTraffic also shows the southbound through and right movements operating at LOS F.
- Kenmount Road & H3 Access #2/Penney Access: The northbound through and southbound left turn movements operate at LOS E and LOS F in Synchro. In SimTraffic, both movements operate at LOS F. SimTraffic also shows the northbound left turn and southbound through movements operating at LOS E.
- Kenmount Road & Great Eastern Avenue: The eastbound left turn movement is over capacity and operates at LOS F in Synchro; the same movement operates at LOS D in SimTraffic. The westbound through movement is over capacity and operates at LOS F in Synchro and SimTraffic. SimTraffic also

shows the westbound left turn movement operating at LOS F and the westbound right turn and southbound through movements operating at LOS E.

- Topsail Road & Marlin Drive/Hemmer Jane Drive: The northbound movements operate at LOS F in Synchro and SimTraffic. The southbound left turn movement is over capacity and operates at LOS F in both Synchro and SimTraffic. SimTraffic also shows the southbound right turn operating at LOS F.
- Topsail Road & Moffatt Road/Humber Drive: The northbound movements operate at LOS F in Synchro; in SimTraffic, only the left turn and through movements operate at LOS F. The southbound movements operate at LOS F in both Synchro and SimTraffic; the left turn movement is over capacity.

8.2 Scenario 2B - 10-year Horizon with Development Projections (2027)

The level of service conditions for the AM and PM peak hours of Scenario 2B are summarized in Figure 12. The detailed Synchro/SimTraffic and ARCADY reports are included in Appendix C and F respectively. Results of the analysis show some operational problems during the AM and PM peak hours.

The following intersections experience poor levels of service during the AM peak hour:

- Kenmount Road & Brougham Drive/Allston Street: The southbound left and right turn movements operate at LOS F and LOS E in Synchro. It should be noted that the southbound left turn movement is nearing capacity. SimTraffic shows all southbound movements operating at LOS F and the northbound through movement operating at LOS E.
- Kenmount Road & H3 Access #1/Brant Drive: SimTraffic shows the northbound through movement operating at LOS E.
- Kenmount Road & H3 Access #2/Penney Access: SimTraffic shows the northbound left and through and the southbound through movements operating at LOS E.
- Kenmount Road & Great Eastern Avenue: The eastbound through and right turn movement are over capacity and operate at LOS F in Synchro; these movements operate at acceptable levels of service in SimTraffic.
- Topsail Road & Marlin Drive/Hemmer Jane Drive: The southbound left turn movement is over capacity and operates at LOS F in Synchro and SimTraffic. SimTraffic also shows the northbound left turn and southbound right turn operating at LOS F.
- Topsail Road & Moffatt Road/Humber Drive: The southbound left turn movement is over capacity and operates at LOS F in both Synchro and SimTraffic. The northbound movements operate at LOS E in Synchro; SimTraffic shows the northbound left turn operating at LOS E.

The following intersections experience poor levels of service during the PM peak hour:

- Kenmount Road & Brougham Drive/Allston Street: The northbound through and the southbound left turn movements operate at LOS E in Synchro. SimTraffic shows all northbound movements operating at LOS F and the southbound left turn movement operating at LOS E.
- Kenmount Road & H3 Access #1/Brant Drive: The northbound through and southbound left turn movements operate at LOS E and LOS F in Synchro. The southbound left turn is over capacity. SimTraffic shows all southbound movements operating at LOS F and the northbound through and the westbound left and through movements operating at LOS E.
- Kenmount Road & H3 Access #2/Penney Access: The northbound through and southbound left turn movements operate at LOS E in Synchro. In SimTraffic, both movements operate at LOS F.

SimTraffic also shows the northbound left turn operating at LOS F and the northbound right and southbound through movement operating at LOS E.

- Kenmount Road & Great Eastern Avenue: The eastbound left turn movement is over capacity and operates at LOS F in Synchro; the same movement operates at LOS D in SimTraffic. The westbound through movement is over capacity and operates at LOS F in Synchro and SimTraffic. The SimTraffic analysis also shows the westbound left turn movement operating at LOS F and the westbound right turn and southbound through movements operating at LOS E.
- Topsail Road & Marlin Drive/Hemmer Jane Drive: The northbound movements operate at LOS F in Synchro, SimTraffic shows the left turn movement operating at LOS F and the right turn movement operating at LOS E. The southbound left turn movement is over capacity and operates at LOS F in both Synchro and SimTraffic. SimTraffic also shows the southbound right turn operating at LOS F.

Topsail Road & Moffatt Road/Humber Drive: The northbound movements operate at LOS F in Synchro; in SimTraffic, only the left turn and through movements operate at LOS F. The southbound movements operate at LOS F in both Synchro and SimTraffic; the left turn movement is over capacity.



PLAN— SCENARIO 2A – 10-YEAR HORIZON WITH BACKGROUND (2027)
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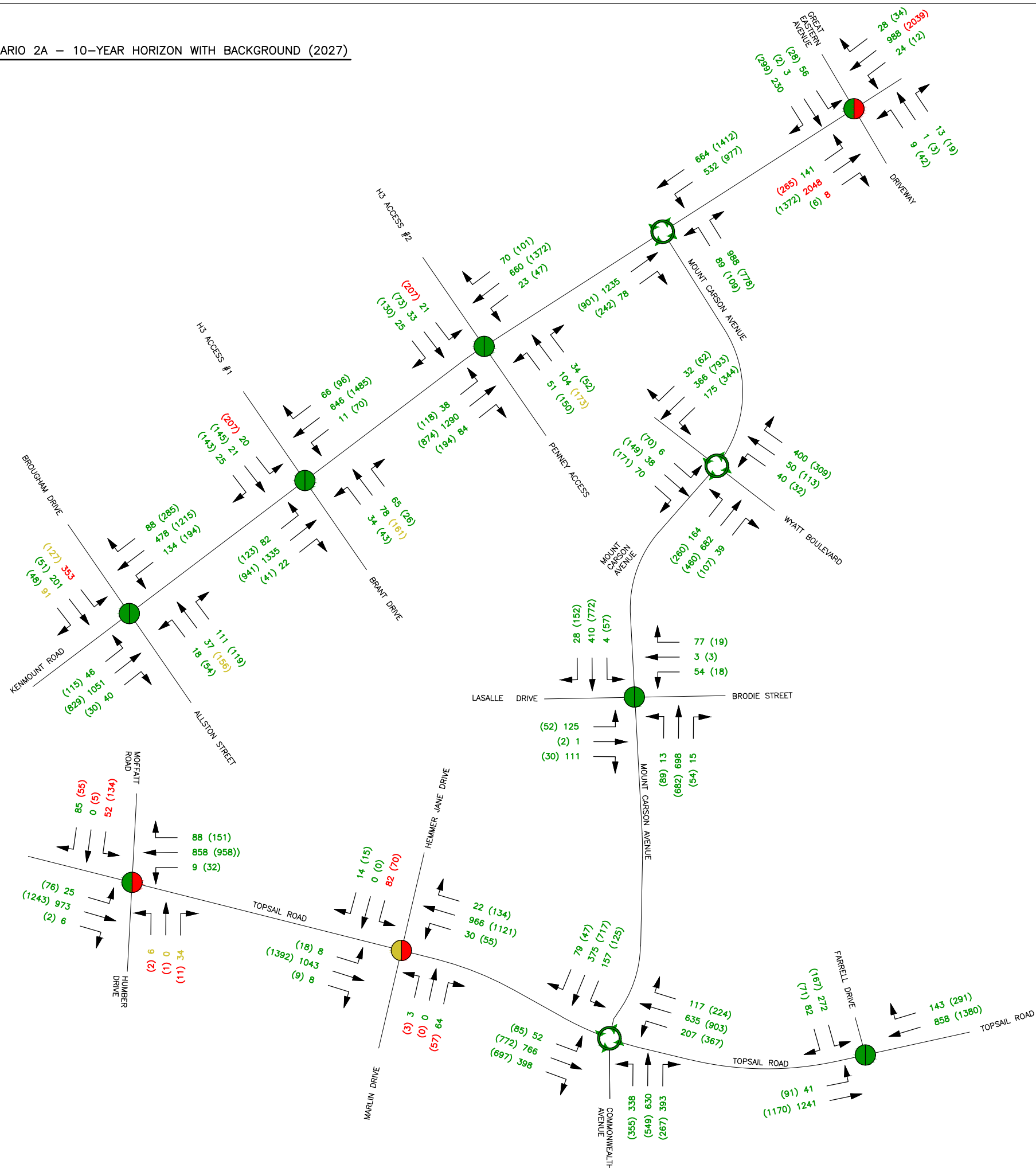
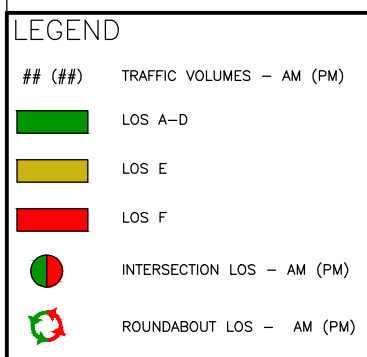


Figure 11: Scenario 2A - 10-year Horizon with Background Traffic (2027) Synchro LOS results

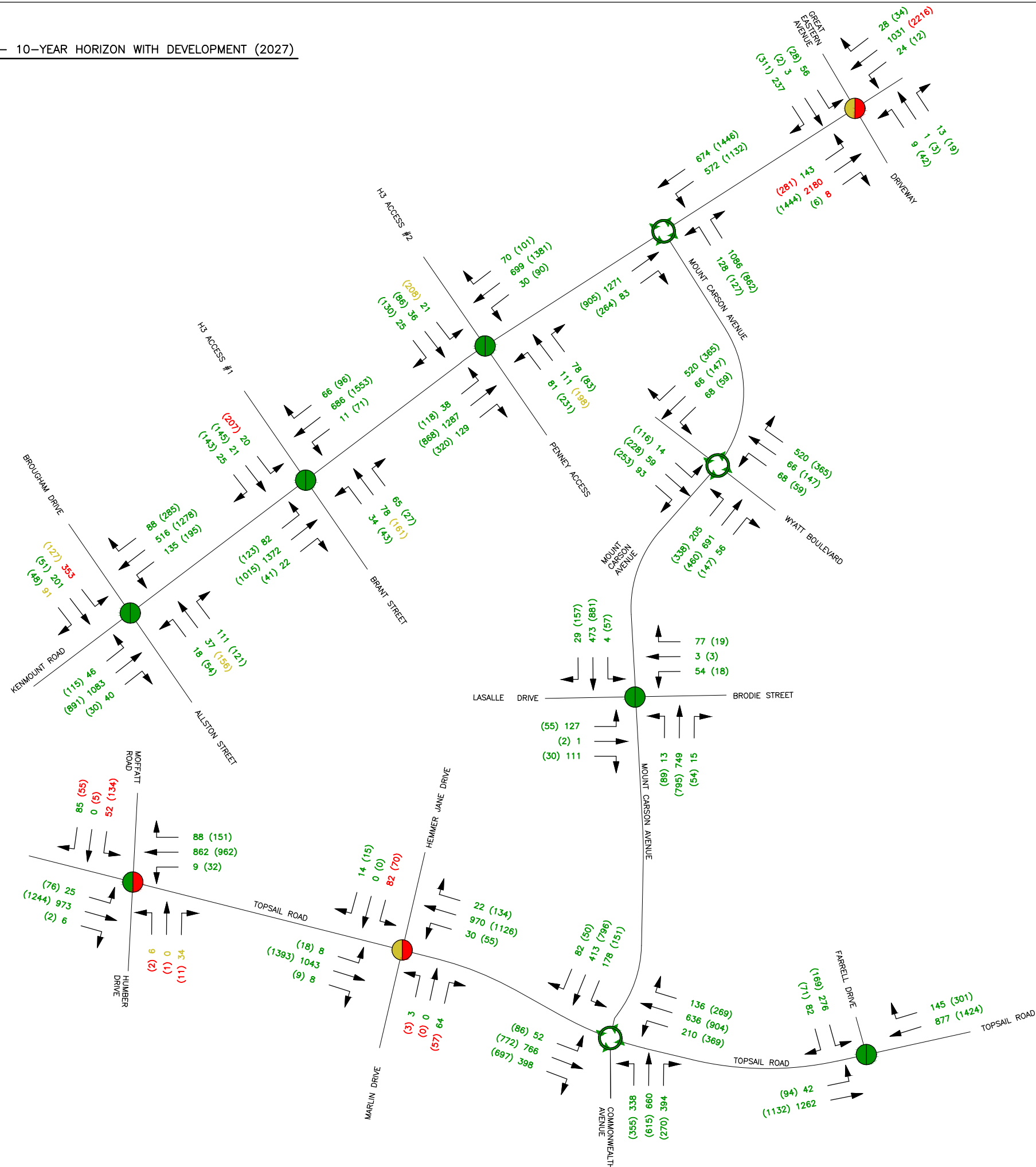
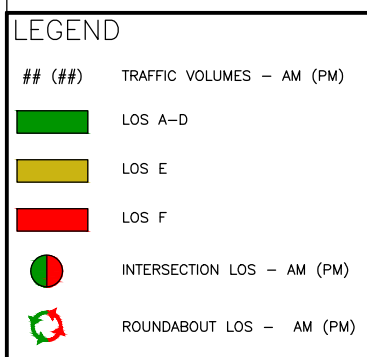


Figure 12: Scenario 2B - 10-year Horizon with Development Projections (2027) Synchro LOS results

8.4 10-year Horizon Improvements

Under the 10-year full build out horizon (Scenario 1B), even with signals coordination along Kenmount Road, some of the westbound movements on Kenmount Road experience poor level of service during the PM peak hour in the SimTraffic analysis. The delay is highest at Kenmount Road and Great Eastern Avenue where the westbound through movement is over capacity. Delays improve moving westward as volumes decrease.

The completion of the Team Gushue Highway is anticipated to reduce traffic volumes along Kenmount Road. Previous transportation modelling efforts have indicated the potential for reductions up to 25 percent. If these reductions in traffic volumes are to materialize, the level of service conditions at signalized intersections on Kenmount Road would improve. The eastbound and westbound movements would likely operate at acceptable levels of service. While poor levels of service may continue to be observed on some of the side streets at Kenmount Road intersections, reductions in through volumes on Kenmount would likely improve reduce delay for side street movements.

If these reductions in volumes do not materialize on Kenmount Road, other ways to improve side street operations could include converting intersections to roundabouts. A multilane roundabout could be installed at the intersection of Kenmount Road and H3 Access #2/Penney Access. Since it is a future intersection, the roundabout could be built rather than a traffic signal if the City of St. John's approved a roundabout corridor on Kenmount Road. Consideration should be given to converting other intersections to roundabouts including Kenmount Road and Great Eastern and Kenmount Road and H3 Access #1/Brant Drive if conditions deteriorate.

Another strategy to improve operations along Kenmount Road is to develop a Transportation Demand Management program to reduce vehicle demand on Kenmount Road. Transportation Demand Management (TDM) involves the use of various policies, programs, services and products to influence the manner in which people travel. The idea of TDM is to motivate people to travel using different modes of transportation including walking, cycling, transit and ridesharing. For individuals that take advantage of TDM programs and services, they have greater choices and convenience, they save both time and money, and they reap the benefits of a healthier more sustainable lifestyle.

By properly managing the demand for travel, municipalities can reduce the need for new or widened roads, reduce the environmental and social costs of car use, and increase their return on the investments they have made in walking, cycling, transit and ridesharing throughout the communities they manage.

A number of different strategies could be employed to more effectively promote and enhance Transportation Demand Management in relation to public transit, parking, cycling, walking and active transportation. These strategies include:

- Partnerships to promote sustainable transportation and awareness of the benefits of public transportation.
- Improve transit facilities to improve bus access and customer amenities using transit-friendly design guidelines.
- Partnerships to promote active transportation initiatives.
- Develop parking policies that encourage greater transit use.
- Investigate the use of transit priority measures to reduce transit travel times and improve schedule adherence and on-time performance.

- Use Intelligent Transportation Systems to improve transit service.

8.5 Scenario 2C- 10-year Horizon with Improvements (2027)

Under Scenario 2C, the only improvement included is a roundabout at Kenmount Road and H3 Access #2/Penney Access. The level of service conditions for the AM and PM peak hours of Scenario 2C are summarized in Figure 12. The detailed Synchro/SimTraffic and ARCADY reports are included in Appendix C and F respectively. Results of the analysis show some operational problems during the AM and PM peak hours. The same problems as in Scenario 2B are observed with the exception of Kenmount Road and H3 Access #2/Penney Access which operates at acceptable levels of service in both peak hours.

The following intersections experience poor levels of service during the AM peak hour:

- Kenmount Road & Brougham Drive/Allston Street: The southbound left and right turn movements operate at LOS F and LOS E in Synchro. It should be noted that the southbound left turn movement is nearing capacity. SimTraffic shows all southbound movements operating at LOS F and the northbound through movement operating at LOS E.
- Kenmount Road & H3 Access #1/Brant Drive: SimTraffic shows the southbound through movement operating at LOS E.
- Kenmount Road & Great Eastern Avenue: The eastbound through and right turn movement are over capacity and operate at LOS F in Synchro; these movements operate at acceptable levels of service in SimTraffic.
- Topsail Road & Marlin Drive/Hemmer Jane Drive: The southbound left turn movement is over capacity and operates at LOS F in Synchro and SimTraffic. SimTraffic also shows the southbound right turn operating at LOS F.
- Topsail Road & Moffatt Road/Humber Drive: The southbound left turn movement is over capacity and operates at LOS F in both Synchro and SimTraffic. The northbound movements operate at LOS E in Synchro. SimTraffic only shows the northbound left turn operating at LOS F.

The following intersections experience poor levels of service during the PM peak hour:

- Kenmount Road & Brougham Drive/Allston Street: The northbound through and the southbound left turn movements operate at LOS E in Synchro. The SimTraffic analysis shows all northbound movements operating at LOS F and the southbound left turn movement operating at LOS E.
- Kenmount Road & H3 Access #1/Brant Drive: The northbound through and southbound left turn movements operate at LOS E and LOS F in Synchro. The southbound left turn is over capacity. SimTraffic shows the southbound left turn operating at LOS F and the northbound through, the westbound left and through and the eastbound left turn movements operating at LOS E.
- Kenmount Road & Great Eastern Avenue: The eastbound left turn movement is over capacity and operates at LOS F in Synchro; the same movement operates at LOS D in SimTraffic. The westbound through movement is over capacity and operates at LOS F in Synchro and SimTraffic. SimTraffic also shows the westbound left turn movement operating at LOS F and the westbound right turn and southbound through movements operating at LOS E.
- Topsail Road & Marlin Drive/Hemmer Jane Drive: The northbound movements operate at LOS F in Synchro and SimTraffic. The southbound left turn movement is over capacity and operates at LOS F in both Synchro and SimTraffic. SimTraffic also show the southbound right turn operating at LOS F.

- Topsail Road & Moffatt Road/Humber Drive: The northbound movements operate at LOS F in Synchro; in SimTraffic, only the left turn and through movements operate at LOS F, the right turn movement operates at LOS E. The southbound movements operate at LOS F in both Synchro and SimTraffic; the left turn movement is over capacity.

9.0 Traffic Signals at Topsail Road & Humber Drive/Moffatt Road

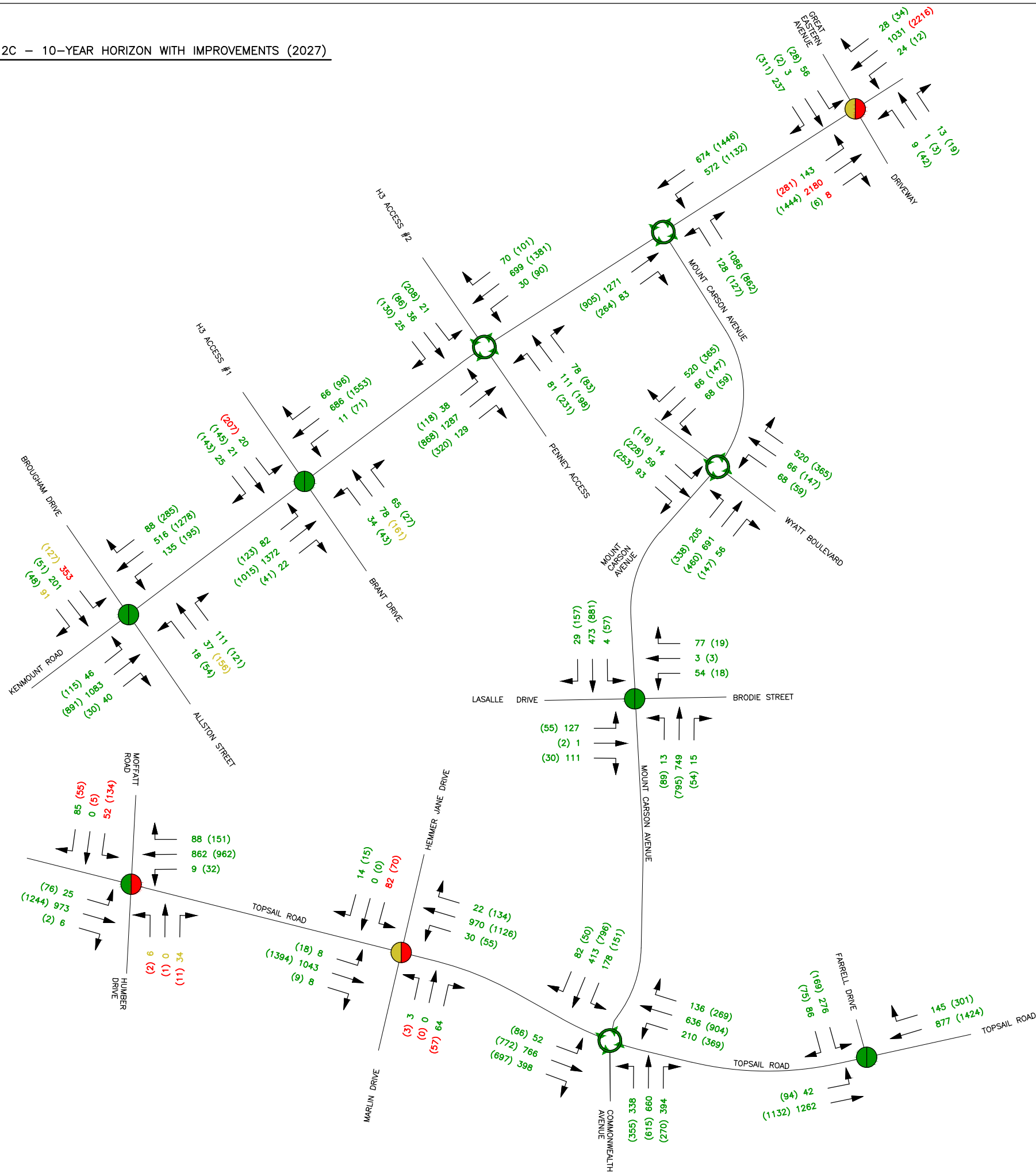
Traffic signals are not warranted at Topsail Road and Marlin Drive/ Hemmer Jane Drive and Topsail Road and Humber Drive/Moffatt Road under existing traffic volumes. While the traffic volume forecasts for the 5-year and 10-year horizons with a background growth rate of 0.8 percent do not warrant traffic signal, the capacity analysis indicates that the delays observed at the intersections' side street will be over 5 minutes by the 5-year horizon.

If a traffic signal was installed at one of the two intersections it could be assumed that the majority of the side street traffic from the other intersection would use the signalized intersection rather than facing long delays at the unsignalized intersection. When the existing side street volumes from Marlin Drive/Hemmer Jane are combined with the volumes at Humber Drive/Moffatt Road, traffic signals are warranted based on the volumes.

Traffic signals could be installed at the intersection of Topsail Road and Humber Drive/Moffatt Road since the intersection is better positioned away from Topsail Road and Mount Carson/Commonwealth Avenue. The signals would facilitate access in and out of the residential developments and provide a pedestrian crossing location along Topsail Road. This intersection would provide an important active transportation connection between the lands to the north of Topsail Road and the Waterford River corridor in an area where no crossings currently exist.



PLAN— SCENARIO 2C – 10-YEAR HORIZON WITH IMPROVEMENTS (2027)
N.T.S.



LEGEND

(##) TRAFFIC VOLUMES – AM (PM)

LOS A-D

LOS E

LOS F

INTERSECTION LOS – AM (PM)

ROUNDABOUT LOS – AM (PM)

Figure 13: Scenario 2C - 10-year Horizon with Improvements (2027) Synchro LOS results

10.0 Cost Estimates

Class “D” cost estimates were prepared for the proposed improvements. It should be noted that these cost estimates are high-level and do not reflect any land acquisition that may be required.

Prior to the 5-year timeframe, a signalized intersection (or roundabout) must be constructed at Kenmount Road & H3 Access #2/Penney Access as the accesses to the developments are constructed. The cost of this intersection was included in the 5-year improvements. The total cost for improvements required by 2022 is estimated at \$5,450,000.

5-year Improvements (2022) – with Signal at H3 Access #2/Penney Access

Signalized intersection at Kenmount Road & H3 Access #2/Penney Access	\$550,000
Roundabout at Kenmount Road & Mount Carson Avenue	\$1,500,000
Roundabout at Mount Carson Avenue & Wyatt Boulevard/Penney Access	\$1,000,000
Signalized intersection at Mount Carson Avenue & Lasalle Drive/Brodie Street	\$400,000
Roundabout at Topsail Road & Mount Carson Avenue/Commonwealth Avenue	\$2,000,000
Total	\$5,450,000

The only improvement for the 10-year timeframe included in the analysis was to convert the Kenmount Road and H3 Access #2/Penney Access to a roundabout. The cost of this roundabout is estimated at \$1,500,000. However, since this intersection has not yet been constructed the roundabout could be built when the intersection is constructed before 2022. Replacing the signalized intersection with the roundabout yields a total cost for improvements of \$6,400,000.

5-year Improvements (2022) – with Roundabout at H3 Access #2/Penney Access

Roundabout at Kenmount Road & H3 Access #2/Penney Access	\$1,500,000
Roundabout at Kenmount Road & Mount Carson Avenue	\$1,500,000
Roundabout at Mount Carson Avenue & Wyatt Boulevard/Penney Access	\$1,000,000
Signalized intersection at Mount Carson Avenue & Lasalle Drive/Brodie Street	\$400,000
Roundabout at Topsail Road & Mount Carson Avenue/Commonwealth Avenue	\$2,000,000
Total	\$6,400,000

11.0 Conclusions

Harbourside Transportation Consultants (HTC) was retained by the City of Mount Pearl to prepare a Traffic Impact Study (TIS) to quantify the impacts of the proposed development scenario identified in the Kenmount Hill CDS.

The study area focused on major intersections along Kenmount Road (from Brougham Drive to Great Eastern Avenue), Mount Carson Avenue, and Topsail (from Moffatt Road to Farrell Drive). A total of eleven intersections were analyzed, including nine existing intersections and two future intersections. The intersections were analyzed under existing conditions (2017) and two study horizons: 5-year horizon (2022) and 10-year horizon (2027).

Existing traffic volumes were factored using a background traffic growth rate of 0.8 percent per year to reflect normal increases in traffic on the study area road network for each study horizon. To provide a complete outlook of future conditions for the study timeframes, significant developments in the vicinity of the study area were included in the analysis. These included the H3 Development on Kenmount Road

(314,830 sq.ft. of commercial and 434,937 sq.ft. of industrial space) and the residential development in the Moffatt Road/Brant Drive area (162 dwelling units).

The trips generation rates for the surrounding developments were quantified using the 10th edition of the *ITE Trip Generation Manual* and reduced to reflect pass-by trips for the commercial land uses. Overall, the background developments are expected to generate a total of 702 trips in the AM peak hour (508 trips in/194 trips out) and 1759 trips in the PM peak hour (800 trips in/959 trips out) by 2027.

The proposed development scenario for the lands above the 190 metre contour elevation identified in the CDS includes residential and commercial highway developments which can be broken down into four main areas:

- Residential area east of Wyatt Boulevard: 714 dwelling units
- Commercial area east of Wyatt Boulevard: 113,602 sq.ft. of commercial - not anticipated to materialize within the study timeframe
- Commercial area west of Wyatt Boulevard: 262,000 square feet of commercial space and 300 dwelling units
- Residential area north of Masonic Park: 222 senior adult housing units

The trips generation rates were quantified using the 10th edition of the *ITE Trip Generation Manual* and reduced to reflect pass-by trips for the commercial land uses. Overall, the proposed developments are expected to generate 1038 trips in the AM peak hour (444 trips in/594 trips out) and 2018 trips in the PM peak hour (1118 trips in/900 trips out). Trips were distributed to the study area road network using the St. John's Regional PTV Visum model calibrated for the City of Mount Pearl.

A number of assessment scenarios were performed to quantify the impact of the proposed developments on the study area road network. The study included the assessment of the following scenarios:

- Scenario 0 – Existing Conditions (2017)
- Scenario 1 – 5-year Horizon (2022)
 - Scenario 1A – 5-year Horizon with Background Traffic: This scenario includes background traffic growth, full-build out of the residential development in the Moffatt Road/Brant Drive area and Phase 1 of the H3 Development.
 - Scenario 1B – 5-year Horizon with Development Projections: This scenario includes the background traffic included in Scenario 1A and the 5-year development projection for the development.
 - Scenario 1C – 5-year Horizon with Development Projection and Improvements: This scenario reflects improvements required to accommodate the volumes from Scenario 1B.
- Scenario 2 – 10-year Horizon (2027)
 - Scenario 2A – 10-year Horizon with Background Traffic: This scenario includes background traffic growth, full-build out of the residential development in the Moffatt Road/Brant Drive area, full build-out of the H3 Development and the 5-year development projection.
 - Scenario 2B – 10-year Horizon with Development Projections: This scenario includes the background traffic included in Scenario 2A and the 10-year development projection for the development.
 - Scenario 2C – 10-year Horizon with Development Projection and Improvements: This scenario reflects improvements required to accommodate the volumes from Scenario 2B.

Under the analysis of the 5-year study horizon, a number of operational problems are identified in the AM and PM peak hours. The following improvements are proposed for 2022 to improve operations throughout the study area:

- Multilane roundabout at Kenmount Road & Mount Carson Avenue
- Multilane roundabout at Mount Carson Avenue & Wyatt Boulevard
- Signalized intersection at Mount Carson Avenue & Lasalle Drive/Brodie Street
- Multilane roundabout at Topsail Road & Mount Carson Avenue/Commonwealth Avenue

With the improvements in place, high delays remain along the side streets at unsignalized intersections on Topsail Road. Also, coordination of the traffic signals along Kenmount Road to prioritize the through movements along Kenmount Road cause poor levels of service on side street approaches. The levels of service for these approaches cannot be improved without negatively impacting the level of service along Kenmount Road.

Under the analysis of the 10-year study horizon, the same problems persist. In addition, at Kenmount Road and Great Eastern, the westbound volumes on Kenmount Road are over capacity. Even with coordination in place throughout the remainder of the corridor the westbound movements experience poor levels of service.

The completion of the Team Gushue Highway is anticipated to reduce traffic volumes along Kenmount Road. Previous transportation modelling efforts have indicated the potential for reductions up to 25 percent. If these reductions in traffic volumes are to materialize, the level of service conditions at signalized intersections on Kenmount Road would improve. The eastbound and westbound movements would likely operate at acceptable levels of service and the side street delays would be reduced.

If these reductions in volumes do not materialize, converting intersections to roundabouts along Kenmount Road could improve level of service conditions. A multilane roundabout could be installed at the intersection of Kenmount Road and H3 Access #2/Penney Access. Since this is a future intersection it could be constructed as a roundabout when the H3 Development and Penney Group Development accesses are constructed rather than a traffic signal. Consideration should be given to converting other intersections to roundabouts including Kenmount Road and Great Eastern and Kenmount Road and H3 Access #1/Brant Drive if conditions deteriorate.

Another strategy to reduce vehicle demand on Kenmount Road is to develop a Transportation Demand Management program. TDM uses various policies, programs, services and products to influence the manner in which people travel and reduce vehicle demand by promoting transit and active transportation.

High-level Class "D" cost estimates were prepared for the proposed improvements. The total cost for improvements is estimated at \$5,450,000 with a signalized intersection at Kenmount Road and H3 Access #2/Penney Access. The only improvement identified for the 10-year timeframe is a roundabout at Kenmount Road and H3 Access #2/Penney Access, the cost of this roundabout is estimated at \$1,500,000. Since this is a future intersection it could be built as a roundabout when the intersection is created. The total cost for improvements is estimated at \$6,400,000 with a roundabout at Kenmount Road and H3 Access #2/Penney Access.



Appendix A

Traffic Counts



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Count Name: Kenmount Road & Brougham Drive
 Site Code:
 Start Date: 02/21/2017
 Page No: 1

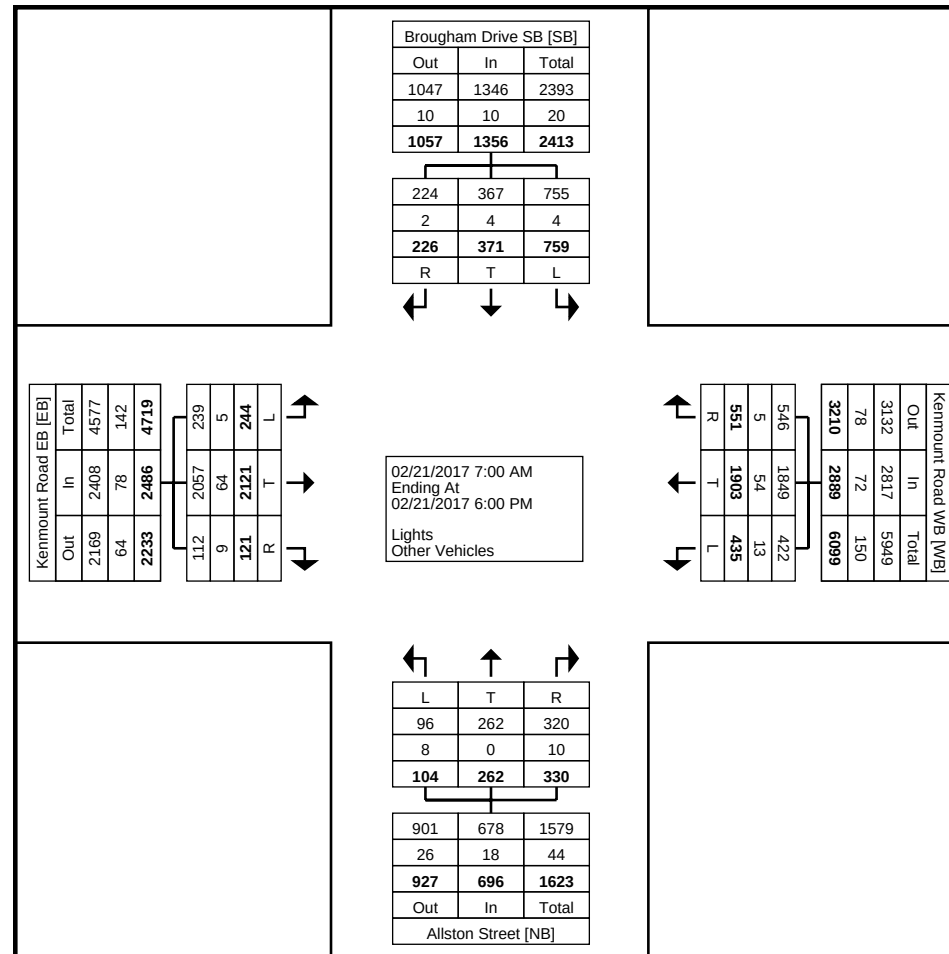
Turning Movement Data

Start Time	Brougham Drive SB Southbound				Kenmount Road WB Westbound				Allston Street Northbound				Kenmount Road EB Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
7:00 AM	5	11	56	72	2	39	7	48	8	3	2	13	11	113	3	127	260
7:15 AM	4	29	48	81	6	58	18	82	8	3	1	12	10	144	3	157	332
7:30 AM	23	30	72	125	14	74	25	113	16	4	2	22	9	177	6	192	452
7:45 AM	25	51	83	159	28	104	43	175	32	6	5	43	17	206	13	236	613
Hourly Total	57	121	259	437	50	275	93	418	64	16	10	90	47	640	25	712	1657
8:00 AM	15	55	88	158	27	78	30	135	19	7	6	32	13	151	13	177	502
8:15 AM	24	53	85	162	12	80	25	117	28	14	5	47	4	201	7	212	538
8:30 AM	20	27	70	117	14	68	26	108	24	7	1	32	3	173	9	185	442
8:45 AM	12	28	34	74	5	67	19	91	18	2	4	24	4	139	5	148	337
Hourly Total	71	163	277	511	58	293	100	451	89	30	16	135	24	664	34	722	1819
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	12	9	20	41	39	185	27	251	23	18	5	46	8	110	20	138	476
4:15 PM	8	12	19	39	53	189	30	272	24	35	7	66	10	91	14	115	492
4:30 PM	12	10	34	56	67	192	52	311	33	28	11	72	6	153	29	188	627
4:45 PM	16	12	34	62	71	178	56	305	23	38	9	70	7	89	30	126	563
Hourly Total	48	43	107	198	230	744	165	1139	103	119	32	254	31	443	93	567	2158
5:00 PM	8	13	30	51	73	182	41	296	28	43	23	94	5	127	33	165	606
5:15 PM	12	12	30	54	62	160	15	237	21	25	6	52	9	92	27	128	471
5:30 PM	14	11	31	56	42	138	13	193	18	21	9	48	3	76	17	96	393
5:45 PM	16	8	25	49	36	111	8	155	7	8	8	23	2	79	15	96	323
Hourly Total	50	44	116	210	213	591	77	881	74	97	46	217	19	374	92	485	1793
Grand Total	226	371	759	1356	551	1903	435	2889	330	262	104	696	121	2121	244	2486	7427
Approach %	16.7	27.4	56.0	-	19.1	65.9	15.1	-	47.4	37.6	14.9	-	4.9	85.3	9.8	-	-
Total %	3.0	5.0	10.2	18.3	7.4	25.6	5.9	38.9	4.4	3.5	1.4	9.4	1.6	28.6	3.3	33.5	-
Lights	224	367	755	1346	546	1849	422	2817	320	262	96	678	112	2057	239	2408	7249
% Lights	99.1	98.9	99.5	99.3	99.1	97.2	97.0	97.5	97.0	100.0	92.3	97.4	92.6	97.0	98.0	96.9	97.6
Other Vehicles	2	4	4	10	5	54	13	72	10	0	8	18	9	64	5	78	178
% Other Vehicles	0.9	1.1	0.5	0.7	0.9	2.8	3.0	2.5	3.0	0.0	7.7	2.6	7.4	3.0	2.0	3.1	2.4



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Count Name: Kenmount Road & Brougham
Drive
Site Code:
Start Date: 02/21/2017
Page No: 2



Turning Movement Data Plot



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Count Name: Kenmount Road & Brougham
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 Site Code:
 Start Date: 02/21/2017
 Page No: 3

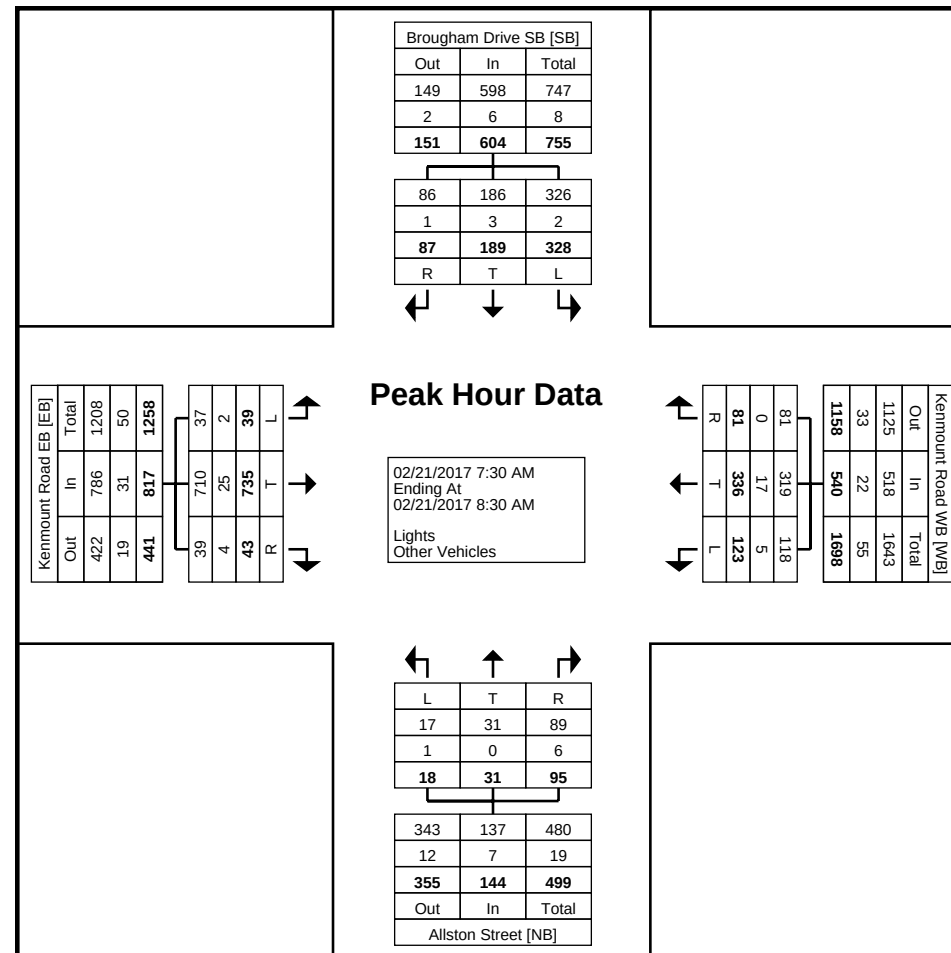
Turning Movement Peak Hour Data (7:30 AM)

Start Time	Brougham Drive SB Southbound				Kenmount Road WB Westbound				Allston Street Northbound				Kenmount Road EB Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
7:30 AM	23	30	72	125	14	74	25	113	16	4	2	22	9	177	6	192	452
7:45 AM	25	51	83	159	28	104	43	175	32	6	5	43	17	206	13	236	613
8:00 AM	15	55	88	158	27	78	30	135	19	7	6	32	13	151	13	177	502
8:15 AM	24	53	85	162	12	80	25	117	28	14	5	47	4	201	7	212	538
Total	87	189	328	604	81	336	123	540	95	31	18	144	43	735	39	817	2105
Approach %	14.4	31.3	54.3	-	15.0	62.2	22.8	-	66.0	21.5	12.5	-	5.3	90.0	4.8	-	-
Total %	4.1	9.0	15.6	28.7	3.8	16.0	5.8	25.7	4.5	1.5	0.9	6.8	2.0	34.9	1.9	38.8	-
PHF	0.870	0.859	0.932	0.932	0.723	0.808	0.715	0.771	0.742	0.554	0.750	0.766	0.632	0.892	0.750	0.865	0.858
Lights	86	186	326	598	81	319	118	518	89	31	17	137	39	710	37	786	2039
% Lights	98.9	98.4	99.4	99.0	100.0	94.9	95.9	95.9	93.7	100.0	94.4	95.1	90.7	96.6	94.9	96.2	96.9
Other Vehicles	1	3	2	6	0	17	5	22	6	0	1	7	4	25	2	31	66
% Other Vehicles	1.1	1.6	0.6	1.0	0.0	5.1	4.1	4.1	6.3	0.0	5.6	4.9	9.3	3.4	5.1	3.8	3.1



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Count Name: Kenmount Road & Brougham
Drive
Site Code:
Start Date: 02/21/2017
Page No: 4



Turning Movement Peak Hour Data Plot (7:30 AM)



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Count Name: Kenmount Road & Brougham Drive
 Site Code:
 Start Date: 02/21/2017
 Page No: 5

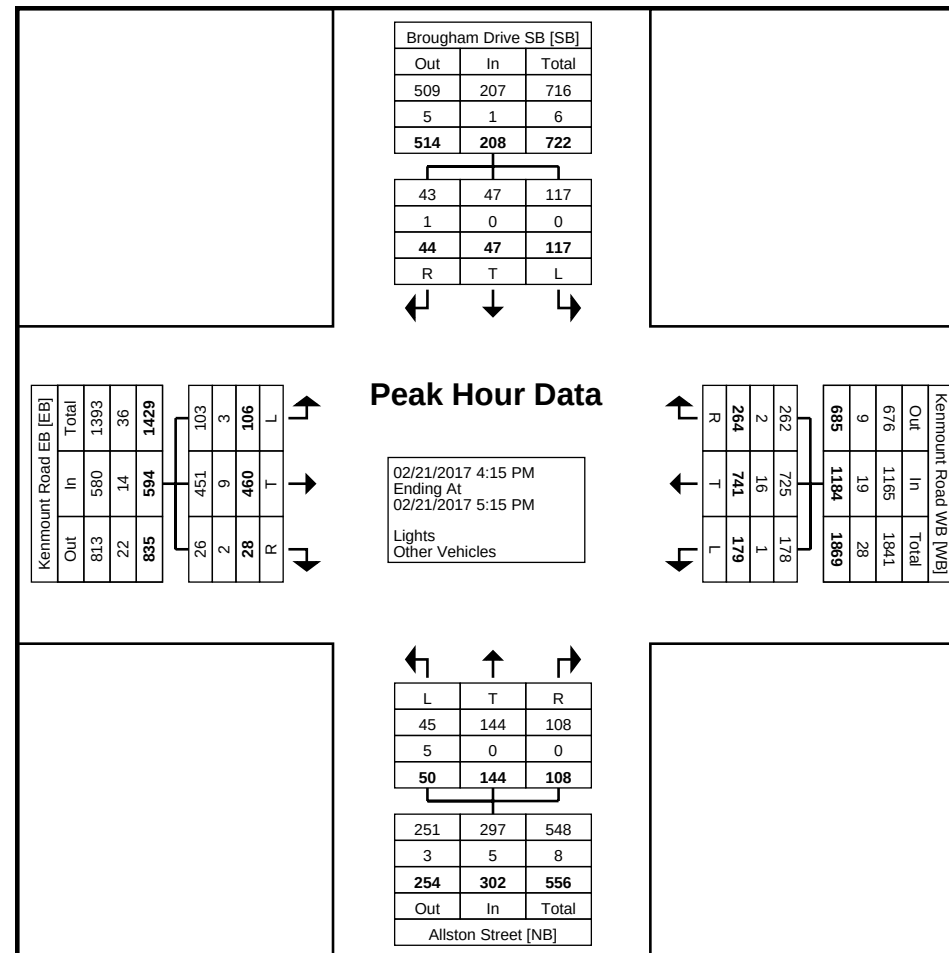
Turning Movement Peak Hour Data (4:15 PM)

Start Time	Brougham Drive SB Southbound				Kenmount Road WB Westbound				Allston Street Northbound				Kenmount Road EB Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
4:15 PM	8	12	19	39	53	189	30	272	24	35	7	66	10	91	14	115	492
4:30 PM	12	10	34	56	67	192	52	311	33	28	11	72	6	153	29	188	627
4:45 PM	16	12	34	62	71	178	56	305	23	38	9	70	7	89	30	126	563
5:00 PM	8	13	30	51	73	182	41	296	28	43	23	94	5	127	33	165	606
Total	44	47	117	208	264	741	179	1184	108	144	50	302	28	460	106	594	2288
Approach %	21.2	22.6	56.3	-	22.3	62.6	15.1	-	35.8	47.7	16.6	-	4.7	77.4	17.8	-	-
Total %	1.9	2.1	5.1	9.1	11.5	32.4	7.8	51.7	4.7	6.3	2.2	13.2	1.2	20.1	4.6	26.0	-
PHF	0.688	0.904	0.860	0.839	0.904	0.965	0.799	0.952	0.818	0.837	0.543	0.803	0.700	0.752	0.803	0.790	0.912
Lights	43	47	117	207	262	725	178	1165	108	144	45	297	26	451	103	580	2249
% Lights	97.7	100.0	100.0	99.5	99.2	97.8	99.4	98.4	100.0	100.0	90.0	98.3	92.9	98.0	97.2	97.6	98.3
Other Vehicles	1	0	0	1	2	16	1	19	0	0	5	5	2	9	3	14	39
% Other Vehicles	2.3	0.0	0.0	0.5	0.8	2.2	0.6	1.6	0.0	0.0	10.0	1.7	7.1	2.0	2.8	2.4	1.7



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Count Name: Kenmount Road & Brougham
Drive
Site Code:
Start Date: 02/21/2017
Page No: 6



Turning Movement Peak Hour Data Plot (4:15 PM)



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Count Name: Kenmount Road & Great Eastern Avenue
 Site Code:
 Start Date: 12/05/2017
 Page No: 1

Turning Movement Data

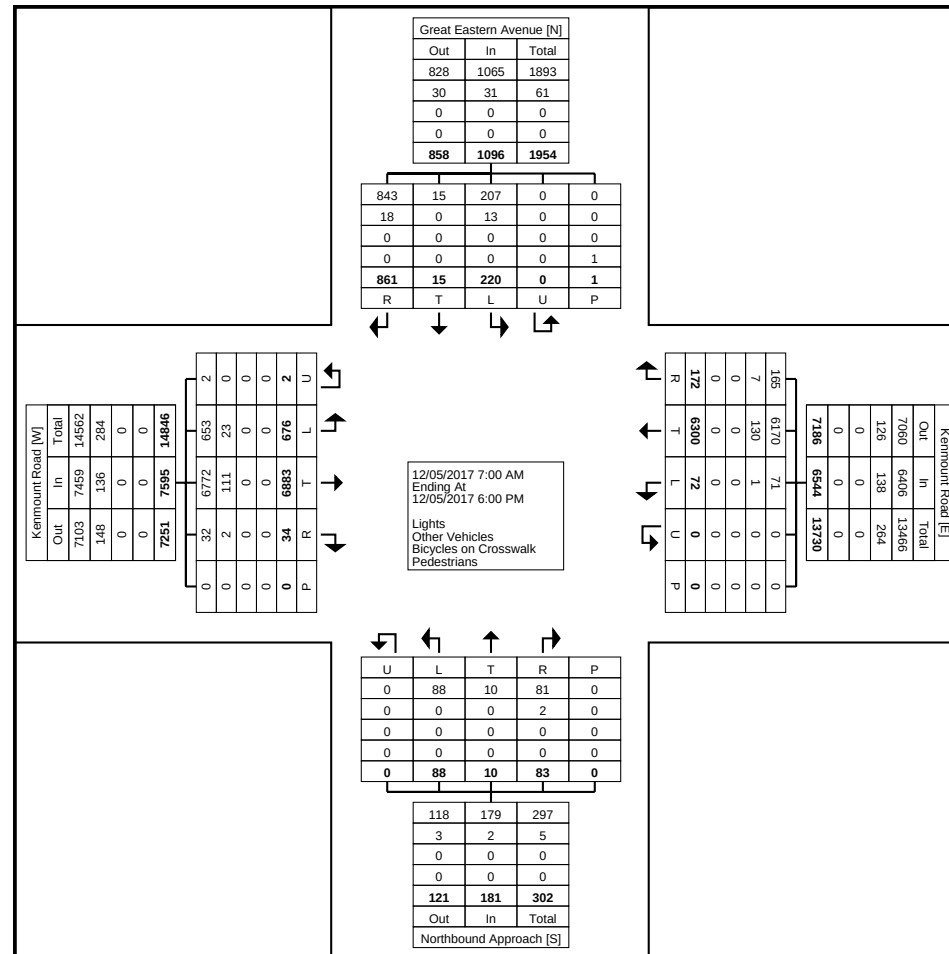
Start Time	Great Eastern Avenue Southbound						Kenmount Road Westbound						Northbound Approach Northbound						Kenmount Road Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
7:00 AM	11	0	2	0	0	13	3	88	3	0	0	94	0	0	0	0	0	0	1	230	6	0	0	237	344
7:15 AM	24	1	4	0	0	29	4	111	1	0	0	116	0	0	0	0	0	0	6	327	13	0	0	346	491
7:30 AM	43	0	20	0	0	63	5	154	5	0	0	164	1	0	3	0	0	4	1	381	17	0	0	399	630
7:45 AM	55	1	10	0	1	66	4	212	10	0	0	226	2	0	2	0	0	4	2	437	30	0	0	469	765
Hourly Total	133	2	36	0	1	171	16	565	19	0	0	600	3	0	5	0	0	8	10	1375	66	0	0	1451	2230
8:00 AM	64	0	18	0	0	82	6	170	6	0	0	182	4	0	1	0	0	5	1	405	28	0	0	434	703
8:15 AM	37	1	12	0	0	50	10	205	4	0	0	219	4	0	4	0	0	8	2	471	39	1	0	513	790
8:30 AM	29	1	12	0	0	42	6	174	2	0	0	182	2	1	1	0	0	4	2	400	25	0	0	427	655
8:45 AM	28	0	12	0	0	40	6	199	5	0	0	210	2	0	3	0	0	5	5	356	14	0	0	375	630
Hourly Total	158	2	54	0	0	214	28	748	17	0	0	793	12	1	9	0	0	22	10	1632	106	1	0	1749	2778
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM	16	0	7	0	0	23	6	209	4	0	0	219	6	0	4	0	0	10	0	232	12	0	0	244	496
11:15 AM	17	0	8	0	0	25	5	229	1	0	0	235	3	0	1	0	0	4	3	226	13	0	0	242	506
11:30 AM	19	4	13	0	0	36	10	231	4	0	0	245	6	1	2	0	0	9	1	239	15	0	0	255	545
11:45 AM	26	0	5	0	0	31	7	250	3	0	0	260	5	0	0	0	0	5	1	302	25	0	0	328	624
Hourly Total	78	4	33	0	0	115	28	919	12	0	0	959	20	1	7	0	0	28	5	999	65	0	0	1069	2171
12:00 PM	22	1	11	0	0	34	7	285	2	0	0	294	4	0	3	0	0	7	0	232	37	0	0	269	604
12:15 PM	36	0	6	0	0	42	8	275	2	0	0	285	7	0	7	0	0	14	1	242	25	1	0	269	610
12:30 PM	31	1	15	0	0	47	7	260	4	0	0	271	5	3	5	0	0	13	0	228	24	0	0	252	583
12:45 PM	35	1	9	0	0	45	5	310	1	0	0	316	3	1	3	0	0	7	1	262	20	0	0	283	651
Hourly Total	124	3	41	0	0	168	27	1130	9	0	0	1166	19	4	18	0	0	41	2	964	106	1	0	1073	2448
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	42	1	8	0	0	51	17	411	3	0	0	431	5	1	3	0	0	9	0	229	34	0	0	263	754
4:15 PM	42	1	7	0	0	50	11	380	3	0	0	394	3	0	4	0	0	7	1	223	45	0	0	269	720
4:30 PM	71	0	4	0	0	75	9	469	2	0	0	480	8	0	18	0	0	26	1	277	53	0	0	331	912
4:45 PM	41	1	6	0	0	48	9	426	2	0	0	437	5	1	6	0	0	12	2	248	37	0	0	287	784
Hourly Total	196	3	25	0	0	224	46	1686	10	0	0	1742	21	2	31	0	0	54	4	977	169	0	0	1150	3170
5:00 PM	56	0	9	0	0	65	2	354	4	0	0	360	2	2	11	0	0	15	2	253	52	0	0	307	747
5:15 PM	42	0	4	0	0	46	6	380	0	0	0	386	3	0	3	0	0	6	1	214	43	0	0	258	696
5:30 PM	40	0	6	0	0	46	15	274	0	0	0	289	3	0	3	0	0	6	0	254	39	0	0	293	634
5:45 PM	34	1	12	0	0	47	4	244	1	0	0	249	0	0	1	0	0	1	0	215	30	0	0	245	542
Hourly Total	172	1	31	0	0	204	27	1252	5	0	0	1284	8	2	18	0	0	28	3	936	164	0	0	1103	2619
Grand Total	861	15	220	0	1	1096	172	6300	72	0	0	6544	83	10	88	0	0	181	34	6883	676	2	0	7595	15416
Approach %	78.6	1.4	20.1	0.0	-	-	2.6	96.3	1.1	0.0	-	-	45.9	5.5	48.6	0.0	-	-	0.4	90.6	8.9	0.0	-	-	-
Total %	5.6	0.1	1.4	0.0	-	7.1	1.1	40.9	0.5	0.0	-	42.4	0.5	0.1	0.6	0.0	-	1.2	0.2	44.6	4.4	0.0	-	49.3	-
Lights	843	15	207	0	-	1065	165	6170	71	0	-	6406	81	10	88	0	-	179	32	6772	653	2	-	7459	15109
% Lights	97.9	100.0	94.1	-	-	97.2	95.9	97.9	98.6	-	-	97.9	97.6	100.0	100.0	-	-	98.9	94.1	98.4	96.6	100.0	-	98.2	98.0

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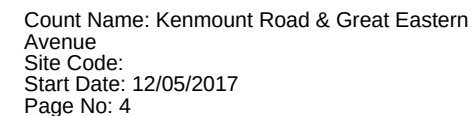


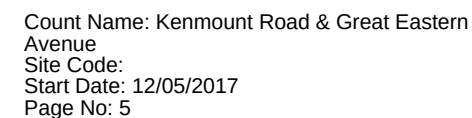
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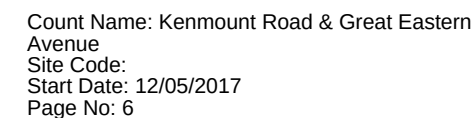
Count Name: Kenmount Road & Great Eastern
Avenue
Site Code:
Start Date: 12/05/2017
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Turning Movement Data Plot

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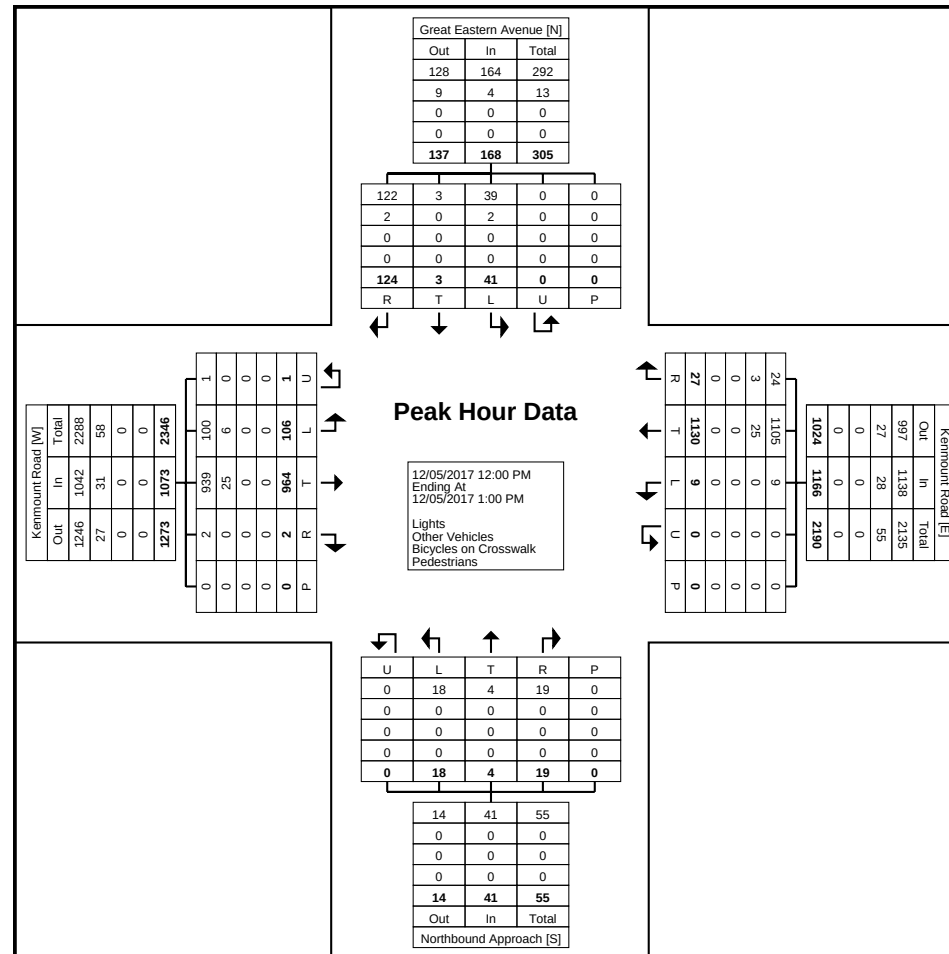


Start Time	Great Eastern Avenue Southbound						Kenmount Road Westbound						Northbound Approach Northbound						Kenmount Road Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
12:00 PM	22	1	11	0	0	34	7	285	2	0	0	294	4	0	3	0	0	7	0	232	37	0	0	269	604
12:15 PM	36	0	6	0	0	42	8	275	2	0	0	285	7	0	7	0	0	14	1	242	25	1	0	269	610
12:30 PM	31	1	15	0	0	47	7	260	4	0	0	271	5	3	5	0	0	13	0	228	24	0	0	252	583
12:45 PM	35	1	9	0	0	45	5	310	1	0	0	316	3	1	3	0	0	7	1	262	20	0	0	283	651
Total	124	3	41	0	0	168	27	1130	9	0	0	1166	19	4	18	0	0	41	2	964	106	1	0	1073	2448
Approach %	73.8	1.8	24.4	0.0	-	-	2.3	96.9	0.8	0.0	-	-	46.3	9.8	43.9	0.0	-	-	0.2	89.8	9.9	0.1	-	-	-
Total %	5.1	0.1	1.7	0.0	-	6.9	1.1	46.2	0.4	0.0	-	47.6	0.8	0.2	0.7	0.0	-	1.7	0.1	39.4	4.3	0.0	-	43.8	-
PHF	0.861	0.750	0.683	0.000	-	0.894	0.844	0.911	0.563	0.000	-	0.922	0.679	0.333	0.643	0.000	-	0.732	0.500	0.920	0.716	0.250	-	0.948	0.940
Lights	122	3	39	0	-	164	24	1105	9	0	-	1138	19	4	18	0	-	41	2	939	100	1	-	1042	2385
% Lights	98.4	100.0	95.1	-	-	97.6	88.9	97.8	100.0	-	-	97.6	100.0	100.0	100.0	-	-	100.0	100.0	97.4	94.3	100.0	-	97.1	97.4
Other Vehicles	2	0	2	0	-	4	3	25	0	0	-	28	0	0	0	0	-	0	0	25	6	0	-	31	63
% Other Vehicles	1.6	0.0	4.9	-	-	2.4	11.1	2.2	0.0	-	-	2.4	0.0	0.0	0.0	-	-	0.0	0.0	2.6	5.7	0.0	-	2.9	2.6
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

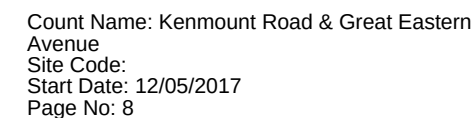


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Count Name: Kenmount Road & Great Eastern Avenue
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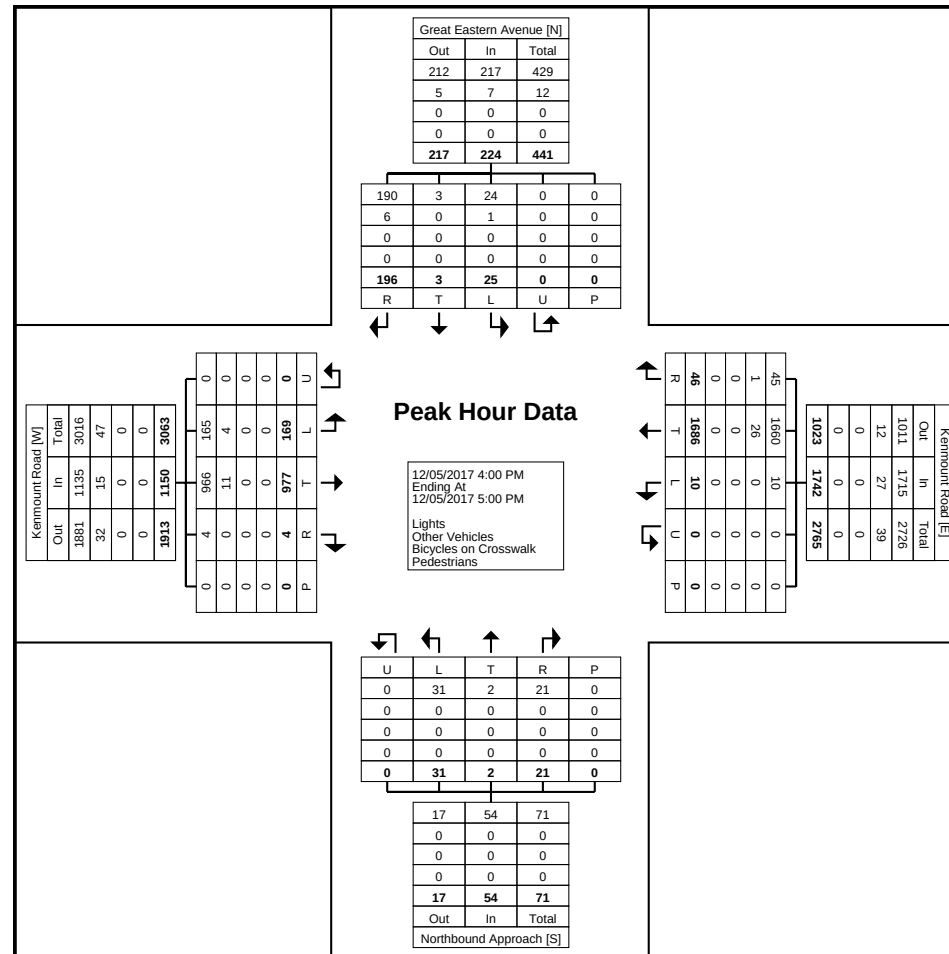
Turning Movement Peak Hour Data Plot (12:00 PM)

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Count Name: Kenmount Road & Mount Carson
 Avenue
 Site Code:
 Start Date: 12/05/2017
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Turning Movement Data

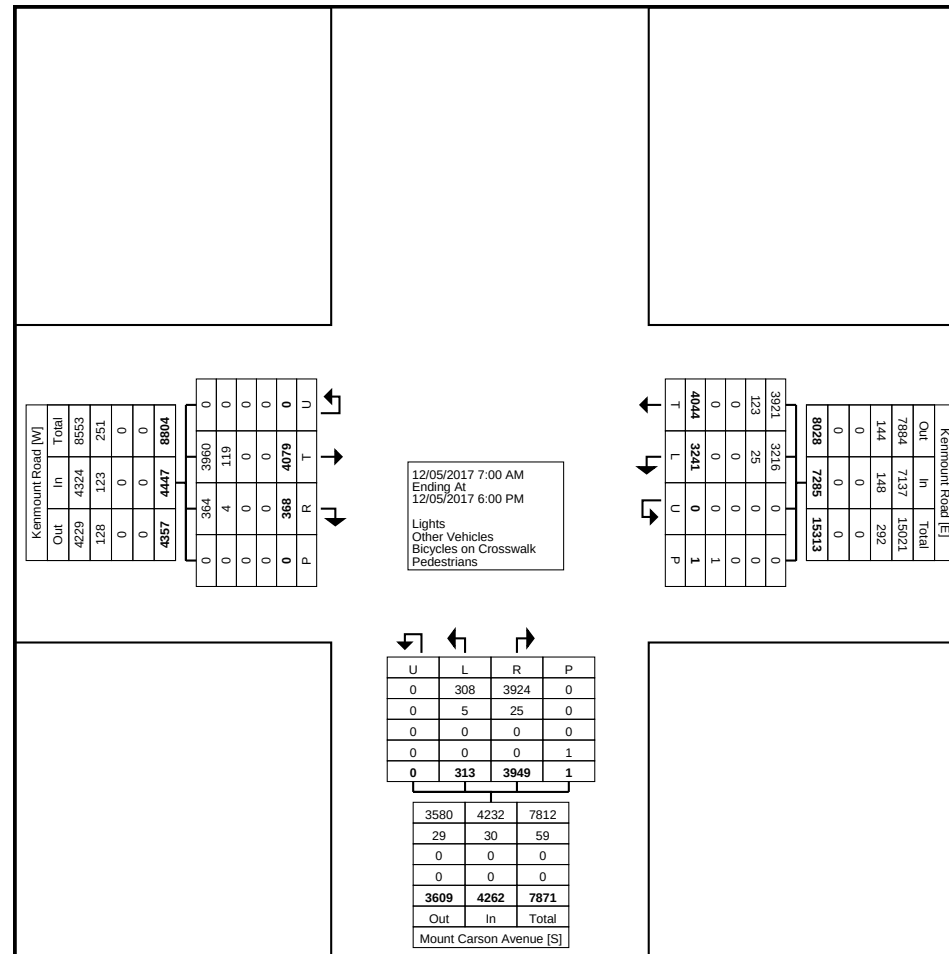
Start Time	Kenmount Road Westbound					Mount Carson Avenue Northbound					Kenmount Road Eastbound					Int. Total
	Thru	Left	U-Turn	Peds	App. Total	Right	Left	U-Turn	Peds	App. Total	Right	Thru	U-Turn	Peds	App. Total	
7:00 AM	54	43	0	0	97	132	4	0	0	136	7	121	0	0	128	361
7:15 AM	74	57	0	0	131	161	11	0	0	172	10	205	0	0	215	518
7:30 AM	127	79	0	0	206	214	11	0	0	225	23	264	0	0	287	718
7:45 AM	152	103	0	0	255	238	13	0	0	251	12	240	0	0	252	758
Hourly Total	407	282	0	0	689	745	39	0	0	784	52	830	0	0	882	2355
8:00 AM	135	97	0	0	232	195	14	0	0	209	13	273	0	0	286	727
8:15 AM	101	149	0	0	250	216	14	0	0	230	22	285	0	0	307	787
8:30 AM	95	93	0	0	188	197	14	0	0	211	16	221	0	0	237	636
8:45 AM	128	110	0	0	238	200	9	0	0	209	13	164	0	0	177	624
Hourly Total	459	449	0	0	908	808	51	0	0	859	64	943	0	0	1007	2774
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM	138	106	0	0	244	137	6	0	0	143	13	121	0	0	134	521
11:15 AM	135	106	0	0	241	120	11	0	0	131	11	121	0	0	132	504
11:30 AM	161	114	0	0	275	123	10	0	0	133	9	170	0	0	179	587
11:45 AM	138	128	0	0	266	145	5	0	0	150	9	170	0	0	179	595
Hourly Total	572	454	0	0	1026	525	32	0	0	557	42	582	0	0	624	2207
12:00 PM	173	144	0	0	317	140	11	0	0	151	14	173	0	0	187	655
12:15 PM	174	136	0	0	310	156	13	0	0	169	13	145	0	0	158	637
12:30 PM	166	125	0	0	291	158	17	0	0	175	21	147	0	0	168	634
12:45 PM	191	160	0	1	351	176	15	0	1	191	9	151	0	0	160	702
Hourly Total	704	565	0	1	1269	630	56	0	1	686	57	616	0	0	673	2628
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	257	203	0	0	460	155	11	0	0	166	17	124	0	0	141	767
4:15 PM	235	195	0	0	430	144	25	0	0	169	13	144	0	0	157	756
4:30 PM	354	195	0	0	549	191	34	0	0	225	26	151	0	0	177	951
4:45 PM	276	199	0	0	475	156	13	0	0	169	28	131	0	0	159	803
Hourly Total	1122	792	0	0	1914	646	83	0	0	729	84	550	0	0	634	3277
5:00 PM	255	175	0	0	430	153	17	0	0	170	22	181	0	0	203	803
5:15 PM	209	216	0	0	425	140	15	0	0	155	16	136	0	0	152	732
5:30 PM	166	152	0	0	318	171	10	0	0	181	20	137	0	0	157	656
5:45 PM	150	156	0	0	306	131	10	0	0	141	11	104	0	0	115	562
Hourly Total	780	699	0	0	1479	595	52	0	0	647	69	558	0	0	627	2753
Grand Total	4044	3241	0	1	7285	3949	313	0	1	4262	368	4079	0	0	4447	15994
Approach %	55.5	44.5	0.0	-	-	92.7	7.3	0.0	-	-	8.3	91.7	0.0	-	-	-
Total %	25.3	20.3	0.0	-	45.5	24.7	2.0	0.0	-	26.6	2.3	25.5	0.0	-	27.8	-
Lights	3921	3216	0	-	7137	3924	308	0	-	4232	364	3960	0	-	4324	15693
% Lights	97.0	99.2	-	-	98.0	99.4	98.4	-	-	99.3	98.9	97.1	-	-	97.2	98.1
Other Vehicles	123	25	0	-	148	25	5	0	-	30	4	119	0	-	123	301

% Other Vehicles	3.0	0.8	-	-	2.0	0.6	1.6	-	-	0.7	1.1	2.9	-	-	2.8	1.9
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	0.0	-	-	-	-	0.0	-	-	-	-	-	-	-
Pedestrians	-	-	-	1	-	-	-	-	1	-	-	-	-	0	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	-	-	-

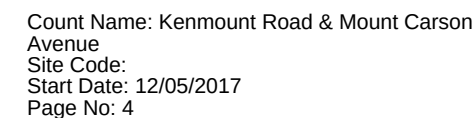


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Count Name: Kenmount Road & Mount Carson
Avenue
Site Code:
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Turning Movement Data Plot

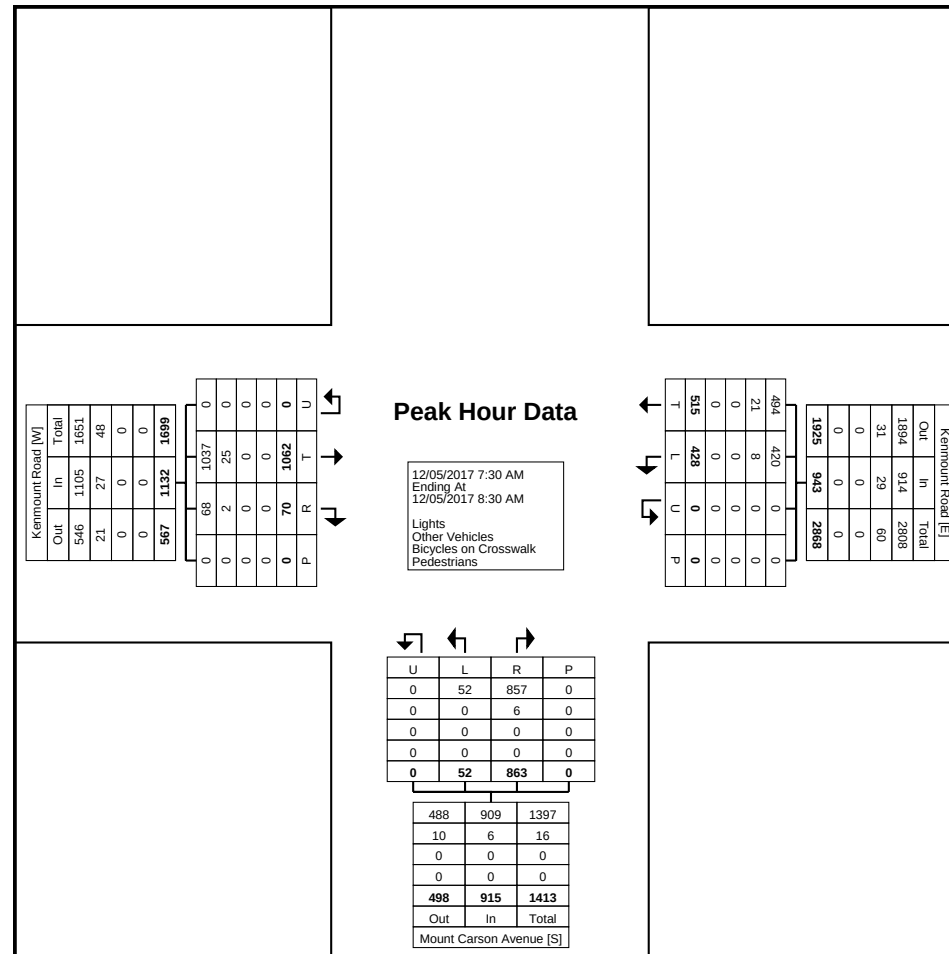


Start Time	Kenmount Road Westbound					Mount Carson Avenue Northbound					Kenmount Road Eastbound					Int. Total
	Thru	Left	U-Turn	Peds	App. Total	Right	Left	U-Turn	Peds	App. Total	Right	Thru	U-Turn	Peds	App. Total	
7:30 AM	127	79	0	0	206	214	11	0	0	225	23	264	0	0	287	718
7:45 AM	152	103	0	0	255	238	13	0	0	251	12	240	0	0	252	758
8:00 AM	135	97	0	0	232	195	14	0	0	209	13	273	0	0	286	727
8:15 AM	101	149	0	0	250	216	14	0	0	230	22	285	0	0	307	787
Total	515	428	0	0	943	863	52	0	0	915	70	1062	0	0	1132	2990
Approach %	54.6	45.4	0.0	-	-	94.3	5.7	0.0	-	-	6.2	93.8	0.0	-	-	-
Total %	17.2	14.3	0.0	-	31.5	28.9	1.7	0.0	-	30.6	2.3	35.5	0.0	-	37.9	-
PHF	0.847	0.718	0.000	-	0.925	0.907	0.929	0.000	-	0.911	0.761	0.932	0.000	-	0.922	0.950
Lights	494	420	0	-	914	857	52	0	-	909	68	1037	0	-	1105	2928
% Lights	95.9	98.1	-	-	96.9	99.3	100.0	-	-	99.3	97.1	97.6	-	-	97.6	97.9
Other Vehicles	21	8	0	-	29	6	0	0	-	6	2	25	0	-	27	62
% Other Vehicles	4.1	1.9	-	-	3.1	0.7	0.0	-	-	0.7	2.9	2.4	-	-	2.4	2.1
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Count Name: Kenmount Road & Mount Carson
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Turning Movement Peak Hour Data Plot (7:30 AM)



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Count Name: Kenmount Road & Mount Carson
 Avenue
 Site Code:
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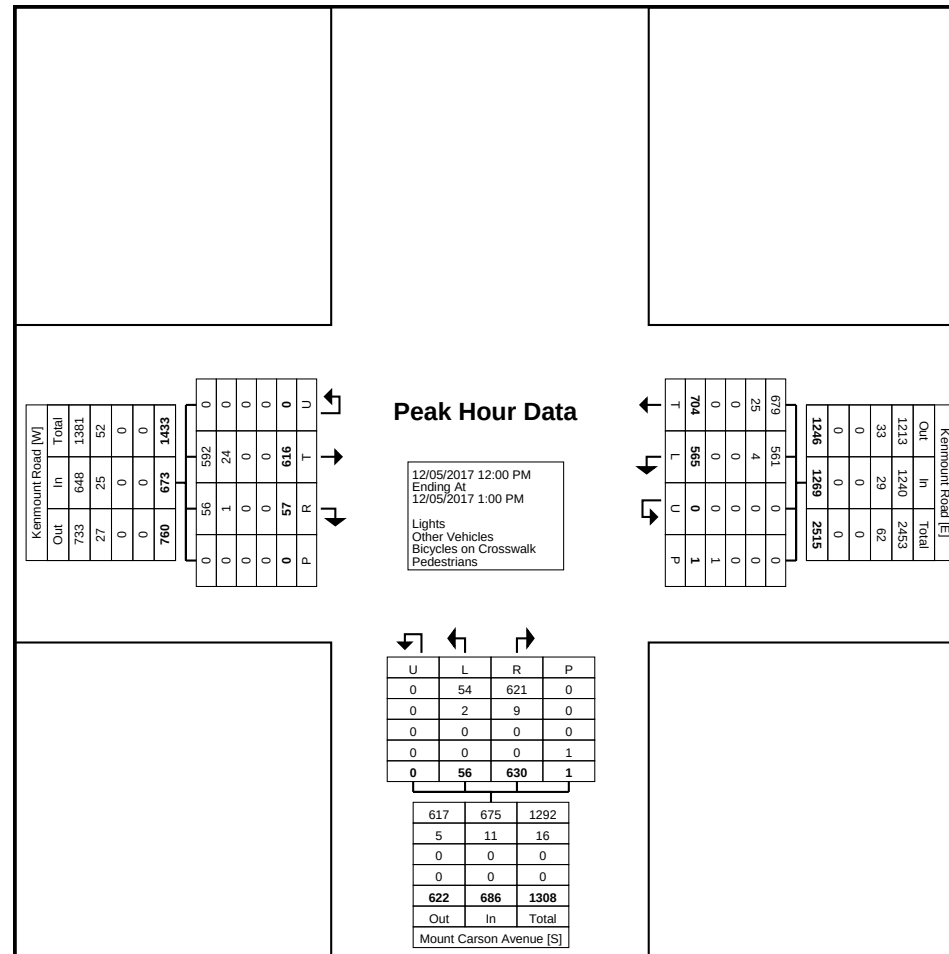
Turning Movement Peak Hour Data (12:00 PM)

Start Time	Kenmount Road Westbound					Mount Carson Avenue Northbound					Kenmount Road Eastbound					Int. Total
	Thru	Left	U-Turn	Peds	App. Total	Right	Left	U-Turn	Peds	App. Total	Right	Thru	U-Turn	Peds	App. Total	
12:00 PM	173	144	0	0	317	140	11	0	0	151	14	173	0	0	187	655
12:15 PM	174	136	0	0	310	156	13	0	0	169	13	145	0	0	158	637
12:30 PM	166	125	0	0	291	158	17	0	0	175	21	147	0	0	168	634
12:45 PM	191	160	0	1	351	176	15	0	1	191	9	151	0	0	160	702
Total	704	565	0	1	1269	630	56	0	1	686	57	616	0	0	673	2628
Approach %	55.5	44.5	0.0	-	-	91.8	8.2	0.0	-	-	8.5	91.5	0.0	-	-	-
Total %	26.8	21.5	0.0	-	48.3	24.0	2.1	0.0	-	26.1	2.2	23.4	0.0	-	25.6	-
PHF	0.921	0.883	0.000	-	0.904	0.895	0.824	0.000	-	0.898	0.679	0.890	0.000	-	0.900	0.936
Lights	679	561	0	-	1240	621	54	0	-	675	56	592	0	-	648	2563
% Lights	96.4	99.3	-	-	97.7	98.6	96.4	-	-	98.4	98.2	96.1	-	-	96.3	97.5
Other Vehicles	25	4	0	-	29	9	2	0	-	11	1	24	0	-	25	65
% Other Vehicles	3.6	0.7	-	-	2.3	1.4	3.6	-	-	1.6	1.8	3.9	-	-	3.7	2.5
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	0.0	-	-	-	-	0.0	-	-	-	-	-	-	-
Pedestrians	-	-	-	1	-	-	-	-	1	-	-	-	-	0	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	-	-	-

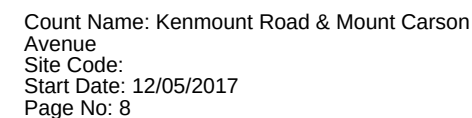


Harbourside Transportation Consultants
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Count Name: Kenmount Road & Mount Carson
 Avenue
 Site Code:
 Start Date: 12/05/2017
 Page No: 7



Turning Movement Peak Hour Data Plot (12:00 PM)

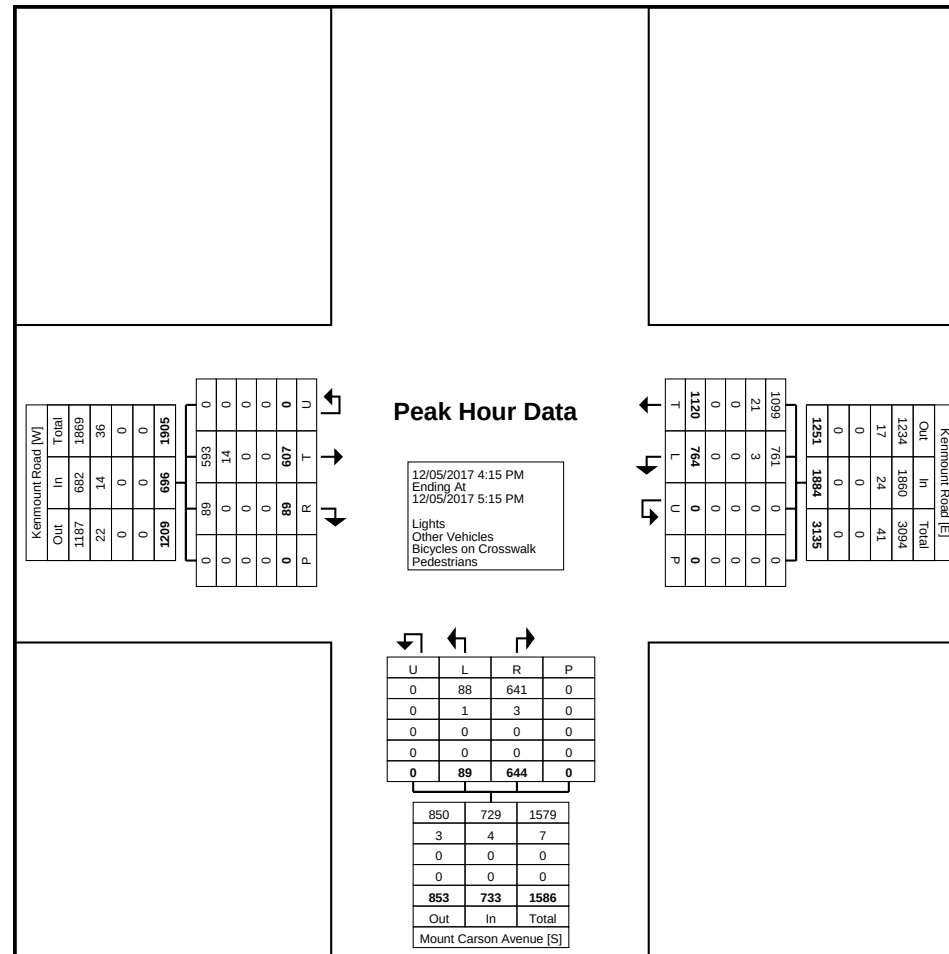


Start Time	Kenmount Road Westbound					Mount Carson Avenue Northbound					Kenmount Road Eastbound					Int. Total
	Thru	Left	U-Turn	Peds	App. Total	Right	Left	U-Turn	Peds	App. Total	Right	Thru	U-Turn	Peds	App. Total	
4:15 PM	235	195	0	0	430	144	25	0	0	169	13	144	0	0	157	756
4:30 PM	354	195	0	0	549	191	34	0	0	225	26	151	0	0	177	951
4:45 PM	276	199	0	0	475	156	13	0	0	169	28	131	0	0	159	803
5:00 PM	255	175	0	0	430	153	17	0	0	170	22	181	0	0	203	803
Total	1120	764	0	0	1884	644	89	0	0	733	89	607	0	0	696	3313
Approach %	59.4	40.6	0.0	-	-	87.9	12.1	0.0	-	-	12.8	87.2	0.0	-	-	-
Total %	33.8	23.1	0.0	-	56.9	19.4	2.7	0.0	-	22.1	2.7	18.3	0.0	-	21.0	-
PHF	0.791	0.960	0.000	-	0.858	0.843	0.654	0.000	-	0.814	0.795	0.838	0.000	-	0.857	0.871
Lights	1099	761	0	-	1860	641	88	0	-	729	89	593	0	-	682	3271
% Lights	98.1	99.6	-	-	98.7	99.5	98.9	-	-	99.5	100.0	97.7	-	-	98.0	98.7
Other Vehicles	21	3	0	-	24	3	1	0	-	4	0	14	0	-	14	42
% Other Vehicles	1.9	0.4	-	-	1.3	0.5	1.1	-	-	0.5	0.0	2.3	-	-	2.0	1.3
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Count Name: Kenmount Road & Mount Carson
Avenue
Site Code:
Start Date: 12/05/2017
Page No: 9



Turning Movement Peak Hour Data Plot (4:15 PM)



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Count Name: Mount Carson Avenue & Lasalle Drive
 Site Code:
 Start Date: 12/06/2017
 Page No: 1

Turning Movement Data

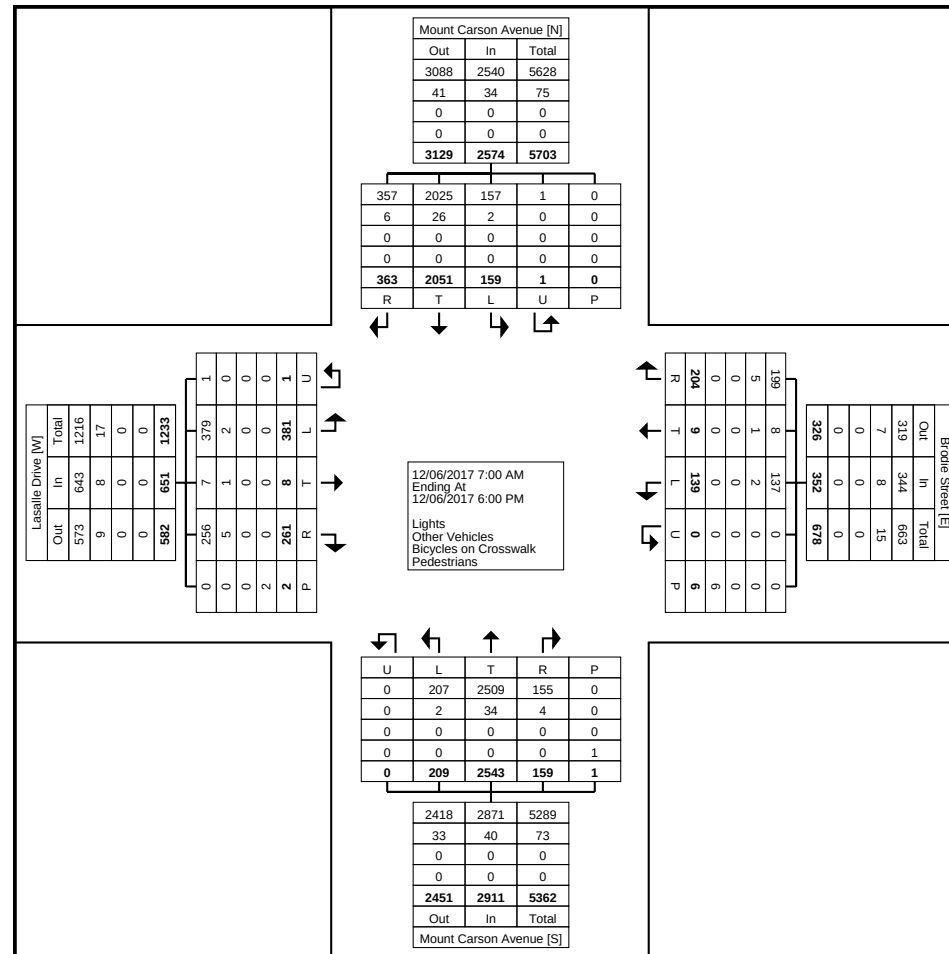
Start Time	Mount Carson Avenue Southbound						Brodie Street Westbound						Mount Carson Avenue Northbound						Lasalle Drive Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
7:00 AM	2	27	1	0	0	30	8	0	1	0	0	9	2	73	3	0	0	78	9	0	20	1	0	30	147
7:15 AM	6	38	1	0	0	45	8	0	3	0	0	11	2	112	3	0	0	117	9	0	28	0	0	37	210
7:30 AM	8	57	1	0	0	66	17	0	8	0	0	25	1	118	5	0	0	124	21	0	33	0	0	54	269
7:45 AM	8	53	2	0	0	63	14	1	19	0	0	34	3	125	3	0	0	131	28	0	33	0	0	61	289
Hourly Total	24	175	5	0	0	204	47	1	31	0	0	79	8	428	14	0	0	450	67	0	114	1	0	182	915
8:00 AM	3	78	1	0	0	82	21	1	10	0	1	32	4	141	2	0	0	147	27	1	35	0	0	63	324
8:15 AM	4	107	0	0	0	111	21	1	15	0	1	37	5	127	2	0	0	134	21	0	20	0	0	41	323
8:30 AM	4	57	1	0	0	62	15	0	6	0	0	21	2	117	3	0	0	122	27	0	25	0	0	52	257
8:45 AM	11	72	2	0	0	85	10	0	6	0	0	16	5	130	6	0	0	141	10	0	19	0	0	29	271
Hourly Total	22	314	4	0	0	340	67	2	37	0	2	106	16	515	13	0	0	544	85	1	99	0	0	185	1175
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM	11	81	3	0	0	95	6	0	3	0	0	9	5	88	5	0	1	98	4	0	8	0	1	12	214
11:15 AM	13	90	5	0	0	108	3	0	3	0	0	6	4	95	2	0	0	101	3	0	8	0	0	11	226
11:30 AM	6	100	5	0	0	111	5	1	5	0	1	11	4	93	6	0	0	103	3	1	12	0	0	16	241
11:45 AM	11	86	10	0	0	107	8	0	6	0	1	14	3	102	8	0	0	113	8	1	9	0	0	18	252
Hourly Total	41	357	23	0	0	421	22	1	17	0	2	40	16	378	21	0	1	415	18	2	37	0	1	57	933
12:00 PM	8	93	9	0	0	110	3	1	2	0	0	6	11	111	11	0	0	133	6	0	8	0	0	14	263
12:15 PM	11	98	4	0	0	113	8	0	5	0	0	13	5	115	8	0	0	128	9	0	5	0	0	14	268
12:30 PM	9	91	4	1	0	105	4	0	7	0	1	11	4	98	6	0	0	108	4	0	7	0	0	11	235
12:45 PM	8	89	5	0	0	102	9	0	4	0	0	13	5	108	8	0	0	121	14	0	13	0	1	27	263
Hourly Total	36	371	22	1	0	430	24	1	18	0	1	43	25	432	33	0	0	490	33	0	33	0	1	66	1029
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	32	105	13	0	0	150	6	1	5	0	0	12	8	101	6	0	0	115	6	1	17	0	0	24	301
4:15 PM	28	112	9	0	0	149	2	0	5	0	1	7	13	98	16	0	0	127	9	1	13	0	0	23	306
4:30 PM	29	124	15	0	0	168	9	2	6	0	0	17	11	101	16	0	0	128	2	1	12	0	0	15	328
4:45 PM	31	113	9	0	0	153	2	1	4	0	0	7	16	98	28	0	0	142	7	0	4	0	0	11	313
Hourly Total	120	454	46	0	0	620	19	4	20	0	1	43	48	398	66	0	0	512	24	3	46	0	0	73	1248
5:00 PM	28	90	20	0	0	138	5	0	2	0	0	7	10	107	22	0	0	139	10	0	13	0	0	23	307
5:15 PM	37	107	19	0	0	163	9	0	3	0	0	12	13	101	14	0	0	128	2	1	10	0	0	13	316
5:30 PM	28	93	10	0	0	131	6	0	4	0	0	10	12	98	15	0	0	125	11	1	13	0	0	25	291
5:45 PM	27	90	10	0	0	127	5	0	7	0	0	12	11	86	11	0	0	108	11	0	16	0	0	27	274
Hourly Total	120	380	59	0	0	559	25	0	16	0	0	41	46	392	62	0	0	500	34	2	52	0	0	88	1188
Grand Total	363	2051	159	1	0	2574	204	9	139	0	6	352	159	2543	209	0	1	2911	261	8	381	1	2	651	6488
Approach %	14.1	79.7	6.2	0.0	-	-	58.0	2.6	39.5	0.0	-	-	5.5	87.4	7.2	0.0	-	-	40.1	1.2	58.5	0.2	-	-	-
Total %	5.6	31.6	2.5	0.0	-	39.7	3.1	0.1	2.1	0.0	-	5.4	2.5	39.2	3.2	0.0	-	44.9	4.0	0.1	5.9	0.0	-	10.0	-
Lights	357	2025	157	1	-	2540	199	8	137	0	-	344	155	2509	207	0	-	2871	256	7	379	1	-	643	6398
% Lights	98.3	98.7	98.7	100.0	-	98.7	97.5	88.9	98.6	-	-	97.7	97.5	98.7	99.0	-	-	98.6	98.1	87.5	99.5	100.0	-	98.8	98.6

Other Vehicles	6	26	2	0	-	34	5	1	2	0	-	8	4	34	2	0	-	40	5	1	2	0	-	8	90
% Other Vehicles	1.7	1.3	1.3	0.0	-	1.3	2.5	11.1	1.4	-	-	2.3	2.5	1.3	1.0	-	-	1.4	1.9	12.5	0.5	0.0	-	1.2	1.4
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	6	-	-	-	-	-	1	-	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

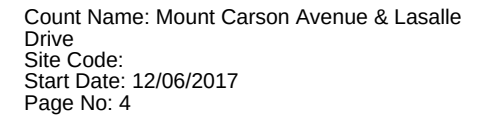


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Count Name: Mount Carson Avenue & Lasalle Drive
Site Code:
Start Date: 12/06/2017
Page No: 3



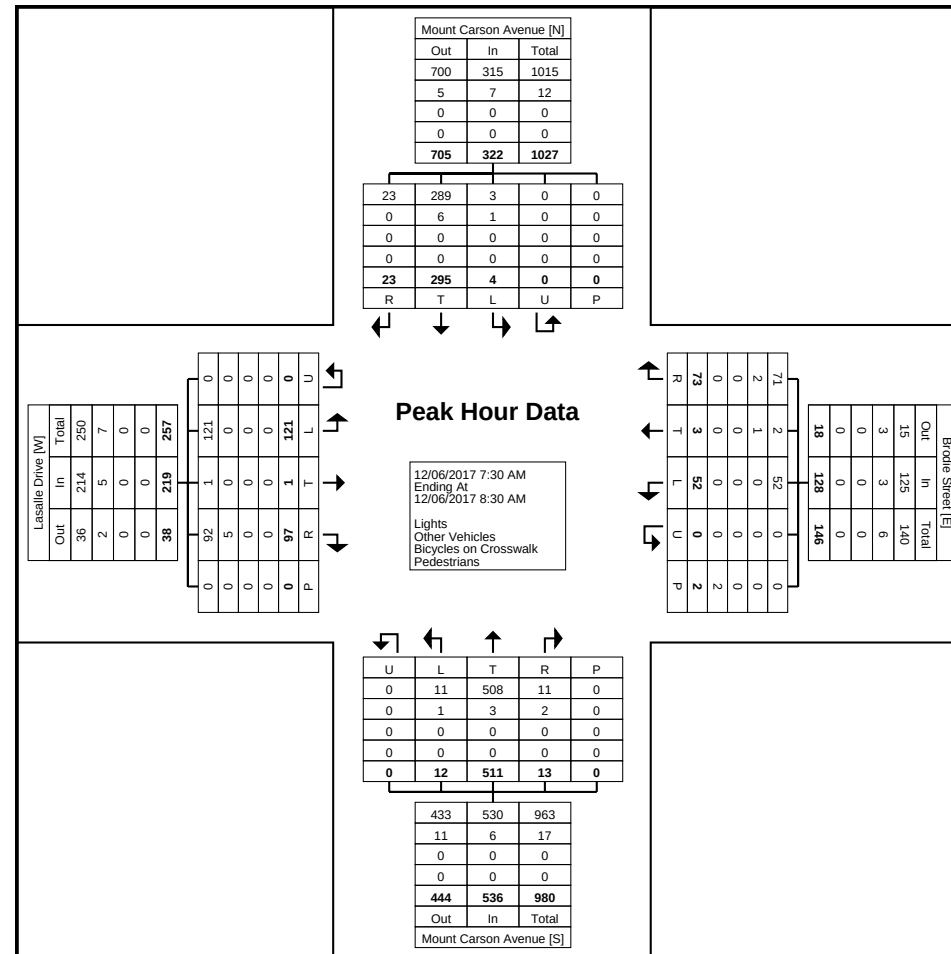
Turning Movement Data Plot

[illegible]



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Count Name: Mount Carson Avenue & Lasalle Drive
Site Code:
Start Date: 12/06/2017
Page No: 5



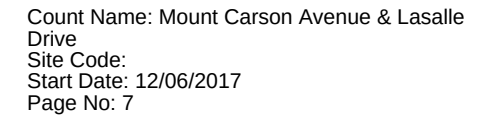


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Count Name: Mount Carson Avenue & Lasalle Drive
 Site Code:
 Start Date: 12/06/2017
 Page No: 6

Turning Movement Peak Hour Data (12:00 PM)

Start Time	Mount Carson Avenue Southbound						Brodie Street Westbound						Mount Carson Avenue Northbound						Lasalle Drive Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
12:00 PM	8	93	9	0	0	110	3	1	2	0	0	6	11	111	11	0	0	133	6	0	8	0	0	14	263
12:15 PM	11	98	4	0	0	113	8	0	5	0	0	13	5	115	8	0	0	128	9	0	5	0	0	14	268
12:30 PM	9	91	4	1	0	105	4	0	7	0	1	11	4	98	6	0	0	108	4	0	7	0	0	11	235
12:45 PM	8	89	5	0	0	102	9	0	4	0	0	13	5	108	8	0	0	121	14	0	13	0	1	27	263
Total	36	371	22	1	0	430	24	1	18	0	1	43	25	432	33	0	0	490	33	0	33	0	1	66	1029
Approach %	8.4	86.3	5.1	0.2	-	-	55.8	2.3	41.9	0.0	-	-	5.1	88.2	6.7	0.0	-	-	50.0	0.0	50.0	0.0	-	-	-
Total %	3.5	36.1	2.1	0.1	-	41.8	2.3	0.1	1.7	0.0	-	4.2	2.4	42.0	3.2	0.0	-	47.6	3.2	0.0	3.2	0.0	-	6.4	-
PHF	0.818	0.946	0.611	0.250	-	0.951	0.667	0.250	0.643	0.000	-	0.827	0.568	0.939	0.750	0.000	-	0.921	0.589	0.000	0.635	0.000	-	0.611	0.960
Lights	36	366	22	1	-	425	24	1	18	0	-	43	25	425	33	0	-	483	33	0	33	0	-	66	1017
% Lights	100.0	98.7	100.0	100.0	-	98.8	100.0	100.0	100.0	-	-	100.0	100.0	98.4	100.0	-	-	98.6	100.0	-	100.0	-	-	100.0	98.8
Other Vehicles	0	5	0	0	-	5	0	0	0	0	-	0	0	7	0	0	-	7	0	0	0	0	-	0	12
% Other Vehicles	0.0	1.3	0.0	0.0	-	1.2	0.0	0.0	0.0	-	-	0.0	0.0	1.6	0.0	-	-	1.4	0.0	-	0.0	-	-	0.0	1.2
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-



Peak Hour Data

12/06/2017 12:00 PM
Ending At
12/06/2017 1:00 PM

Lights
Other Vehicles
Bicycles on Crosswalk
Pedestrians

Mount Carson Avenue [N]

Out	In	Total
483	425	908
7	5	12
0	0	0
0	0	0
490	430	920

Lasalle Drive [W]

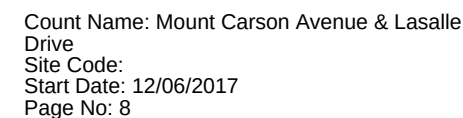
Out	In	Total
70	66	136
0	0	0
0	0	0
0	0	0
0	0	0
70	66	136

Mount Carson Avenue [S]

Out	In	Total
422	490	912
0	0	0
0	0	0
5	7	12
417	483	900

Lasalle Drive [E]

Out	In	Total
47	43	90
0	0	0
0	0	0
0	0	0
0	0	0
47	43	90

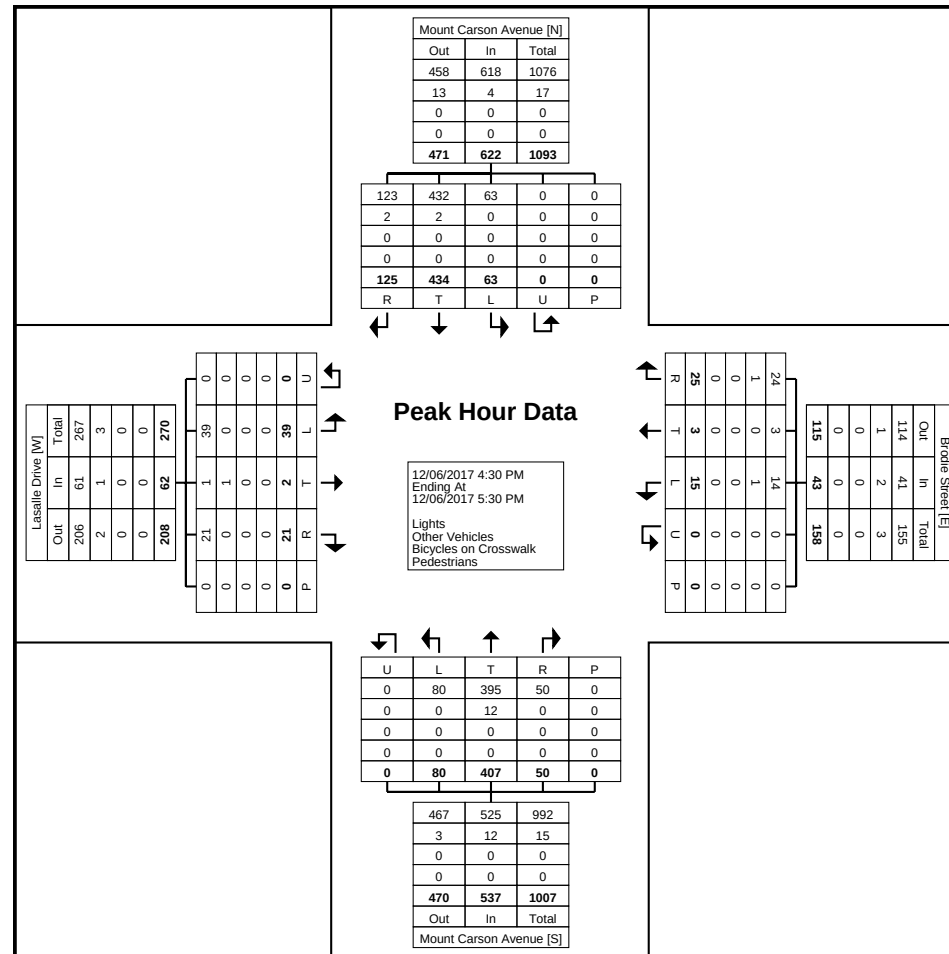


Start Time	Mount Carson Avenue Southbound						Brodie Street Westbound						Mount Carson Avenue Northbound						Lasalle Drive Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
4:30 PM	29	124	15	0	0	168	9	2	6	0	0	17	11	101	16	0	0	128	2	1	12	0	0	15	328
4:45 PM	31	113	9	0	0	153	2	1	4	0	0	7	16	98	28	0	0	142	7	0	4	0	0	11	313
5:00 PM	28	90	20	0	0	138	5	0	2	0	0	7	10	107	22	0	0	139	10	0	13	0	0	23	307
5:15 PM	37	107	19	0	0	163	9	0	3	0	0	12	13	101	14	0	0	128	2	1	10	0	0	13	316
Total	125	434	63	0	0	622	25	3	15	0	0	43	50	407	80	0	0	537	21	2	39	0	0	62	1264
Approach %	20.1	69.8	10.1	0.0	-	-	58.1	7.0	34.9	0.0	-	-	9.3	75.8	14.9	0.0	-	-	33.9	3.2	62.9	0.0	-	-	-
Total %	9.9	34.3	5.0	0.0	-	49.2	2.0	0.2	1.2	0.0	-	3.4	4.0	32.2	6.3	0.0	-	42.5	1.7	0.2	3.1	0.0	-	4.9	-
PHF	0.845	0.875	0.788	0.000	-	0.926	0.694	0.375	0.625	0.000	-	0.632	0.781	0.951	0.714	0.000	-	0.945	0.525	0.500	0.750	0.000	-	0.674	0.963
Lights	123	432	63	0	-	618	24	3	14	0	-	41	50	395	80	0	-	525	21	1	39	0	-	61	1245
% Lights	98.4	99.5	100.0	-	-	99.4	96.0	100.0	93.3	-	-	95.3	100.0	97.1	100.0	-	-	97.8	100.0	50.0	100.0	-	-	98.4	98.5
Other Vehicles	2	2	0	0	-	4	1	0	1	0	-	2	0	12	0	0	-	12	0	1	0	0	-	1	19
% Other Vehicles	1.6	0.5	0.0	-	-	0.6	4.0	0.0	6.7	-	-	4.7	0.0	2.9	0.0	-	-	2.2	0.0	50.0	0.0	-	-	1.6	1.5
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Count Name: Mount Carson Avenue & Lasalle Drive
Site Code:
Start Date: 12/06/2017
Page No: 9





Harbourside Transportation Consultants
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Count Name: Mount Carson Avenue & Wyatt
 Boulevard
 Site Code:
 Start Date: 12/05/2017
 Page No: 1

Turning Movement Data

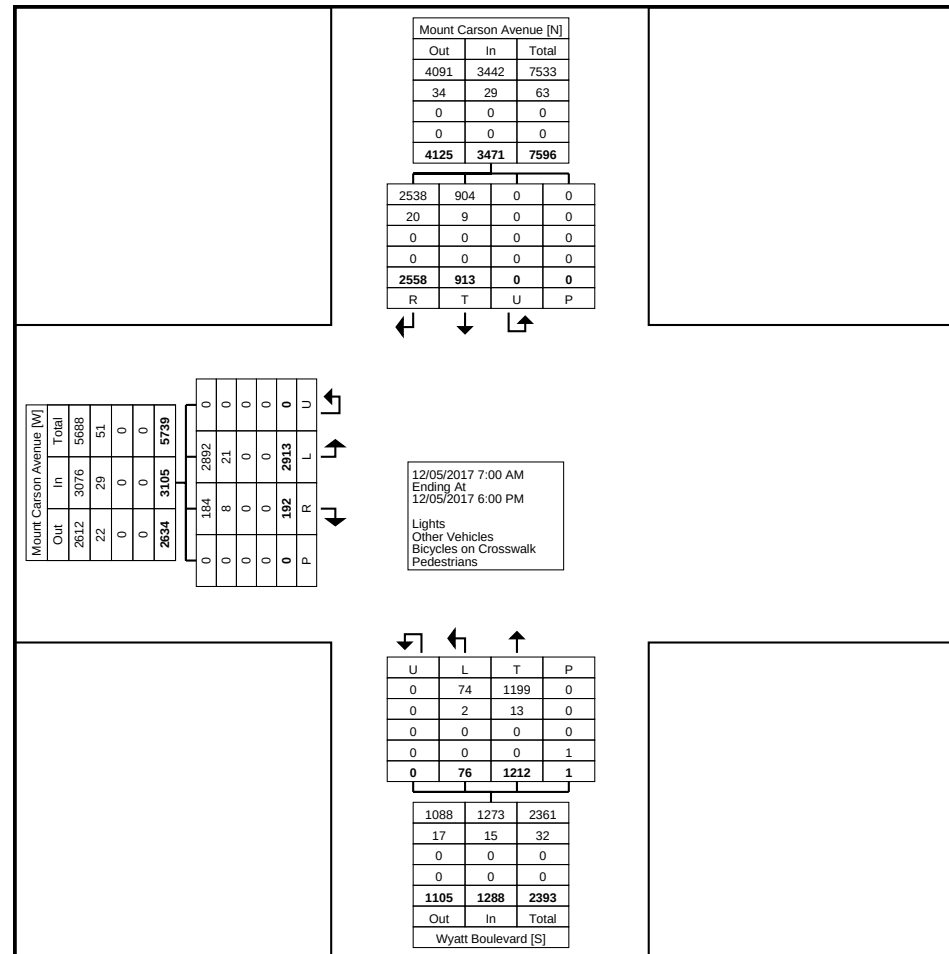
Start Time	Mount Carson Avenue Southbound					Wyatt Boulevard Northbound					Mount Carson Avenue Eastbound					Int. Total
	Right	Thru	U-Turn	Peds	App. Total	Thru	Left	U-Turn	Peds	App. Total	Right	Left	U-Turn	Peds	App. Total	
7:00 AM	31	13	0	0	44	31	0	0	0	31	5	113	0	0	118	193
7:15 AM	40	12	0	0	52	43	3	0	0	46	2	145	0	0	147	245
7:30 AM	58	21	0	0	79	66	5	0	0	71	1	164	0	0	165	315
7:45 AM	68	27	0	0	95	66	2	0	1	68	2	179	0	0	181	344
Hourly Total	197	73	0	0	270	206	10	0	1	216	10	601	0	0	611	1097
8:00 AM	76	34	0	0	110	61	6	0	0	67	7	158	0	0	165	342
8:15 AM	104	48	0	0	152	65	2	0	0	67	4	167	0	0	171	390
8:30 AM	63	35	0	0	98	67	1	0	0	68	7	147	0	0	154	320
8:45 AM	75	42	0	0	117	61	5	0	0	66	3	130	0	0	133	316
Hourly Total	318	159	0	0	477	254	14	0	0	268	21	602	0	0	623	1368
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM	87	25	0	0	112	28	2	0	0	30	3	110	0	0	113	255
11:15 AM	93	18	0	0	111	33	3	0	0	36	4	100	0	0	104	251
11:30 AM	101	20	0	0	121	38	3	0	0	41	9	96	0	0	105	267
11:45 AM	102	27	0	0	129	44	3	0	0	47	8	85	0	0	93	269
Hourly Total	383	90	0	0	473	143	11	0	0	154	24	391	0	0	415	1042
12:00 PM	116	31	0	0	147	45	7	0	0	52	6	116	0	0	122	321
12:15 PM	126	38	0	0	164	33	4	0	0	37	4	129	0	0	133	334
12:30 PM	104	35	0	0	139	54	3	0	0	57	9	121	0	0	130	326
12:45 PM	123	42	0	0	165	39	5	0	0	44	5	143	0	0	148	357
Hourly Total	469	146	0	0	615	171	19	0	0	190	24	509	0	0	533	1338
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	158	53	0	0	211	67	5	0	0	72	10	96	0	0	106	389
4:15 PM	155	54	0	0	209	54	1	0	0	55	12	92	0	0	104	368
4:30 PM	157	66	0	0	223	60	1	0	0	61	19	115	0	0	134	418
4:45 PM	157	67	0	0	224	51	0	0	0	51	14	97	0	0	111	386
Hourly Total	627	240	0	0	867	232	7	0	0	239	55	400	0	0	455	1561
5:00 PM	135	64	0	0	199	65	2	0	0	67	16	104	0	0	120	386
5:15 PM	160	70	0	0	230	45	3	0	0	48	20	101	0	0	121	399
5:30 PM	134	37	0	0	171	57	5	0	0	62	13	108	0	0	121	354
5:45 PM	135	34	0	0	169	39	5	0	0	44	9	97	0	0	106	319
Hourly Total	564	205	0	0	769	206	15	0	0	221	58	410	0	0	468	1458
Grand Total	2558	913	0	0	3471	1212	76	0	1	1288	192	2913	0	0	3105	7864
Approach %	73.7	26.3	0.0	-	-	94.1	5.9	0.0	-	-	6.2	93.8	0.0	-	-	-
Total %	32.5	11.6	0.0	-	44.1	15.4	1.0	0.0	-	16.4	2.4	37.0	0.0	-	39.5	-
Lights	2538	904	0	-	3442	1199	74	0	-	1273	184	2892	0	-	3076	7791
% Lights	99.2	99.0	-	-	99.2	98.9	97.4	-	-	98.8	95.8	99.3	-	-	99.1	99.1
Other Vehicles	20	9	0	-	29	13	2	0	-	15	8	21	0	-	29	73

% Other Vehicles	0.8	1.0	-	-	0.8	1.1	2.6	-	-	1.2	4.2	0.7	-	-	0.9	0.9
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	1	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-



Harbourside Transportation Consultants
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Count Name: Mount Carson Avenue & Wyatt
Boulevard
Site Code:
Start Date: 12/05/2017
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Count Name: Mount Carson Avenue & Wyatt
 Boulevard
 Site Code:
 Start Date: 12/05/2017
 Page No: 4

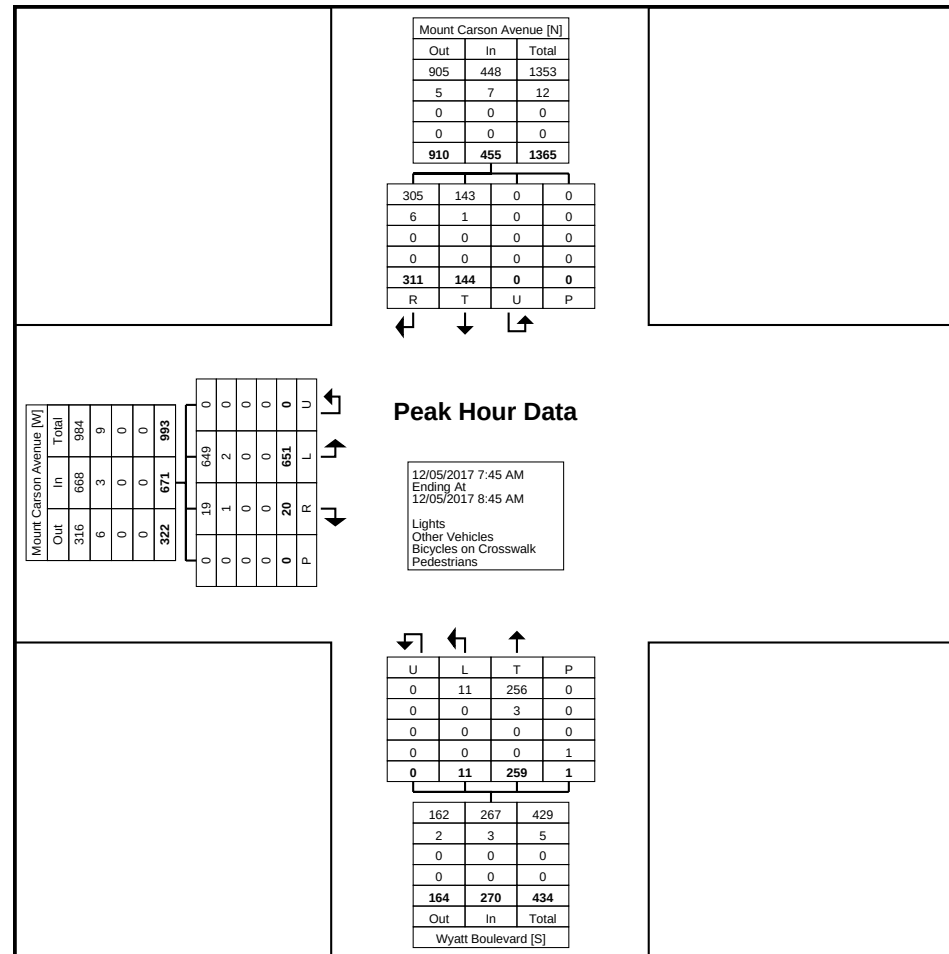
Turning Movement Peak Hour Data (7:45 AM)

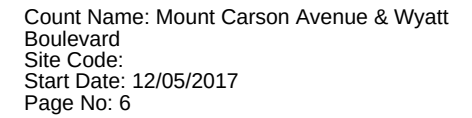
Start Time	Mount Carson Avenue Southbound					Wyatt Boulevard Northbound					Mount Carson Avenue Eastbound					Int. Total
	Right	Thru	U-Turn	Peds	App. Total	Thru	Left	U-Turn	Peds	App. Total	Right	Left	U-Turn	Peds	App. Total	
7:45 AM	68	27	0	0	95	66	2	0	1	68	2	179	0	0	181	344
8:00 AM	76	34	0	0	110	61	6	0	0	67	7	158	0	0	165	342
8:15 AM	104	48	0	0	152	65	2	0	0	67	4	167	0	0	171	390
8:30 AM	63	35	0	0	98	67	1	0	0	68	7	147	0	0	154	320
Total	311	144	0	0	455	259	11	0	1	270	20	651	0	0	671	1396
Approach %	68.4	31.6	0.0	-	-	95.9	4.1	0.0	-	-	3.0	97.0	0.0	-	-	-
Total %	22.3	10.3	0.0	-	32.6	18.6	0.8	0.0	-	19.3	1.4	46.6	0.0	-	48.1	-
PHF	0.748	0.750	0.000	-	0.748	0.966	0.458	0.000	-	0.993	0.714	0.909	0.000	-	0.927	0.895
Lights	305	143	0	-	448	256	11	0	-	267	19	649	0	-	668	1383
% Lights	98.1	99.3	-	-	98.5	98.8	100.0	-	-	98.9	95.0	99.7	-	-	99.6	99.1
Other Vehicles	6	1	0	-	7	3	0	0	-	3	1	2	0	-	3	13
% Other Vehicles	1.9	0.7	-	-	1.5	1.2	0.0	-	-	1.1	5.0	0.3	-	-	0.4	0.9
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	1	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-



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Count Name: Mount Carson Avenue & Wyatt
Boulevard
Site Code:
Start Date: 12/05/2017
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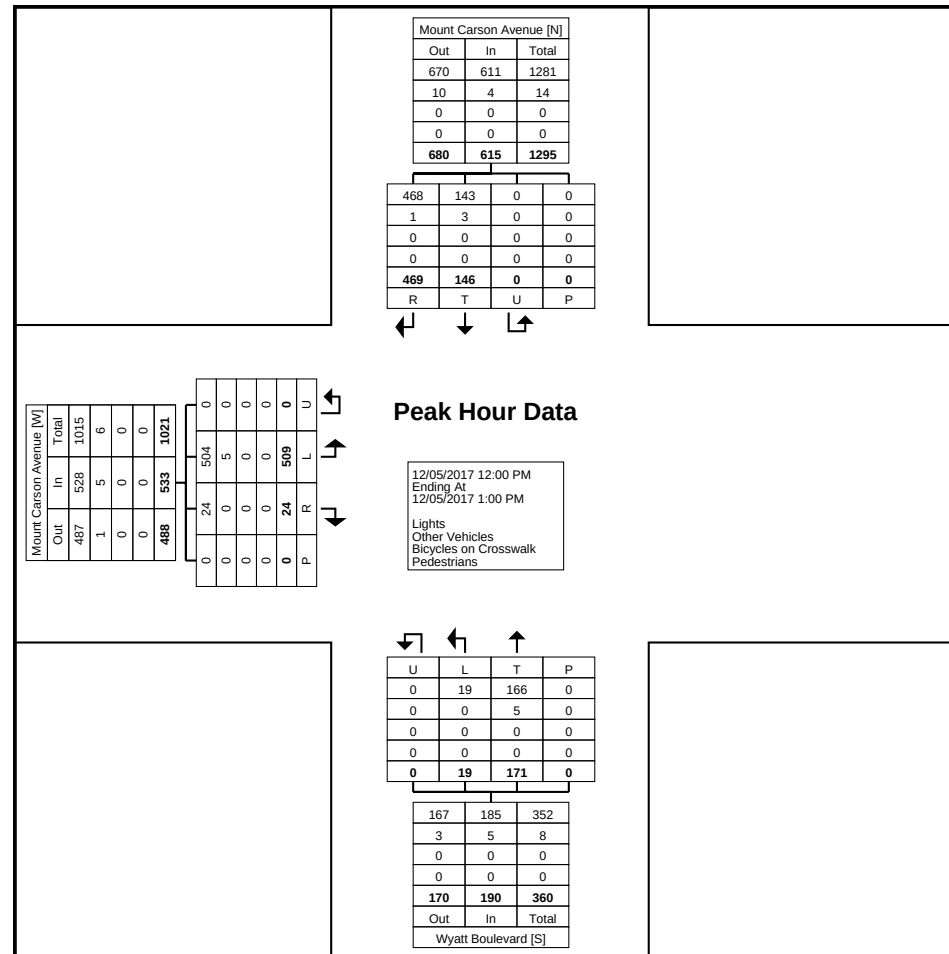


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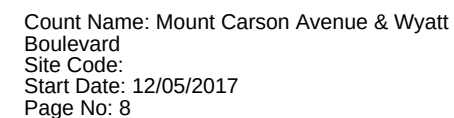


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Count Name: Mount Carson Avenue & Wyatt
Boulevard
Site Code:
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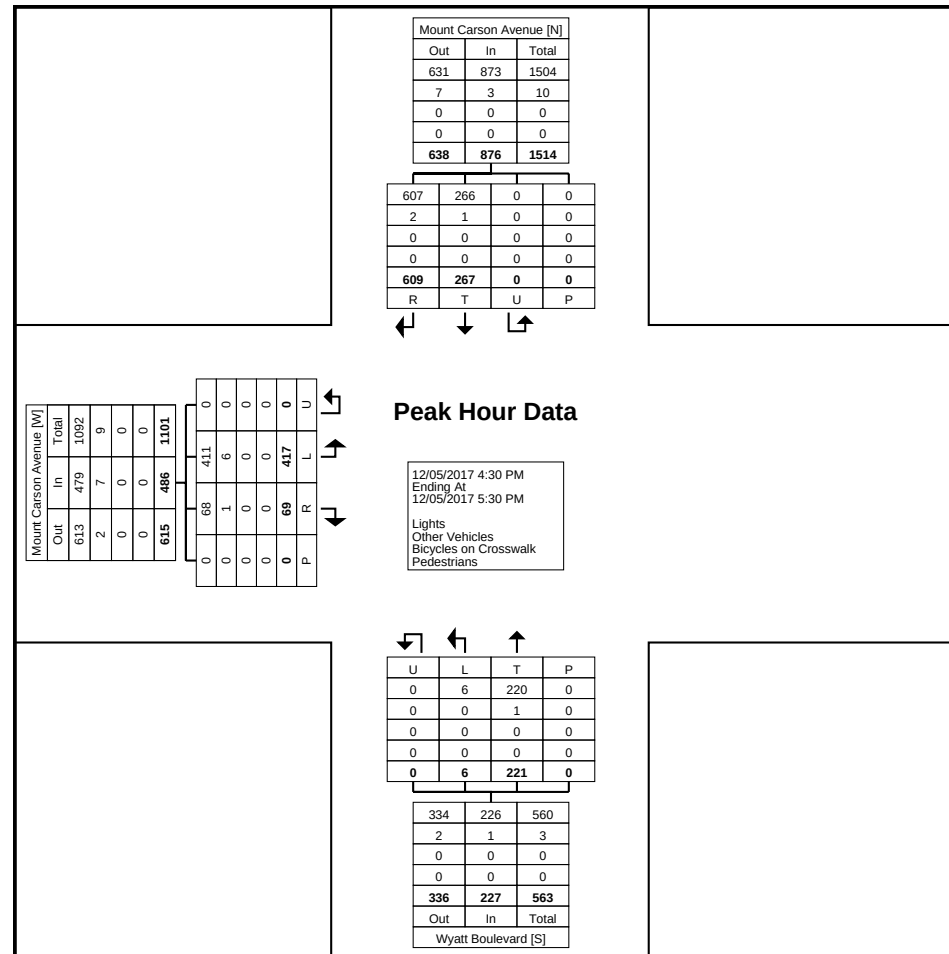
Turning Movement Peak Hour Data Plot (12:00 PM)

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Count Name: Mount Carson Avenue & Wyatt
 Boulevard
 Site Code:
 Start Date: 12/05/2017
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Turning Movement Peak Hour Data Plot (4:30 PM)



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Count Name: Topsail Road & Farrell Drive
Site Code:
Start Date: 11/25/2015
Page No: 1

Turning Movement Data

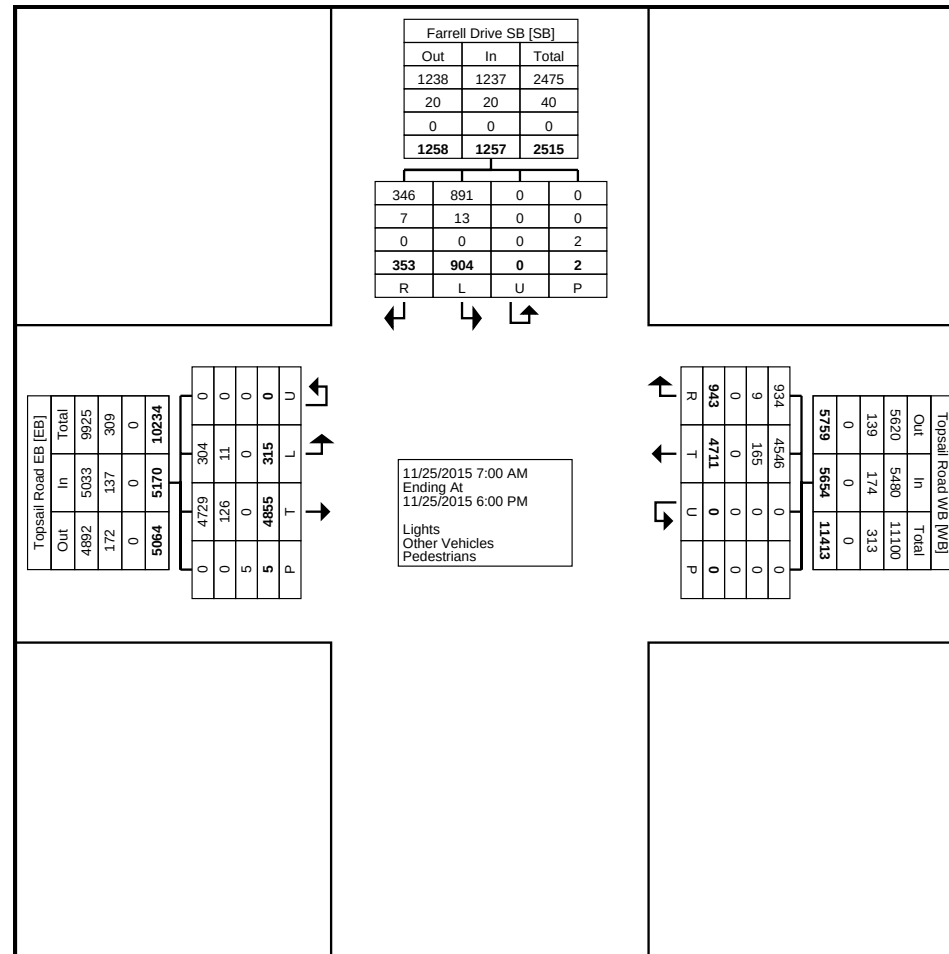
Start Time	Farrell Drive SB Southbound					Topsail Road WB Westbound					Topsail Road EB Eastbound					Int. Total
	Right	Left	U-Turn	Peds	App. Total	Right	Thru	U-Turn	Peds	App. Total	Thru	Left	U-Turn	Peds	App. Total	
7:00 AM	8	15	0	0	23	14	76	0	0	90	126	6	0	0	132	245
7:15 AM	14	18	0	0	32	20	109	0	0	129	151	10	0	0	161	322
7:30 AM	25	33	0	2	58	40	156	0	0	196	225	6	0	0	231	485
7:45 AM	32	50	0	0	82	32	207	0	0	239	228	9	0	0	237	558
Hourly Total	79	116	0	2	195	106	548	0	0	654	730	31	0	0	761	1610
8:00 AM	15	55	0	0	70	29	162	0	0	191	250	12	0	0	262	523
8:15 AM	13	75	0	0	88	33	166	0	0	199	282	8	0	0	290	577
8:30 AM	10	63	0	0	73	35	173	0	0	208	249	7	0	1	256	537
8:45 AM	14	46	0	0	60	45	175	0	0	220	188	11	0	0	199	479
Hourly Total	52	239	0	0	291	142	676	0	0	818	969	38	0	1	1007	2116
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12:00 PM	9	25	0	0	34	38	181	0	0	219	161	11	0	0	172	425
12:15 PM	10	35	0	0	45	28	188	0	0	216	197	14	0	0	211	472
12:30 PM	16	34	0	0	50	31	206	0	0	237	167	9	0	0	176	463
12:45 PM	11	31	0	0	42	37	201	0	0	238	222	11	0	0	233	513
Hourly Total	46	125	0	0	171	134	776	0	0	910	747	45	0	0	792	1873
1:00 PM	15	30	0	0	45	40	182	0	0	222	180	9	0	0	189	456
1:15 PM	11	31	0	0	42	34	176	0	0	210	218	6	0	0	224	476
1:30 PM	17	41	0	0	58	22	193	0	0	215	193	18	0	0	211	484
1:45 PM	11	28	0	0	39	27	183	0	0	210	195	14	0	0	209	458
Hourly Total	54	130	0	0	184	123	734	0	0	857	786	47	0	0	833	1874
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	10	30	0	0	40	63	285	0	0	348	208	20	0	0	228	616
4:15 PM	12	32	0	0	44	62	291	0	0	353	195	18	0	0	213	610
4:30 PM	15	37	0	0	52	71	302	0	0	373	264	23	0	2	287	712
4:45 PM	19	48	0	0	67	65	256	0	0	321	215	18	0	0	233	621
Hourly Total	56	147	0	0	203	261	1134	0	0	1395	882	79	0	2	961	2559
5:00 PM	15	33	0	0	48	57	269	0	0	326	241	20	0	0	261	635
5:15 PM	14	49	0	0	63	48	211	0	0	259	169	24	0	0	193	515
5:30 PM	17	35	0	0	52	30	182	0	0	212	173	15	0	0	188	452
5:45 PM	20	30	0	0	50	42	181	0	0	223	158	16	0	2	174	447
Hourly Total	66	147	0	0	213	177	843	0	0	1020	741	75	0	2	816	2049
Grand Total	353	904	0	2	1257	943	4711	0	0	5654	4855	315	0	5	5170	12081
Approach %	28.1	71.9	0.0	-	-	16.7	83.3	0.0	-	-	93.9	6.1	0.0	-	-	-
Total %	2.9	7.5	0.0	-	10.4	7.8	39.0	0.0	-	46.8	40.2	2.6	0.0	-	42.8	-
Lights	346	891	0	-	1237	934	4546	0	-	5480	4729	304	0	-	5033	11750
% Lights	98.0	98.6	-	-	98.4	99.0	96.5	-	-	96.9	97.4	96.5	-	-	97.4	97.3
Other Vehicles	7	13	0	-	20	9	165	0	-	174	126	11	0	-	137	331

[illegible]



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Count Name: Topsail Road & Farrell Drive
Site Code:
Start Date: 11/25/2015
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Turning Movement Data Plot



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Count Name: Topsail Road & Farrell Drive
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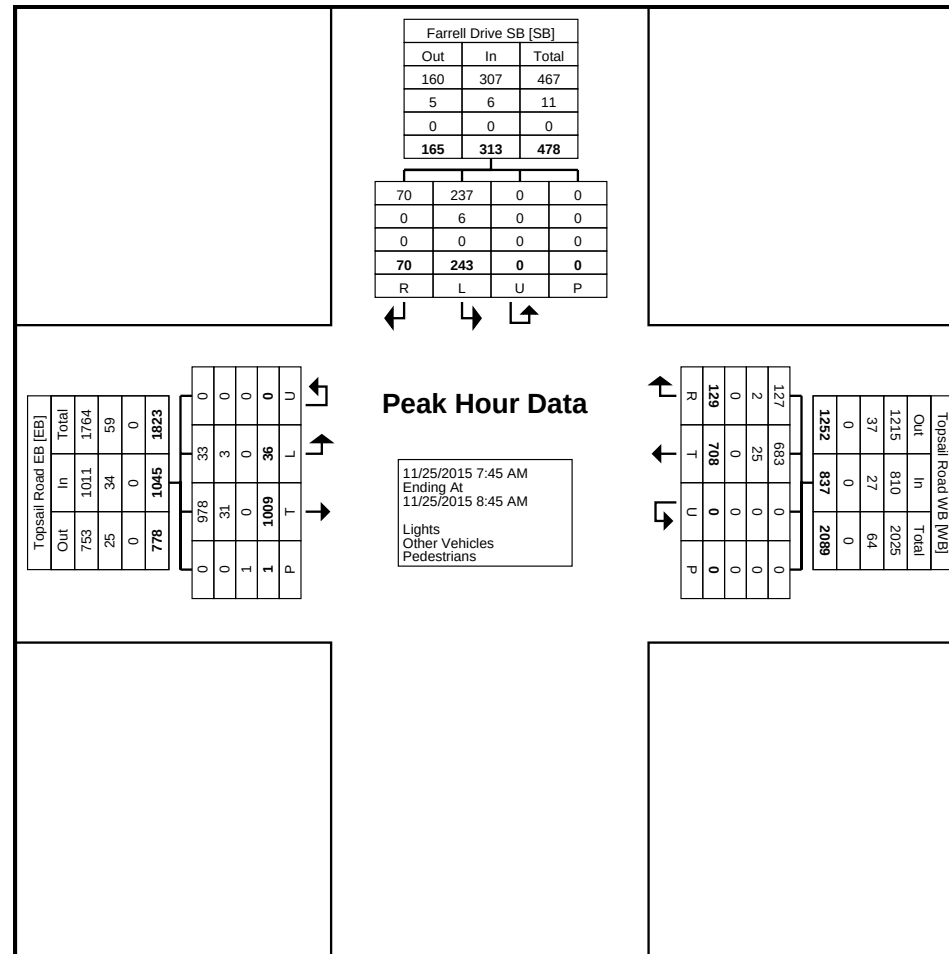
Turning Movement Peak Hour Data (7:45 AM)

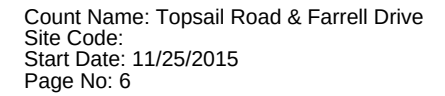
Start Time	Farrell Drive SB Southbound					Topsail Road WB Westbound					Topsail Road EB Eastbound					Int. Total
	Right	Left	U-Turn	Peds	App. Total	Right	Thru	U-Turn	Peds	App. Total	Thru	Left	U-Turn	Peds	App. Total	
7:45 AM	32	50	0	0	82	32	207	0	0	239	228	9	0	0	237	558
8:00 AM	15	55	0	0	70	29	162	0	0	191	250	12	0	0	262	523
8:15 AM	13	75	0	0	88	33	166	0	0	199	282	8	0	0	290	577
8:30 AM	10	63	0	0	73	35	173	0	0	208	249	7	0	1	256	537
Total	70	243	0	0	313	129	708	0	0	837	1009	36	0	1	1045	2195
Approach %	22.4	77.6	0.0	-	-	15.4	84.6	0.0	-	-	96.6	3.4	0.0	-	-	-
Total %	3.2	11.1	0.0	-	14.3	5.9	32.3	0.0	-	38.1	46.0	1.6	0.0	-	47.6	-
PHF	0.547	0.810	0.000	-	0.889	0.921	0.855	0.000	-	0.876	0.895	0.750	0.000	-	0.901	0.951
Lights	70	237	0	-	307	127	683	0	-	810	978	33	0	-	1011	2128
% Lights	100.0	97.5	-	-	98.1	98.4	96.5	-	-	96.8	96.9	91.7	-	-	96.7	96.9
Other Vehicles	0	6	0	-	6	2	25	0	-	27	31	3	0	-	34	67
% Other Vehicles	0.0	2.5	-	-	1.9	1.6	3.5	-	-	3.2	3.1	8.3	-	-	3.3	3.1
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-



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Count Name: Topsail Road & Farrell Drive
Site Code:
Start Date: 11/25/2015
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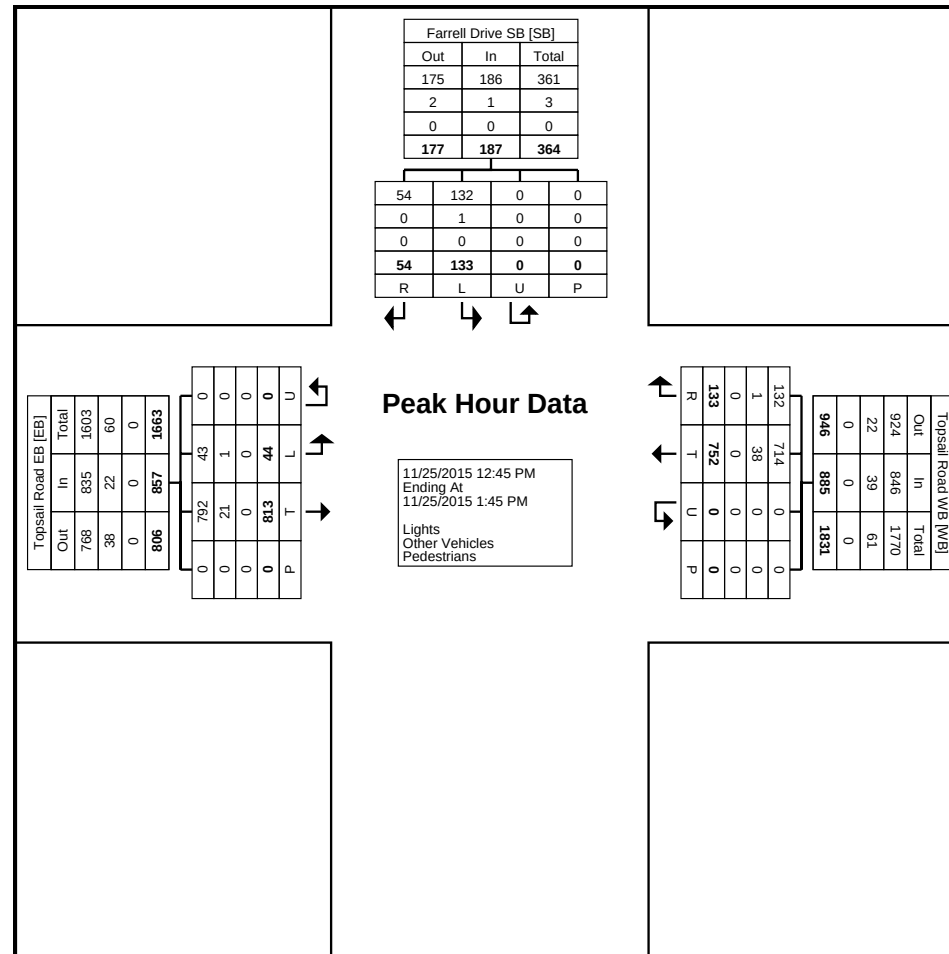






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Count Name: Topsail Road & Farrell Drive
Site Code:
Start Date: 11/25/2015
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Count Name: Topsail Road & Farrell Drive
 Site Code:
 Start Date: 11/25/2015
 Page No: 8

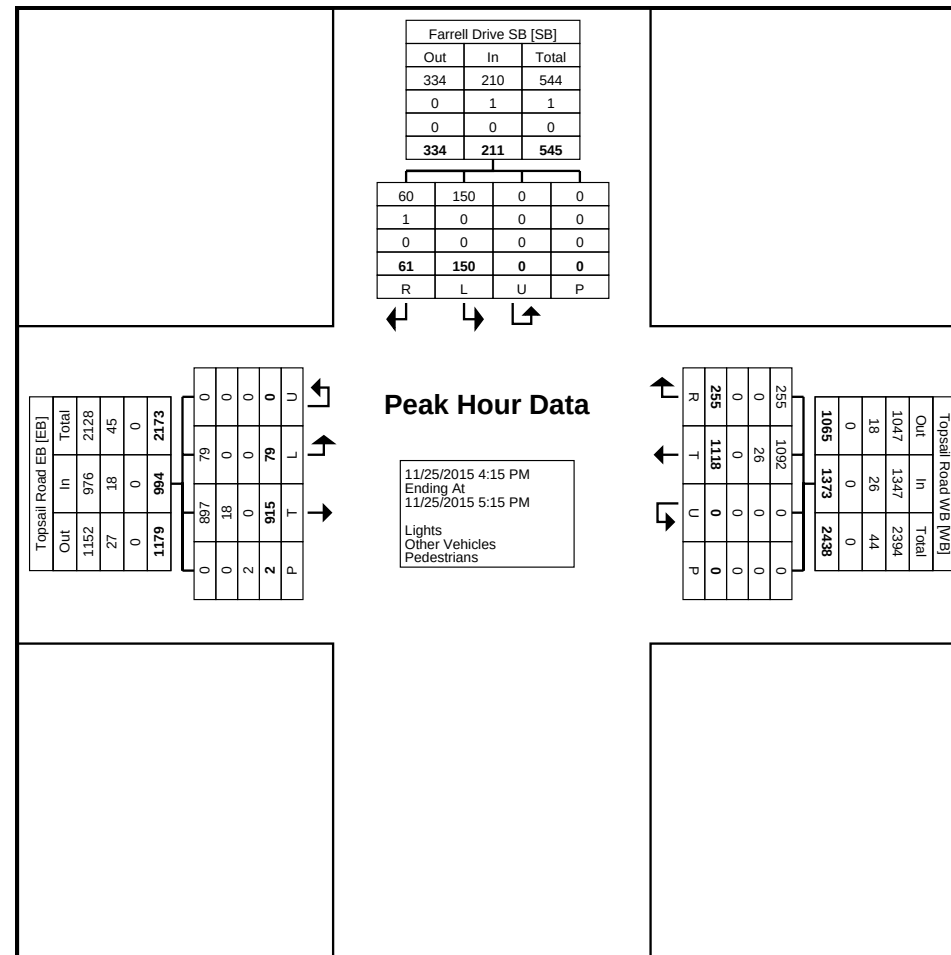
Turning Movement Peak Hour Data (4:15 PM)

Start Time	Farrell Drive SB Southbound					Topsail Road WB Westbound					Topsail Road EB Eastbound					Int. Total
	Right	Left	U-Turn	Peds	App. Total	Right	Thru	U-Turn	Peds	App. Total	Thru	Left	U-Turn	Peds	App. Total	
4:15 PM	12	32	0	0	44	62	291	0	0	353	195	18	0	0	213	610
4:30 PM	15	37	0	0	52	71	302	0	0	373	264	23	0	2	287	712
4:45 PM	19	48	0	0	67	65	256	0	0	321	215	18	0	0	233	621
5:00 PM	15	33	0	0	48	57	269	0	0	326	241	20	0	0	261	635
Total	61	150	0	0	211	255	1118	0	0	1373	915	79	0	2	994	2578
Approach %	28.9	71.1	0.0	-	-	18.6	81.4	0.0	-	-	92.1	7.9	0.0	-	-	-
Total %	2.4	5.8	0.0	-	8.2	9.9	43.4	0.0	-	53.3	35.5	3.1	0.0	-	38.6	-
PHF	0.803	0.781	0.000	-	0.787	0.898	0.925	0.000	-	0.920	0.866	0.859	0.000	-	0.866	0.905
Lights	60	150	0	-	210	255	1092	0	-	1347	897	79	0	-	976	2533
% Lights	98.4	100.0	-	-	99.5	100.0	97.7	-	-	98.1	98.0	100.0	-	-	98.2	98.3
Other Vehicles	1	0	0	-	1	0	26	0	-	26	18	0	0	-	18	45
% Other Vehicles	1.6	0.0	-	-	0.5	0.0	2.3	-	-	1.9	2.0	0.0	-	-	1.8	1.7
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-



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Count Name: Topsail Road & Farrell Drive
Site Code:
Start Date: 11/25/2015
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Turning Movement Peak Hour Data Plot (4:15 PM)



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Count Name: Hemmer Jane Drive Noon Peak
 Site Code:
 Start Date: 03/12/2015
 Page No: 1

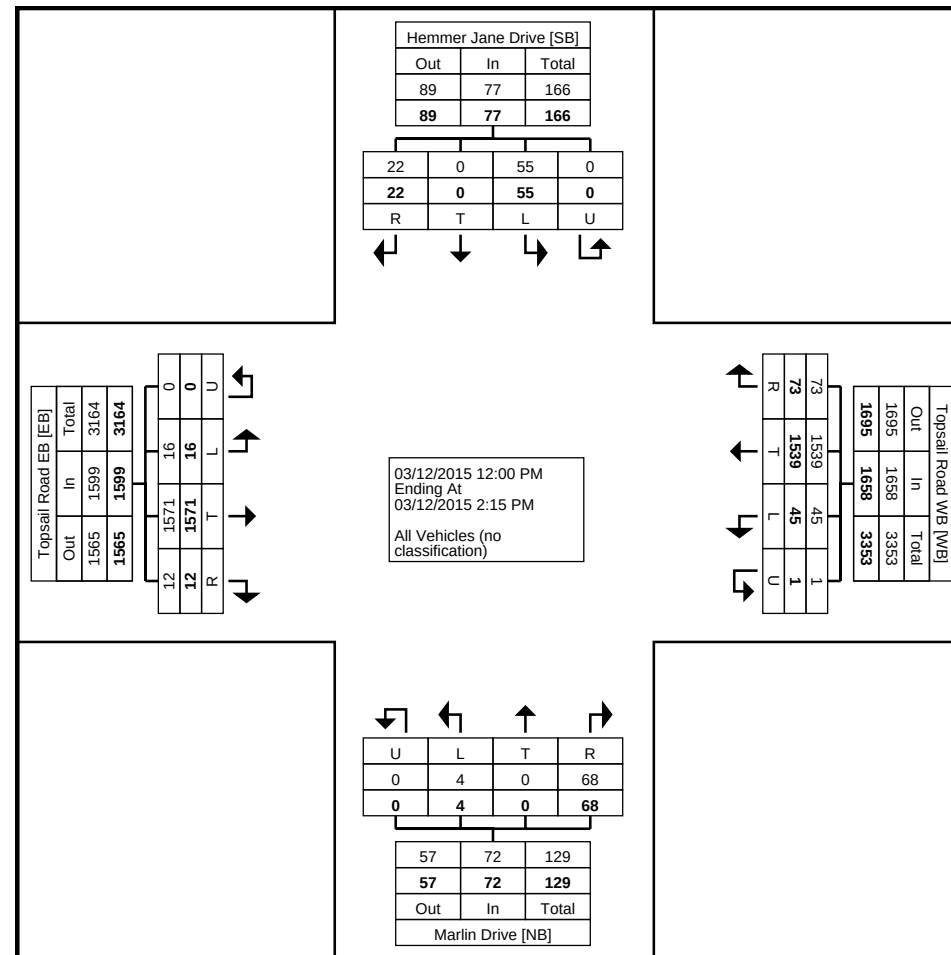
Turning Movement Data

Start Time	Hemmer Jane Drive Southbound					Topsail Road WB Westbound					Marlin Drive Northbound					Topsail Road EB Eastbound					Int. Total
	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	
12:00 PM	4	0	1	0	5	12	175	8	0	195	9	0	0	0	9	1	212	4	0	217	426
12:15 PM	4	0	14	0	18	12	152	5	0	169	9	0	1	0	10	2	192	7	0	201	398
12:30 PM	4	0	6	0	10	8	186	7	0	201	5	0	0	0	5	1	244	1	0	246	462
12:45 PM	1	0	0	0	1	6	199	6	1	212	6	0	1	0	7	3	222	0	0	225	445
Hourly Total	13	0	21	0	34	38	712	26	1	777	29	0	2	0	31	7	870	12	0	889	1731
1:00 PM	4	0	11	0	15	8	208	4	0	220	8	0	0	0	8	1	166	1	0	168	411
1:15 PM	1	0	9	0	10	6	215	5	0	226	9	0	2	0	11	3	177	1	0	181	428
1:30 PM	4	0	8	0	12	7	180	6	0	193	8	0	0	0	8	1	163	0	0	164	377
1:45 PM	0	0	6	0	6	14	224	4	0	242	14	0	0	0	14	0	195	2	0	197	459
Hourly Total	9	0	34	0	43	35	827	19	0	881	39	0	2	0	41	5	701	4	0	710	1675
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	22	0	55	0	77	73	1539	45	1	1658	68	0	4	0	72	12	1571	16	0	1599	3406
Approach %	28.6	0.0	71.4	0.0	-	4.4	92.8	2.7	0.1	-	94.4	0.0	5.6	0.0	-	0.8	98.2	1.0	0.0	-	-
Total %	0.6	0.0	1.6	0.0	2.3	2.1	45.2	1.3	0.0	48.7	2.0	0.0	0.1	0.0	2.1	0.4	46.1	0.5	0.0	46.9	-
All Vehicles (no classification)	22	0	55	0	77	73	1539	45	1	1658	68	0	4	0	72	12	1571	16	0	1599	3406
% All Vehicles (no classification)	100.0	-	100.0	-	100.0	100.0	100.0	100.0	100.0	100.0	100.0	-	100.0	-	100.0	100.0	100.0	100.0	-	100.0	100.0



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Count Name: Hemmer Jane Drive Noon Peak
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Turning Movement Data Plot



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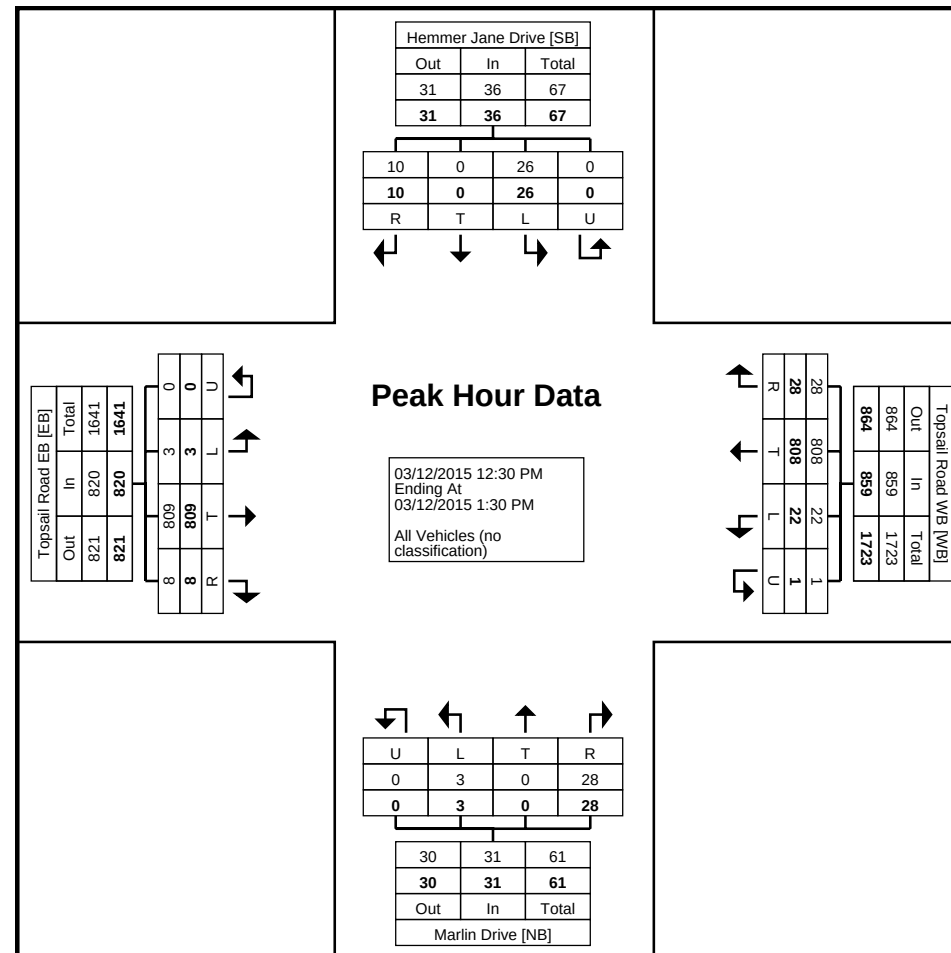
Turning Movement Peak Hour Data (12:30 PM)

Start Time	Hemmer Jane Drive Southbound					Topsail Road WB Westbound					Marlin Drive Northbound					Topsail Road EB Eastbound					Int. Total
	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	
12:30 PM	4	0	6	0	10	8	186	7	0	201	5	0	0	0	5	1	244	1	0	246	462
12:45 PM	1	0	0	0	1	6	199	6	1	212	6	0	1	0	7	3	222	0	0	225	445
1:00 PM	4	0	11	0	15	8	208	4	0	220	8	0	0	0	8	1	166	1	0	168	411
1:15 PM	1	0	9	0	10	6	215	5	0	226	9	0	2	0	11	3	177	1	0	181	428
Total	10	0	26	0	36	28	808	22	1	859	28	0	3	0	31	8	809	3	0	820	1746
Approach %	27.8	0.0	72.2	0.0	-	3.3	94.1	2.6	0.1	-	90.3	0.0	9.7	0.0	-	1.0	98.7	0.4	0.0	-	-
Total %	0.6	0.0	1.5	0.0	2.1	1.6	46.3	1.3	0.1	49.2	1.6	0.0	0.2	0.0	1.8	0.5	46.3	0.2	0.0	47.0	-
PHF	0.625	0.000	0.591	0.000	0.600	0.875	0.940	0.786	0.250	0.950	0.778	0.000	0.375	0.000	0.705	0.667	0.829	0.750	0.000	0.833	0.945
All Vehicles (no classification)	10	0	26	0	36	28	808	22	1	859	28	0	3	0	31	8	809	3	0	820	1746
% All Vehicles (no classification)	100.0	-	100.0	-	100.0	100.0	100.0	100.0	100.0	100.0	100.0	-	100.0	-	100.0	100.0	100.0	100.0	-	100.0	100.0



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Turning Movement Peak Hour Data Plot (12:30 PM)



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Count Name: Hemmer Jane Drive and Marlin Drive @ Topsail Road
 Site Code:
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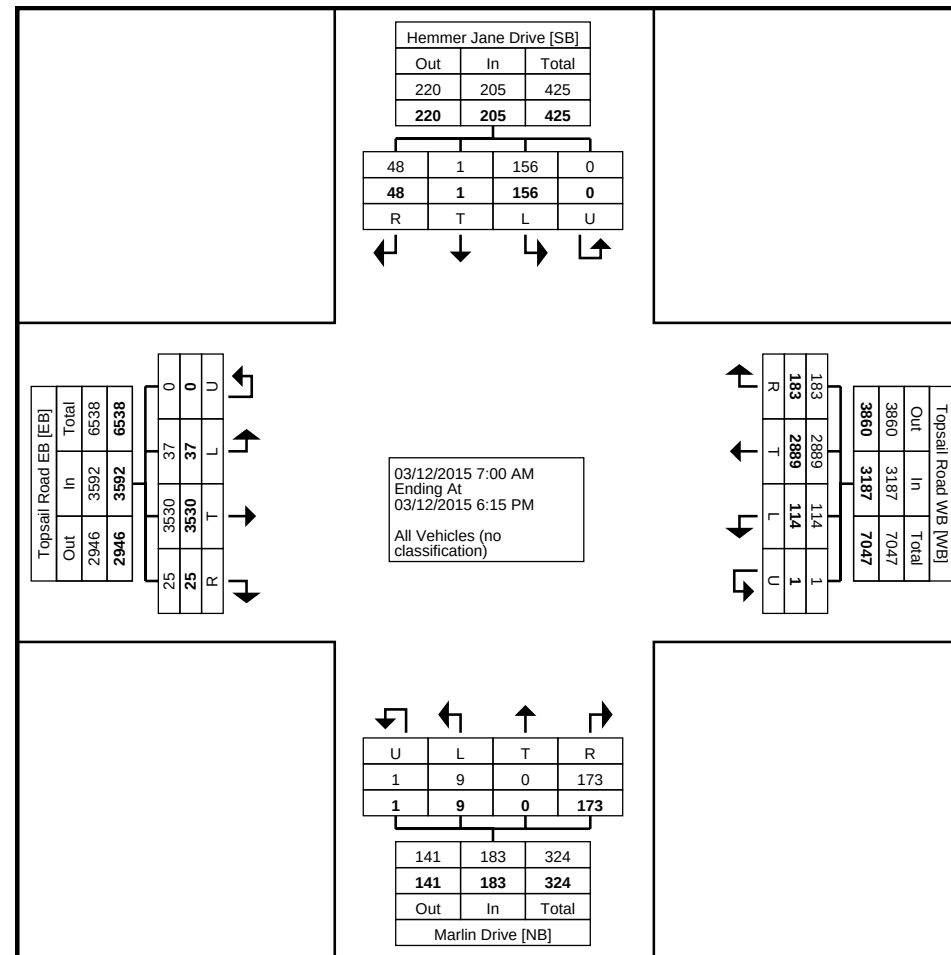
Turning Movement Data

Start Time	Hemmer Jane Drive Southbound					Topsail Road WB Westbound					Marlin Drive Northbound					Topsail Road EB Eastbound					Int. Total
	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	
7:00 AM	0	0	8	0	8	2	87	4	0	93	3	0	1	0	4	1	111	0	0	112	217
7:15 AM	4	0	13	0	17	5	122	4	0	131	9	0	1	0	10	2	145	0	0	147	305
7:30 AM	4	0	23	0	27	4	177	2	0	183	14	0	0	0	14	0	205	2	0	207	431
7:45 AM	2	0	14	0	16	5	231	5	0	241	13	0	2	0	15	1	201	1	0	203	475
Hourly Total	10	0	58	0	68	16	617	15	0	648	39	0	4	0	43	4	662	3	0	669	1428
8:00 AM	4	0	16	0	20	6	171	5	0	182	18	0	0	0	18	2	281	4	0	287	507
8:15 AM	2	0	12	0	14	3	187	9	0	199	16	0	0	0	16	2	220	2	0	224	453
8:30 AM	5	0	11	0	16	5	193	8	0	206	11	0	1	0	12	2	196	0	0	198	432
8:45 AM	0	0	10	0	10	9	153	2	0	164	11	0	1	1	13	1	189	2	0	192	379
Hourly Total	11	0	49	0	60	23	704	24	0	751	56	0	2	1	59	7	886	8	0	901	1771
9:00 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
4:00 PM	4	0	9	0	13	12	204	7	0	223	3	0	0	0	3	0	206	3	0	209	448
4:15 PM	2	0	5	0	7	13	216	9	0	238	11	0	1	0	12	1	209	3	0	213	470
4:30 PM	2	0	7	0	9	22	235	16	0	273	13	0	0	0	13	4	319	6	0	329	624
4:45 PM	4	0	3	0	7	20	235	14	1	270	6	0	0	0	6	1	273	3	0	277	560
Hourly Total	12	0	24	0	36	67	890	46	1	1004	33	0	1	0	34	6	1007	15	0	1028	2102
5:00 PM	6	0	4	0	10	25	209	11	0	245	22	0	2	0	24	2	366	4	0	372	651
5:15 PM	5	0	6	0	11	18	170	5	0	193	5	0	0	0	5	0	260	3	0	263	472
5:30 PM	2	0	8	0	10	17	175	3	0	195	10	0	0	0	10	5	195	2	0	202	417
5:45 PM	2	1	7	0	10	17	122	10	0	149	8	0	0	0	8	1	153	2	0	156	323
Hourly Total	15	1	25	0	41	77	676	29	0	782	45	0	2	0	47	8	974	11	0	993	1863
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	48	1	156	0	205	183	2889	114	1	3187	173	0	9	1	183	25	3530	37	0	3592	7167
Approach %	23.4	0.5	76.1	0.0	-	5.7	90.6	3.6	0.0	-	94.5	0.0	4.9	0.5	-	0.7	98.3	1.0	0.0	-	-
Total %	0.7	0.0	2.2	0.0	2.9	2.6	40.3	1.6	0.0	44.5	2.4	0.0	0.1	0.0	2.6	0.3	49.3	0.5	0.0	50.1	-
All Vehicles (no classification)	48	1	156	0	205	183	2889	114	1	3187	173	0	9	1	183	25	3530	37	0	3592	7167
% All Vehicles (no classification)	100.0	100.0	100.0	-	100.0	100.0	100.0	100.0	100.0	100.0	100.0	-	100.0	100.0	100.0	100.0	100.0	100.0	-	100.0	100.0



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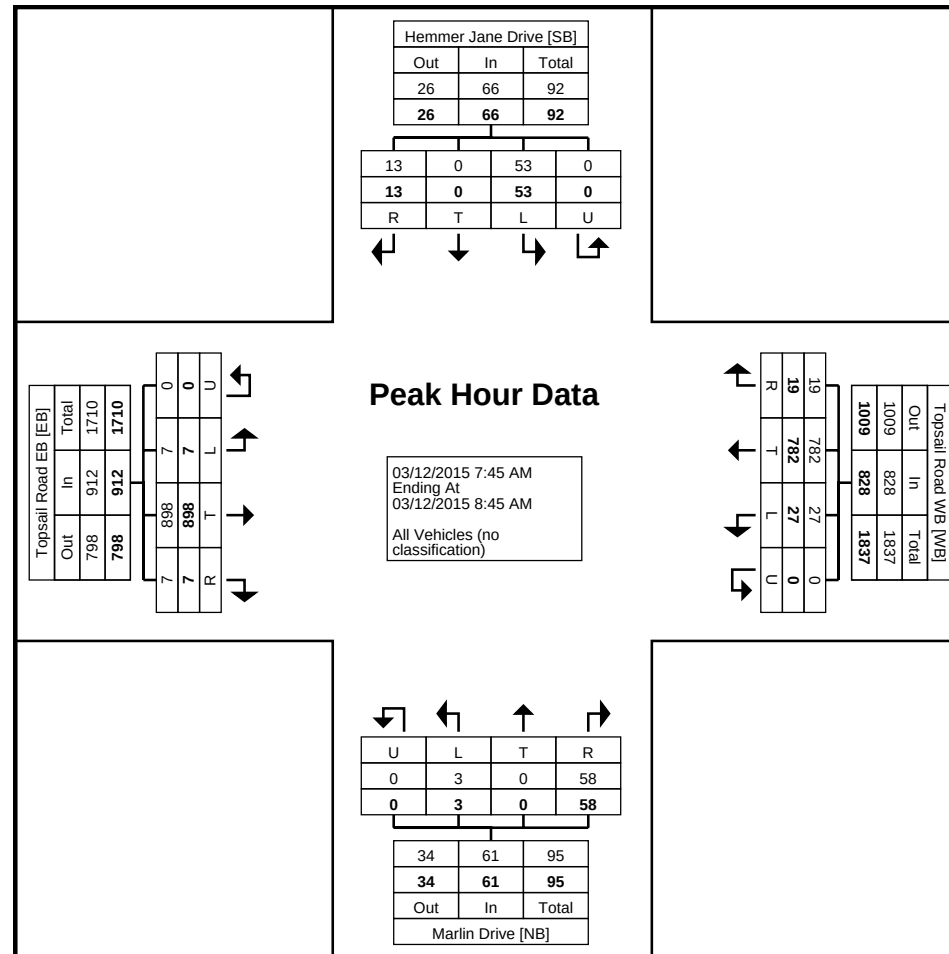
Turning Movement Peak Hour Data (7:45 AM)

Start Time	Hemmer Jane Drive Southbound					Topsail Road WB Westbound					Marlin Drive Northbound					Topsail Road EB Eastbound					Int. Total
	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	
7:45 AM	2	0	14	0	16	5	231	5	0	241	13	0	2	0	15	1	201	1	0	203	475
8:00 AM	4	0	16	0	20	6	171	5	0	182	18	0	0	0	18	2	281	4	0	287	507
8:15 AM	2	0	12	0	14	3	187	9	0	199	16	0	0	0	16	2	220	2	0	224	453
8:30 AM	5	0	11	0	16	5	193	8	0	206	11	0	1	0	12	2	196	0	0	198	432
Total	13	0	53	0	66	19	782	27	0	828	58	0	3	0	61	7	898	7	0	912	1867
Approach %	19.7	0.0	80.3	0.0	-	2.3	94.4	3.3	0.0	-	95.1	0.0	4.9	0.0	-	0.8	98.5	0.8	0.0	-	-
Total %	0.7	0.0	2.8	0.0	3.5	1.0	41.9	1.4	0.0	44.3	3.1	0.0	0.2	0.0	3.3	0.4	48.1	0.4	0.0	48.8	-
PHF	0.650	0.000	0.828	0.000	0.825	0.792	0.846	0.750	0.000	0.859	0.806	0.000	0.375	0.000	0.847	0.875	0.799	0.438	0.000	0.794	0.921
All Vehicles (no classification)	13	0	53	0	66	19	782	27	0	828	58	0	3	0	61	7	898	7	0	912	1867
% All Vehicles (no classification)	100.0	-	100.0	-	100.0	100.0	100.0	100.0	-	100.0	100.0	-	100.0	-	100.0	100.0	100.0	100.0	-	100.0	100.0



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Count Name: Hemmer Jane Drive and Marlin
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Turning Movement Peak Hour Data Plot (7:45 AM)



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Count Name: Hemmer Jane Drive and Marlin
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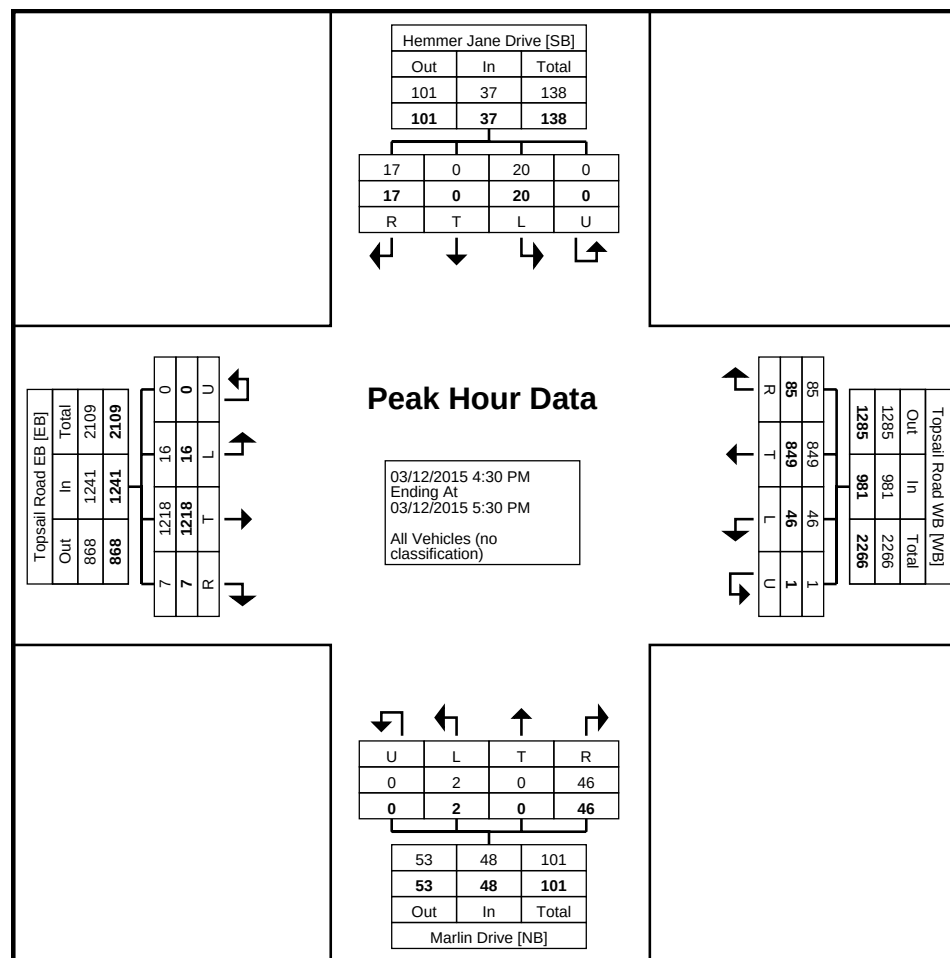
Turning Movement Peak Hour Data (4:30 PM)

Start Time	Hemmer Jane Drive Southbound					Topsail Road WB Westbound					Marlin Drive Northbound					Topsail Road EB Eastbound					Int. Total
	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	
4:30 PM	2	0	7	0	9	22	235	16	0	273	13	0	0	0	13	4	319	6	0	329	624
4:45 PM	4	0	3	0	7	20	235	14	1	270	6	0	0	0	6	1	273	3	0	277	560
5:00 PM	6	0	4	0	10	25	209	11	0	245	22	0	2	0	24	2	366	4	0	372	651
5:15 PM	5	0	6	0	11	18	170	5	0	193	5	0	0	0	5	0	260	3	0	263	472
Total	17	0	20	0	37	85	849	46	1	981	46	0	2	0	48	7	1218	16	0	1241	2307
Approach %	45.9	0.0	54.1	0.0	-	8.7	86.5	4.7	0.1	-	95.8	0.0	4.2	0.0	-	0.6	98.1	1.3	0.0	-	-
Total %	0.7	0.0	0.9	0.0	1.6	3.7	36.8	2.0	0.0	42.5	2.0	0.0	0.1	0.0	2.1	0.3	52.8	0.7	0.0	53.8	-
PHF	0.708	0.000	0.714	0.000	0.841	0.850	0.903	0.719	0.250	0.898	0.523	0.000	0.250	0.000	0.500	0.438	0.832	0.667	0.000	0.834	0.886
All Vehicles (no classification)	17	0	20	0	37	85	849	46	1	981	46	0	2	0	48	7	1218	16	0	1241	2307
% All Vehicles (no classification)	100.0	-	100.0	-	100.0	100.0	100.0	100.0	100.0	100.0	100.0	-	100.0	-	100.0	100.0	100.0	100.0	-	100.0	100.0



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Turning Movement Peak Hour Data Plot (4:30 PM)



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Count Name: Moffatts Drive - Noon Peak
 Site Code:
 Start Date: 03/12/2015
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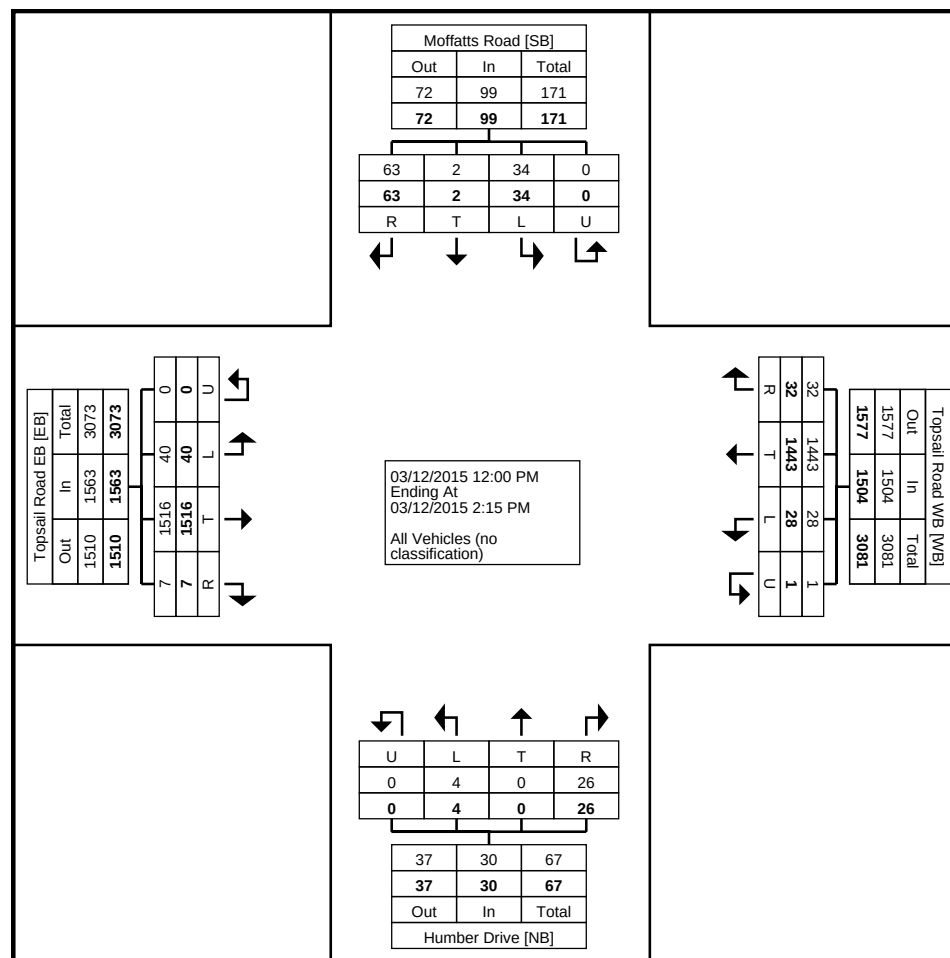
Turning Movement Data

Start Time	Moffatts Road Southbound					Topsail Road WB Westbound					Humber Drive Northbound					Topsail Road EB Eastbound					Int. Total
	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	
12:00 PM	5	0	2	0	7	3	177	4	0	184	2	0	0	0	2	1	214	13	0	228	421
12:15 PM	4	0	7	0	11	6	140	4	0	150	3	0	0	0	3	1	190	6	0	197	361
12:30 PM	5	0	2	0	7	7	181	4	0	192	2	0	0	0	2	2	225	3	0	230	431
12:45 PM	9	0	5	0	14	2	179	3	0	184	6	0	1	0	7	1	211	4	0	216	421
Hourly Total	23	0	16	0	39	18	677	15	0	710	13	0	1	0	14	5	840	26	0	871	1634
1:00 PM	10	1	2	0	13	5	197	6	1	209	4	0	2	0	6	0	168	2	0	170	398
1:15 PM	11	0	4	0	15	1	196	3	0	200	2	0	0	0	2	0	163	1	0	164	381
1:30 PM	8	1	4	0	13	2	170	3	0	175	1	0	0	0	1	0	152	5	0	157	346
1:45 PM	11	0	8	0	19	6	202	1	0	209	6	0	1	0	7	2	193	6	0	201	436
Hourly Total	40	2	18	0	60	14	765	13	1	793	13	0	3	0	16	2	676	14	0	692	1561
2:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Grand Total	63	2	34	0	99	32	1443	28	1	1504	26	0	4	0	30	7	1516	40	0	1563	3196
Approach %	63.6	2.0	34.3	0.0	-	2.1	95.9	1.9	0.1	-	86.7	0.0	13.3	0.0	-	0.4	97.0	2.6	0.0	-	-
Total %	2.0	0.1	1.1	0.0	3.1	1.0	45.2	0.9	0.0	47.1	0.8	0.0	0.1	0.0	0.9	0.2	47.4	1.3	0.0	48.9	-
All Vehicles (no classification)	63	2	34	0	99	32	1443	28	1	1504	26	0	4	0	30	7	1516	40	0	1563	3196
% All Vehicles (no classification)	100.0	100.0	100.0	-	100.0	100.0	100.0	100.0	100.0	100.0	100.0	-	100.0	-	100.0	100.0	100.0	100.0	-	100.0	100.0



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Count Name: Moffatts Drive - Noon Peak
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Turning Movement Data Plot



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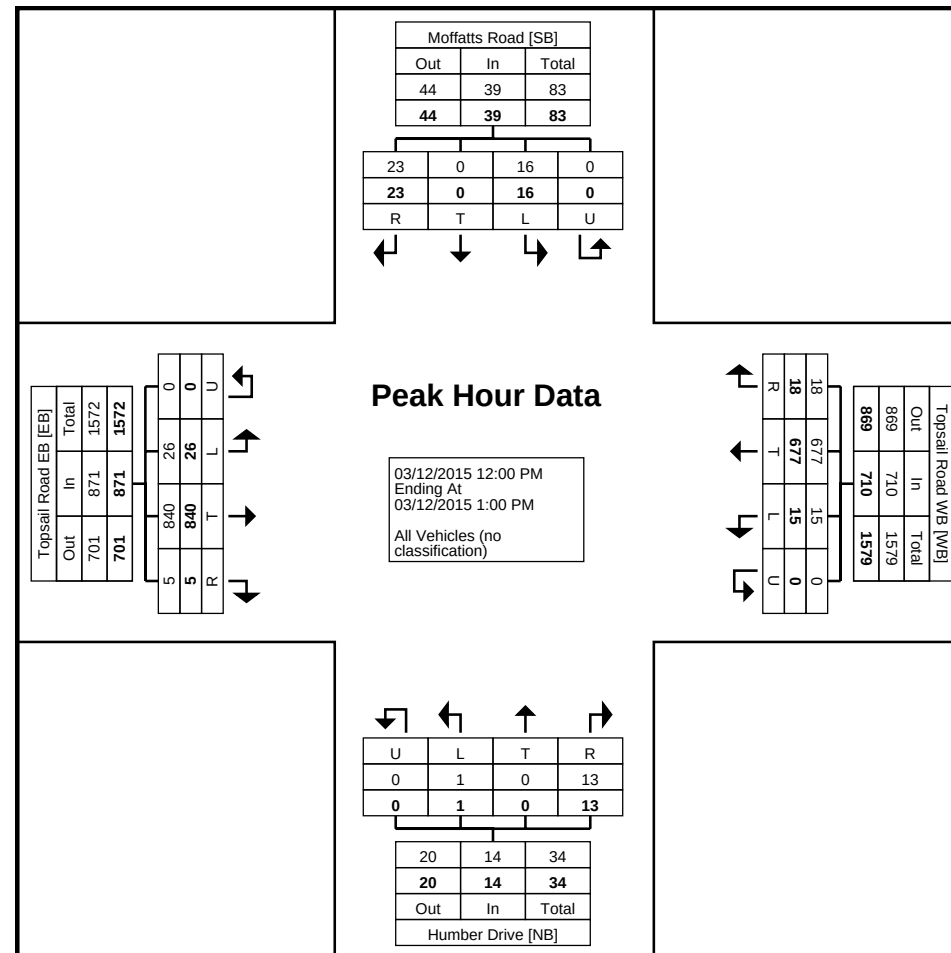
Turning Movement Peak Hour Data (12:00 PM)

Start Time	Moffatts Road Southbound					Topsail Road WB Westbound					Humber Drive Northbound					Topsail Road EB Eastbound					Int. Total
	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	
12:00 PM	5	0	2	0	7	3	177	4	0	184	2	0	0	0	2	1	214	13	0	228	421
12:15 PM	4	0	7	0	11	6	140	4	0	150	3	0	0	0	3	1	190	6	0	197	361
12:30 PM	5	0	2	0	7	7	181	4	0	192	2	0	0	0	2	2	225	3	0	230	431
12:45 PM	9	0	5	0	14	2	179	3	0	184	6	0	1	0	7	1	211	4	0	216	421
Total	23	0	16	0	39	18	677	15	0	710	13	0	1	0	14	5	840	26	0	871	1634
Approach %	59.0	0.0	41.0	0.0	-	2.5	95.4	2.1	0.0	-	92.9	0.0	7.1	0.0	-	0.6	96.4	3.0	0.0	-	-
Total %	1.4	0.0	1.0	0.0	2.4	1.1	41.4	0.9	0.0	43.5	0.8	0.0	0.1	0.0	0.9	0.3	51.4	1.6	0.0	53.3	-
PHF	0.639	0.000	0.571	0.000	0.696	0.643	0.935	0.938	0.000	0.924	0.542	0.000	0.250	0.000	0.500	0.625	0.933	0.500	0.000	0.947	0.948
All Vehicles (no classification)	23	0	16	0	39	18	677	15	0	710	13	0	1	0	14	5	840	26	0	871	1634
% All Vehicles (no classification)	100.0	-	100.0	-	100.0	100.0	100.0	100.0	-	100.0	100.0	-	100.0	-	100.0	100.0	100.0	100.0	-	100.0	100.0



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Turning Movement Peak Hour Data Plot (12:00 PM)

Count Name: Moffat Drive and Humber Drive @
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Start Date: 03/12/2015
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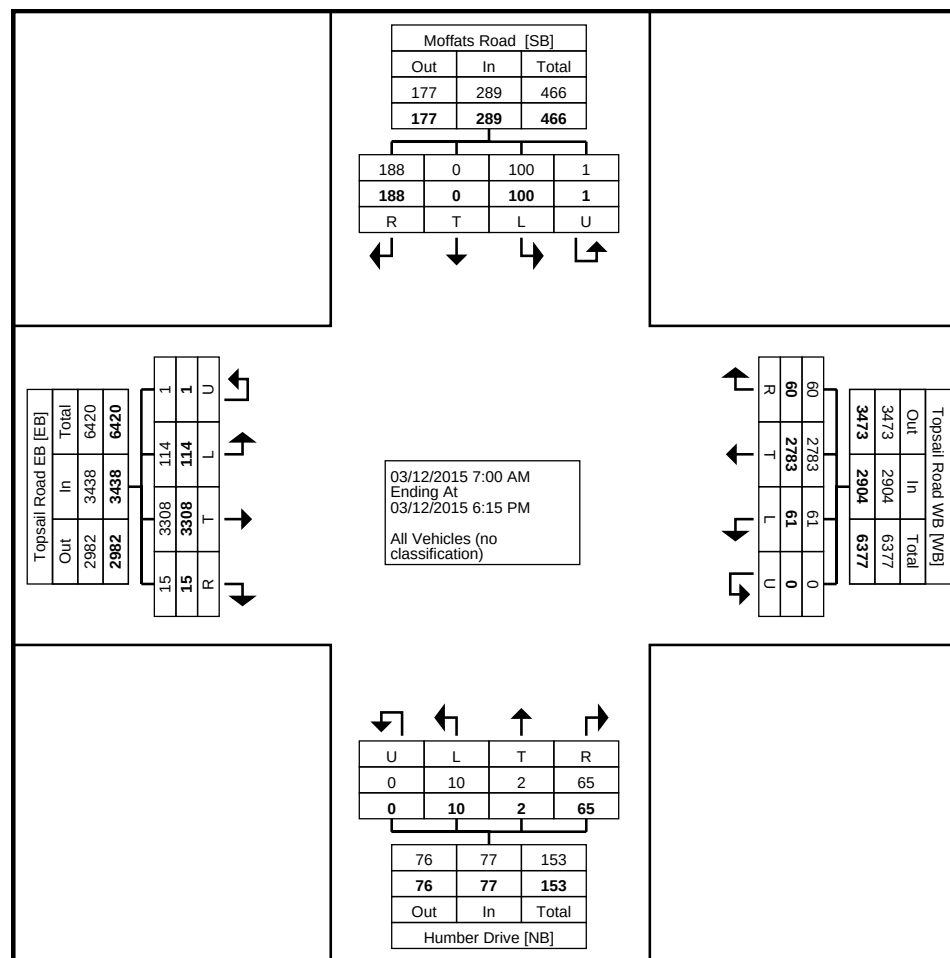
Turning Movement Data

Start Time	Moffats Road Southbound					Topsail Road WB Westbound					Humber Drive Northbound					Topsail Road EB Eastbound					Int. Total
	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	
7:00 AM	9	0	4	0	13	1	87	1	0	89	2	0	0	0	2	0	104	2	0	106	210
7:15 AM	6	0	3	0	9	0	129	1	0	130	0	0	1	0	1	1	143	3	0	147	287
7:30 AM	18	0	4	0	22	2	173	2	0	177	3	1	1	0	5	0	200	6	1	207	411
7:45 AM	26	0	5	0	31	2	229	1	0	232	6	0	1	0	7	1	202	7	0	210	480
Hourly Total	59	0	16	0	75	5	618	5	0	628	11	1	3	0	15	2	649	18	1	670	1388
8:00 AM	14	0	10	1	25	4	171	0	0	175	12	0	1	0	13	2	265	3	0	270	483
8:15 AM	17	0	3	0	20	3	173	3	0	179	7	0	2	0	9	1	218	7	0	226	434
8:30 AM	11	0	7	0	18	4	179	4	0	187	6	0	1	0	7	1	196	1	0	198	410
8:45 AM	7	0	6	0	13	2	137	2	0	141	9	0	1	0	10	0	180	3	0	183	347
Hourly Total	49	0	26	1	76	13	660	9	0	682	34	0	5	0	39	4	859	14	0	877	1674
9:00 AM *** BREAK ***	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
4:00 PM	8	0	2	0	10	5	195	2	0	202	1	0	0	0	1	2	185	4	0	191	404
4:15 PM	8	0	9	0	17	5	212	5	0	222	1	0	2	0	3	0	191	8	0	199	441
4:30 PM	10	0	3	0	13	6	217	7	0	230	5	0	0	0	5	0	292	12	0	304	552
4:45 PM	13	0	13	0	26	3	229	7	0	239	2	0	0	0	2	1	253	13	0	267	534
Hourly Total	39	0	27	0	66	19	853	21	0	893	9	0	2	0	11	3	921	37	0	961	1931
5:00 PM	13	0	3	0	16	4	208	10	0	222	2	1	0	0	3	1	340	22	0	363	604
5:15 PM	12	0	14	0	26	12	163	5	0	180	3	0	0	0	3	1	221	8	0	230	439
5:30 PM	9	0	11	0	20	4	162	6	0	172	3	0	0	0	3	2	176	7	0	185	380
5:45 PM	7	0	3	0	10	3	117	5	0	125	3	0	0	0	3	2	142	8	0	152	290
Hourly Total	41	0	31	0	72	23	650	26	0	699	11	1	0	0	12	6	879	45	0	930	1713
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	188	0	100	1	289	60	2783	61	0	2904	65	2	10	0	77	15	3308	114	1	3438	6708
Approach %	65.1	0.0	34.6	0.3	-	2.1	95.8	2.1	0.0	-	84.4	2.6	13.0	0.0	-	0.4	96.2	3.3	0.0	-	-
Total %	2.8	0.0	1.5	0.0	4.3	0.9	41.5	0.9	0.0	43.3	1.0	0.0	0.1	0.0	1.1	0.2	49.3	1.7	0.0	51.3	-
All Vehicles (no classification)	188	0	100	1	289	60	2783	61	0	2904	65	2	10	0	77	15	3308	114	1	3438	6708
% All Vehicles (no classification)	100.0	-	100.0	100.0	100.0	100.0	100.0	100.0	-	100.0	100.0	100.0	-	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0



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Count Name: Moffat Drive and Humber Drive @
Topsail Road
Site Code:
Start Date: 03/12/2015
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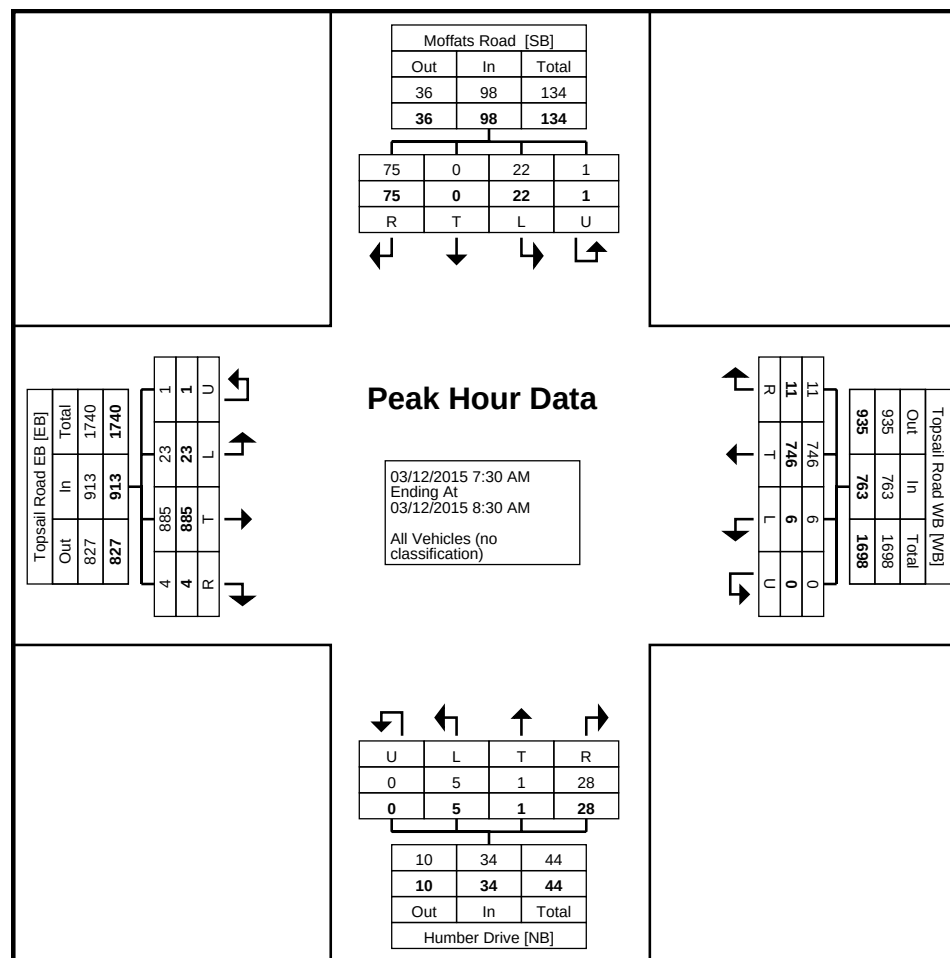
Turning Movement Data Plot

[illegible]



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Count Name: Moffat Drive and Humber Drive @
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Count Name: Moffat Drive and Humber Drive @
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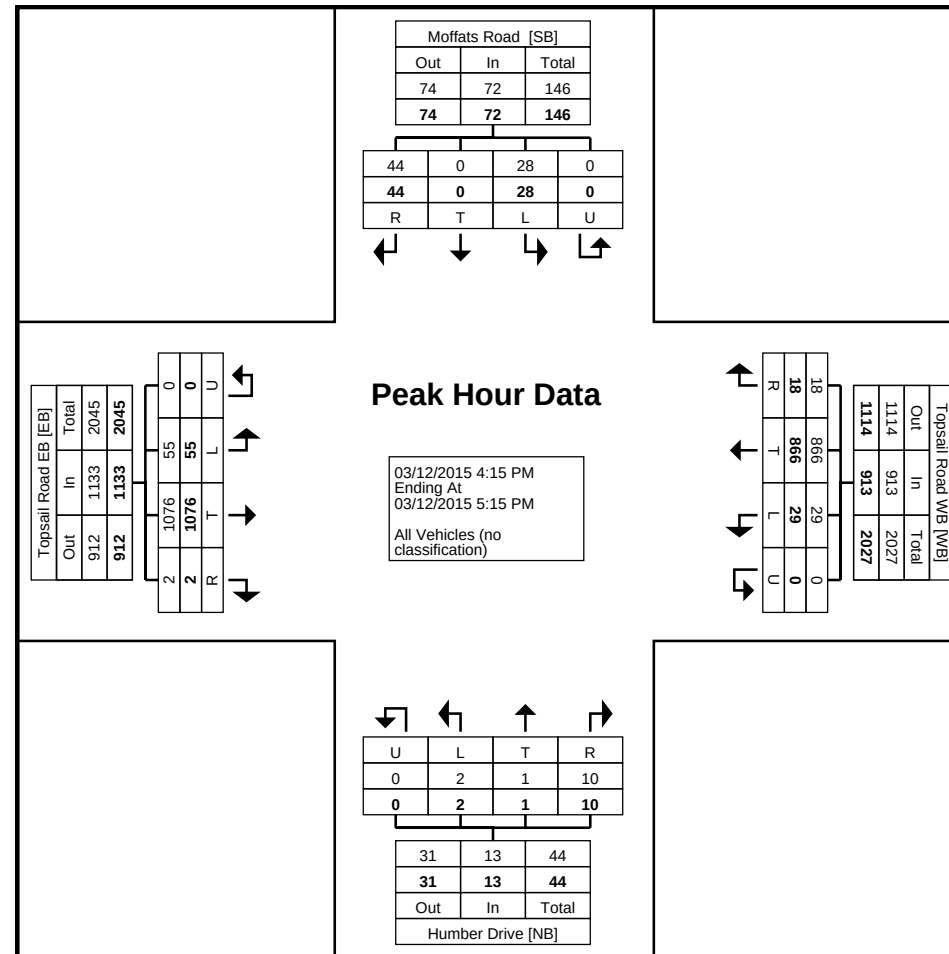
Turning Movement Peak Hour Data (4:15 PM)

Start Time	Moffats Road Southbound					Topsail Road WB Westbound					Humber Drive Northbound					Topsail Road EB Eastbound					Int. Total
	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	
4:15 PM	8	0	9	0	17	5	212	5	0	222	1	0	2	0	3	0	191	8	0	199	441
4:30 PM	10	0	3	0	13	6	217	7	0	230	5	0	0	0	5	0	292	12	0	304	552
4:45 PM	13	0	13	0	26	3	229	7	0	239	2	0	0	0	2	1	253	13	0	267	534
5:00 PM	13	0	3	0	16	4	208	10	0	222	2	1	0	0	3	1	340	22	0	363	604
Total	44	0	28	0	72	18	866	29	0	913	10	1	2	0	13	2	1076	55	0	1133	2131
Approach %	61.1	0.0	38.9	0.0	-	2.0	94.9	3.2	0.0	-	76.9	7.7	15.4	0.0	-	0.2	95.0	4.9	0.0	-	-
Total %	2.1	0.0	1.3	0.0	3.4	0.8	40.6	1.4	0.0	42.8	0.5	0.0	0.1	0.0	0.6	0.1	50.5	2.6	0.0	53.2	-
PHF	0.846	0.000	0.538	0.000	0.692	0.750	0.945	0.725	0.000	0.955	0.500	0.250	0.250	0.000	0.650	0.500	0.791	0.625	0.000	0.780	0.882
All Vehicles (no classification)	44	0	28	0	72	18	866	29	0	913	10	1	2	0	13	2	1076	55	0	1133	2131
% All Vehicles (no classification)	100.0	-	100.0	-	100.0	100.0	100.0	100.0	-	100.0	100.0	100.0	100.0	-	100.0	100.0	100.0	100.0	-	100.0	100.0



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Count Name: Moffat Drive and Humber Drive @
 Topsail Road
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Turning Movement Peak Hour Data Plot (4:15 PM)



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Count Name: Topsail Road & Commonwealth Avenue
Site Code:
Start Date: 11/24/2015
Page No: 1

Turning Movement Data

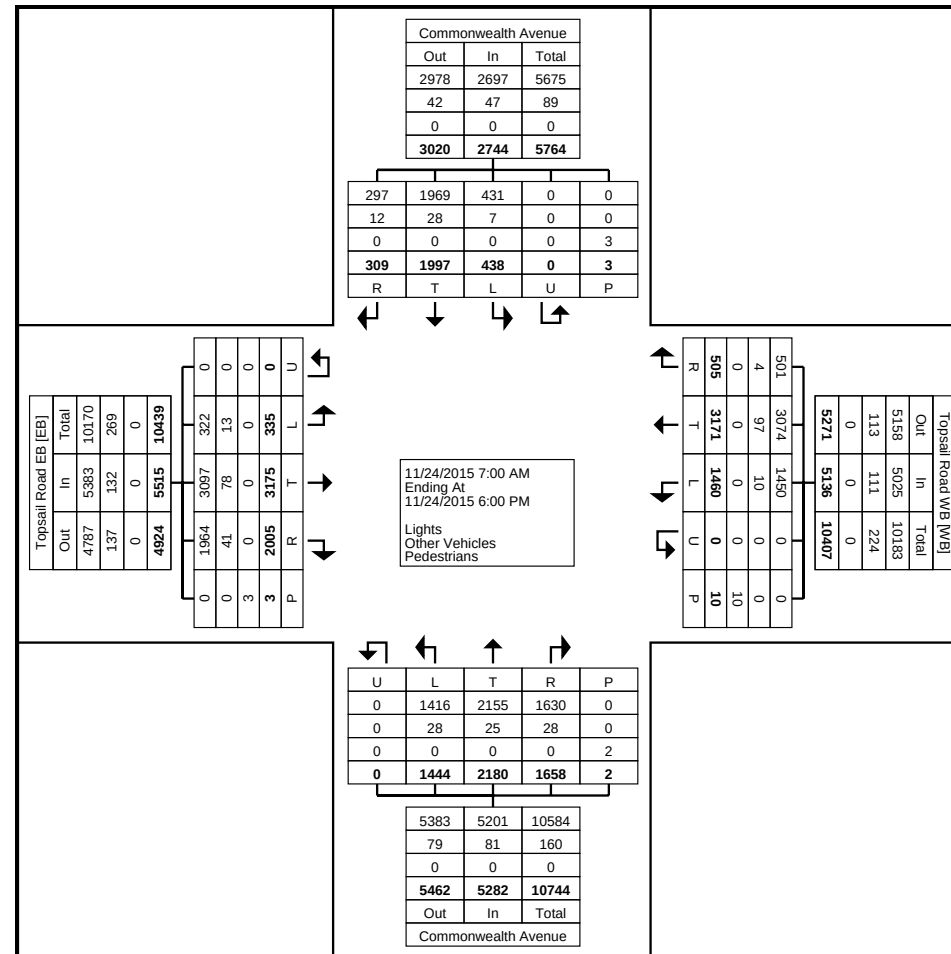
Start Time	Commonwealth Avenue SB Southbound						Topsail Road WB Westbound						Commonwealth Avenue NB Northbound						Topsail Road EB Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
7:00 AM	6	24	8	0	0	38	1	50	13	0	1	64	44	68	54	0	1	166	26	94	5	0	1	125	393
7:15 AM	6	29	9	0	0	44	8	86	21	0	0	115	69	98	39	0	0	206	39	116	5	0	0	160	525
7:30 AM	15	57	17	0	0	89	12	108	46	0	0	166	57	113	73	0	0	243	52	147	16	0	0	215	713
7:45 AM	20	87	28	0	1	135	18	161	51	0	1	230	72	123	65	0	0	260	88	169	7	0	0	264	889
Hourly Total	47	197	62	0	1	306	39	405	131	0	2	575	242	402	231	0	1	875	205	526	33	0	1	764	2520
8:00 AM	16	59	26	0	0	101	13	130	46	0	0	189	116	119	73	0	0	308	77	160	15	0	0	252	850
8:15 AM	23	80	46	0	0	149	13	132	28	0	0	173	89	121	62	0	0	272	91	183	15	0	0	289	883
8:30 AM	12	55	21	0	0	88	17	127	60	0	0	204	78	126	64	0	0	268	82	162	9	0	0	253	813
8:45 AM	11	49	24	0	0	84	10	86	39	0	0	135	72	79	53	0	0	204	72	159	12	0	1	243	666
Hourly Total	62	243	117	0	0	422	53	475	173	0	0	701	355	445	252	0	0	1052	322	664	51	0	1	1037	3212
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12:00 PM	25	81	13	0	0	119	20	95	60	0	0	175	67	82	68	0	0	217	67	111	9	0	0	187	698
12:15 PM	17	96	14	0	0	127	18	102	63	0	0	183	53	60	58	0	0	171	47	103	12	0	0	162	643
12:30 PM	13	103	14	0	0	130	22	132	72	0	0	226	69	82	58	0	0	209	49	87	23	0	0	159	724
12:45 PM	17	102	19	0	0	138	16	113	70	0	2	199	74	72	72	0	0	218	61	133	23	0	0	217	772
Hourly Total	72	382	60	0	0	514	76	442	265	0	2	783	263	296	256	0	0	815	224	434	67	0	0	725	2837
1:00 PM	11	73	20	0	0	104	25	131	71	0	0	227	65	85	67	0	0	217	92	111	11	0	0	214	762
1:15 PM	13	95	28	0	0	136	18	126	61	0	1	205	70	79	66	0	0	215	72	119	19	0	0	210	766
1:30 PM	13	82	15	0	0	110	18	131	54	0	0	203	76	94	64	0	0	234	72	114	17	0	0	203	750
1:45 PM	17	98	21	0	0	136	29	143	68	0	0	240	81	69	57	0	0	207	67	116	21	0	0	204	787
Hourly Total	54	348	84	0	0	486	90	531	254	0	1	875	292	327	254	0	0	873	303	460	68	0	0	831	3065
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	14	70	13	0	0	97	32	187	89	0	1	308	61	92	53	0	1	206	103	122	15	0	0	240	851
4:15 PM	16	115	12	0	1	143	34	185	78	0	2	297	73	87	62	0	0	222	107	142	21	0	0	270	932
4:30 PM	7	101	23	0	1	131	42	194	95	0	2	331	53	86	59	0	0	198	136	151	21	0	1	308	968
4:45 PM	11	111	15	0	0	137	33	177	86	0	0	296	54	81	62	0	0	197	151	172	11	0	0	334	964
Hourly Total	48	397	63	0	2	508	141	743	348	0	5	1232	241	346	236	0	1	823	497	587	68	0	1	1152	3715
5:00 PM	6	110	11	0	0	127	41	181	71	0	0	293	59	78	60	0	0	197	137	149	23	0	0	309	926
5:15 PM	7	107	20	0	0	134	27	174	96	0	0	297	67	90	63	0	0	220	157	121	11	0	0	289	940
5:30 PM	8	105	6	0	0	119	19	109	79	0	0	207	60	95	56	0	0	211	88	124	6	0	0	218	755
5:45 PM	5	108	15	0	0	128	19	111	43	0	0	173	79	101	36	0	0	216	72	110	8	0	0	190	707
Hourly Total	26	430	52	0	0	508	106	575	289	0	0	970	265	364	215	0	0	844	454	504	48	0	0	1006	3328
Grand Total	309	1997	438	0	3	2744	505	3171	1460	0	10	5136	1658	2180	1444	0	2	5282	2005	3175	335	0	3	5515	18677
Approach %	11.3	72.8	16.0	0.0	-	-	9.8	61.7	28.4	0.0	-	-	31.4	41.3	27.3	0.0	-	-	36.4	57.6	6.1	0.0	-	-	-
Total %	1.7	10.7	2.3	0.0	-	14.7	2.7	17.0	7.8	0.0	-	27.5	8.9	11.7	7.7	0.0	-	28.3	10.7	17.0	1.8	0.0	-	29.5	-
Lights	297	1969	431	0	-	2697	501	3074	1450	0	-	5025	1630	2155	1416	0	-	5201	1964	3097	322	0	-	5383	18306
% Lights	96.1	98.6	98.4	-	-	98.3	99.2	96.9	99.3	-	-	97.8	98.3	98.9	98.1	-	-	98.5	98.0	97.5	96.1	-	-	97.6	98.0

Other Vehicles	12	28	7	0	-	47	4	97	10	0	-	111	28	25	28	0	-	81	41	78	13	0	-	132	371
% Other Vehicles	3.9	1.4	1.6	-	-	1.7	0.8	3.1	0.7	-	-	2.2	1.7	1.1	1.9	-	-	1.5	2.0	2.5	3.9	-	-	2.4	2.0
Pedestrians	-	-	-	-	3	-	-	-	-	10	-	-	-	-	-	2	-	-	-	-	-	3	-	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-



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Count Name: Topsail Road & Commonwealth Avenue
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Turning Movement Data Plot

Count Name: Topsail Road & Commonwealth
Avenue
Site Code:
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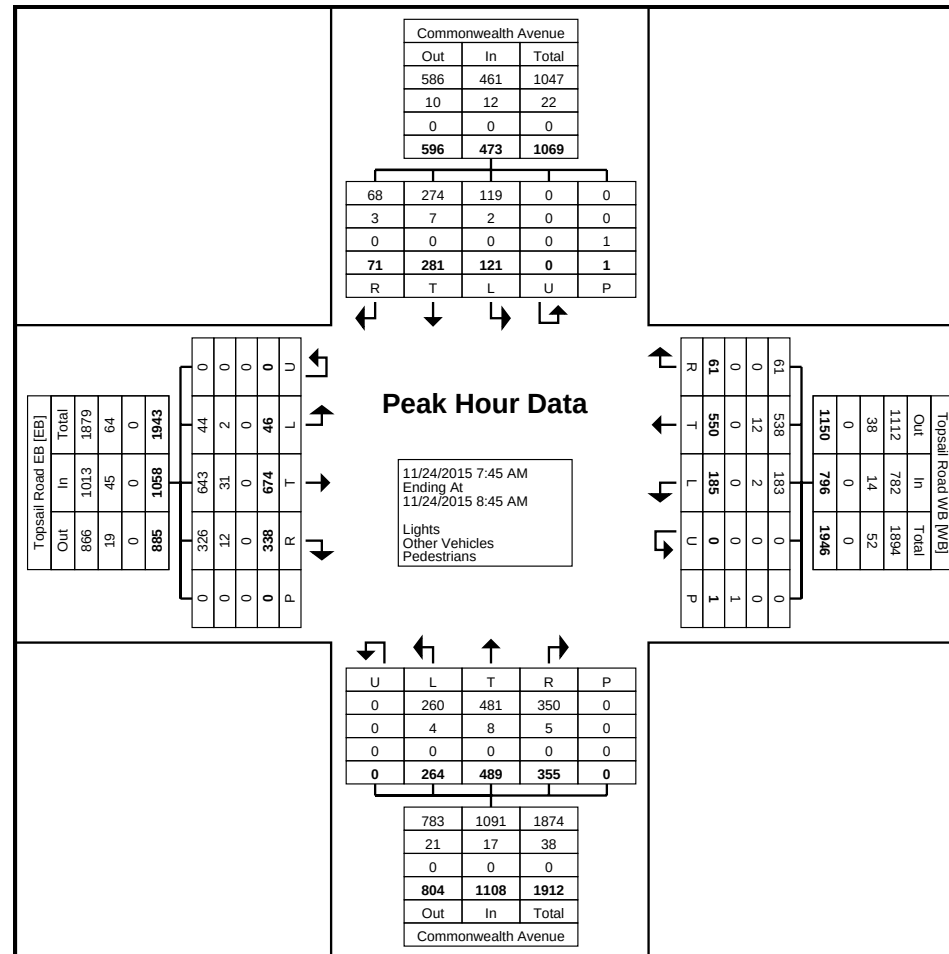
Turning Movement Peak Hour Data (7:45 AM)

[illegible]



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Count Name: Topsail Road & Commonwealth Avenue
Site Code:
Start Date: 11/24/2015
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Turning Movement Peak Hour Data Plot (7:45 AM)

Count Name: Topsail Road & Commonwealth
Avenue
Site Code:
Start Date: 11/24/2015
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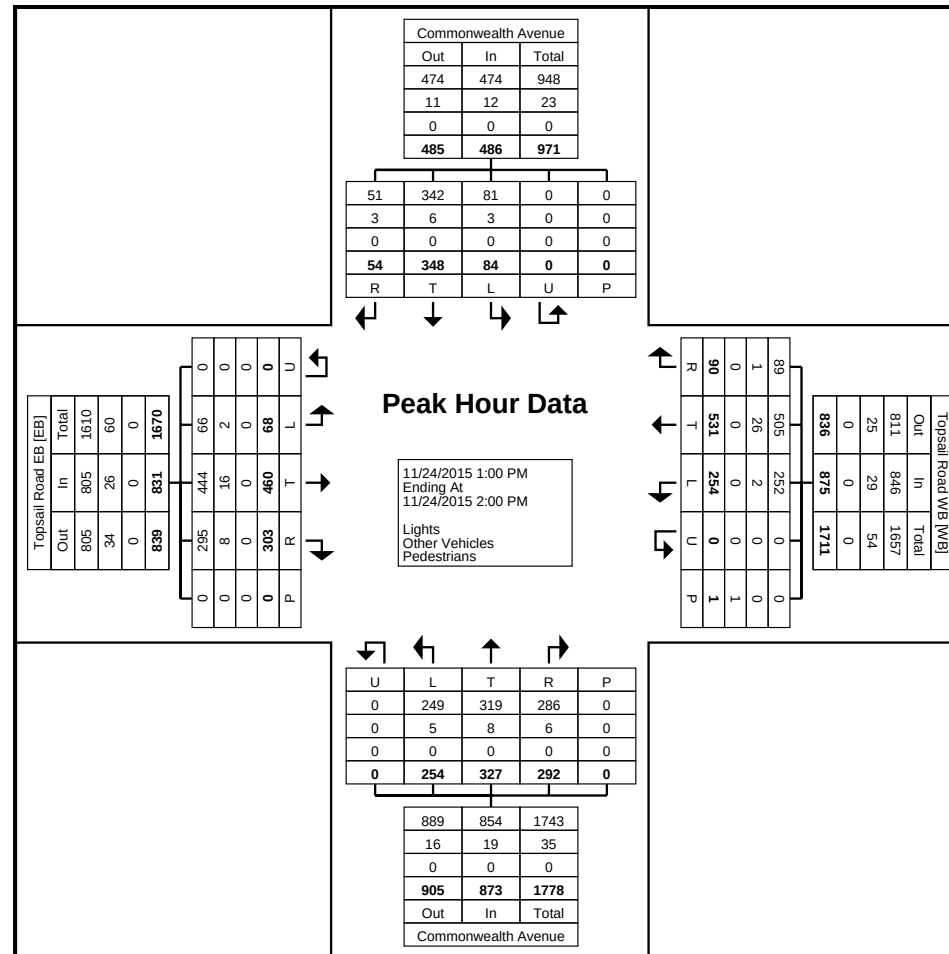
Turning Movement Peak Hour Data (1:00 PM)

Start Time	Commonwealth Avenue SB Southbound						Topsail Road WB Westbound						Commonwealth Avenue NB Northbound						Topsail Road EB Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
1:00 PM	11	73	20	0	0	104	25	131	71	0	0	227	65	85	67	0	0	217	92	111	11	0	0	214	762
1:15 PM	13	95	28	0	0	136	18	126	61	0	1	205	70	79	66	0	0	215	72	119	19	0	0	210	766
1:30 PM	13	82	15	0	0	110	18	131	54	0	0	203	76	94	64	0	0	234	72	114	17	0	0	203	750
1:45 PM	17	98	21	0	0	136	29	143	68	0	0	240	81	69	57	0	0	207	67	116	21	0	0	204	787
Total	54	348	84	0	0	486	90	531	254	0	1	875	292	327	254	0	0	873	303	460	68	0	0	831	3065
Approach %	11.1	71.6	17.3	0.0	-	-	10.3	60.7	29.0	0.0	-	-	33.4	37.5	29.1	0.0	-	-	36.5	55.4	8.2	0.0	-	-	-
Total %	1.8	11.4	2.7	0.0	-	15.9	2.9	17.3	8.3	0.0	-	28.5	9.5	10.7	8.3	0.0	-	28.5	9.9	15.0	2.2	0.0	-	27.1	-
PHF	0.794	0.888	0.750	0.000	-	0.893	0.776	0.928	0.894	0.000	-	0.911	0.901	0.870	0.948	0.000	-	0.933	0.823	0.966	0.810	0.000	-	0.971	0.974
Lights	51	342	81	0	-	474	89	505	252	0	-	846	286	319	249	0	-	854	295	444	66	0	-	805	2979
% Lights	94.4	98.3	96.4	-	-	97.5	98.9	95.1	99.2	-	-	96.7	97.9	97.6	98.0	-	-	97.8	97.4	96.5	97.1	-	-	96.9	97.2
Other Vehicles	3	6	3	0	-	12	1	26	2	0	-	29	6	8	5	0	-	19	8	16	2	0	-	26	86
% Other Vehicles	5.6	1.7	3.6	-	-	2.5	1.1	4.9	0.8	-	-	3.3	2.1	2.4	2.0	-	-	2.2	2.6	3.5	2.9	-	-	3.1	2.8
Pedestrians	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Count Name: Topsail Road & Commonwealth Avenue
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Turning Movement Peak Hour Data Plot (1:00 PM)



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Count Name: Topsail Road & Commonwealth Avenue
 Site Code:
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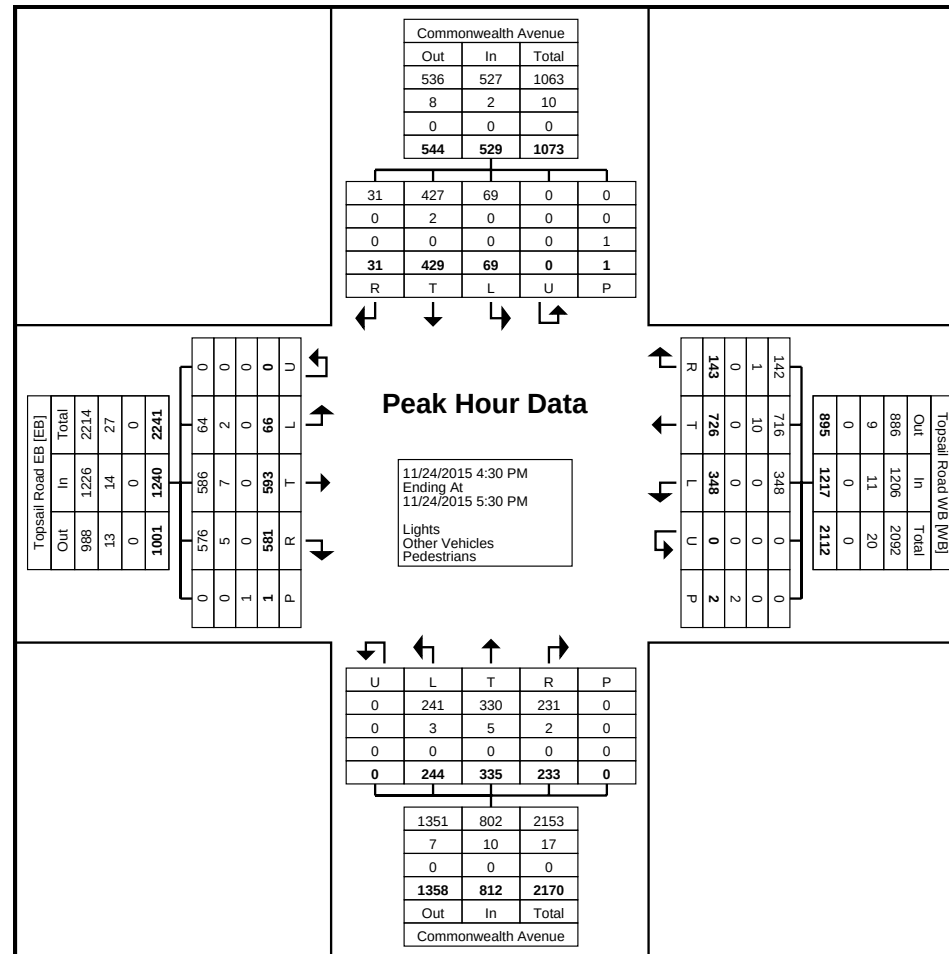
Turning Movement Peak Hour Data (4:30 PM)

Start Time	Commonwealth Avenue SB						Topsail Road WB						Commonwealth Avenue NB						Topsail Road EB						Int. Total
	Southbound						Westbound						Northbound						Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
4:30 PM	7	101	23	0	1	131	42	194	95	0	2	331	53	86	59	0	0	198	136	151	21	0	1	308	968
4:45 PM	11	111	15	0	0	137	33	177	86	0	0	296	54	81	62	0	0	197	151	172	11	0	0	334	964
5:00 PM	6	110	11	0	0	127	41	181	71	0	0	293	59	78	60	0	0	197	137	149	23	0	0	309	926
5:15 PM	7	107	20	0	0	134	27	174	96	0	0	297	67	90	63	0	0	220	157	121	11	0	0	289	940
Total	31	429	69	0	1	529	143	726	348	0	2	1217	233	335	244	0	0	812	581	593	66	0	1	1240	3798
Approach %	5.9	81.1	13.0	0.0	-	-	11.8	59.7	28.6	0.0	-	-	28.7	41.3	30.0	0.0	-	-	46.9	47.8	5.3	0.0	-	-	-
Total %	0.8	11.3	1.8	0.0	-	13.9	3.8	19.1	9.2	0.0	-	32.0	6.1	8.8	6.4	0.0	-	21.4	15.3	15.6	1.7	0.0	-	32.6	-
PHF	0.705	0.966	0.750	0.000	-	0.965	0.851	0.936	0.906	0.000	-	0.919	0.869	0.931	0.968	0.000	-	0.923	0.925	0.862	0.717	0.000	-	0.928	0.981
Lights	31	427	69	0	-	527	142	716	348	0	-	1206	231	330	241	0	-	802	576	586	64	0	-	1226	3761
% Lights	100.0	99.5	100.0	-	-	99.6	99.3	98.6	100.0	-	-	99.1	99.1	98.5	98.8	-	-	98.8	99.1	98.8	97.0	-	-	98.9	99.0
Other Vehicles	0	2	0	0	-	2	1	10	0	0	-	11	2	5	3	0	-	10	5	7	2	0	-	14	37
% Other Vehicles	0.0	0.5	0.0	-	-	0.4	0.7	1.4	0.0	-	-	0.9	0.9	1.5	1.2	-	-	1.2	0.9	1.2	3.0	-	-	1.1	1.0
Pedestrians	-	-	-	-	1	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-



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Count Name: Topsail Road & Commonwealth Avenue
 Site Code:
 Start Date: 11/24/2015
 Page No: 9

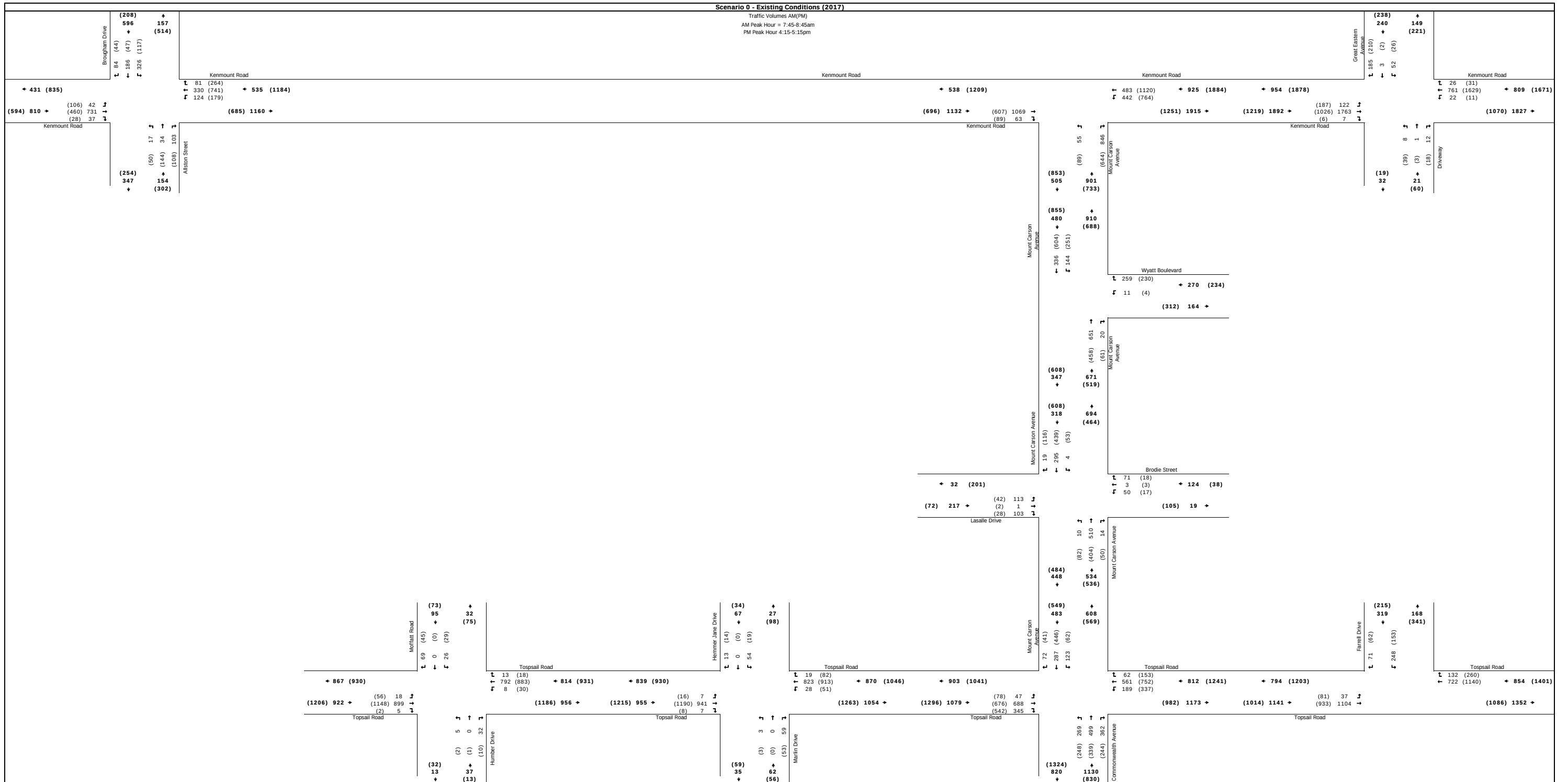


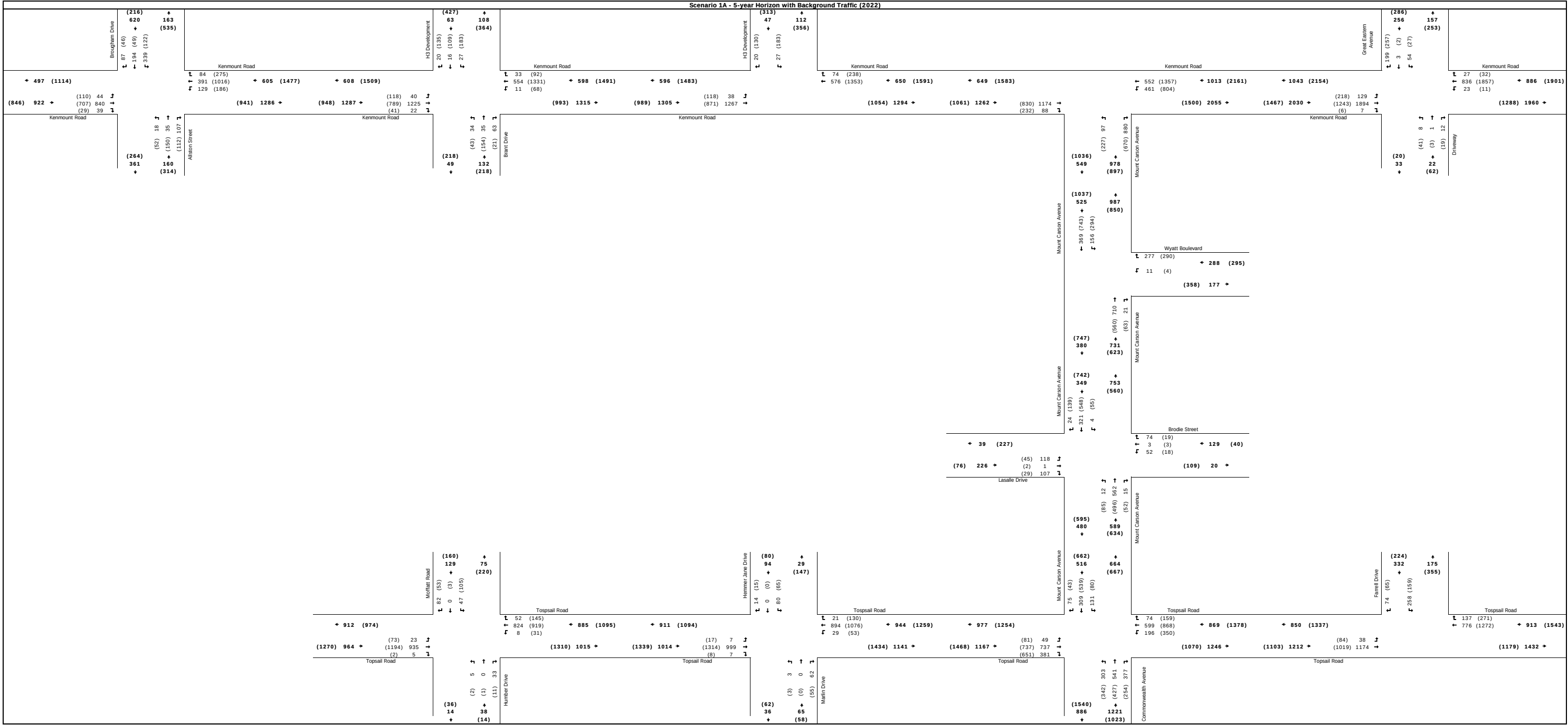
Turning Movement Peak Hour Data Plot (4:30 PM)

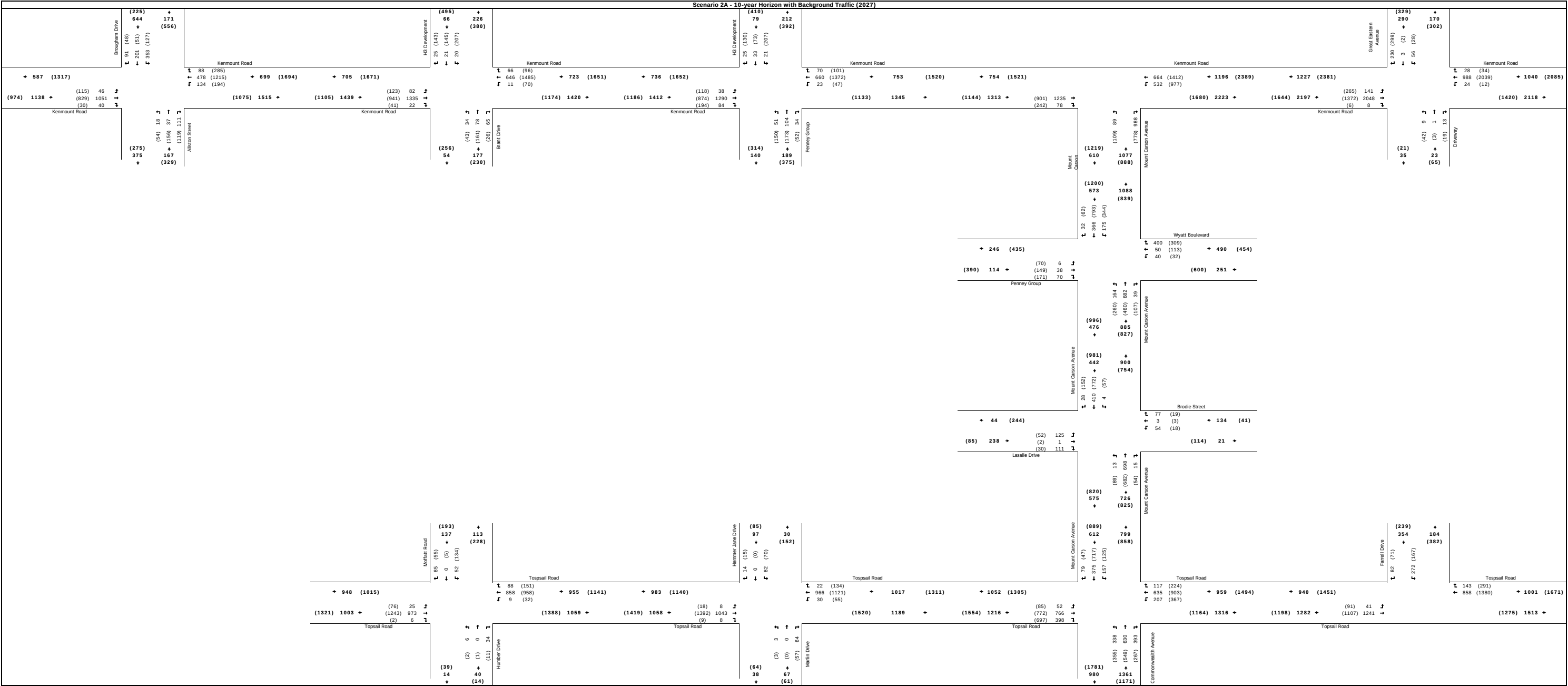


Appendix B

Traffic Design Volumes









Appendix C

Synchro/SimTraffic Reports

		Scenario 0 - Existing Conditions (2017)													
		AM Peak Hour							PM Peak Hour						
Intersection		Synchro				SimTraffic			Synchro				SimTraffic		
Street	Movement	Delay/ Veh (s)	APP LOS	MVT LOS	V/C	Delay/ Veh (s)	Equivalent LOS	Queue (m) 95th%ile	Delay/ Veh (s)	APP LOS	MVT LOS	V/C	Delay/ Veh (s)	Equivalent LOS	Queue (m) 95th%ile
Kenmount Road & Brougham Drive/Allston Street		28.0	C			20.6	C		25.0	C			22.8	C	
Kenmount Road	EB Left - Turn	15.0	C	B	0.12	14.8	B	23.6	16.3	B	B	0.43	23.6	C	32.1
	EB Through	28.9		C	0.69	19.2	B	69.6	19.2		B	0.39	17.2	B	48.8
	EB Right - Turn	28.7		C	0.69	13.1	B	65.7	19.1		B	0.39	8.8	A	45.7
	WB Left - Turn	17.9	B	B	0.50	17.3	B	28.9	13.3	C	B	0.39	17.8	B	47.1
	WB Through	20.4		C	0.40	12.5	B	37.9	25.2		C	0.68	19.9	B	84.0
	WB Right - Turn	20.5		C	0.41	6.3	A	33.9	25.4		C	0.68	16.0	B	86.4
Brougham Drive/Allston Street	NB Left - Turn	29.9	C	C	0.11	28.0	C	12.9	32.3	D	C	0.22	44.0	D	31.0
	NB Through	32.7		C	0.19	44.1	D	22.3	44.6		D	0.77	58.1	E	93.2
	NB Right - Turn	0.0		A	-	3.0	A		0.0		A	-	18.1	B	
	SB Left - Turn	38.2	D	D	0.79	35.2	D	64.0	35.1	D	D	0.55	39.0	D	40.3
	SB Through	0.0		A	0.00	30.3	C	103.3	0.0		A	0.00	35.5	D	35.5
	SB Right - Turn	34.0		C	0.78	20.9	C		37.7		D	0.45	15.2	B	
Kenmount Road & Mount Carson Avenue		14.4	B			23.1	C		24.9	C			27.1	C	
Kenmount Road	EB Through	15.4	B	B	0.59	23.8	C	128.2	28.4	C	C	0.54	30.6	C	95.0
	EB Right - Turn	0.0		A	-	12.0	B	106.8	0.0		A	-	11.0	B	80.4
	WB Left - Turn	21.1	B	C	0.87	27.4	C	89.1	49.3	C	D	1.00	60.8	E	153.9
	WB Through	2.6		A	0.19	5.8	A	76.9	4.0		A	0.46	13.3	B	307.3
Mount Carson Avenue	NB Left - Turn	43.0	D	D	0.40	45.1	D	149.9	52.1	D	D	0.68	45.6	D	37.0
	NB Right - Turn	0.0		A	-	30.0	C	166.2	0.0		A	-	6.6	A	73.6
Kenmount Road & Great Eastern Avenue		24.5	C			14.0	B		27.1	C			31.0	C	
Kenmount Road	EB Left - Turn	8.8	C	A	0.29	21.2	C	38.4	46.1	B	D	0.86	38.1	D	50.9
	EB Through	29.8		C	0.90	16.2	B	118.7	13.5		B	0.53	11.9	B	95.6
	EB Right - Turn	29.5		C	0.91	15.4	B	243.7	13.4		B	0.53	10.8	B	135.3
	WB Left - Turn	19.2	B	B	0.15	21.0	C	18.6	10.9	C	B	0.04	46.4	D	23.8
	WB Through	13.2		B	0.43	8.7	A	68.6	32.6		C	0.94	45.7	D	272.2
	WB Right - Turn	0.0		A	-	3.3	A	45.3	0.0		A	-	28.0	C	267.0
Great Eastern Avenue	NB Left - Turn	43.5	D	D	0.07	49.5	D	9.3	45.5	D	D	0.37	46.0	D	23.2
	NB Through	0.0		A	0.00	58.9	E	11.5	0.0		A	0.00	35.7	D	12.3
	NB Right - Turn	44.4		D	0.19	18.8	B		44.1		D	0.27	11.1	B	
	SB Left - Turn	38.1	D	D	0.29	34.6	C	25.2	37.5	D	D	0.15	40.2	D	19.0
	SB Through	32.6		C	0.01	39.2	D		33.2		C	0.01	52.9	D	39.4
	SB Right - Turn	0.0		A	-	2.6	A	6.4	0.0		A	-	4.9	A	
Mount Carson Avenue & Wyatt Boulevard		5.6	A			2.2	A		4.4	A			2.3	A	
Wyatt Boulevard	WB Left - Turn	45.9	D	E	0.11	19.5	C	7.8	56.9	C	F	0.06	24.3	C	5.9
	WB Right - Turn	25.2		D	0.60	5.1	A	24.2	18.0		C	0.50	4.4	A	22.2
Mount Carson Avenue	NB Through	0.0	A	A	-	0.7	A	2.2	0.0	A	A	-	1.0	A	4.0
	NB Right - Turn	0.0		A	-	0.3	A		0.0		A	-	0.5	A	
	SB Left - Turn	10.2	A	B	0.22	7.2	A	21.8	9.9	A	A	0.26	6.8	A	29.4
	SB Through	0.0		A	-	0.3	A	-	0.0		A	-	0.6	A	-
Mount Carson Avenue & Lasalle Drive/Brodie Street		10.8	B			3.6	A		5.7	A			2.8	A	
Lasalle Drive/Brodie Street	EB Left - Turn	77.9	E	F	0.78	16.7	C	24.9	67.7	E	F	0.54	21.9	C	18.9
	EB Through	12.2		B	0.19	5.3	A	25.9	14.3		B	0.10	18.3	C	17.2
	EB Right - Turn					5.5	A						5.3	A	
	WB Left - Turn	40.6	C	E	0.37	14.0	B	17.9	48.1	D	E	0.25	12.9	B	12.2
	WB Through					12.5	B						19.2	C	13.7
	WB Right - Turn	13.9		B	0.17	7.9	A	17.9	14.8		B	0.08	5.3	A	
Mount Carson Avenue	NB Left - Turn	8.3	A	A	0.01	3.0	A	6.1	9.0	A	A	0.09	6.1	A	17.2
	NB Through	0.0		A	-	0.8	A	-	0.0		A	-	0.9	A	1.5
	NB Right - Turn					0.3	A						0.5	A	
	SB Left - Turn	9.1	A	A	0.01	5.3	A	5.0	8.5	A	A	0.05	4.4	A	13.2
	SB Through					0.6	A	0.7					1.6	A	3.6
	SB Right - Turn	0.0		A	-	0.2	A		0.0		A	-	0.8	A	
Topsail Road & Mount Carson Ave/Commonwealth Ave		46.6	D			31.2	C		45.5	D			39.8	D	
Topsail Road	EB Left - Turn	24.2	D	C	0.16	29.3	C	39.7	29.5	D	C	0.31	41.2	D	48.7
	EB Through	37.9		D	0.71	36.1	D	93.0	48.0		D	0.83	45.9	D	117.1
	EB Right - Turn	0.0		A	-	6.2	A	58.1	0.0		A	-	8.5	A	85.1
	WB Left - Turn	26.3	C	C	0.66	30.6	C	51.7	51.7	D	D	0.92	47.8	D	102.9
	WB Through	29.0		C	0.51	25.4	C	65.0	32.6		C	0.66	33.3	C	100.1
	WB Right - Turn	0.0		A	-	7.7	A	71.5	0.0		A	-	17.3	B	103.6
Mount Carson Avenue/Commonw ealth Avenue	NB Left - Turn	58.9	E	E	0.88	43.2	D	126.7	80.5	E	F	0.97	74.8	E	102.0
	NB Through	83.5		F	1.02	54.6	D	207.7	40.0		D	0.67	33.9	C	86.7
	NB Right - Turn	0.0		A	-	12.3	B	130.3	0.0		A	-	3.6	A	26.7
	SB Left - Turn	56.8	D	E	0.82	40.4	D	43.0	28.0	D	C	0.20	44.6	D	88.1
	SB Through	40.2		D	0.62	40.3	D	91.9	48.4		D	0.79	84.7	F	107.7
	SB Right - Turn	0.0		A	-	8.1	A	43.2	0.0		A	-	48.3	D	55.4

Topsail Road & Farrell Drive		14.1	B			11.1	B		17.9	B			12.7	B	
Topsail Road	EB Left - Turn	7.1	A	A	0.10	13.0	B	25.7	14.4	A	B	0.29	21.5	C	32.4
	EB Through	7.1		A	0.50	8.9	A	74.5	6.2		A	0.43	8.1	A	64.8
	WB Through	13.4	B	B	0.49	8.5	A	53.4	23.0	C	C	0.80	14.0	B	83.9
	WB Right - Turn	13.4		B	0.49	4.7	A	46.5	24.0		C	0.81	10.6	B	81.3
Farrell Drive	SB Left - Turn	44.0	D	D	0.83	33.4	C	59.5	34.5	C	C	0.60	31.9	C	43.6
	SB Right - Turn	31.0		C	0.27	6.8	A	42.5	31.3		C	0.27	8.6	A	20.9
Topsail Road & Marlin Drive/Hemmer Jane Drive		10.1	B			4.0	A		5.0	A			3.8	A	
Topsail Road	EB Left - Turn	10.2	A	B	0.01	4.7	A	3.7	10.9	A	B	0.03	9.0	A	8.1
	EB Through	0.0		A	-	0.9	A	-	0.0		A	-	1.2	A	1.7
	EB Right - Turn	0.0				0.5	A						0.8	A	0.6
	WB Left - Turn	11.6	A	B	0.06	8.7	A	7.5	13.8	A	B	0.12	11.4	B	10.9
	WB Through	0.0		A	-	3.6	A	21.3	0.0		A	-	4.6	A	-
	WB Right - Turn	0.0				3.2	A						4.6	A	-
Marlin Drive/Hemmer Jane Drive	NB Left - Turn	19.5	C	C	0.23	21.6	C	16.2	38.3	E	E	0.52	75.3	F	23.4
	NB Through					-	-						-	-	
	NB Right - Turn					7.9	A						18.0	C	
	SB Left - Turn	336.1	F	F	1.25	59.8	F	28.6	370.7	F	F	0.91	53.8	F	13.7
	SB Through	12.1		B	0.03	-	-	18.7	12.8			0.04	-	-	10.2
	SB Right - Turn					5.8	A						5.2	A	
Topsail Road & Moffat Road/Humber Drive		2.8	A			1.7	A		7.5	A			3.1	A	
Topsail Road	EB Left - Turn	10.3	A	B	0.03	5.8	A	5.5	10.5	A	B	0.10	6.1	A	11.3
	EB Through	0.0		A	-	0.4	A	0.0	0.0		A	-	0.8	A	-
	EB Right - Turn	0.0				0.2	A						0.7	A	
	WB Left - Turn	10.6	A	B	0.02	5.2	A	3.9	13.5	A	B	0.07	8.8	A	11.2
	WB Through	0.0		A	-	1.0	A	0.2	0.0		A	-	1.4	A	0.2
	WB Right - Turn	0.0				1.1	A						1.3	A	
Moffatt Road/Humber Drive	NB Left - Turn		C			29.7	D			F	F	0.26	95.8	F	10.4
	NB Through	24.6		C	0.24	-	-	14.7	67.4				45.7	E	
	NB Right - Turn					6.5	A						13.5	B	
	SB Left - Turn	107.3	E	F	0.51	38.0	E	15.4	393.1	F	F	1.20	126.3	F	26.7
	SB Through	13.3		B	0.17	-	-	16.5	12.6			0.12	-	-	30.7
	SB Right - Turn					6.4	A						9.7	A	

		Scenario 1A - 5-year Horizon with Background (2022)													
		AM Peak Hour							PM Peak Hour						
Intersection		Synchro				SimTraffic			Synchro				SimTraffic		
Street	Movement	Delay/ Veh (s)	APP LOS	MVT LOS	V/C	Delay/ Veh (s)	Equivalent LOS	Queue (m) 95th%ile	Delay/ Veh (s)	APP LOS	MVT LOS	V/C	Delay/ Veh (s)	Equivalent LOS	Queue (m) 95th%ile
Kenmount Road & Brougham Drive/Allston Street		33.6	C			36.4	D		27.3	C			35.4	D	
Kenmount Road	EB Left - Turn	13.8	C	B	0.11	17.7	B	34.2	19.6	B	B	0.53	35.3	D	48.3
	EB Through	24.4		C	0.57	20.8	C	94.2	19.4		B	0.48	16.8	B	71.4
	EB Right - Turn	24.3		C	0.57	16.8	B	90.0	19.3		B	0.48	11.4	B	68.6
	WB Left - Turn	17.7	B	B	0.50	21.5	C	34.9	13.8	C	B	0.48	20.1	C	41.4
	WB Through	18.7		B	0.35	9.1	A	43.5	24.4		C	0.70	17.2	B	79.5
	WB Right - Turn	18.8		B	0.35	5.4	A	44.5	24.8		C	0.71	16.5	B	88.6
Brougham Drive/Allston Street	NB Left - Turn	47.3	D	D	0.16	46.9	D	14.9	43.6	D	D	0.29	155.7	F	37.7
	NB Through	51.3		D	0.26	62.6	E	30.4	58.9		E	0.83	177.4	F	182.3
	NB Right - Turn	0.0		A	-	3.9	A		0.0		A	-	112.9	F	
	SB Left - Turn	72.4	E	E	0.92	97.7	F	64.6	62.4	E	E	0.76	64.9	E	51.4
	SB Through	0.0		A	0.00	84.5	F	202.7	0.0		A	0.00	49.0	D	47.2
	SB Right - Turn	56.1		E	0.87	71.2	E		50.6		D	0.51	24.2	C	
Kenmount Road & H3 Access #1/Brant Drive		13.4	B			10.2	B		28.2	C			27.3	C	
Kenmount Road	EB Left - Turn	6.7	B	A	0.07	11.3	B	16.6	18.7	B	B	0.49	41.2	D	42.6
	EB Through	12.0		B	0.57	7.9	A	48.0	15.2		B	0.42	12.2	B	56.5
	EB Right - Turn	0.0		A	-	7.3	A	52.3	0.0		A	-	7.3	A	59.3
	WB Left - Turn	9.2	A	A	0.04	17.2	B	8.6	10.4	C	B	0.17	23.0	C	36.5
	WB Through	9.9		A	0.27	7.8	A	34.4	21.2		C	0.72	20.0	B	95.5
	WB Right - Turn	0.0		A	-	5.3	A	37.0	0.0		A	-	15.6	B	124.4
H3 Access #1/Brant Drive	NB Left - Turn	47.8	D	D	0.16	49.5	D	21.9	44.5	E	D	0.20	48.1	D	40.3
	NB Through	52.2		D	0.24	59.2	E	31.9	60.2		E	0.82	70.0	E	77.3
	NB Right - Turn	0.0		A	-	5.1	A		0.0		A	-	29.2	C	
	SB Left - Turn	48.1	D	D	0.14	51.1	D	20.8	104.0	F	F	0.97	85.6	F	67.2
	SB Through	51.8		D	0.12	56.0	E	14.0	50.1		D	0.49	65.1	E	139.2
	SB Right - Turn	0.0		A	-	1.9	A		0.0		A	-	27.5	C	
Kenmount Road & H3 Access #2		4.1	A			5.9	A		13.8	B			49.9	D	
Kenmount Road	EB Left - Turn	2.4	A	A	0.06	8.1	A	13.7	11.5	A	B	0.41	100.3	F	60.4
	EB Through	2.8		A	0.46	5.5	A	70.4	4.7		A	0.35	111.7	F	344.9
	WB Through	4.6	A	A	0.23	4.8	A	33.5	13.0	B	B	0.63	14.0	B	79.0
	WB Right - Turn	0.0		A	-	3.5	A	38.3	0.0		A	-	9.3	A	87.6
H3 Access #2	SB Left - Turn	56.8	E	E	0.32	58.3	E	18.4	64.0	E	E	0.85	57.9	E	53.6
	SB Right - Turn	0.0		A	-	1.4	A	-	0.0		A	-	5.7	A	82.5
Kenmount Road & Mount Carson Avenue		21.8	C			32.9	C		64.1	E			82.8	F	
Kenmount Road	EB Through	16.3	B	B	0.60	28.4	C	147.4	42.8	D	D	0.81	125.1	F	147.1
	EB Right - Turn	0.0		A	-	23.4	C	154.0	0.0		A	-	106.8	F	148.3
	WB Left - Turn	50.6	C	D	0.94	35.9	D	102.9	176.4	E	F	1.30	165.9	F	129.1
	WB Through	2.5		A	0.21	6.0	A	92.6	9.3		A	0.61	42.8	D	551.1
Mount Carson Avenue	NB Left - Turn	61.2	E	E	0.74	65.8	E	173.7	71.2	E	E	0.90	61.4	E	101.0
	NB Right - Turn	0.0		A	-	53.9	D	144.9	0.0		A	-	12.5	B	116.3
Kenmount Road & Great Eastern Avenue		22.5	C			13.1	B		35.9	D			52.3	D	
Kenmount Road	EB Left - Turn	8.1	C	A	0.31	21.6	C	37.0	172.0	D	F	1.21	55.3	E	55.8
	EB Through	27.0		C	0.88	14.9	B	87.0	13.9		B	0.60	10.2	B	72.5
	EB Right - Turn	26.7		C	0.89	13.8	B	241.0	13.7		B	0.60	9.4	A	191.4
	WB Left - Turn	21.7	B	C	0.17	24.7	C	15.0	10.5	C	B	0.05	99.7	F	23.8
	WB Through	11.7		B	0.42	7.1	A	71.2	33.6		C	0.95	86.4	F	269.0
	WB Right - Turn	0.0		A	-	3.4	A	46.0	0.0		A	-	63.6	E	270.2
Great Eastern Avenue	NB Left - Turn	53.9	D	D	0.08	63.8	E	9.0	55.3	D	E	0.45	54.5	D	26.2
	NB Through	0.0		A	0.00	69.0	E	12.4	0.0		A	0.00	44.0	D	14.7
	NB Right - Turn	55.0		E	0.21	21.4	C		53.3		D	0.32	15.9	B	
	SB Left - Turn	48.7	D	D	0.35	53.1	D	30.1	45.9	D	D	0.17	61.6	E	36.2
	SB Through	42.3		D	0.01	42.6	D	8.8	41.1		D	0.01	63.3	E	94.5
	SB Right - Turn	0.0		A	-	2.6	A		0.0		A	-	16.1	B	
Mount Carson Avenue & Wyatt Boulevard		6.8	A			2.4	A		6.8	A			3.3	A	
Wyatt Boulevard	WB Left - Turn	58.7	D	F	0.14	23.2	C	10.3	109.6	D	F	0.12	60.4	F	5.9
	WB Right - Turn	32.8		D	0.70	5.3	A	26.7	31.7		D	0.74	4.9	A	26.1
Mount Carson Avenue	NB Through	0.0	A	A	-	0.8	A	2.8	0.0	A	A	-	1.6	A	6.2
	NB Right - Turn	0.0		A	-	0.4	A		0.0		A	-	0.8	A	
	SB Left - Turn	10.8	A	B	0.25	8.4	A	25.5	11.2	A	B	0.35	10.9	B	45.0
	SB Through	0.0		A	-	0.3	A	-	0.0		A	-	1.0	A	14.5

Mount Carson Avenue & Lasalle Drive/Brodie Street			16.0	C			4.2	A			9.8	A			3.6	A		
Lasalle Drive/Brodie Street	EB Left - Turn	134.7	F	F	0.98	20.5	C	27.1	161.5	F	F	0.87	35.8	E	21.2			
	EB Through	12.8		B	0.21	7.7	A	26.0	16.9		C	0.13	32.3	D	17.6			
	EB Right - Turn					5.6	A						5.8	A				
	WB Left - Turn	54.3	D	F	0.46	15.6	C	16.7	84.7	E	F	0.40	23.1	C	12.2			
	WB Through	14.9		B	0.20	15.8	C	20.7	17.6		C	0.11	27.7	D	13.2			
Mount Carson Avenue	WB Right - Turn					9.6	A						7.1	A				
	NB Left - Turn	8.4	A	A	0.01	3.5	A	6.2	9.6	A	A	0.10	8.5	A	19.0			
	NB Through	0.0		A	-	0.9	A	-	0.0		A	-	1.2	A	3.1			
	NB Right - Turn	0.0		A	-	0.5	A	-	0.0		A	-	0.6	A				
	SB Left - Turn	9.3	A	A	0.01	6.5	A	5.6	8.8	A	A	0.06	5.7	A	13.8			
	SB Through	0.0		A	-	0.7	A	-	0.0		A	-	2.0	A				
SB Right - Turn	0.0	A		-	0.1	A	-	0.0	A		-	1.1	A	5.3				
Topsail Road & Mount Carson Ave/Commonwealth Ave			54.2	D			39.5	D			74.9	E			90.1	F		
Topsail Road	EB Left - Turn	22.5	D	C	0.20	33.1	C	42.2	31.6	D	C	0.40	58.5	E	52.1			
	EB Through	41.6		D	0.87	35.9	D	96.1	47.6		D	0.83	50.6	D	131.8			
	EB Right - Turn	0.0		A	-	6.6	A	64.6	0.0		A	-	10.5	B	97.9			
	WB Left - Turn	57.6	D	E	0.89	60.7	E	79.8	139.8	E	F	1.19	325.7	F	136.0			
	WB Through	31.4		C	0.68	25.3	C	85.1	40.3		D	0.81	60.8	E	379.4			
	WB Right - Turn	0.0		A	-	8.3	A	71.1	0.0		A	-	34.1	C	355.8			
Mount Carson Avenue/Commonwealth Avenue	NB Left - Turn	64.3	F	E	0.95	54.3	D	272.4	213.2	F	F	1.35	273.5	F	308.1			
	NB Through	110.7		F	1.13	83.6	F	336.9	44.2		D	0.78	60.8	E	372.7			
	NB Right - Turn	0.0		A	-	32.2	C	155.1	0.0		A	-	25.4	C	74.1			
	SB Left - Turn	35.2	D	D	0.70	35.6	D	54.9	30.3	E	C	0.29	50.4	D	77.7			
	SB Through	35.0		C	0.67	39.5	D	92.5	74.7		E	E	0.98	95.1	F	100.6		
	SB Right - Turn	0.0		A	-	9.1	A	40.4	0.0		A	-	50.2	D	50.1			
Topsail Road & Farrell Drive			14.7	B			11.5	B			19.8	B			14.5	B		
Topsail Road	EB Left - Turn	9.5	A	A	0.13	13.6	B	29.5	17.1	A	B	0.37	25.9	C	32.6			
	EB Through	9.2		A	0.61	10.6	B	75.3	6.0		A	0.47	8.6	A	67.8			
	WB Through	17.7	B	B	0.65	10.2	B	55.9	25.7	C	C	0.87	17.1	B	106.2			
	WB Right - Turn	17.7		B	0.65	6.2	A	48.7	28.4		C	0.89	13.8	B	103.7			
Farrell Drive	SB Left - Turn	27.1	C	C	0.76	23.3	C	53.3	35.1	C	D	0.73	28.8	C	42.3			
	SB Right - Turn	21.6		C	0.24	6.3	A	28.2	31.3		C	0.44	10.6	B	20.9			
Topsail Road & Marlin Drive/Hemmer Jane Drive			32.0	D			9.6	A			64.7	F			14.3	B		
Topsail Road	EB Left - Turn	10.6	A	B	0.01	7.2	A	4.6	12.4	A	B	0.04	13.9	B	8.5			
	EB Through	0.0		A	-	1.0	A	0.4	0.0		A	-	1.4	A	0.8			
	EB Right - Turn	0.0		A	-	0.6	A	0.9	0.0		A	-	0.8	A				
	WB Left - Turn	12.1	A	B	0.06	8.8	A	8.5	15.3	A	C	0.14	13.1	B	12.6			
	WB Through	0.0		A	-	3.9	A	21.2	0.0		A	-	5.2	A	21.0			
	WB Right - Turn	0.0		A	-	3.6	A	20.9	0.0		A	-	5.2	A	21.3			
Marlin Drive/Hemmer Jane Drive	NB Left - Turn		C			27.2	D			F	F		109.5	F				
	NB Through	21.6		C	0.26	-	-	18.4	67.5				-	-	37.8			
	NB Right - Turn					11.5	B						46.2	E				
	SB Left - Turn	827.2	F	F	2.35	167.5	F	50.3	2575.8	F	F	5.53	374.4	F	53.2			
	SB Through	12.6		B	0.03	-	-	79.4	14.4		B	0.05	-	-	109.1			
	SB Right - Turn					41.8	E						98.9	F				
Topsail Road & Moffat Road/Humber Drive			8.0	A			2.8	A			146.6	F			26.6	D		
Topsail Road	EB Left - Turn	10.8	A	B	0.04	6.1	A	7.5	11.8	A	B	0.15	10.8	B	16.2			
	EB Through	0.0		A	-	0.5	A	4.4	0.0		A	-	0.9	A	0.1			
	EB Right - Turn	0.0		A	-	0.3	A		0.0		A	-	0.8	A				
	WB Left - Turn	10.8	A	B	0.02	6.4	A	0.1	14.1	A	B	0.08	10.1	B	9.8			
	WB Through	0.0		A	-	1.4	A	0.4	0.0		A	-	2.3	A	0.9			
	WB Right - Turn	0.0		A	-	1.2	A		0.0		A	-	2.6	A	1.4			
Moffatt Road/Humber Drive	NB Left - Turn		D			35.7	E			F	F		132.4	F				
	NB Through	27.7		D	0.27	-	-	17.1	119.7				196.1	F	13.8			
	NB Right - Turn					11.5	B						29.6	D				
	SB Left - Turn	268.3	F	F	1.08	55.7	F	23.5	2861.4	F	F	6.62	628.2	F	38.7			
	SB Through					-	-						438.6	F				
	SB Right - Turn	14.3		B	0.21	7.4	A	27.1	43.4		E	0.47	342.6	F	120.4			

		Scenario 1B - 5-year Horizon with Development (2022)													
		AM Peak Hour							PM Peak Hour						
Intersection		Synchro				SimTraffic			Synchro				SimTraffic		
Street	Movement	Delay/ Veh (s)	APP LOS	MVT LOS	V/C	Delay/ Veh (s)	Equivalent LOS	Queue (m) 95th%ile	Delay/ Veh (s)	APP LOS	MVT LOS	V/C	Delay/ Veh (s)	Equivalent LOS	Queue (m) 95th%ile
Kenmount Road & Brougham Drive/Allston Street		33.5	C			36.3	D		28.5	C			35.6	D	
Kenmount Road	EB Left - Turn	14.0	C	B	0.12	17.7	B	39.0	23.9	C	C	0.58	36.2	D	49.8
	EB Through	25.3		C	0.61	22.7	C	98.4	20.6		C	0.54	17.4	B	78.9
	EB Right - Turn	25.1		C	0.61	16.8	B	94.0	20.5		C	0.54	11.6	B	73.9
	WB Left - Turn	18.6	B	B	0.53	23.5	C	38.8	15.2	C	B	0.53	23.5	C	44.4
	WB Through	19.5		B	0.39	11.4	B	53.2	26.5		C	0.75	18.6	B	95.3
	WB Right - Turn	19.5		B	0.40	8.3	A	56.8	27.2		C	0.77	19.0	B	100.5
Brougham Drive/Allston Street	NB Left - Turn	47.3	D	D	0.16	52.8	D	13.7	43.6	D	D	0.29	164.9	F	38.9
	NB Through	51.3		D	0.26	59.2	E		58.9		E	0.83	173.7	F	
	NB Right - Turn	0.0		A	-	3.6	A	29.2	0.0		A	-	109.9	F	178.2
	SB Left - Turn	72.4	E	E	0.92	94.2	F	63.6	62.4	E	E	0.76	64.1	E	49.9
	SB Through	0.0		A	0.00	83.6	F		0.0		A	0.00	47.0	D	
	SB Right - Turn	56.1		E	0.87	72.6	E	200.5	50.6		D	0.51	23.9	C	43.1
Kenmount Road & H3 Access #1/Brant Drive		13.3	B			10.0	A		26.7	C			29.7	C	
Kenmount Road	EB Left - Turn	6.7	B	A	0.08	10.4	B	16.1	21.8	B	C	0.53	51.1	D	47.6
	EB Through	12.3		B	0.59	8.3	A	51.2	15.6		B	0.48	17.4	B	104.1
	EB Right - Turn	0.0		A	-	8.0	A	56.0	0.0		A	-	12.0	B	104.8
	WB Left - Turn	9.5	A	A	0.05	16.5	B	8.8	10.7	C	B	0.19	26.6	C	36.9
	WB Through	10.0		B	0.30	8.2	A	42.6	22.2		C	0.76	24.8	C	101.5
	WB Right - Turn	0.0		A	-	5.4	A	45.4	0.0		A	-	19.9	B	183.3
H3 Access #1/Brant Drive	NB Left - Turn	48.1	D	D	0.16	50.5	D	21.3	44.5	E	D	0.21	45.2	D	37.4
	NB Through	51.1		D	0.22	53.4	D		59.9		E	0.81	57.6	E	
	NB Right - Turn	0.0		A	-	4.4	A		0.0		A	-	19.0	B	74.1
	SB Left - Turn	49.1	D	D	0.08	52.8	D	13.1	88.2	E	F	0.90	88.2	F	64.5
	SB Through	52.1		D	0.12	61.8	E		51.2		D	0.52	67.3	E	
	SB Right - Turn	0.0		A	-	2.0	A	13.8	0.0		A	-	31.6	C	127.7
Kenmount Road & H3 Access #2/Penney Access		15.0	B			10.0	A		26.7	C			59.0	E	
Kenmount Road	EB Left - Turn	7.1	B	A	0.07	10.6	B	15.2	19.1	B	B	0.49	98.6	F	60.9
	EB Through	13.8		B	0.59	8.4	A	43.1	15.4		B	0.43	104.1	F	358.1
	EB Right - Turn	0.0		A	-	7.9	A	97.9	0.0		A	-	95.9	F	365.6
	WB Left - Turn	9.9	B	A	0.09	17.2	B	11.6	10.8	C	B	0.12	20.7	C	30.3
	WB Through	10.5		B	0.29	5.0	A	26.2	21.9		C	0.72	20.0	B	95.1
	WB Right - Turn	0.0		A	-	3.0	A	30.7	0.0		A	-	11.7	B	99.5
H3 Access #2/Penney Access	NB Left - Turn	47.5	D	D	0.23	45.5	D	27.2	48.1	D	D	0.56	75.3	E	58.9
	NB Through	50.2		D	0.24	49.3	D		59.6		E	0.83	96.8	F	
	NB Right - Turn	0.0		A	-	7.1	A		0.0		A	-	54.3	D	101.8
	SB Left - Turn	48.7	D	D	0.08	42.6	D	14.1	72.0	E	E	0.84	102.9	F	88.0
	SB Through	52.2		D	0.18	52.4	D		48.0		D	0.25	54.8	D	
	SB Right - Turn	0.0		A	-	3.0	A	18.8	0.0		A	-	9.7	A	58.7
Kenmount Road & Mount Carson Avenue		27.8	C			36.4	D		71.7	E			61.4	E	
Kenmount Road	EB Through	17.4	B	B	0.62	36.7	D	161.3	30.8	C	C	0.65	122.4	F	150.3
	EB Right - Turn	0.0		A	-	32.2	C	166.6	0.0		A	-	106.8	F	149.3
	WB Left - Turn	74.8	D	F	1.03	38.4	D	118.8	204.1	F	F	1.38	86.2	F	143.7
	WB Through	2.5		A	0.22	6.1	A	82.5	4.7		A	0.55	22.7	C	464.5
Mount Carson Avenue	NB Left - Turn	59.1	E	E	0.67	63.5	E	182.1	62.6	E	E	0.81	54.8	D	38.5
	NB Right - Turn	0.0		A	-	55.2	E	139.7	0.0		A	-	8.5	A	82.9
Kenmount Road & Great Eastern Avenue		25.1	C			13.6	B		50.3	D			49.5	D	
Kenmount Road	EB Left - Turn	8.6	C	A	0.35	24.2	C	31.4	197.5	D	F	1.28	59.4	E	55.9
	EB Through	31.1		C	0.92	15.2	B	84.1	14.2		B	0.62	9.6	A	57.4
	EB Right - Turn	30.7		C	0.92	14.7	B	188.4	14.1		B	0.62	7.6	A	188.1
	WB Left - Turn	25.2	B	C	0.18	27.7	C	20.3	11.1	E	B	0.05	82.8	F	23.3
	WB Through	12.1		B	0.45	8.1	A	77.0	55.6		F	1.04	75.5	E	257.8
	WB Right - Turn	0.0		A	-	3.6	A	57.6	0.0		A	-	54.3	D	261.4
Great Eastern Avenue	NB Left - Turn	53.9	D	D	0.08	62.1	E	11.3	55.3	D	E	0.45	56.7	E	26.5
	NB Through	0.0		A	0.00	83.2	F		0.0		A	0.00	44.1	D	
	NB Right - Turn	55.0		E	0.21	25.0	C		53.3		D	0.32	13.5	B	15.3
	SB Left - Turn	48.7	D	D	0.35	53.0	D	29.0	45.9	D	D	0.17	56.9	E	30.1
	SB Through	42.3		D	0.01	50.4	D		41.1		D	0.01	71.4	E	
	SB Right - Turn	0.0		A	-	2.8	A		0.0		A	-	16.4	B	94.2

Mount Carson Avenue & Wyatt Boulevard			162.7	F			12.3	B		2.4	A			43.7	E			
Wyatt Boulevard/Penney Access	EB Left - Turn						30.5	D	12.0					503.2	F	59.6		
	EB Through	189.0	F	F	1.08		68.9	F	49.5	7356.4	F	F	16.52	410.9	F	74.2		
	EB Right - Turn						32.4	D						344.8	F			
	WB Left - Turn	4497.2		F	7.88		93.2	F	43.2					379.8	F	39.2		
	WB Through	410.5	F	F	1.80		54.5	F	107.0	5501.4	F	F	12.77	352.6	F	78.4		
	WB Right - Turn						28.1	D						277.1	F			
Mount Carson Avenue	NB Left - Turn	8.9		A	0.13		4.3	A	14.6	12.0		B	0.35	13.5	B	41.6		
	NB Through	0.0	A	A	-		1.3	A		0.0	A	A	-	2.5	A	20.3		
	NB Right - Turn	0.0		A	-		0.6	A	1.3	0.0		A	-	1.1	A			
	SB Left - Turn	10.6		B	0.26		8.7	A	25.3	10.7		B	0.36	11.8	B	50.2		
	SB Through	0.0	A	A	-		1.0	A		0.0	A	A	-	1.8	A	7.1		
	SB Right - Turn	0.0		A	-		0.5	A	2.0	0.0		A	-	1.1	A			
Mount Carson Avenue & Lasalle Drive/Brodie Street			30.2	D			5.0	A		30.3	D			6.4	A			
Lasalle Drive/Brodie Street	EB Left - Turn	309.3			F	1.41	29.1	D	29.0	667.7		F	F	1.95	105.4	F	30.7	
	EB Through		F				17.2	C			F			59.8	F			
	EB Right - Turn	14.3		B	0.24		6.9	A	34.2	23.5		C	0.19	19.9	C	35.8		
	WB Left - Turn	96.2		E	F	0.64	19.3	C	18.7	241.9		F	F	0.77	55.7	F	14.1	
	WB Through	16.7			C	0.22	25.9	D			F	D	0.16	69.8	F			
	WB Right - Turn						11.4	B	21.7	25.1				12.7	B	13.7		
Mount Carson Avenue	NB Left - Turn	8.8		A	0.01		3.5	A	6.0	10.6		B	0.12	13.4	B	21.3		
	NB Through	0.0	A	A	-		0.9	A		0.0	A	A	-	1.4	A			
	NB Right - Turn	0.0		A	-		0.4	A	0.7	0.0		A	-	0.8	A	3.4		
	SB Left - Turn	9.6		A	0.01		5.1	A	5.6	9.5		A	0.07	7.6	A	14.7		
	SB Through	0.0	A	A	-		0.8	A		0.0	A	A	-	2.5	A			
	SB Right - Turn	0.0		A	-		0.2	A	0.7	0.0		A	-	1.4	A	8.3		
Topsail Road & Mount Carson Ave/Commonwealth Ave			66.0	E			52.8	D		95.3	F			105.4	F			
Topsail Road	EB Left - Turn	22.5			C	0.20	34.1	C	44.9	32.2			C	0.42	62.1	E	52.4	
	EB Through	41.6	D		D	0.87	37.1	D	98.0	47.6	D		D	0.83	48.8	D	124.5	
	EB Right - Turn	0.0			A	-	6.9	A	64.0	0.0			A	-	9.6	A	96.6	
	WB Left - Turn	61.1			E	0.91	59.6	E	78.3	170.5		E	F	1.26	374.4	F	129.9	
	WB Through	31.5	D		C	0.68	27.0	C	68.7	42.3			D	0.83	79.4	E	371.2	
	WB Right - Turn	0.0			A	-	9.7	A	74.5	0.0			A	-	51.0	D	372.2	
Mount Carson Avenue/Commonwealth Avenue	NB Left - Turn	96.8		F	F	1.06	64.1	E	345.1	301.8		F	F	1.56	372.3	F	281.3	
	NB Through	146.6			F	F	1.22	132.0	F	337.5	64.3	F		E	0.96	89.1	F	346.4
	NB Right - Turn	0.0			A	-	67.5	E	132.5	0.0			A	-	46.8	D	120.5	
	SB Left - Turn	44.9			D	0.81	58.7	E	83.8	37.5			D	0.60	51.9	D	81.1	
	SB Through	40.3	D		D	0.79	49.9	D	108.1	113.5	F		F	1.12	85.1	F	100.6	
	SB Right - Turn	0.0			A	-	17.6	B	55.9	0.0			A	-	45.0	D	50.3	
Topsail Road & Farrell Drive			15.2	B			11.7	B		21.8	C			23.4	C			
Topsail Road	EB Left - Turn	9.8		A	A	0.14	14.2	B	23.8	18.0		A	B	0.40	26.5	C	29.8	
	EB Through	9.5			A	0.62	10.6	B	73.7	6.0			A	0.49	8.5	A	67.1	
	WB Through	18.5		B	B	0.68	11.1	B	60.7	28.6		C		C	0.90	32.9	C	230.0
	WB Right - Turn	18.6			B	0.68	6.8	A	56.0	33.1			C	0.93	28.3	C	226.7	
Farrell Drive	SB Left - Turn	27.1		C	C	0.76	22.3	C	51.9	36.1		C	D	0.76	30.1	C	43.5	
	SB Right - Turn	21.7			C	0.26	6.9	A	32.8	30.7			C	0.36	12.8	B	26.0	
Topsail Road & Marlin Drive/Hemmer Jane Drive			31.9	D			7.4	A		64.6	F			12.4	B			
Topsail Road	EB Left - Turn	10.6			B	0.01	7.5	A	5.4	12.4			B	0.04	13.9	B	9.0	
	EB Through	0.0	A		A	-	1.0	A		0.0	A		A	-	1.4	A	2.4	
	EB Right - Turn	0.0			A	-	0.5	A		0.0			A	-	0.9	A	0.6	
	WB Left - Turn	12.1			B	0.06	8.9	A	7.9	15.3			C	0.15	10.9	B	9.8	
	WB Through	0.0	A		A	-	4.0	A		0.0	A		A	-	5.3	A	0.5	
	WB Right - Turn	0.0			A	-	4.2	A	0.4	0.0			A	-	5.4	A	3.9	
Marlin Drive/Hemmer Jane Drive	NB Left - Turn						38.0	E				F	F		83.7	F		
	NB Through	21.6	C	C	0.26		-	-	20.2	67.5					-	-	33.6	
	NB Right - Turn						13.2	B							37.5	E		
	SB Left - Turn	827.2		F	F	2.35	117.0	F	43.6	2575.8		F	F	5.53	317.1	F	52.2	
	SB Through	12.6		F	B	0.03	-	-	59.8	14.5		F		B	0.05	-	-	99.2
	SB Right - Turn						15.2	C							71.7	F		
Topsail Road & Moffatt Road/Humber Drive			8.0	A			2.5	A		147.1	F			26.1	D			
Topsail Road	EB Left - Turn	10.8			B	0.04	5.8	A	7.1	11.8			B	0.15	11.1	B	16.2	
	EB Through	0.0	A		A	-	0.5	A		0.0	A		A	-	0.9	A		
	EB Right - Turn	0.0			A	-	0.2	A	-	0.0			A	-	0.6	A	0.4	
	WB Left - Turn	10.8			B	0.02	5.9	A	4.1	14.1			B	0.08	9.4	A	9.6	
	WB Through	0.0	A		A	-	1.4	A	0.3	0.0	A		A	-	2.3	A	2.6	
	WB Right - Turn	0.0			A	-	1.3	A		0.0			A	-	2.7	A		
Moffatt Road/Humber Drive	NB Left - Turn						35.6	E				F	F		50.6	F		
	NB Through	27.7	D	D	0.27		-	-	16.1	143.7					74.0	F	12.3	
	NB Right - Turn						8.9	A							20.6	C		
	SB Left - Turn	268.3		F	F	1.08	51.9	F	22.7	2861.4		F	F	6.62	545.6	F	41.9	
	SB Through	14.3		F	B	0.21	-	-	19.0	65.8		F		F	0.61	333.6	F	
	SB Right - Turn						6.3	A							295.0	F	137.7	

		Scenario 1C - 5-year Horizon with Improvements (2022)													
		AM Peak Hour							PM Peak Hour						
Intersection		Synchro				SimTraffic			Synchro				SimTraffic		
Street	Movement	Delay/ Veh (s)	APP LOS	MVT LOS	V/C	Delay/ Veh (s)	Equivalent LOS	Queue (m) 95th%ile	Delay/ Veh (s)	APP LOS	MVT LOS	V/C	Delay/ Veh (s)	Equivalent LOS	Queue (m) 95th%ile
Kenmount Road & Brougham Drive/Allston Street		33.5	C			34.8	C		28.5	C			38.7	D	
Kenmount Road	EB Left - Turn	14.0	C	B	0.12	19.5	B	40.9	23.9	C	C	0.58	39.3	D	50.3
	EB Through	25.3		C	0.61	21.9	C	100.7	20.6		C	0.54	17.6	B	85.1
	EB Right - Turn	25.1		C	0.61	17.3	B	94.0	20.5		C	0.54	10.9	B	79.1
	WB Left - Turn	18.6	B	B	0.53	21.6	C	34.3	15.2	C	B	0.53	26.6	C	47.1
	WB Through	19.5		B	0.39	10.3	B	48.6	26.5		C	0.75	21.7	C	155.1
	WB Right - Turn	19.5		B	0.40	7.2	A	50.7	27.2		C	0.77	22.2	C	120.7
Brougham Drive/Allston Street	NB Left - Turn	47.3	D	D	0.16	44.2	D	14.7	43.6	D	D	0.29	181.0	F	38.9
	NB Through	51.3		D	0.26	63.2	E	27.6	58.9		E	0.83	191.5	F	184.3
	NB Right - Turn	0.0		A	-	3.6	A		0.0		A	-	127.2	F	
	SB Left - Turn	72.4	E	E	0.92	89.9	F	62.4	62.4	E	E	0.76	69.7	E	50.4
	SB Through	0.0		A	0.00	82.3	F	195.7	0.0		A	0.00	48.2	D	52.8
	SB Right - Turn	56.1		E	0.87	68.3	E		50.6		D	0.51	22.8	C	
Kenmount Road & H3 Access #1/Brant Drive		13.3	B			9.9	A		26.7	C			32.2	C	
Kenmount Road	EB Left - Turn	6.7	B	A	0.08	10.8	B	16.4	21.8	B	C	0.53	48.5	D	46.8
	EB Through	12.3		B	0.59	8.5	A	48.6	15.6		B	0.48	12.3	B	60.2
	EB Right - Turn	0.0		A	-	6.8	A	53.4	0.0		A	-	8.2	A	65.4
	WB Left - Turn	9.5	A	A	0.05	15.2	B	9.5	10.7	C	B	0.19	33.5	C	44.7
	WB Through	10.0		B	0.30	6.4	A	31.3	22.2		C	0.76	33.9	C	145.2
	WB Right - Turn	0.0		A	-	4.3	A	31.3	0.0		A	-	26.4	C	224.2
H3 Access #1/Brant Drive	NB Left - Turn	48.1	D	D	0.16	50.3	D	23.6	44.5	E	D	0.21	47.3	D	38.8
	NB Through	51.1		D	0.22	53.9	D	33.9	59.9		E	0.81	63.7	E	76.5
	NB Right - Turn	0.0		A	-	5.5	A		0.0		A	-	26.4	C	
	SB Left - Turn	49.1	D	D	0.08	48.8	D	13.1	88.2	E	F	0.90	79.4	E	65.3
	SB Through	52.1		D	0.12	55.9	E	17.9	51.2		D	0.52	67.8	E	116.5
	SB Right - Turn	0.0		A	-	2.7	A		0.0		A	-	27.5	C	
Kenmount Road & H3 Access #2/Penney Access		15.0	B			11.1	B		26.7	C			33.6	C	
Kenmount Road	EB Left - Turn	7.1	B	A	0.07	12.1	B	13.6	19.1	B	B	0.49	38.4	D	50.0
	EB Through	13.8		B	0.59	9.4	A	48.1	15.4		B	0.43	23.4	C	85.5
	EB Right - Turn	0.0		A	-	8.4	A	74.7	0.0		A	-	18.0	B	109.3
	WB Left - Turn	9.9	B	A	0.09	15.7	B	12.0	10.8	C	B	0.12	28.3	C	44.0
	WB Through	10.5		B	0.29	6.0	A	41.3	21.9		C	0.72	28.4	C	150.5
	WB Right - Turn	0.0		A	-	3.0	A	29.8	0.0		A	-	14.8	B	140.4
H3 Access #2/Penney Access	NB Left - Turn	47.5	D	D	0.23	46.2	D	29.7	48.1	D	D	0.56	74.2	E	59.2
	NB Through	50.2		D	0.24	51.8	D	36.9	59.6		E	0.83	89.0	F	100.9
	NB Right - Turn	0.0		A	-	10.3	B		0.0		A	-	46.7	D	
	SB Left - Turn	48.7	D	D	0.08	51.0	D	13.6	72.0	E	E	0.84	66.9	E	72.3
	SB Through	52.2		D	0.18	54.9	D	19.6	48.0		D	0.25	52.1	D	51.2
	SB Right - Turn	0.0		A	-	2.7	A		0.0		A	-	8.1	A	
Kenmount Road & Great Eastern Avenue		37.5	D			10.1	B		69.1	E			49.9	D	
Kenmount Road	EB Left - Turn	9.9	D	A	0.36	16.9	B	43.2	129.3	C	F	1.11	44.0	D	58.9
	EB Through	50.1		F	1.01	10.2	B	120.0	16.2		B	0.66	8.1	A	116.9
	EB Right - Turn	49.8		F	1.01	7.9	A	108.3	16.1		B	0.66	5.0	A	91.6
	WB Left - Turn	24.4	B	C	0.19	24.0	C	19.4	12.5	F	B	0.05	89.0	F	20.0
	WB Through	14.2		B	0.51	8.1	A	64.4	100.2		F	1.15	84.6	F	267.1
	WB Right - Turn	0.0		A	-	3.7	A	50.4	0.0		A	-	72.8	E	268.2
Great Eastern Avenue	NB Left - Turn	44.0	D	D	0.07	50.4	D	8.5	46.6	D	D	0.39	43.6	D	25.3
	NB Through	0.0		A	0.00	33.1	C	13.1	0.0		A	0.00	43.6	D	15.0
	NB Right - Turn	44.9		D	0.20	19.9	B		45.0		D	0.28	13.2	B	
	SB Left - Turn	38.5	D	D	0.30	38.7	D	29.8	38.3	D	D	0.15	46.5	D	25.1
	SB Through	32.9		C	0.01	38.8	D	4.9	33.9		C	0.01	50.2	D	69.4
	SB Right - Turn	0.0		A	-	2.7	A		0.0		A	-	8.3	A	
Mount Carson Avenue & Lasalle Drive/Brodie Street		18.9	B			10.4	B		21.7	C			13.1	B	
Lasalle Drive/Brodie Street	EB Left - Turn	27.8	C	C	0.47	22.1	C	28.8	35.3	D	D	0.33	32.5	C	23.2
	EB Through	0.0		A	0.00	12.9	B		0.0		A	0.00	38.7	D	16.8
	EB Right - Turn	22.9		C	0.38	6.8	A	24.9	34.7		C	0.38	14.7	B	
	WB Left - Turn	25.6	C	C	0.21	20.1	C	19.1	35.4	C	D	0.15	33.2	C	14.0
	WB Through	0.0		A	0.00	19.0	B		0.0		A	0.00	27.1	C	14.2
	WB Right - Turn	22.9		C	0.36	9.3	A	20.1	32.3		C	0.18	10.3	B	
Mount Carson Avenue	NB Left - Turn	9.4	B	A	0.04	9.9	A	9.3	15.1	B	B	0.30	19.1	B	27.8
	NB Through	0.0		A	0.00	9.7	A	73.5	0.0		A	0.00	9.0	A	81.5
	NB Right - Turn	18.6		B	0.76	7.7	A		15.1		B	0.69	6.5	A	
	SB Left - Turn	10.9	B	B	0.02	10.9	B	7.3	8.7	C	A	0.14	15.9	B	39.6
	SB Through	0.0		A	0.00	8.2	A	54.5	0.0		A	0.00	14.7	B	113.7
	SB Right - Turn	15.4		B	0.63	5.5	A		25.9		C	0.89	11.4	B	

Topsail Road & Farrell Drive		16.3	B			10.8	B		21.8	C			15.4	B	
Topsail Road	EB Left - Turn	10.7	A	B	0.12	13.4	B	21.8	18.0	A	B	0.40	23.7	C	28.3
	EB Through	9.5		A	0.62	9.1	A	59.8	6.0		A	0.49	6.5	A	50.5
	WB Through	21.5	C	C	0.76	10.6	B	59.3	28.6	C	C	0.90	20.1	C	136.4
	WB Right - Turn	21.5		C	0.76	6.6	A	55.3	33.1		C	0.93	16.8	B	139.0
Farrell Drive	SB Left - Turn	27.1	C	C	0.76	22.5	C	51.4	36.1	C	D	0.76	30.5	C	44.3
	SB Right - Turn	21.7		C	0.26	6.2	A	30.2	30.7		C	0.36	10.6	B	23.9
Topsail Road & Marlin Drive/Hemmer Jane Drive		31.9	D			11.3	B		64.6	F			20.0	C	
Topsail Road	EB Left - Turn	10.6	A	B	0.01	5.6	A	4.4	12.4	A	B	0.04	11.5	B	9.6
	EB Through	0.0		A	-	1.0	A	0.8	0.0		A	-	1.2	A	0.6
	EB Right - Turn	0.0		A	-	0.3	A		0.0		A	-	0.6	A	
	WB Left - Turn	12.1	A	B	0.06	5.9	A	6.9	15.3	A	C	0.15	8.3	A	10.2
	WB Through	0.0		A	-	0.4	A		0.0		A	-	1.2	A	1.7
	WB Right - Turn	0.0		A	-	0.1	A	-	0.0		A	-	0.8	A	3.2
Marlin Drive/Hemmer Jane Drive	NB Left - Turn		C			82.6	F			F			156.7	F	
	NB Through			C	0.26	-	-	22.7	67.5		F	0.71	-	-	41.6
	NB Right - Turn					13.4	B						57.0	F	
	SB Left - Turn	827.2	F	F	2.35	244.6	F	52.8	2575.8	F	F	5.53	784.5	F	46.0
	SB Through					-	-						-	-	
	SB Right - Turn	12.4		B	0.03	66.0	F	103.2	14.5		B	0.05	377.4	F	92.0
Topsail Road & Moffat Road/Humber Drive		8.0	A			3.0	A		147.1	F			26.0	D	
Topsail Road	EB Left - Turn	10.8	A	B	0.04	4.7	A	7.2	11.8	A	B	0.15	8.8	A	15.3
	EB Through	0.0		A	-	0.5	A	-	0.0		A	-	0.7	A	0.3
	EB Right - Turn	0.0		A	-	0.2	A		0.0		A	-	0.2	A	0.2
	WB Left - Turn	10.8	A	B	0.02	4.9	A	4.1	14.1	A	B	0.08	8.8	A	9.9
	WB Through	0.0		A	-	0.8	A	0.2	0.0		A	-	1.4	A	1.3
	WB Right - Turn	0.0		A	-	0.5	A		0.0		A	-	1.3	A	1.5
Moffatt Road/Humber Drive	NB Left - Turn		D			46.3	E			F			131.6	F	
	NB Through			D	0.27	-	-	17.2	143.7		F	0.48	167.7	F	13.2
	NB Right - Turn					10.3	B						25.0	C	
	SB Left - Turn	268.3	F	F	1.08	79.4	F	27.1	2861.4	F	F	6.62	766.6	F	38.7
	SB Through					-	-						588.8	F	
	SB Right - Turn	14.3		B	0.21	7.9	A	36.3	65.8		F	0.61	443.1	F	118.0

		Scenario 2A - 10-year Horizon with Background (2027)													
		AM Peak Hour							PM Peak Hour						
Intersection		Synchro				SimTraffic			Synchro				SimTraffic		
Street	Movement	Delay/ Veh (s)	APP LOS	MVT LOS	V/C	Delay/ Veh (s)	Equivalent LOS	Queue (m) 95th%ile	Delay/ Veh (s)	APP LOS	MVT LOS	V/C	Delay/ Veh (s)	Equivalent LOS	Queue (m) 95th%ile
Kenmount Road & Brougham Drive/Allston Street		37.0	D			42.0	D		31.2	C			42.4	D	
Kenmount Road	EB Left - Turn	14.5	C	B	0.13	20.3	C	37.1	32.9	C	C	0.68	43.0	D	54.1
	EB Through	29.7		C	0.72	24.7	C	118.9	21.7		C	0.57	18.7	B	89.3
	EB Right - Turn	29.6		C	0.72	19.7	B	116.0	21.6		C	0.57	11.9	B	82.9
	WB Left - Turn	26.0	C	C	0.65	27.3	C	39.4	16.4	C	B	0.57	32.4	C	48.4
	WB Through	20.3		C	0.42	9.2	A	48.8	30.2		C	0.82	29.9	C	143.9
	WB Right - Turn	20.4		C	0.42	6.4	A	47.0	31.7		C	0.84	29.1	C	150.0
Brougham Drive/Allston Street	NB Left - Turn	45.2	D	D	0.16	44.8	D	15.1	43.2	D	D	0.30	168.1	F	39.4
	NB Through	48.6		D	0.22	65.3	E		58.7		E	0.83	183.5	F	
	NB Right - Turn	0.0		A	-	4.4	A	32.8	0.0		A	-	125.0	F	180.7
	SB Left - Turn	82.0	E	F	0.97	119.9	F	59.4	66.1	E	E	0.79	68.9	E	53.4
	SB Through	0.0		A	0.00	107.2	F		0.0		A	0.00	49.1	D	
	SB Right - Turn	58.3		E	0.88	94.9	F	189.4	50.4		D	0.52	23.6	C	44.9
Kenmount Road & H3 Access #1/Brant Drive		15.0	B			12.4	B		32.9	C			48.2	D	
Kenmount Road	EB Left - Turn	7.3	B	A	0.16	13.4	B	29.0	27.1	B	C	0.60	51.9	D	46.7
	EB Through	132.0		B	0.62	9.7	A	64.2	16.8		B	0.51	13.3	B	64.9
	EB Right - Turn	0.0		A	-	7.8	A	69.6	0.0		A	-	8.9	A	69.7
	WB Left - Turn	10.4	B	B	0.05	21.6	C	9.7	11.6	C	B	0.21	45.8	D	45.5
	WB Through	11.1		B	0.32	9.7	A	40.8	24.8		C	0.81	45.0	D	201.8
	WB Right - Turn	0.0		A	-	5.6	A	44.8	0.0		A	-	37.0	D	229.8
H3 Access #1/Brant Drive	NB Left - Turn	47.4	D	D	0.16	48.5	D	24.5	44.2	E	D	0.22	50.5	D	38.7
	NB Through	53.8		D	0.49	55.9	E		59.6		E	0.82	69.6	E	
	NB Right - Turn	0.0		A	-	10.1	B		0.0		A	-	31.2	C	
	SB Left - Turn	48.2	D	D	0.12	50.7	D	15.5	139.2	F	F	1.09	150.3	F	67.3
	SB Through	51.6		D	0.15	52.1	D		51.7		D	0.63	121.8	F	
	SB Right - Turn	0.0		A	-	3.2	A	18.8	0.0		A	-	85.6	F	208.7
Kenmount Road & H3 Access #2/Penney Access		16.8	B			13.1	B		31.7	C			46.1	D	
Kenmount Road	EB Left - Turn	7.4	B	A	0.08	12.1	B	14.2	22.5	B	C	0.53	42.5	D	53.5
	EB Through	14.5		B	0.62	10.6	B	73.0	17.0		B	0.48	27.3	C	96.9
	EB Right - Turn	0.0		A	-	9.5	A	105.5	0.0		A	-	21.5	C	104.1
	WB Left - Turn	10.6	B	B	0.09	18.9	B	12.2	11.8	C	B	0.13	36.2	D	41.9
	WB Through	11.0		B	0.32	7.3	A	47.5	24.2		C	0.77	34.4	C	173.6
	WB Right - Turn	0.0		A	-	3.3	A	35.2	0.0		A	-	21.3	C	162.9
H3 Access #2/Penney Access	NB Left - Turn	47.2	D	D	0.23	44.8	D	34.2	45.0	D	D	0.54	78.1	E	58.5
	NB Through	54.7		D	0.60	53.0	D		60.5		E	0.83	89.4	F	
	NB Right - Turn	0.0		A	-	19.0	B		0.0		A	-	46.5	D	101.6
	SB Left - Turn	48.1	D	D	0.13	48.2	D	15.7	114.0	F	F	1.02	186.7	F	116.7
	SB Through	52.2		D	0.23	53.5	D		49.3		D	0.35	77.6	E	
	SB Right - Turn	0.0		A	-	5.1	A	23.5	0.0		A	-	23.6	C	100.9
Kenmount Road & Great Eastern Avenue		46.3	D			12.9	B		80.7	F			50.0	D	
Kenmount Road	EB Left - Turn	11.1	E	B	0.42	23.5	C	49.5	152.1	D	F	1.19	44.8	D	59.7
	EB Through	64.4		F	1.06	14.2	B	160.7	17.9		B	0.71	8.7	A	124.0
	EB Right - Turn	64.2		F	1.06	11.4	B	145.6	17.7		B	0.71	4.5	A	96.2
	WB Left - Turn	24.5	B	C	0.20	27.0	C	19.6	13.4	F	B	0.06	87.1	F	20.9
	WB Through	15.2		B	0.56	9.1	A	71.7	118.6		F	1.20	86.0	F	251.7
	WB Right - Turn	0.0		A	-	4.2	A	55.7	0.0		A	-	73.0	E	257.0
Great Eastern Avenue	NB Left - Turn	43.9	D	D	0.08	51.4	D	9.3	46.8	D	D	0.40	45.8	D	26.0
	NB Through	0.0		A	0.00	31.5	C		0.0		A	0.00	49.8	D	
	NB Right - Turn	44.8		D	0.20	24.4	C		45.1		D	0.28	15.8	B	15.1
	SB Left - Turn	38.5	D	D	0.31	38.5	D	29.8	38.3	D	D	0.16	42.9	D	23.4
	SB Through	32.8		C	0.01	32.3	C		33.9		C	0.01	63.4	E	
	SB Right - Turn	0.0		A	-	3.0	A		0.0		A	-	8.6	A	70.8
Mount Carson Avenue & Lasalle Drive/Brodie Street		20.2	C			11.0	B		25.3	C			14.5	B	
Lasalle Drive/Brodie Street	EB Left - Turn	31.0	C	C	0.50	25.8	C	30.2	35.5	D	D	0.34	31.9	C	22.7
	EB Through	0.0		A	0.00	8.0	A		0.0		A	0.00	33.8	C	
	EB Right - Turn	25.2		C	0.39	7.0	A		34.9		C	0.40	15.3	B	19.0
	WB Left - Turn	28.4	C	C	0.23	24.1	C	20.5	35.7	C	D	0.15	32.3	C	13.5
	WB Through	0.0		A	0.00	20.2	C		0.0		A	0.00	45.0	D	
	WB Right - Turn	25.2		C	0.37	10.4	B		32.4		C	0.18	12.1	B	13.0
Mount Carson Avenue	NB Left - Turn	9.6	B	A	0.04	9.9	A	8.4	18.2	B	B	0.35	21.4	C	37.7
	NB Through	0.0		A	0.00	10.1	B		0.0		A	0.00	8.7	A	
	NB Right - Turn	20.0		B	0.79	8.1	A	79.5	15.8		B	0.72	7.2	A	85.9
	SB Left - Turn	11.9	B	B	0.02	15.3	B	6.1	9.2	C	A	0.15	17.5	B	45.0
	SB Through	0.0		A	0.00	8.0	A		0.0		A	0.00	17.4	B	
	SB Right - Turn	15.5		B	0.63	4.8	A		32.6		C	0.94	14.1	B	118.9

Topsail Road & Farrell Drive		17.9	B			11.7	B		20.5	C			14.3	B	
Topsail Road	EB Left - Turn	11.7	B	B	0.14	15.2	B	23.3	21.0	A	C	0.45	26.2	C	30.7
	EB Through	10.2		B	0.65	10.1	B	65.2	6.1		A	0.50	6.6	A	52.6
	WB Through	24.6	C	C	0.81	11.4	B	59.5	25.3	C	C	0.86	17.4	B	119.7
	WB Right - Turn	24.7		C	0.81	7.0	A	58.2	29.2		C	0.90	15.1	B	121.4
Farrell Drive	SB Left - Turn	27.1	C	C	0.77	23.5	C	54.9	41.9	D	D	0.79	35.3	D	47.6
	SB Right - Turn	21.5		C	0.26	7.2	A	35.5	35.4		D	0.38	10.6	B	20.3
Topsail Road & Marlin Drive/Hemmer Jane Drive		42.9	E			13.6	B		93.6	F			20.1	C	
Topsail Road	EB Left - Turn	11.1	A	B	0.02	7.7	A	6.3	12.8	A	B	0.05	10.8	B	8.9
	EB Through	0.0		A	-	1.0	A	0.6	0.0		A	-	1.2	A	0.7
	EB Right - Turn	0.0		A	-	0.4	A		0.0		A	-	0.6	A	0.8
	WB Left - Turn	12.5	A	B	0.07	6.7	A	8.5	16.5	A	C	0.16	9.5	A	11.2
	WB Through	0.0		A	-	0.5	A		0.0		A	-	1.2	A	
	WB Right - Turn	0.0		A	-	0.1	A	-	0.0		A	-	0.8	A	2.9
	NB Left - Turn		C			120.5	F			F			183.7	F	
Marlin Drive/Hemmer Jane Drive	NB Through					-	-						-	-	
	NB Right - Turn	23.9				18.4	C	26.1	107.0				54.7	F	41.0
	SB Left - Turn	1152.8	F	F	2.99	303.4	F	53.5	3629.7	F	F	7.58	886.9	F	44.1
	SB Through					-	-						-	-	
	SB Right - Turn	13.1		B	0.04	108.6	F	115.0	14.9		B	0.05	402.1	F	91.4
Topsail Road & Moffat Road/Humber Drive		12.9	B			4.8	A		282.0	F			25.6	D	
Topsail Road	EB Left - Turn	11.3	A	B	0.05	5.5	A	7.4	12.1	A	B	0.16	8.5	A	13.9
	EB Through	0.0		A	-	0.5	A	4.8	0.0		A	-	0.8	A	
	EB Right - Turn	0.0		A	-	0.3	A		0.0		A	-	0.3	A	-
	WB Left - Turn	11.1	A	B	0.02	5.7	A	1.3	14.7	A	B	0.08	9.8	A	10.2
	WB Through	0.0		A	-	1.0	A	0.8	0.0		A	-	1.5	A	
	WB Right - Turn	0.0		A	-	0.6	A		0.0		A	-	1.5	A	2.8
	NB Left - Turn		E			72.9	F			F			93.5	F	
Moffatt Road/Humber Drive	NB Through					-	-						132.6	F	
	NB Right - Turn	36.1			0.35	18.3	C	22.6	231.3			0.65	20.1	C	12.7
	SB Left - Turn	441.1	F	F	1.46	127.0	F	34.0	4544.4	F	F	10.22	826.2	F	38.8
	SB Through					-	-						600.3	F	
	SB Right - Turn	15.2		C	0.23	13.6	B	57.3	104.1		F	0.78	449.0	F	117.7

		Scenario 2B - 10-year Horizon with Development (2027)													
Intersection		AM Peak Hour							PM Peak Hour						
		Synchro				SimTraffic			Synchro				SimTraffic		
Street	Movement	Delay/ Veh (s)	APP LOS	MVT LOS	V/C	Delay/ Veh (s)	Equivalent LOS	Queue (m) 95th%ile	Delay/ Veh (s)	APP LOS	MVT LOS	V/C	Delay/ Veh (s)	Equivalent LOS	Queue (m) 95th%ile
Kenmount Road & Brougham Drive/Allston Street		37.7	D			43.0	D		32.8	C			48.2	D	
Kenmount Road	EB Left - Turn	14.7		B	0.14	24.1	C	46.3	37.8		D	0.72	43.1	D	53.9
	EB Through	30.5	C	C	0.74	27.3	C	136.1	22.8	C	C	0.61	19.7	B	95.2
	EB Right - Turn	30.4		C	0.74	20.0	B	131.0	22.7		C	0.61	14.1	B	88.8
	WB Left - Turn	28.8		C	0.68	29.5	C	40.1	17.9		B	0.61	42.9	D	51.0
	WB Through	20.8	C	C	0.45	9.6	A	51.7	32.4	C	C	0.85	36.8	D	177.6
	WB Right - Turn	20.8		C	0.45	7.6	A	53.8	34.8		C	0.87	37.8	D	182.8
Brougham Drive/Allston Street	NB Left - Turn	44.5		D	0.16	43.5	D	14.7	43.2		D	0.30	195.2	F	39.6
	NB Through	47.7	D	D	0.21	57.0	E	31.1	58.7	D	E	0.83	207.8	F	177.3
	NB Right - Turn	0.0		A	-	4.0	A		0.0		A	-	139.9	F	
	SB Left - Turn	84.9		F	0.98	127.8	F	60.4	66.1	E	E	0.79	77.0	E	56.3
	SB Through	0.0	E	A	0.00	110.9	F	186.8	0.0	E	A	0.00	50.2	D	
	SB Right - Turn	59.3		E	0.88	97.9	F		50.4		D	0.52	23.5	C	57.3
Kenmount Road & H3 Access #1/Brant Drive		15.1	B			11.9	B		33.6	C			55.8	E	
Kenmount Road	EB Left - Turn	7.4		A	0.17	13.2	B	21.7	30.8		C	0.64	53.9	D	48.6
	EB Through	13.5	B	B	0.64	9.6	A	60.1	17.5	B	B	0.55	13.7	B	64.6
	EB Right - Turn	0.0		A	-	8.2	A	67.2	0.0		A	-	10.0	A	69.6
	WB Left - Turn	10.7		B	0.05	18.1	B	11.5	12.2		B	0.22	61.3	E	49.9
	WB Through	11.3	B	B	0.34	8.8	A	40.6	26.6	C	C	0.85	61.5	E	257.7
	WB Right - Turn	0.0		A	-	5.6	A	42.5	0.0		A	-	54.9	D	280.5
H3 Access #1/Brant Drive	NB Left - Turn	47.4		D	0.16	48.7	D	24.0	44.2		D	0.22	50.7	D	38.4
	NB Through	53.8	D	D	0.49	56.6	E	51.8	59.6	E	E	0.82	61.9	E	
	NB Right - Turn	0.0		A	-	10.3	B		0.0		A	-	23.3	C	76.1
	SB Left - Turn	48.2		D	0.12	51.4	D	14.8	139.2	F	F	1.09	163.3	F	66.6
	SB Through	51.6	D	D	0.15	54.1	D	17.9	51.7	F	D	0.63	130.6	F	
	SB Right - Turn	0.0		A	-	3.3	A		0.0		A	-	88.8	F	205.3
Kenmount Road & H3 Access #2/Penney Access		18.2	B			16.6	B		33.3	C			54.5	D	
Kenmount Road	EB Left - Turn	7.9		A	0.08	13.7	B	18.6	27.4		C	0.58	49.5	D	52.7
	EB Through	15.9	B	B	0.64	12.8	B	60.2	20.1	C	C	0.51	27.8	C	96.9
	EB Right - Turn	0.0		A	-	11.2	B	85.5	0.0		A	-	23.2	C	107.8
	WB Left - Turn	11.4		B	0.13	21.1	C	17.6	14.2		B	0.27	64.4	E	58.1
	WB Through	11.7	B	B	0.35	8.4	A	49.9	28.6	C	C	0.82	54.1	D	254.4
	WB Right - Turn	0.0		A	-	3.4	A	42.3	0.0		A	-	40.3	D	246.0
H3 Access #2/Penney Access	NB Left - Turn	47.4		D	0.35	55.2	E	49.5	51.7	E	D	0.74	106.1	F	55.4
	NB Through	53.5	D	D	0.59	67.9	E	71.0	63.3	E	E	0.85	109.5	F	
	NB Right - Turn	0.0		A	-	35.7	D		0.0		A	-	68.8	E	85.4
	SB Left - Turn	48.1		D	0.13	44.3	D	15.2	76.9	E	E	0.90	130.0	F	112.6
	SB Through	52.3	D	D	0.25	57.4	E	23.7	48.1	E	D	0.37	70.2	E	
	SB Right - Turn	0.0		A	-	3.7	A		0.0		A	-	24.8	C	91.6
Kenmount Road & Great Eastern Avenue		62.2	E			15.3	B		107.8	F			51.3	D	
Kenmount Road	EB Left - Turn	11.7		B	0.44	25.2	C	52.7	179.1		F	1.26	53.6	D	61.4
	EB Through	88.9	F	F	1.12	18.0	B	191.1	19.2	D	B	0.75	11.4	B	157.7
	EB Right - Turn	89.0		F	1.13	15.8	B	182.2	19.0		B	0.75	5.3	A	130.8
	WB Left - Turn	24.5		C	0.20	29.9	C	21.4	14.1	F	B	0.07	82.1	F	19.8
	WB Through	15.6	B	B	0.58	9.5	A	74.7	163.7	F	F	1.30	87.9	F	252.5
	WB Right - Turn	0.0		A	-	4.0	A	62.6	0.0		A	-	76.6	E	253.4
Great Eastern Avenue	NB Left - Turn	43.9		D	0.08	43.2	D	9.4	46.8		D	0.40	44.3	D	25.4
	NB Through	0.0		A	0.00	42.6	D		0.0	D	A	0.00	36.8	D	
	NB Right - Turn	44.8		D	0.20	27.7	C	13.2	45.1		D	0.28	16.4	B	14.1
	SB Left - Turn	38.5		D	0.31	38.1	D	28.1	38.3		D	0.16	45.5	D	25.9
	SB Through	32.8	D	C	0.01	39.3	D		33.9	D	C	0.01	69.4	E	
	SB Right - Turn	0.0		A	-	3.0	A	13.9	0.0		A	-	9.7	A	78.8
Mount Carson Avenue & Lasalle Drive/Brodie Street		22.3	C			11.8	B		29.5	C			16.1	B	
Lasalle Drive/Brodie Street	EB Left - Turn	31.0		C	0.51	24.7	C	32.3	41.6		D	0.41	35.7	D	24.1
	EB Through	0.0	C	A	0.00	14.6	B		0.0	D	A	0.00	42.6	D	
	EB Right - Turn	25.2		C	0.39	8.2	A	33.9	41.0		D	0.45	20.4	C	19.7
	WB Left - Turn	28.4		C	0.23	22.9	C	21.0	41.5		D	0.18	38.5	D	14.7
	WB Through	0.0	C	A	0.00	18.2	B		0.0	D	A	0.00	31.0	C	
	WB Right - Turn	25.2		C	0.37	11.7	B	23.8	37.6		D	0.20	13.9	B	15.5
Mount Carson Avenue	NB Left - Turn	10.7		B	0.05	12.3	B	17.7	23.4		C	0.43	27.8	C	34.8
	NB Through	0.0	C	A	0.00	11.6	B		0.0	B	A	0.00	9.9	A	98.9
	NB Right - Turn	23.3		C	0.85	8.2	A	91.6	16.9		B	0.77	7.2	A	
	SB Left - Turn	13.1		B	0.03	17.0	B	9.8	10.7		B	0.17	22.6	C	50.7
	SB Through	0.0	B	A	0.00	8.3	A		0.0	D	A	0.00	19.0	B	
	SB Right - Turn	18.0		B	0.72	4.7	A	59.5	39.3		D	0.98	15.5	B	121.2

Topsail Road & Farrell Drive		16.8	B			12.2	B		22.6	C			16.3	B	
Topsail Road	EB Left - Turn	10.9	B	B	0.17	14.3	B	23.6	22.1	A	C	0.48	30.0	C	33.9
	EB Through	10.5		B	0.67	10.5	B	67.8	6.3		A	0.51	6.7	A	546.0
	WB Through	21.6	C	C	0.75	12.5	B	68.7	28.0	C	C	0.89	20.3	C	142.8
	WB Right - Turn	21.6		C	0.75	8.3	A	67.0	34.2		C	0.94	18.7	B	145.4
Farrell Drive	SB Left - Turn	27.1	C	C	0.77	22.4	C	53.3	41.8	D	D	0.79	36.1	D	49.4
	SB Right - Turn	21.6		C	0.27	7.1	A	27.0	35.5		D	0.39	12.4	B	24.0
Topsail Road & Marlin Drive/Hemmer Jane Drive		42.8	E			16.1	C		93.4	F			19.8	C	
Topsail Road	EB Left - Turn	11.1	A	B	0.02	5.1	A	5.4	12.8	A	B	0.05	12.0	B	9.7
	EB Through	0.0		A	-	1.0	A	0.7	0.0		A	-	1.2	A	0.5
	EB Right - Turn	0.0		A	-	0.4	A		0.0		A	-	0.6	A	0.5
	WB Left - Turn	12.5	A	B	0.07	6.8	A	7.9	16.5	A	C	0.16	8.9	A	9.6
	WB Through	0.0		A	-	0.4	A		0.0		A	-	1.3	A	2.6
	WB Right - Turn	0.0		A	-	0.1	A	-	0.0		A	-	0.9	A	1.9
Marlin Drive/Hemmer Jane Drive	NB Left - Turn	23.9	C	C	0.29	58.9	F	19.5	107.0	F	F	0.87	221.2	F	40.7
	NB Through					-	-						-	-	
	NB Right - Turn					11.2	B						48.2	E	
	SB Left - Turn	1152.8	F	B	0.04	367.8	F	52.3	3629.7	F	F	7.58	843.1	F	44.4
	SB Through	13.1				-	-	122.8	14.9				-	-	91.7
	SB Right - Turn					132.9	F						352.1	F	
Topsail Road & Moffat Road/Humber Drive		12.9	B			4.0	A		281.6	F			25.5	D	
Topsail Road	EB Left - Turn	11.3	A	B	0.05	6.2	A	7.7	12.2	A	B	0.16	9.5	A	15.3
	EB Through	0.0		A	-	0.5	A	-	0.0		A	-	0.8	A	0.9
	EB Right - Turn	0.0		A	-	0.2	A		0.0		A	-	0.3	A	
	WB Left - Turn	11.1	A	B	0.02	5.6	A	4.2	14.7	A	B	0.08	9.1	A	10.8
	WB Through	0.0		A	-	0.9	A	0.2	0.0		A	-	1.5	A	1.6
	WB Right - Turn	0.0		A	-	0.6	A	0.3	0.0		A	-	1.5	A	
Moffatt Road/Humber Drive	NB Left - Turn	36.1	E	E	0.35	38.9	E	15.5	231.3	F	F	0.65	128.4	F	11.2
	NB Through					-	-						93.3	F	
	NB Right - Turn					7.7	A						12.6	B	
	SB Left - Turn	441.1	F	C	0.24	113.5	F	31.3	4544.4	F	F	10.22	829.1	F	38.9
	SB Through	15.3				-	-	52.1	104.1				552.5	F	117.5
	SB Right - Turn					13.7	B						491.3	F	

Scenario 2C - 10-year Horizon with Improvements (2027)															
Intersection		AM Peak Hour							PM Peak Hour						
		Synchro				SimTraffic			Synchro				SimTraffic		
		Delay/ Veh (s)	APP LOS	MVT LOS	V/C	Delay/ Veh (s)	Equivalent LOS	Queue (m) 95th%ile	Delay/ Veh (s)	APP LOS	MVT LOS	V/C	Delay/ Veh (s)	Equivalent LOS	Queue (m) 95th%ile
Kenmount Road & Brougham Drive/Allston Street		37.7	D			42.0	D		32.8	C			42.5	D	
Kenmount Road	EB Left - Turn	14.7	C	B	0.14	22.9	C	48.2	37.8	C	D	0.72	43.2	D	60.3
	EB Through	30.5		C	0.74	27.7	C	133.7	22.8		C	0.61	20.4	C	93.8
	EB Right - Turn	30.4	C	C	0.74	21.4	C	130.1	22.7	C	C	0.61	15.9	B	89.5
	WB Left - Turn	28.8		C	0.68	29.1	C	45.3	17.9		B	0.61	30.9	C	71.5
	WB Through	20.8		C	0.45	10.8	B	59.8	32.4		C	0.85	30.4	C	146.9
	WB Right - Turn	20.8		C	0.45	9.0	A	65.5	34.8		C	0.87	31.1	C	151.6
Brougham Drive/Allston Street	NB Left - Turn	44.5	D	D	0.16	43.5	D	13.2	43.2	D	D	0.30	149.7	F	68.8
	NB Through	47.7		D	0.21	62.2	E	27.9	58.7		E	0.83	190.1	F	177.8
	NB Right - Turn	0.0	E	A	-	4.0	A		0.0	E	A	-	126.9	F	
	SB Left - Turn	84.9		F	0.98	212.2	F	61.3	66.1		E	0.79	69.1	E	51.1
	SB Through	0.0		A	0.00	104.4	F		0.0		A	0.00	52.1	D	
	SB Right - Turn	59.3		E	0.88	92.1	F	195.8	50.4		D	0.52	24.7	C	59.2
Kenmount Road & H3 Access #1/Brant Drive		15.1	B			11.8	B		33.6	C			53.8	D	
Kenmount Road	EB Left - Turn	7.4	B	A	0.17	13.3	B	21.4	30.8	B	C	0.64	57.8	E	49.6
	EB Through	13.5		B	0.64	9.9	A	64.3	17.5		B	0.55	13.7	B	61.6
	EB Right - Turn	0.0	B	A	-	9.7	A	69.6	0.0	C	A	-	8.7	A	67.9
	WB Left - Turn	10.7		B	0.05	14.3	B	8.7	12.2		B	0.22	55.8	E	92.5
	WB Through	11.3		B	0.34	8.1	A	55.5	26.6		C	0.85	63.9	E	256.0
	WB Right - Turn	0.0		A	-	3.1	A	43.1	0.0		A	-	50.5	D	256.1
H3 Access #1/Brant Drive	NB Left - Turn	47.4	D	D	0.16	45.4	D	22.9	44.2	E	D	0.22	44.2	D	35.1
	NB Through	53.8		D	0.49	52.5	D	48.3	59.6		E	0.82	64.8	E	78.5
	NB Right - Turn	0.0	D	A	-	9.5	A		0.0	F	A	-	26.9	C	
	SB Left - Turn	48.2		D	0.12	51.5	D	16.8	139.2		F	1.09	183.4	F	159.0
	SB Through	51.6		D	0.15	55.5	E		51.7		D	0.63	66.7	E	159.6
	SB Right - Turn	0.0		A	-	3.1	A		0.0		A	-	33.5	C	
Kenmount Road & Great Eastern Avenue		62.2	E			16.7	B		107.8	F			51.7	D	
Kenmount Road	EB Left - Turn	11.7	F	B	0.44	28.6	C	54.5	179.1	D	F	1.26	54.5	D	61.3
	EB Through	88.9		F	1.12	19.9	B	209.0	19.2		B	0.75	11.8	B	158.3
	EB Right - Turn	89.0	B	F	1.13	15.2	B	200.6	19.0	F	B	0.75	8.0	A	134.8
	WB Left - Turn	24.5		C	0.20	32.0	C	23.4	14.1		B	0.07	94.4	F	24.1
	WB Through	15.6		B	0.58	10.0	A	74.4	163.7		F	1.30	88.8	F	252.3
	WB Right - Turn	0.0		A	-	4.2	A	60.1	0.0		A	-	75.1	E	253.6
Great Eastern Avenue	NB Left - Turn	43.9	D	D	0.08	46.5	D	9.7	46.8	D	D	0.40	47.9	D	25.0
	NB Through	0.0		A	0.00	45.2	D		0.0		A	0.00	41.2	D	15.9
	NB Right - Turn	44.8	D	D	0.20	25.6	C		45.1	D	D	0.28	20.6	C	
	SB Left - Turn	38.5		D	0.31	36.6	D	26.6	38.3		D	0.16	43.2	D	23.2
	SB Through	32.8		C	0.01	29.9	C		33.9		C	0.01	49.1	D	
	SB Right - Turn	0.0		A	-	3.0	A	11.8	0.0		A	-	8.6	A	71.6
Mount Carson Avenue & Lasalle Drive/Brodie Street		22.3	C			12.2	B		29.5	C			17.0	B	
Lasalle Drive/Brodie Street	EB Left - Turn	31.0	C	C	0.51	24.7	C	31.0	41.6	D	D	0.41	39.9	D	24.2
	EB Through	0.0		A	0.00	33.7	C		0.0		A	0.00	34.4	C	
	EB Right - Turn	25.2	C	C	0.39	8.3	A	30.4	41.0	D	D	0.45	22.0	C	19.3
	WB Left - Turn	28.4		C	0.23	23.4	C	21.3	41.5		D	0.18	38.3	D	14.2
	WB Through	0.0		A	0.00	26.9	C		0.0		A	0.00	28.3	C	
	WB Right - Turn	25.2		C	0.37	12.1	B	23.0	37.6		D	0.20	13.0	B	13.2
Mount Carson Avenue	NB Left - Turn	10.7	C	B	0.05	11.2	B	13.8	23.4	B	C	0.43	28.7	C	36.3
	NB Through	0.0		A	0.00	11.9	B		0.0		A	0.00	10.1	B	
	NB Right - Turn	23.3	B	C	0.85	10.9	B	96.6	16.9	D	B	0.77	8.1	A	101.1
	SB Left - Turn	13.1		B	0.03	17.5	B	6.3	10.7		B	0.17	21.0	C	44.5
	SB Through	0.0		A	0.00	8.9	A		0.0		A	0.00	20.3	C	
	SB Right - Turn	18.0		B	0.72	6.0	A	64.0	39.3		D	0.98	17.4	B	123.7
Topsail Road & Farrell Drive		16.8	B			11.8	B		22.6	C			17.4	B	
Topsail Road	EB Left - Turn	10.9	B	B	0.17	14.7	B	22.7	22.1	A	C	0.48	29.4	C	31.6
	EB Through	10.5		B	0.67	10.0	A	65.7	6.3		A	0.51	6.7	A	53.9
	WB Through	21.6	C	C	0.75	11.8	B	64.4	28.0	C	C	0.89	22.6	C	159.1
	WB Right - Turn	21.6		C	0.75	7.6	A	60.0	34.2		C	0.94	20.4	C	158.9
Farrell Drive	SB Left - Turn	27.1	C	C	0.77	23.0	C	52.2	41.8	D	D	0.79	35.9	D	48.8
	SB Right - Turn	21.6		C	0.27	7.2	A	28.6	35.5		D	0.39	11.6	B	26.1

Topsail Road & Marlin Drive/Hemmer Jane Drive			42.8	E				16.9	C		93.4	F				20.0	C	
Topsail Road	EB Left - Turn	11.1	A	B	0.02	7.9	A	5.4	12.8	A	B	0.05	10.5	B	9.4			
	EB Through	0.0		A	-	1.0	A	0.5	0.0		A	-	1.2	A	1.0			
	EB Right - Turn	0.0		A	-	0.6	A	1.8	0.0		A	-	0.7	A				
	WB Left - Turn	12.5	A	B	0.07	7.1	A	8.0	16.5	A	C	0.16	9.3	A	11.8			
	WB Through	0.0		A	-	0.5	A	0.8	0.0		A	-	1.2	A	1.9			
	WB Right - Turn	0.0		A	-	0.2	A		0.0		A	-	0.9	A				
Marlin Drive/Hemmer Jane Drive	NB Left - Turn	23.9	C	C	0.29	32.2	D	18.3	107.0	F	F	0.87	227.6	F	47.5			
	NB Through					-	-						-	-				
	NB Right - Turn					9.5	A						69.5	F				
	SB Left - Turn	1152.8	F	B	2.99	390.9	F	51.2	3629.7	F	F	7.58	841.9	F	44.4			
	SB Through	13.1				-	-	-	-				-	-	-	-		
SB Right - Turn					137.4	F	123.0	14.9	B	0.05	423.2	F	91.0					
Topsail Road & Moffat Road/Humber Drive			12.9	B				6.5	A		281.6	F				25.9	D	
Topsail Road	EB Left - Turn	11.3	A	B	0.05	6.1	A	7.5	12.2	A	B	0.16	8.8	A	15.0			
	EB Through	0.0		A	-	0.5	A	-	0.0		A	-	0.8	A	0.3			
	EB Right - Turn	0.0		A	-	0.2	A		0.0		A	-	0.2	A	9.6			
	WB Left - Turn	11.1	A	B	0.02	6.4	A	3.8	14.7	A	B	0.08	8.6	A	1.2			
	WB Through	0.0		A	-	1.0	A	0.3	0.0		A	-	1.5	A	1.2			
	WB Right - Turn	0.0		A	-	0.7	A		0.0		A	-	1.5	A				
Moffatt Road/Humber Drive	NB Left - Turn	36.1	E	E	0.35	77.8	F	28.0	231.3	F	F	0.65	178.9	F	16.5			
	NB Through					-	-						219.2	F				
	NB Right - Turn					29.1	D						41.3	E				
	SB Left - Turn	441.1	F	C	1.46	165.7	F	36.6	4544.4	F	F	10.22	863.7	F	38.8			
	SB Through	15.3				-	-	-	-				-	-	-			
	SB Right - Turn							34.5	D				77.4	104.1	535.6	F	117.4	

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	7:15	7:15	7:15	7:15	7:15	7:15	7:15
End Time	8:45	8:45	8:45	8:45	8:45	8:45	8:45
Total Time (min)	90	90	90	90	90	90	90
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4	4
Vehs Entered	11969	12068	11798	11854	11722	11819	11998
Vehs Exited	11983	12101	11782	11847	11721	11833	12012
Starting Vehs	258	265	246	243	241	243	251
Ending Vehs	244	232	262	250	242	229	237
Travel Distance (km)	8898	8910	8775	8786	8604	8755	8835
Travel Time (hr)	268.4	266.2	268.7	258.8	251.7	274.8	266.4
Total Delay (hr)	103.4	100.6	106.0	95.9	91.7	111.9	102.3
Total Stops	8516	8512	8629	8194	7952	8482	8194
Fuel Used (l)	817.9	812.6	809.9	795.7	780.9	815.6	812.7

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	7:15	7:15	7:15	7:15
End Time	8:45	8:45	8:45	8:45
Total Time (min)	90	90	90	90
Time Recorded (min)	60	60	60	60
# of Intervals	5	5	5	5
# of Recorded Intervals	4	4	4	4
Vehs Entered	12229	11779	11854	11905
Vehs Exited	12267	11823	11921	11929
Starting Vehs	286	271	253	253
Ending Vehs	248	227	186	230
Travel Distance (km)	9078	8684	8798	8812
Travel Time (hr)	283.3	265.1	262.3	266.6
Total Delay (hr)	114.6	103.2	98.9	102.8
Total Stops	8774	8430	8140	8380
Fuel Used (l)	843.6	799.2	805.7	809.4

Interval #0 Information Seeding

Start Time	7:15
End Time	7:45
Total Time (min)	30
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	7:45
End Time	8:00
Total Time (min)	15
Volumes adjusted by PHF, Growth Factors.	

Run Number	1	10	2	3	4	5	6
Vehs Entered	3420	3464	3379	3418	3378	3426	3472
Vehs Exited	3347	3421	3313	3346	3312	3326	3358
Starting Vehs	258	265	246	243	241	243	251
Ending Vehs	331	308	312	315	307	343	365
Travel Distance (km)	2465	2507	2467	2454	2436	2464	2444
Travel Time (hr)	79.8	81.1	79.7	78.1	77.0	80.8	79.1
Total Delay (hr)	34.0	34.5	33.9	32.5	31.6	35.1	33.7
Total Stops	2607	2591	2568	2526	2367	2518	2462
Fuel Used (l)	233.0	235.3	231.4	229.1	226.8	233.1	229.9

Interval #1 Information Recording

Start Time	7:45
End Time	8:00
Total Time (min)	15
Volumes adjusted by PHF, Growth Factors.	

Run Number	7	8	9	Avg
Vehs Entered	3509	3453	3440	3435
Vehs Exited	3472	3398	3395	3368
Starting Vehs	286	271	253	253
Ending Vehs	323	326	298	322
Travel Distance (km)	2532	2499	2505	2477
Travel Time (hr)	84.9	82.4	82.2	80.5
Total Delay (hr)	37.8	35.7	35.5	34.4
Total Stops	2566	2773	2547	2550
Fuel Used (l)	241.4	237.8	238.6	233.6

Interval #2 Information Recording

Start Time	8:00
End Time	8:15
Total Time (min)	15
Volumes adjusted by Growth Factors, Anti PHF.	

Run Number	1	10	2	3	4	5	6
Vehs Entered	2833	2761	2788	2804	2716	2877	2844
Vehs Exited	2930	2802	2860	2888	2817	2967	2975
Starting Vehs	331	308	312	315	307	343	365
Ending Vehs	234	267	240	231	206	253	234
Travel Distance (km)	2149	2087	2143	2146	2046	2212	2194
Travel Time (hr)	64.4	58.9	67.5	60.9	58.7	73.5	66.9
Total Delay (hr)	24.5	20.2	27.8	21.0	20.7	32.4	26.2
Total Stops	1938	1842	2213	1855	1881	2184	2030
Fuel Used (l)	196.7	186.2	200.2	191.1	185.0	209.9	202.7

Interval #2 Information Recording

Start Time	8:00
End Time	8:15
Total Time (min)	15
Volumes adjusted by Growth Factors, Anti PHF.	

Run Number	7	8	9	Avg
Vehs Entered	2853	2808	2797	2808
Vehs Exited	2915	2909	2856	2891
Starting Vehs	323	326	298	322
Ending Vehs	261	225	239	231
Travel Distance (km)	2150	2124	2116	2137
Travel Time (hr)	67.8	68.6	60.8	64.8
Total Delay (hr)	27.8	29.1	21.5	25.1
Total Stops	2009	2045	1838	1987
Fuel Used (l)	200.3	199.2	191.5	196.3

Interval #3 Information Recording

Start Time	8:15
End Time	8:30
Total Time (min)	15
Volumes adjusted by Growth Factors, Anti PHF.	

Run Number	1	10	2	3	4	5	6
Vehs Entered	2879	2909	2785	2825	2759	2746	2847
Vehs Exited	2869	2965	2783	2820	2733	2801	2851
Starting Vehs	234	267	240	231	206	253	234
Ending Vehs	244	211	242	236	232	198	230
Travel Distance (km)	2159	2161	2078	2086	2016	2070	2090
Travel Time (hr)	62.5	64.2	59.6	60.1	55.9	63.7	57.5
Total Delay (hr)	22.5	23.9	21.2	21.5	18.4	25.1	18.6
Total Stops	1979	2112	1815	1981	1800	1959	1771
Fuel Used (l)	195.8	198.2	188.7	187.4	179.7	191.7	186.9

Interval #3 Information Recording

Start Time	8:15
End Time	8:30
Total Time (min)	15
Volumes adjusted by Growth Factors, Anti PHF.	

Run Number	7	8	9	Avg
Vehs Entered	2988	2779	2818	2835
Vehs Exited	2986	2772	2819	2841
Starting Vehs	261	225	239	231
Ending Vehs	263	232	238	224
Travel Distance (km)	2258	2038	2095	2105
Travel Time (hr)	68.4	57.3	60.1	60.9
Total Delay (hr)	26.5	19.3	21.1	21.8
Total Stops	2151	1836	1867	1928
Fuel Used (l)	207.2	182.4	188.6	190.6

Interval #4 Information Recording

Start Time	8:30
End Time	8:45
Total Time (min)	15
Volumes adjusted by Growth Factors, Anti PHF.	

Run Number	1	10	2	3	4	5	6
Vehs Entered	2837	2934	2846	2807	2869	2770	2835
Vehs Exited	2837	2913	2826	2793	2859	2739	2828
Starting Vehs	244	211	242	236	232	198	230
Ending Vehs	244	232	262	250	242	229	237
Travel Distance (km)	2126	2156	2087	2101	2106	2010	2108
Travel Time (hr)	61.8	61.9	61.9	59.8	60.1	56.8	62.9
Total Delay (hr)	22.4	21.9	23.1	20.9	21.0	19.3	23.8
Total Stops	1992	1967	2033	1832	1904	1821	1931
Fuel Used (l)	192.3	192.9	189.6	188.0	189.5	180.9	193.3

Interval #4 Information Recording

Start Time	8:30
End Time	8:45
Total Time (min)	15
Volumes adjusted by Growth Factors, Anti PHF.	

Run Number	7	8	9	Avg
Vehs Entered	2879	2739	2799	2832
Vehs Exited	2894	2744	2851	2829
Starting Vehs	263	232	238	224
Ending Vehs	248	227	186	230
Travel Distance (km)	2138	2024	2082	2094
Travel Time (hr)	62.2	56.9	59.2	60.4
Total Delay (hr)	22.4	19.1	20.7	21.5
Total Stops	2048	1776	1888	1918
Fuel Used (l)	194.7	179.9	187.0	188.8

2: Marlin Drive/Hemmer Jane Drive & Topsail Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	4.0	0.3	0.1
Total Delay (hr)	0.0	0.2	0.0	0.1	0.9	0.0	0.0	0.1	0.9	0.0	2.2
Total Del/Veh (s)	4.7	0.9	0.5	8.7	3.6	3.2	21.6	7.9	59.8	5.8	4.0
Stop Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.8	0.0	1.1
Stop Del/Veh (s)	3.1	0.0	0.0	5.0	0.4	0.2	19.7	7.3	58.3	5.5	2.0

6: Humber Drive/Moffatt Road & Topsail Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	2.9	0.2	0.3	0.0	0.0	0.0	0.2	0.1	4.0	0.2	0.2
Total Delay (hr)	0.0	0.1	0.0	0.0	0.2	0.0	0.0	0.1	0.3	0.1	0.9
Total Del/Veh (s)	5.8	0.4	0.2	5.2	1.0	1.1	29.7	6.5	38.0	6.4	1.7
Stop Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.1	0.5
Stop Del/Veh (s)	4.5	0.0	0.0	3.4	0.0	0.0	27.8	6.1	35.9	5.7	0.9

11: Mount Carson Avenue & Lasalle Drive/Brodie Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	3.8	0.2	0.5	4.0	0.2	0.2	3.3	0.4	0.4	3.5	0.3	0.3
Total Delay (hr)	0.5	0.0	0.2	0.2	0.0	0.2	0.0	0.1	0.0	0.0	0.0	0.0
Total Del/Veh (s)	16.7	5.3	5.5	14.0	12.5	7.9	3.0	0.8	0.3	5.3	0.6	0.2
Stop Delay (hr)	0.5	0.0	0.1	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Stop Del/Veh (s)	15.2	3.5	5.0	12.0	9.4	7.3	1.0	0.0	0.0	2.9	0.0	0.0

11: Mount Carson Avenue & Lasalle Drive/Brodie Street Performance by movement

Movement	All
Denied Delay (hr)	0.3
Denied Del/Veh (s)	0.9
Total Delay (hr)	1.2
Total Del/Veh (s)	3.6
Stop Delay (hr)	0.9
Stop Del/Veh (s)	2.8

14: Allston Street/Brougham Drive & Kenmount Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.4	0.1	0.0
Denied Del/Veh (s)	2.4	0.2	0.2	2.9	0.2	0.2	4.0	0.2	0.2	3.9	1.6	1.6
Total Delay (hr)	0.2	4.0	0.2	0.6	1.2	0.1	0.1	0.4	0.1	3.2	1.6	0.5
Total Del/Veh (s)	14.8	19.2	13.1	17.3	12.5	6.3	28.0	44.1	3.0	35.2	30.3	20.9
Stop Delay (hr)	0.1	2.7	0.1	0.5	0.8	0.1	0.1	0.4	0.0	2.7	1.2	0.4
Stop Del/Veh (s)	10.0	13.0	9.9	13.6	8.6	4.8	24.9	39.2	0.2	29.5	23.6	16.7

14: Allston Street/Brougham Drive & Kenmount Road Performance by movement

Movement	All
Denied Delay (hr)	0.7
Denied Del/Veh (s)	1.2
Total Delay (hr)	12.1
Total Del/Veh (s)	20.6
Stop Delay (hr)	9.1
Stop Del/Veh (s)	15.5

21: Mount Carson Avenue & Wyatt Boulevard Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.1	0.0	0.0	0.0	0.2
Denied Del/Veh (s)	3.7	0.3	0.6	0.6	0.2	0.3	0.4
Total Delay (hr)	0.0	0.4	0.1	0.0	0.3	0.0	0.9
Total Del/Veh (s)	19.5	5.1	0.7	0.3	7.2	0.3	2.2
Stop Delay (hr)	0.0	0.2	0.0	0.0	0.2	0.0	0.5
Stop Del/Veh (s)	16.7	3.4	0.0	0.0	4.3	0.0	1.2

24: Mount Carson Avenue & Kenmount Road Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.1	0.0	0.0	0.0	0.1	2.9	3.1
Denied Del/Veh (s)	0.3	0.4	0.0	0.0	10.3	12.5	3.8
Total Delay (hr)	7.2	0.2	3.4	0.8	0.7	7.1	19.4
Total Del/Veh (s)	23.8	12.0	27.4	5.8	45.1	30.0	23.1
Stop Delay (hr)	4.8	0.1	2.3	0.2	0.6	5.0	13.0
Stop Del/Veh (s)	15.8	7.8	18.4	1.4	41.7	21.2	15.5

28: Kenmount Road & Great Eastern Avenue Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	2.8	0.3	0.2	0.1	0.1	0.1	3.6	0.4	0.4
Total Delay (hr)	0.7	8.2	0.0	0.1	1.9	0.0	0.1	0.0	0.1	0.5	0.0	0.1
Total Del/Veh (s)	21.2	16.2	15.4	21.0	8.7	3.3	49.5	58.9	18.8	34.6	39.2	2.6
Stop Delay (hr)	0.4	2.8	0.0	0.1	1.0	0.0	0.1	0.0	0.1	0.4	0.0	0.0
Stop Del/Veh (s)	10.8	5.5	5.4	17.2	4.4	0.0	48.0	55.9	18.7	31.9	34.2	0.0

28: Kenmount Road & Great Eastern Avenue Performance by movement

Movement	All
Denied Delay (hr)	0.2
Denied Del/Veh (s)	0.2
Total Delay (hr)	11.8
Total Del/Veh (s)	14.0
Stop Delay (hr)	4.9
Stop Del/Veh (s)	5.8

33: Commonwealth Avenue/Mount Carson Avenue & Topsail Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.4	0.4	0.0	0.1	0.1
Denied Del/Veh (s)	0.3	0.0	0.4	0.2	0.0	0.0	3.8	2.8	3.9	0.5	1.0	3.6
Total Delay (hr)	0.4	7.4	0.6	1.6	4.1	0.1	3.3	7.7	1.2	1.4	3.2	0.2
Total Del/Veh (s)	29.3	36.1	6.2	30.6	25.4	7.7	43.2	54.6	12.3	40.4	40.3	8.1
Stop Delay (hr)	0.3	5.8	0.1	1.3	3.1	0.1	2.9	6.1	0.5	1.3	2.7	0.1
Stop Del/Veh (s)	23.5	28.3	0.7	25.8	18.9	3.3	38.1	43.2	4.6	37.0	34.5	4.4

33: Commonwealth Avenue/Mount Carson Avenue & Topsail Road Performance by movement

Movement	All
Denied Delay (hr)	1.3
Denied Del/Veh (s)	1.3
Total Delay (hr)	31.3
Total Del/Veh (s)	31.2
Stop Delay (hr)	24.2
Stop Del/Veh (s)	24.2

48: Topsail Road & Farrell Drive Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.3	0.0	0.3
Denied Del/Veh (s)	0.0	0.0	0.2	0.2	3.7	0.8	0.5
Total Delay (hr)	0.1	2.8	1.7	0.2	2.3	0.1	7.3
Total Del/Veh (s)	13.0	8.9	8.5	4.7	33.4	6.8	11.1
Stop Delay (hr)	0.1	1.2	0.9	0.1	2.0	0.1	4.4
Stop Del/Veh (s)	7.9	3.7	4.5	2.6	29.3	5.3	6.7

Total Network Performance

Denied Delay (hr)	6.2
Denied Del/Veh (s)	1.9
Total Delay (hr)	96.6
Total Del/Veh (s)	28.6
Stop Delay (hr)	60.0
Stop Del/Veh (s)	17.8

Intersection: 2: Marlin Drive/Hemmer Jane Drive & Topsail Road

Movement	EB	WB	WB	NB	SB	SB
Directions Served	L	L	T	LTR	L	R
Maximum Queue (m)	6.7	10.3	20.8	18.3	31.4	20.2
Average Queue (m)	0.5	2.5	0.8	8.6	12.2	4.1
95th Queue (m)	3.7	7.5	21.3	16.2	28.6	18.7
Link Distance (m)			215.2	64.5		83.3
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)	15.0	25.0			35.0	
Storage Blk Time (%)					5	
Queuing Penalty (veh)					1	

Intersection: 6: Humber Drive/Moffatt Road & Topsail Road

Movement	EB	WB	WB	NB	SB	SB
Directions Served	L	L	TR	LTR	L	R
Maximum Queue (m)	7.3	6.1	0.2	16.6	19.3	22.5
Average Queue (m)	1.4	0.7	0.0	6.6	5.7	8.9
95th Queue (m)	5.5	3.9	0.2	14.7	15.4	16.5
Link Distance (m)			278.5	185.8		108.6
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)	30.0	35.0			30.0	
Storage Blk Time (%)					0	0
Queuing Penalty (veh)					0	0

Intersection: 11: Mount Carson Avenue & Lasalle Drive/Brodie Street

Movement	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	TR	L	TR	L	L	TR
Maximum Queue (m)	29.4	40.7	21.6	20.8	11.0	10.5	1.3
Average Queue (m)	14.0	12.9	9.1	10.0	1.0	0.6	0.0
95th Queue (m)	24.9	25.9	17.9	17.9	6.1	5.0	0.7
Link Distance (m)		43.4		56.6			91.4
Upstream Blk Time (%)		0					
Queuing Penalty (veh)		0					
Storage Bay Dist (m)	25.0		25.0		85.0	50.0	
Storage Blk Time (%)	2	0	0	0			
Queuing Penalty (veh)	2	1	0	0			

Intersection: 14: Allston Street/Brougham Drive & Kenmount Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (m)	38.3	79.2	73.2	38.2	46.8	41.6	15.7	29.9	57.3	127.4
Average Queue (m)	7.4	44.0	38.3	15.5	20.1	16.8	4.3	8.7	43.6	46.7
95th Queue (m)	23.6	69.6	65.7	28.9	37.9	33.9	12.9	22.3	64.0	103.3
Link Distance (m)		452.6	452.6		420.8	420.8		136.1		155.8
Upstream Blk Time (%)										1
Queuing Penalty (veh)										0
Storage Bay Dist (m)	50.0			35.0			25.0		50.0	
Storage Blk Time (%)	0	4		0	1		0	0	10	2
Queuing Penalty (veh)	0	2		1	2		0	0	26	8

Intersection: 21: Mount Carson Avenue & Wyatt Boulevard

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	L
Maximum Queue (m)	9.6	30.3	3.6	26.7
Average Queue (m)	2.1	15.2	0.2	12.2
95th Queue (m)	7.8	24.2	2.2	21.8
Link Distance (m)		99.9	87.5	139.9
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)	40.0			
Storage Blk Time (%)		0		
Queuing Penalty (veh)		0		

Intersection: 24: Mount Carson Avenue & Kenmount Road

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	TR	L	T	T	L	R
Maximum Queue (m)	131.6	118.8	103.8	37.5	116.5	133.9	140.9
Average Queue (m)	81.1	60.1	52.7	7.5	13.9	56.0	103.8
95th Queue (m)	128.2	106.8	89.1	26.0	76.9	149.9	166.2
Link Distance (m)	126.4	126.4		432.7	432.7	128.9	128.9
Upstream Blk Time (%)	1	0			0	6	27
Queuing Penalty (veh)	0	0			0	0	0
Storage Bay Dist (m)			120.0				
Storage Blk Time (%)			0				
Queuing Penalty (veh)			0				

Intersection: 28: Kenmount Road & Great Eastern Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (m)	49.4	183.2	353.7	30.0	80.0	60.4	12.6	15.5	32.0	11.6
Average Queue (m)	16.5	45.9	74.9	6.1	36.3	16.4	2.5	3.7	11.8	1.2
95th Queue (m)	38.4	118.7	243.7	18.6	68.6	45.3	9.3	11.5	25.2	6.4
Link Distance (m)		432.7	432.7		241.2	241.2	34.5	34.5		141.4
Upstream Blk Time (%)		0	1							
Queuing Penalty (veh)		0	9							
Storage Bay Dist (m)	45.0			40.0					45.0	
Storage Blk Time (%)	0	5		0	5				0	
Queuing Penalty (veh)	0	6		0	1				0	

Intersection: 33: Commonwealth Avenue/Mount Carson Avenue & Topsail Road

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	TR	L	T	R	L	T
Maximum Queue (m)	42.3	103.0	104.6	72.4	61.2	74.6	81.4	161.3	234.1	107.5	59.1	96.7
Average Queue (m)	14.2	57.5	55.0	12.8	30.1	38.4	42.3	53.3	112.1	44.5	22.2	54.0
95th Queue (m)	39.7	92.9	93.0	58.1	51.7	65.0	71.5	126.7	207.7	130.3	43.0	91.9
Link Distance (m)		215.2	215.2			293.5	293.5		289.6		91.0	91.0
Upstream Blk Time (%)									1		0	3
Queuing Penalty (veh)									0		0	0
Storage Bay Dist (m)	35.0			65.0	115.0			250.0		100.0		
Storage Blk Time (%)	0	27	4	0					13	0		20
Queuing Penalty (veh)	0	13	12	0					81	2		16

Intersection: 33: Commonwealth Avenue/Mount Carson Avenue & Topsail Road

Movement	SB
Directions Served	R
Maximum Queue (m)	47.5
Average Queue (m)	10.8
95th Queue (m)	43.2
Link Distance (m)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	40.0
Storage Blk Time (%)	0
Queuing Penalty (veh)	0

Intersection: 48: Topsail Road & Farrell Drive

Movement	EB	EB	EB	B35	B35	WB	WB	SB	SB
Directions Served	L	T	T	T	T	T	TR	L	R
Maximum Queue (m)	36.3	82.3	82.5	147.1	243.9	58.4	55.8	57.2	73.9
Average Queue (m)	8.2	31.8	35.9	7.4	13.0	31.4	22.7	38.6	14.1
95th Queue (m)	25.7	69.0	74.5	83.3	114.1	53.4	46.5	59.5	42.5
Link Distance (m)		323.4	323.4	293.5	293.5	354.8	354.8		142.8
Upstream Blk Time (%)				0	0				
Queuing Penalty (veh)				0	2				
Storage Bay Dist (m)	45.0							50.0	
Storage Blk Time (%)	0	3						4	0
Queuing Penalty (veh)	0	1						3	0

Network Summary

Network wide Queuing Penalty: 190

Intersection: 14: Allston Street/Brougham Drive & Kenmount Road

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Maximum Green (s)	7.0	29.0	10.0	28.0	7.0	29.0	10.0	28.0
Minimum Green (s)	7.0	25.0	7.0	10.0	7.0	25.0	7.0	10.0
Recall	None	Max	None	None	None	Max	None	None
Avg. Green (s)	7.2	30.2	8.0	19.2	7.5	35.8	14.7	13.0
g/C Ratio	-0.01	NA	-0.01	NA	-0.01	NA	NA	-0.01
Cycles Skipped (%)	33	0	76	0	73	0	0	58
Cycles @ Minimum (%)	67	0	18	15	27	0	0	18
Cycles Maxed Out (%)	67	100	0	13	27	100	96	0
Cycles with Peds (%)	0	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
Number of Complete Cycles : 0

Intersection: 24: Mount Carson Avenue & Kenmount Road

Phase	1	2	4	6
Movement(s) Served	WBL	EBT	NBL	WBTL
Maximum Green (s)	40.0	39.0	23.0	75.0
Minimum Green (s)	7.0	10.0	10.0	10.0
Recall	None	Max	None	Max
Avg. Green (s)	22.4	46.1	10.9	105.6
g/C Ratio	NA	NA	-0.01	-0.01
Cycles Skipped (%)	0	0	27	29
Cycles @ Minimum (%)	3	0	51	0
Cycles Maxed Out (%)	8	100	0	71
Cycles with Peds (%)	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
Number of Complete Cycles : 0

Intersection: 28: Kenmount Road & Great Eastern Avenue

Phase	1	2	3	4	5	6	8
Movement(s) Served	WBL	EBTL	SBL	NBTL	EBL	WBTL	SBTL
Maximum Green (s)	13.0	55.0	13.0	30.0	13.0	55.0	30.0
Minimum Green (s)	7.0	10.0	7.0	10.0	7.0	10.0	10.0
Recall	None	Max	None	None	None	Max	None
Avg. Green (s)	7.5	77.5	10.1	10.6	8.0	63.9	13.5
g/C Ratio	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Cycles Skipped (%)	84	16	36	71	44	5	23
Cycles @ Minimum (%)	14	0	5	26	33	0	54
Cycles Maxed Out (%)	0	84	3	0	0	95	0
Cycles with Peds (%)	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
Number of Complete Cycles : 0

Intersection: 33: Commonwealth Avenue/Mount Carson Avenue & Topsail Road

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Maximum Green (s)	19.0	29.0	10.0	31.0	7.0	41.0	7.0	34.0
Minimum Green (s)	7.0	25.0	7.0	23.0	7.0	25.0	7.0	23.0
Recall	None	Max	None	Max	None	Max	None	Max
Avg. Green (s)	13.8	32.7	10.1	31.9	7.0	44.6	7.1	35.9
g/C Ratio	-0.01	NA	NA	NA	-0.01	NA	-0.01	NA
Cycles Skipped (%)	3	0	0	0	47	0	6	0
Cycles @ Minimum (%)	6	0	0	0	53	0	94	0
Cycles Maxed Out (%)	23	100	97	100	53	100	94	100
Cycles with Peds (%)	0	0	0	0	0	3	0	0

Controller Summary

Average Cycle Length (s): NA
Number of Complete Cycles : 0

Intersection: 48: Topsail Road & Farrell Drive

Phase	2	4	5	6
Movement(s) Served	EBTL	SBL	EBL	WBT
Maximum Green (s)	60.0	21.0	11.0	44.0
Minimum Green (s)	40.0	15.0	10.0	40.0
Recall	Max	None	None	Max
Avg. Green (s)	60.5	18.6	10.1	57.8
g/C Ratio	NA	NA	-0.01	NA
Cycles Skipped (%)	0	0	81	0
Cycles @ Minimum (%)	0	26	16	0
Cycles Maxed Out (%)	100	34	0	100
Cycles with Peds (%)	0	0	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

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Kenmount Road & Brougham Drive/Allston Street

S0 Existing AM
01/22/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	731	37	124	330	81	17	34	103	326	186	84
Future Volume (veh/h)	42	731	37	124	330	81	17	34	103	326	186	84
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1826	1856	1856	1841	1826	1826	1811	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	48	840	43	161	429	105	22	44	0	351	200	90
Peak Hour Factor	0.87	0.87	0.87	0.77	0.77	0.77	0.77	0.77	0.77	0.93	0.93	0.93
Percent Heavy Veh, %	5	3	3	4	5	5	6	2	2	2	2	2
Cap, veh/h	413	1209	62	323	1055	256	205	229		443	257	116
Arrive On Green	0.06	0.35	0.35	0.08	0.38	0.38	0.03	0.12	0.00	0.12	0.21	0.21
Sat Flow, veh/h	1739	3412	175	1753	2768	672	1725	1870	0	1781	1222	550
Grp Volume(v), veh/h	48	434	449	161	267	267	22	44	0	351	0	290
Grp Sat Flow(s),veh/h/ln	1739	1763	1824	1753	1735	1705	1725	1870	0	1781	0	1771
Q Serve(g_s), s	1.4	17.2	17.2	4.7	9.2	9.4	0.9	1.7	0.0	10.0	0.0	12.6
Cycle Q Clear(g_c), s	1.4	17.2	17.2	4.7	9.2	9.4	0.9	1.7	0.0	10.0	0.0	12.6
Prop In Lane	1.00		0.10	1.00		0.39	1.00		0.00	1.00		0.31
Lane Grp Cap(c), veh/h	413	625	647	323	661	650	205	229		443	0	373
V/C Ratio(X)	0.12	0.69	0.69	0.50	0.40	0.41	0.11	0.19		0.79	0.00	0.78
Avail Cap(c_a), veh/h	463	625	647	327	661	650	358	640		443	0	606
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.9	22.6	22.6	16.7	18.5	18.6	29.7	32.3	0.0	28.7	0.0	30.5
Incr Delay (d2), s/veh	0.1	6.3	6.1	1.2	1.8	1.9	0.2	0.4	0.0	9.4	0.0	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	8.6	8.9	2.1	4.3	4.3	0.4	0.9	0.0	3.6	0.0	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.0	28.9	28.7	17.9	20.4	20.5	29.9	32.7	0.0	38.2	0.0	34.0
LnGrp LOS	B	C	C	B	C	C	C	C		D	A	C
Approach Vol, veh/h	931			695			66			A	641	
Approach Delay, s/veh	28.1			19.8			31.8			36.3		
Approach LOS	C			B			C			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.8	36.0	8.8	23.2	11.6	38.2	16.0	16.0				
Change Period (Y+Rc), s	7.0	7.0	6.0	6.0	7.0	7.0	6.0	6.0				
Max Green Setting (Gmax), s	7.0	29.0	10.0	28.0	7.0	29.0	10.0	28.0				
Max Q Clear Time (g_c+I1), s	6.7	0.0	2.9	14.6	3.4	0.0	12.0	3.7				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.2				
Intersection Summary												
HCM 6th Ctrl Delay			28.0									
HCM 6th LOS			C									
Notes												

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Kenmount Road & Great Eastern Avenue

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	1763	7	22	761	26	8	1	12	52	3	185
Future Volume (veh/h)	122	1763	7	22	761	26	8	1	12	52	3	185
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1870	1870	1826	1841	1841	1870	1870	1870	1781	1870	1870
Adj Flow Rate, veh/h	136	1959	8	24	846	0	12	2	18	71	4	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.66	0.66	0.66	0.73	0.73	0.73
Percent Heavy Veh, %	3	2	2	5	4	4	2	2	2	8	2	2
Cap, veh/h	468	2164	9	159	1962		163	10	92	246	348	
Arrive On Green	0.07	0.60	0.60	0.03	0.56	0.00	0.06	0.06	0.06	0.06	0.19	0.00
Sat Flow, veh/h	1767	3630	15	1739	3589	0	1412	161	1449	1697	1870	0
Grp Volume(v), veh/h	136	958	1009	24	846	0	12	0	20	71	4	0
Grp Sat Flow(s),veh/h/ln	1767	1777	1868	1739	1749	0	1412	0	1610	1697	1870	0
Q Serve(g_s), s	3.0	46.4	46.5	0.6	13.7	0.0	0.8	0.0	1.2	3.7	0.2	0.0
Cycle Q Clear(g_c), s	3.0	46.4	46.5	0.6	13.7	0.0	0.8	0.0	1.2	3.7	0.2	0.0
Prop In Lane	1.00		0.01	1.00		0.00	1.00		0.90	1.00		0.00
Lane Grp Cap(c), veh/h	468	1059	1114	159	1962		163	0	103	246	348	
V/C Ratio(X)	0.29	0.90	0.91	0.15	0.43		0.07	0.00	0.19	0.29	0.01	
Avail Cap(c_a), veh/h	579	1059	1114	330	1962		506	0	492	367	572	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	8.5	17.4	17.4	18.8	12.5	0.0	43.4	0.0	43.5	37.4	32.6	0.0
Incr Delay (d2), s/veh	0.3	12.5	12.1	0.4	0.7	0.0	0.2	0.0	0.9	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	23.3	24.4	0.3	6.0	0.0	0.3	0.0	0.5	1.7	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.8	29.8	29.5	19.2	13.2	0.0	43.5	0.0	44.4	38.1	32.6	0.0
LnGrp LOS	A	C	C	B	B		D	A	D	D	C	
Approach Vol, veh/h		2103			870	A		32			75	A
Approach Delay, s/veh		28.3			13.3			44.1			37.8	
Approach LOS		C			B			D			D	
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	9.4	64.5	12.0	12.2	12.8	61.0		24.2				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	13.0	55.0	13.0	30.0	13.0	55.0		30.0				
Max Q Clear Time (g_c+I1), s	2.6	0.0	5.7	3.2	5.0	0.0		2.2				
Green Ext Time (p_c), s	0.0	0.0	0.1	0.1	0.4	0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			24.5									
HCM 6th LOS			C									
Notes												
Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↑	↑↑	↑	↑
Traffic Volume (veh/h)	1069	63	442	483	55	846
Future Volume (veh/h)	1069	63	442	483	55	846
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1841	1870	1870
Adj Flow Rate, veh/h	1162	0	475	519	60	0
Peak Hour Factor	0.92	0.92	0.93	0.93	0.91	0.91
Percent Heavy Veh, %	2	2	2	4	2	2
Cap, veh/h	1967		547	2763	149	
Arrive On Green	0.55	0.00	0.17	0.79	0.08	0.00
Sat Flow, veh/h	3741	0	1781	3589	1781	1585
Grp Volume(v), veh/h	1162	0	475	519	60	0
Grp Sat Flow(s),veh/h/ln	1777	0	1781	1749	1781	1585
Q Serve(g_s), s	20.6	0.0	11.2	3.5	3.0	0.0
Cycle Q Clear(g_c), s	20.6	0.0	11.2	3.5	3.0	0.0
Prop In Lane		0.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1967		547	2763	149	
V/C Ratio(X)	0.59		0.87	0.19	0.40	
Avail Cap(c_a), veh/h	1967		989	2763	432	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	14.1	0.0	16.8	2.5	41.2	0.0
Incr Delay (d2), s/veh	1.3	0.0	4.4	0.2	1.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.2	0.0	11.5	1.3	1.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	15.4	0.0	21.1	2.6	43.0	0.0
LnGrp LOS	B		C	A	D	
Approach Vol, veh/h	1162	A		994	60	A
Approach Delay, s/veh	15.4			11.5	43.0	
Approach LOS	B			B	D	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	22.4	58.6		13.9		81.0
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0
Max Green Setting (Gmax), s	40.0	39.0		23.0		75.0
Max Q Clear Time (g_c+I1), s	13.2	0.0		5.0		0.0
Green Ext Time (p_c), s	3.2	0.0		0.2		0.0
Intersection Summary						
HCM 6th Ctrl Delay			14.4			
HCM 6th LOS			B			

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Intersection												
Int Delay, s/veh	10.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	113	1	103	50	3	71	10	510	14	4	295	19
Future Vol, veh/h	113	1	103	50	3	71	10	510	14	4	295	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	250	-	-	250	-	-	850	-	-	500	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	91	91	91	73	73	73
Heavy Vehicles, %	2	2	5	2	33	3	8	2	15	25	2	2
Mvmt Flow	130	1	118	57	3	82	11	560	15	5	404	26

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1059	1024	417	1077	1030	568	430	0	0	575	0	0
Stage 1	427	427	-	590	590	-	-	-	-	-	-	-
Stage 2	632	597	-	487	440	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.25	7.12	6.83	6.23	4.18	-	-	4.35	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.83	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.83	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.345	3.518	4.297	3.327	2.272	-	-	2.425	-	-
Pot Cap-1 Maneuver	202	235	629	197	206	520	1098	-	-	894	-	-
Stage 1	606	585	-	494	449	-	-	-	-	-	-	-
Stage 2	468	491	-	562	528	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	166	231	629	157	203	520	1098	-	-	894	-	-
Mov Cap-2 Maneuver	166	231	-	157	203	-	-	-	-	-	-	-
Stage 1	600	581	-	489	445	-	-	-	-	-	-	-
Stage 2	388	486	-	453	525	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	46.4		24.7		0.2		0.1	
HCM LOS	E		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1098	-	-	166	619	157	489	894	-	-
HCM Lane V/C Ratio	0.01	-	-	0.782	0.193	0.366	0.174	0.006	-	-
HCM Control Delay (s)	8.3	-	-	77.9	12.2	40.6	13.9	9.1	-	-
HCM Lane LOS	A	-	-	F	B	E	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	5.1	0.7	1.5	0.6	0	-	-

Intersection

Int Delay, s/veh 5.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	11	259	651	20	144	336
Future Vol, veh/h	11	259	651	20	144	336
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	400	0	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	99	99	93	93	75	75
Heavy Vehicles, %	2	2	2	5	2	2
Mvmt Flow	11	262	700	22	192	448

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1543	711	0
Stage 1	711	-	-
Stage 2	832	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	126	433	-
Stage 1	487	-	-
Stage 2	427	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	99	433	-
Mov Cap-2 Maneuver	99	-	-
Stage 1	381	-	-
Stage 2	427	-	-

Approach	WB	NB	SB
HCM Control Delay, s	26	0	3.1
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT
Capacity (veh/h)	-	- 99 433	880	-
HCM Lane V/C Ratio	-	- 0.112 0.604	0.218	-
HCM Control Delay (s)	-	- 45.9 25.2	10.2	-
HCM Lane LOS	-	- E D	B	-
HCM 95th %tile Q(veh)	-	- 0.4 3.9	0.8	-

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	37	1104	722	132	248	71
Future Volume (veh/h)	37	1104	722	132	248	71
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1710	1856	1841	1841	1934	1949
Adj Flow Rate, veh/h	41	1227	820	150	279	80
Peak Hour Factor	0.90	0.90	0.88	0.88	0.89	0.89
Percent Heavy Veh, %	8	3	4	4	3	2
Cap, veh/h	409	2437	1657	303	335	301
Arrive On Green	0.07	0.69	0.56	0.56	0.18	0.18
Sat Flow, veh/h	1629	3618	3044	540	1842	1651
Grp Volume(v), veh/h	41	1227	486	484	279	80
Grp Sat Flow(s),veh/h/ln	1629	1763	1749	1744	1842	1651
Q Serve(g_s), s	0.8	14.3	14.6	14.6	12.7	3.6
Cycle Q Clear(g_c), s	0.8	14.3	14.6	14.6	12.7	3.6
Prop In Lane	1.00			0.31	1.00	1.00
Lane Grp Cap(c), veh/h	409	2437	981	979	335	301
V/C Ratio(X)	0.10	0.50	0.49	0.49	0.83	0.27
Avail Cap(c_a), veh/h	497	2437	981	979	446	400
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.0	6.3	11.6	11.6	34.2	30.5
Incr Delay (d2), s/veh	0.1	0.7	1.8	1.8	9.8	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	5.8	6.5	6.5	7.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	7.1	7.1	13.4	13.4	44.0	31.0
LnGrp LOS	A	A	B	B	D	C
Approach Vol, veh/h		1268	970		359	
Approach Delay, s/veh		7.1	13.4		41.1	
Approach LOS		A	B		D	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		66.0		20.8	11.3	54.7
Change Period (Y+Rc), s		6.0		5.0	5.0	6.0
Max Green Setting (Gmax), s		60.0		21.0	11.0	44.0
Max Q Clear Time (g_c+I1), s		0.0		14.7	2.8	0.0
Green Ext Time (p_c), s		0.0		1.1	0.1	0.0
Intersection Summary						
HCM 6th Ctrl Delay			14.1			
HCM 6th LOS			B			

Intersection												
Int Delay, s/veh	10.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	941	7	28	823	19	3	0	59	54	0	13
Future Vol, veh/h	7	941	7	28	823	19	3	0	59	54	0	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	250	-	-	-	-	-	350	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	86	86	86	85	85	85	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	1191	9	33	957	22	4	0	69	65	0	16
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	979	0	0	1200	0	0	1759	2259	600	1648	-	490
Stage 1	-	-	-	-	-	-	1214	1214	-	1034	-	-
Stage 2	-	-	-	-	-	-	545	1045	-	614	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	-	3.32
Pot Cap-1 Maneuver	701	-	-	577	-	-	54	41	444	~ 65	0	524
Stage 1	-	-	-	-	-	-	193	253	-	248	0	-
Stage 2	-	-	-	-	-	-	490	304	-	446	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	701	-	-	577	-	-	50	38	444	~ 52	-	524
Mov Cap-2 Maneuver	-	-	-	-	-	-	50	38	-	~ 52	-	-
Stage 1	-	-	-	-	-	-	190	250	-	245	-	-
Stage 2	-	-	-	-	-	-	448	287	-	371	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.4			19.5			273.2		
HCM LOS							C			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2			
Capacity (veh/h)	321	701	-	-	577	-	-	52	524			
HCM Lane V/C Ratio	0.227	0.013	-	-	0.056	-	-	1.251	0.03			
HCM Control Delay (s)	19.5	10.2	-	-	11.6	-	-	\$ 336.1	12.1			
HCM Lane LOS	C	B	-	-	B	-	-	F	B			
HCM 95th %tile Q(veh)	0.9	0	-	-	0.2	-	-	5.8	0.1			
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s				+: Computation Not Defined				*: All major volume in platoon		

Intersection												
Int Delay, s/veh	2.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↱		↰	↰↱			↰↱		↰		↰
Traffic Vol, veh/h	18	899	5	8	792	13	5	0	32	26	0	69
Future Vol, veh/h	18	899	5	8	792	13	5	0	32	26	0	69
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	-	350	-	-	-	-	-	300	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	82	82	82	65	65	65	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	21	1058	6	10	966	16	8	0	49	33	0	87

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	982	0	0	1064	0	0	1606	2105	532	1565	-	491
Stage 1	-	-	-	-	-	-	1103	1103	-	994	-	-
Stage 2	-	-	-	-	-	-	503	1002	-	571	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	-	3.32
Pot Cap-1 Maneuver	699	-	-	651	-	-	70	51	492	75	0	523
Stage 1	-	-	-	-	-	-	225	285	-	263	0	-
Stage 2	-	-	-	-	-	-	519	318	-	473	0	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	699	-	-	651	-	-	56	49	492	65	-	523
Mov Cap-2 Maneuver	-	-	-	-	-	-	56	49	-	65	-	-
Stage 1	-	-	-	-	-	-	218	276	-	255	-	-
Stage 2	-	-	-	-	-	-	426	313	-	413	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	24.6	39
HCM LOS			C	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	240	699	-	-	651	-	-	65	523
HCM Lane V/C Ratio	0.237	0.03	-	-	0.015	-	-	0.506	0.167
HCM Control Delay (s)	24.6	10.3	-	-	10.6	-	-	107.3	13.3
HCM Lane LOS	C	B	-	-	B	-	-	F	B
HCM 95th %tile Q(veh)	0.9	0.1	-	-	0	-	-	2	0.6

172093 Kenmount Hill CDS TIS
Topsail Road & Mount Carson Avenue/Commonwealth Avenue

S0 Existing AM
01/22/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	688	345	189	561	62	269	499	362	123	287	72
Future Volume (veh/h)	47	688	345	189	561	62	269	499	362	123	287	72
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1753	1841	1870	1796	1796	1776	1776	1847	2106	2091	2159
Adj Flow Rate, veh/h	51	748	0	217	645	0	299	554	0	156	363	0
Peak Hour Factor	0.92	0.92	0.92	0.87	0.87	0.87	0.90	0.90	0.90	0.79	0.79	0.79
Percent Heavy Veh, %	4	5	4	2	2	2	2	2	2	2	3	4
Cap, veh/h	322	1048		330	1254		338	541		190	581	
Arrive On Green	0.05	0.31	0.00	0.10	0.37	0.00	0.09	0.30	0.00	0.06	0.28	0.00
Sat Flow, veh/h	1753	3330	1560	1781	3501	0	1692	1776	1565	2006	2091	1830
Grp Volume(v), veh/h	51	748	0	217	645	0	299	554	0	156	363	0
Grp Sat Flow(s),veh/h/ln	1753	1665	1560	1781	1706	0	1692	1776	1565	2006	2091	1830
Q Serve(g_s), s	2.1	22.1	0.0	8.8	16.5	0.0	10.0	34.0	0.0	6.2	16.9	0.0
Cycle Q Clear(g_c), s	2.1	22.1	0.0	8.8	16.5	0.0	10.0	34.0	0.0	6.2	16.9	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	322	1048		330	1254		338	541		190	581	
V/C Ratio(X)	0.16	0.71		0.66	0.51		0.88	1.02		0.82	0.62	
Avail Cap(c_a), veh/h	345	1048		451	1254		338	541		190	581	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	23.7	33.8	0.0	24.0	27.5	0.0	34.7	38.8	0.0	30.6	35.2	0.0
Incr Delay (d2), s/veh	0.5	4.1	0.0	2.2	1.5	0.0	24.3	44.8	0.0	26.1	5.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	10.1	0.0	4.1	7.4	0.0	6.5	22.6	0.0	4.6	10.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.2	37.9	0.0	26.3	29.0	0.0	58.9	83.5	0.0	56.8	40.2	0.0
LnGrp LOS	C	D		C	C		E	F		E	D	
Approach Vol, veh/h		799	A		862	A		853	A		519	A
Approach Delay, s/veh		37.0			28.3			74.9			45.2	
Approach LOS		D			C			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.4	41.1	16.0	37.0	11.6	47.0	13.0	40.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	19.0	29.0	10.0	31.0	7.0	41.0	7.0	34.0				
Max Q Clear Time (g_c+I1), s	10.8	0.0	12.0	0.0	4.1	0.0	8.2	0.0				
Green Ext Time (p_c), s	0.7	0.0	0.0	0.0	0.1	0.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			46.6									
HCM 6th LOS			D									
Notes												
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	3:45	3:45	3:45	3:45	3:45	3:45	3:45
End Time	5:15	5:15	5:15	5:15	5:15	5:15	5:15
Total Time (min)	90	90	90	90	90	90	90
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4	4
Vehs Entered	13029	13244	13193	13035	13143	12965	13031
Vehs Exited	13107	13235	13236	13005	13156	13012	13013
Starting Vehs	351	303	337	303	306	330	295
Ending Vehs	273	312	294	333	293	283	313
Travel Distance (km)	9827	9843	9844	9724	9900	9779	9689
Travel Time (hr)	358.7	342.1	359.8	311.9	345.8	319.5	399.6
Total Delay (hr)	175.7	158.6	176.3	130.7	161.4	137.6	218.9
Total Stops	10683	9879	10403	9952	10067	9595	10666
Fuel Used (l)	961.8	944.3	964.6	910.8	954.2	919.4	985.7

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	3:45	3:45	3:45	3:45
End Time	5:15	5:15	5:15	5:15
Total Time (min)	90	90	90	90
Time Recorded (min)	60	60	60	60
# of Intervals	5	5	5	5
# of Recorded Intervals	4	4	4	4
Vehs Entered	13164	13090	13139	13098
Vehs Exited	13209	13123	13129	13122
Starting Vehs	337	342	283	311
Ending Vehs	292	309	293	293
Travel Distance (km)	9787	9774	9831	9800
Travel Time (hr)	366.8	321.9	345.4	347.2
Total Delay (hr)	184.6	140.1	162.7	164.7
Total Stops	10894	10081	9914	10209
Fuel Used (l)	961.8	923.3	948.1	947.4

Interval #0 Information Seeding

Start Time	3:45
End Time	4:15
Total Time (min)	30
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	4:15
End Time	4:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	3672	3788	3726	3664	3670	3714	3724
Vehs Exited	3588	3639	3665	3600	3587	3602	3604
Starting Vehs	351	303	337	303	306	330	295
Ending Vehs	435	452	398	367	389	442	415
Travel Distance (km)	2678	2729	2715	2676	2700	2728	2709
Travel Time (hr)	100.9	95.5	103.9	87.9	98.2	92.6	111.3
Total Delay (hr)	51.0	44.7	53.2	38.0	47.8	41.8	60.8
Total Stops	3092	3144	3115	2876	2933	3001	3285
Fuel Used (l)	265.4	263.9	272.4	254.3	263.7	259.6	278.0

Interval #1 Information Recording

Start Time	4:15
End Time	4:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	3702	3705	3644	3699
Vehs Exited	3637	3637	3526	3610
Starting Vehs	337	342	283	311
Ending Vehs	402	410	401	407
Travel Distance (km)	2661	2684	2663	2694
Travel Time (hr)	103.3	98.0	95.1	98.7
Total Delay (hr)	53.5	48.0	45.6	48.4
Total Stops	3363	3186	3077	3102
Fuel Used (l)	267.9	265.8	259.7	265.1

Interval #2 Information Recording

Start Time	4:30
End Time	4:45
Total Time (min)	15
Volumes adjusted by Growth Factors, Anti PHF.	

Run Number	1	10	2	3	4	5	6
Vehs Entered	3128	3149	3168	3127	3148	3091	3057
Vehs Exited	3227	3343	3215	3171	3241	3258	3180
Starting Vehs	435	452	398	367	389	442	415
Ending Vehs	336	258	351	323	296	275	292
Travel Distance (km)	2407	2457	2421	2365	2414	2393	2358
Travel Time (hr)	98.3	83.4	92.9	73.3	86.9	78.7	105.4
Total Delay (hr)	53.6	37.6	47.9	29.2	41.8	34.1	61.5
Total Stops	2892	2454	2828	2349	2619	2331	2915
Fuel Used (l)	246.9	234.7	241.2	218.6	235.6	226.7	245.7

Interval #2 Information Recording

Start Time	4:30
End Time	4:45
Total Time (min)	15
Volumes adjusted by Growth Factors, Anti PHF.	

Run Number	7	8	9	Avg
Vehs Entered	3182	3183	3161	3139
Vehs Exited	3252	3290	3268	3246
Starting Vehs	402	410	401	407
Ending Vehs	332	303	294	303
Travel Distance (km)	2458	2461	2393	2413
Travel Time (hr)	96.0	82.7	88.3	88.6
Total Delay (hr)	50.4	37.0	43.8	43.7
Total Stops	3053	2568	2425	2639
Fuel Used (l)	243.3	233.6	235.1	236.1

Interval #3 Information Recording

Start Time	4:45
End Time	5:00
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	10	2	3	4	5	6
Vehs Entered	3164	3143	3233	3039	3100	3089	3079
Vehs Exited	3198	3121	3242	3066	3125	3083	3104
Starting Vehs	336	258	351	323	296	275	292
Ending Vehs	302	280	342	296	271	281	267
Travel Distance (km)	2394	2315	2400	2316	2385	2337	2301
Travel Time (hr)	86.1	80.1	80.1	72.5	80.4	75.0	92.4
Total Delay (hr)	41.4	37.0	35.3	29.4	36.2	31.7	49.5
Total Stops	2535	2146	2350	2291	2264	2204	2361
Fuel Used (l)	232.8	220.9	227.0	216.1	226.7	218.7	231.7

Interval #3 Information Recording

Start Time	4:45
End Time	5:00
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	7	8	9	Avg
Vehs Entered	3176	3066	3202	3131
Vehs Exited	3199	3075	3190	3142
Starting Vehs	332	303	294	303
Ending Vehs	309	294	306	285
Travel Distance (km)	2350	2308	2431	2354
Travel Time (hr)	85.5	69.2	86.8	80.8
Total Delay (hr)	41.6	26.2	41.6	37.0
Total Stops	2458	2076	2274	2295
Fuel Used (l)	228.2	209.3	234.1	224.6

Interval #4 Information Recording

Start Time	5:00
End Time	5:15
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	10	2	3	4	5	6
Vehs Entered	3065	3164	3066	3205	3225	3071	3171
Vehs Exited	3094	3132	3114	3168	3203	3069	3125
Starting Vehs	302	280	342	296	271	281	267
Ending Vehs	273	312	294	333	293	283	313
Travel Distance (km)	2349	2342	2308	2366	2400	2321	2321
Travel Time (hr)	73.4	83.1	82.9	78.2	80.3	73.2	90.5
Total Delay (hr)	29.7	39.4	40.0	34.1	35.5	30.0	47.2
Total Stops	2164	2135	2110	2436	2251	2059	2105
Fuel Used (l)	216.6	224.8	224.0	221.8	228.2	214.4	230.4

Interval #4 Information Recording

Start Time	5:00
End Time	5:15
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	7	8	9	Avg
Vehs Entered	3104	3136	3132	3131
Vehs Exited	3121	3121	3145	3127
Starting Vehs	309	294	306	285
Ending Vehs	292	309	293	293
Travel Distance (km)	2318	2320	2345	2339
Travel Time (hr)	82.1	71.9	75.2	79.1
Total Delay (hr)	39.1	28.8	31.6	35.5
Total Stops	2020	2251	2138	2166
Fuel Used (l)	222.4	214.6	219.1	221.6

2: Marlin Drive/Hemmer Jane Drive & Topsail Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.1	4.1	0.2	0.0
Total Delay (hr)	0.0	0.4	0.0	0.2	1.2	0.1	0.0	0.3	0.3	0.0	2.5
Total Del/Veh (s)	9.0	1.2	0.8	11.4	4.6	4.6	75.3	18.0	53.8	5.2	3.8
Stop Delay (hr)	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.3	0.3	0.0	0.8
Stop Del/Veh (s)	7.2	0.0	0.0	6.7	0.3	0.4	72.9	17.5	52.0	5.0	1.3

6: Humber Drive/Moffatt Road & Topsail Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Denied Del/Veh (s)	2.3	0.3	0.5	0.1	0.0	0.0	0.3	0.1	0.1	4.1	0.2	0.3
Total Delay (hr)	0.1	0.2	0.0	0.1	0.3	0.0	0.0	0.0	0.0	1.0	0.1	1.9
Total Del/Veh (s)	6.1	0.8	0.7	8.8	1.4	1.3	95.8	45.7	13.5	126.3	9.7	3.1
Stop Delay (hr)	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	1.0	0.1	1.3
Stop Del/Veh (s)	4.5	0.0	0.0	6.9	0.0	0.0	92.4	41.3	13.3	124.6	9.0	2.1

11: Mount Carson Avenue & Lasalle Drive/Brodie Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.0
Denied Del/Veh (s)	4.0	0.3	0.2	4.0	0.2	0.2	3.3	0.6	0.6	3.2	0.7	0.7
Total Delay (hr)	0.3	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.1	0.2	0.0
Total Del/Veh (s)	21.9	18.3	5.3	12.9	19.2	5.3	6.1	0.9	0.5	4.4	1.6	0.8
Stop Delay (hr)	0.2	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Stop Del/Veh (s)	20.4	15.6	5.0	11.0	15.9	5.0	3.8	0.0	0.0	1.9	0.0	0.0

11: Mount Carson Avenue & Lasalle Drive/Brodie Street Performance by movement

Movement	All
Denied Delay (hr)	0.4
Denied Del/Veh (s)	1.1
Total Delay (hr)	1.0
Total Del/Veh (s)	2.8
Stop Delay (hr)	0.5
Stop Del/Veh (s)	1.5

14: Allston Street/Brougham Drive & Kenmount Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.1	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.0
Denied Del/Veh (s)	2.6	0.1	0.2	2.3	0.3	0.4	3.6	0.5	0.5	3.8	0.4	0.5
Total Delay (hr)	0.7	2.2	0.1	0.9	4.2	1.2	0.6	2.4	0.6	1.3	0.5	0.2
Total Del/Veh (s)	23.6	17.2	8.8	17.8	19.9	16.0	44.0	58.1	18.1	39.0	35.5	15.2
Stop Delay (hr)	0.6	1.6	0.1	0.6	2.7	0.8	0.5	2.1	0.4	1.2	0.4	0.2
Stop Del/Veh (s)	19.6	12.5	7.0	11.8	12.7	10.7	38.3	50.9	13.4	35.4	31.1	13.5

14: Allston Street/Brougham Drive & Kenmount Road Performance by movement

Movement	All
Denied Delay (hr)	0.5
Denied Del/Veh (s)	0.8
Total Delay (hr)	14.8
Total Del/Veh (s)	22.8
Stop Delay (hr)	11.1
Stop Del/Veh (s)	17.1

21: Mount Carson Avenue & Wyatt Boulevard Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.1	0.0	0.0	0.1	0.2
Denied Del/Veh (s)	3.9	0.3	0.4	0.4	0.3	0.4	0.4
Total Delay (hr)	0.0	0.3	0.1	0.0	0.5	0.1	1.0
Total Del/Veh (s)	24.3	4.4	1.0	0.5	6.8	0.6	2.3
Stop Delay (hr)	0.0	0.2	0.0	0.0	0.2	0.0	0.5
Stop Del/Veh (s)	21.7	2.9	0.0	0.0	3.5	0.0	1.0

24: Mount Carson Avenue & Kenmount Road Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1	0.2
Denied Del/Veh (s)	0.2	0.2	0.1	0.0	0.3	0.6	0.2
Total Delay (hr)	5.2	0.3	13.2	4.2	1.1	1.2	25.2
Total Del/Veh (s)	30.6	11.0	60.8	13.3	45.6	6.6	27.1
Stop Delay (hr)	3.9	0.2	8.7	1.1	1.0	0.3	15.2
Stop Del/Veh (s)	23.1	7.5	40.0	3.5	41.9	1.8	16.4

28: Kenmount Road & Great Eastern Avenue Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	3.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	9.9	7.6	7.9	0.1	0.1	0.1	3.7	0.4	0.3
Total Delay (hr)	2.0	3.5	0.0	0.1	20.9	0.3	0.5	0.0	0.1	0.3	0.0	0.3
Total Del/Veh (s)	38.1	11.9	10.8	46.4	45.7	28.0	46.0	35.7	11.1	40.2	52.9	4.9
Stop Delay (hr)	1.5	1.2	0.0	0.1	12.7	0.2	0.4	0.0	0.1	0.3	0.0	0.1
Stop Del/Veh (s)	29.4	4.1	3.6	30.2	27.8	15.0	44.4	33.5	10.9	37.0	47.1	1.9

28: Kenmount Road & Great Eastern Avenue Performance by movement

Movement	All
Denied Delay (hr)	3.6
Denied Del/Veh (s)	4.0
Total Delay (hr)	28.0
Total Del/Veh (s)	31.0
Stop Delay (hr)	16.7
Stop Del/Veh (s)	18.5

33: Commonwealth Avenue/Mount Carson Avenue & Topsail Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.1	0.2	2.2	16.8	1.6
Denied Del/Veh (s)	0.2	0.1	0.4	0.2	0.0	0.0	3.2	1.5	3.3	126.7	131.9	127.5
Total Delay (hr)	0.9	9.3	1.3	4.6	6.9	0.7	5.1	3.2	0.3	0.7	10.4	0.6
Total Del/Veh (s)	41.2	45.9	8.5	47.8	33.3	17.3	74.8	33.9	3.6	44.6	84.7	48.3
Stop Delay (hr)	0.7	7.5	0.2	3.8	4.9	0.4	4.8	2.6	0.0	0.7	9.3	0.5
Stop Del/Veh (s)	34.3	37.0	1.2	39.5	23.5	9.6	70.1	27.5	0.1	41.5	76.5	43.2

33: Commonwealth Avenue/Mount Carson Avenue & Topsail Road Performance by movement

Movement	All
Denied Delay (hr)	21.3
Denied Del/Veh (s)	19.4
Total Delay (hr)	43.9
Total Del/Veh (s)	39.8
Stop Delay (hr)	35.4
Stop Del/Veh (s)	32.1

48: Topsail Road & Farrell Drive Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.1	0.0	0.2	0.0	0.3
Denied Del/Veh (s)	0.2	0.0	0.3	0.4	3.8	0.5	0.4
Total Delay (hr)	0.5	2.1	4.4	0.8	1.4	0.2	9.3
Total Del/Veh (s)	21.5	8.1	14.0	10.6	31.9	8.6	12.7
Stop Delay (hr)	0.4	0.8	2.1	0.4	1.2	0.1	5.1
Stop Del/Veh (s)	16.8	3.0	6.7	5.6	28.8	7.6	6.9

Total Network Performance

Denied Delay (hr)	26.6
Denied Del/Veh (s)	7.3
Total Delay (hr)	138.1
Total Del/Veh (s)	37.1
Stop Delay (hr)	88.0
Stop Del/Veh (s)	23.6

Intersection: 2: Marlin Drive/Hemmer Jane Drive & Topsail Road

Movement	EB	EB	EB	WB	NB	SB	SB
Directions Served	L	T	TR	L	LTR	L	R
Maximum Queue (m)	11.8	1.7	0.8	15.5	33.6	17.0	10.1
Average Queue (m)	2.1	0.1	0.0	4.5	9.7	5.3	3.4
95th Queue (m)	8.1	1.7	0.6	10.9	23.4	13.7	10.2
Link Distance (m)		278.5	278.5		64.5		83.3
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (m)	15.0			25.0		35.0	
Storage Blk Time (%)	0	0		0			
Queuing Penalty (veh)	2	0		0			

Intersection: 6: Humber Drive/Moffatt Road & Topsail Road

Movement	EB	WB	WB	NB	SB	SB
Directions Served	L	L	TR	LTR	L	R
Maximum Queue (m)	16.0	17.5	0.2	12.3	28.4	40.4
Average Queue (m)	4.2	3.6	0.0	3.1	9.8	9.9
95th Queue (m)	11.3	11.2	0.2	10.4	26.7	30.7
Link Distance (m)			278.5	185.8		108.6
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)	30.0	35.0			30.0	
Storage Blk Time (%)		0			8	0
Queuing Penalty (veh)		0			4	0

Intersection: 11: Mount Carson Avenue & Lasalle Drive/Brodie Street

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (m)	23.1	26.4	15.0	16.5	20.3	3.2	13.6	7.9
Average Queue (m)	8.5	6.9	3.9	5.1	8.3	0.1	5.2	0.5
95th Queue (m)	18.9	17.2	12.2	13.7	17.2	1.5	13.2	3.6
Link Distance (m)		43.4		56.6		149.3		91.4
Upstream Blk Time (%)		0						
Queuing Penalty (veh)		0						
Storage Bay Dist (m)	25.0		25.0		85.0		50.0	
Storage Blk Time (%)	1	0	0	0				
Queuing Penalty (veh)	0	0	0	0				

Intersection: 14: Allston Street/Brougham Drive & Kenmount Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (m)	45.3	57.5	51.9	42.4	97.4	95.8	32.3	115.8	47.4	45.6
Average Queue (m)	15.9	29.7	24.2	26.0	51.6	54.4	14.2	44.9	22.3	15.8
95th Queue (m)	32.1	48.8	45.7	47.1	84.0	86.4	31.0	93.2	40.3	35.5
Link Distance (m)		452.6	452.6		420.8	420.8		136.1		155.8
Upstream Blk Time (%)								0		
Queuing Penalty (veh)								0		
Storage Bay Dist (m)	50.0			35.0			25.0		50.0	
Storage Blk Time (%)	0	1		1	16		2	18	1	
Queuing Penalty (veh)	0	1		3	29		4	10	1	

Intersection: 21: Mount Carson Avenue & Wyatt Boulevard

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	L
Maximum Queue (m)	7.8	26.4	8.1	38.5
Average Queue (m)	1.3	13.8	0.6	16.3
95th Queue (m)	5.9	22.2	4.0	29.4
Link Distance (m)		99.9	87.5	139.9
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)	40.0			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 24: Mount Carson Avenue & Kenmount Road

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	TR	L	T	T	L	R
Maximum Queue (m)	106.0	88.6	127.4	316.7	397.6	46.7	97.6
Average Queue (m)	63.4	46.7	102.5	108.8	90.3	20.2	27.1
95th Queue (m)	95.0	80.4	153.9	304.1	307.3	37.0	73.6
Link Distance (m)	126.4	126.4		432.7	432.7	128.9	128.9
Upstream Blk Time (%)	0	0		0	1		0
Queuing Penalty (veh)	0	0		0	8		0
Storage Bay Dist (m)			120.0				
Storage Blk Time (%)			21	0			
Queuing Penalty (veh)			120	2			

Intersection: 28: Kenmount Road & Great Eastern Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (m)	52.2	155.0	229.7	47.3	243.4	234.8	30.5	16.5	26.0	63.4
Average Queue (m)	30.1	25.2	36.0	4.6	154.1	137.1	9.5	4.0	7.3	8.6
95th Queue (m)	50.9	95.6	135.3	23.8	272.2	267.0	23.2	12.3	19.0	39.4
Link Distance (m)		432.7	432.7		241.2	241.2	34.5	34.5		141.4
Upstream Blk Time (%)		0	0		15	6	0			
Queuing Penalty (veh)		0	1		0	0	0			
Storage Bay Dist (m)	45.0			40.0					45.0	
Storage Blk Time (%)	2	2			36					2
Queuing Penalty (veh)	13	3			4					1

Intersection: 33: Commonwealth Avenue/Mount Carson Avenue & Topsail Road

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	TR	L	T	R	L	T
Maximum Queue (m)	42.3	127.8	144.1	72.5	109.9	113.7	109.9	106.5	101.9	48.8	94.9	105.3
Average Queue (m)	22.4	68.0	66.8	27.5	64.3	62.9	69.9	55.2	52.2	2.3	31.2	94.6
95th Queue (m)	48.7	109.2	117.1	85.1	102.9	100.1	103.6	102.0	86.7	26.7	88.1	107.7
Link Distance (m)		215.2	215.2			293.5	293.5		289.6		91.0	91.0
Upstream Blk Time (%)											7	67
Queuing Penalty (veh)											0	0
Storage Bay Dist (m)	35.0			65.0	115.0			250.0		100.0		
Storage Blk Time (%)	0	36	7	0	1	0			0	0		71
Queuing Penalty (veh)	1	28	39	0	2	0			2	0		29

Intersection: 33: Commonwealth Avenue/Mount Carson Avenue & Topsail Road

Movement	SB
Directions Served	R
Maximum Queue (m)	47.5
Average Queue (m)	18.1
95th Queue (m)	55.4
Link Distance (m)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	40.0
Storage Blk Time (%)	0
Queuing Penalty (veh)	1

Intersection: 48: Topsail Road & Farrell Drive

Movement	EB	EB	EB	B35	B35	WB	WB	SB	SB
Directions Served	L	T	T	T	T	T	TR	L	R
Maximum Queue (m)	45.2	68.2	72.3	58.5	146.5	96.6	92.1	49.6	29.0
Average Queue (m)	15.5	24.9	30.3	2.1	5.2	51.2	47.4	25.4	8.9
95th Queue (m)	32.4	57.9	64.8	42.7	69.2	83.9	81.3	43.6	20.9
Link Distance (m)		323.4	323.4	293.5	293.5	354.8	354.8		142.8
Upstream Blk Time (%)				0	0				
Queuing Penalty (veh)				0	0				
Storage Bay Dist (m)	45.0							50.0	
Storage Blk Time (%)	0	1						0	
Queuing Penalty (veh)	0	1						0	

Network Summary

Network wide Queuing Penalty: 310

Intersection: 14: Allston Street/Brougham Drive & Kenmount Road

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Maximum Green (s)	12.0	37.0	7.0	28.0	8.0	41.0	7.0	28.0
Minimum Green (s)	7.0	25.0	7.0	10.0	7.0	25.0	7.0	10.0
Recall	None	Max	None	None	None	Max	None	None
Avg. Green (s)	9.5	41.5	12.7	19.2	7.7	44.5	7.4	14.0
g/C Ratio	-0.01	NA	-0.01	-0.01	-0.01	NA	-0.01	-0.01
Cycles Skipped (%)	17	0	39	17	30	0	8	3
Cycles @ Minimum (%)	19	0	42	17	30	0	89	30
Cycles Maxed Out (%)	19	100	61	8	27	100	92	0
Cycles with Peds (%)	0	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
Number of Complete Cycles : 0

Intersection: 24: Mount Carson Avenue & Kenmount Road

Phase	1	2	4	6
Movement(s) Served	WBL	EBT	NBL	WBTL
Maximum Green (s)	40.0	39.0	23.0	75.0
Minimum Green (s)	7.0	10.0	10.0	10.0
Recall	None	Max	None	Max
Avg. Green (s)	36.9	40.7	11.7	98.2
g/C Ratio	NA	NA	-0.01	-0.01
Cycles Skipped (%)	0	0	9	10
Cycles @ Minimum (%)	0	0	45	0
Cycles Maxed Out (%)	76	100	0	90
Cycles with Peds (%)	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
Number of Complete Cycles : 0

Intersection: 28: Kenmount Road & Great Eastern Avenue

Phase	1	2	3	4	5	6	8
Movement(s) Served	WBL	EBTL	SBL	NBTL	EBL	WBTL	SBTL
Maximum Green (s)	13.0	55.0	13.0	30.0	13.0	55.0	30.0
Minimum Green (s)	7.0	10.0	7.0	10.0	7.0	10.0	10.0
Recall	None	Max	None	None	None	Max	None
Avg. Green (s)	8.3	93.3	9.3	10.9	10.1	55.5	15.8
g/C Ratio	-0.01	-0.01	-0.01	-0.01	-0.01	NA	-0.01
Cycles Skipped (%)	94	26	53	42	8	0	24
Cycles @ Minimum (%)	6	0	6	42	18	0	38
Cycles Maxed Out (%)	0	74	0	0	24	100	0
Cycles with Peds (%)	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
Number of Complete Cycles : 0

Intersection: 33: Commonwealth Avenue/Mount Carson Avenue & Topsail Road

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Maximum Green (s)	19.0	29.0	10.0	31.0	7.0	41.0	7.0	34.0
Minimum Green (s)	7.0	25.0	7.0	23.0	7.0	25.0	7.0	23.0
Recall	None	Max	None	Max	None	Max	None	Max
Avg. Green (s)	18.8	29.4	10.2	31.6	7.2	45.3	7.3	37.4
g/C Ratio	NA	NA	NA	NA	-0.01	NA	-0.01	NA
Cycles Skipped (%)	0	0	0	0	23	0	20	0
Cycles @ Minimum (%)	0	0	0	0	77	0	80	0
Cycles Maxed Out (%)	84	100	100	100	77	100	80	100
Cycles with Peds (%)	0	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
Number of Complete Cycles : 0

Intersection: 48: Topsail Road & Farrell Drive

Phase	2	4	5	6
Movement(s) Served	EBTL	SBL	EBL	WBT
Maximum Green (s)	60.0	21.0	11.0	44.0
Minimum Green (s)	40.0	15.0	10.0	40.0
Recall	Max	None	None	Max
Avg. Green (s)	61.7	16.9	10.4	54.3
g/C Ratio	NA	NA	-0.01	NA
Cycles Skipped (%)	0	0	55	0
Cycles @ Minimum (%)	0	56	34	0
Cycles Maxed Out (%)	100	10	5	100
Cycles with Peds (%)	0	0	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

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Kenmount Road & Brougham Drive/Allston Street

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	460	28	179	741	264	50	144	108	117	47	44
Future Volume (veh/h)	106	460	28	179	741	264	50	144	108	117	47	44
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1870	1870	1870	1870	1870	1752	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	134	582	35	188	780	278	62	180	0	139	56	52
Peak Hour Factor	0.79	0.79	0.79	0.95	0.95	0.95	0.80	0.80	0.80	0.84	0.84	0.84
Percent Heavy Veh, %	3	2	2	2	2	2	10	2	2	2	2	2
Cap, veh/h	315	1485	89	482	1142	407	278	232		251	125	116
Arrive On Green	0.07	0.44	0.44	0.08	0.44	0.44	0.06	0.12	0.00	0.08	0.14	0.14
Sat Flow, veh/h	1767	3406	205	1781	2568	915	1668	1870	0	1781	892	829
Grp Volume(v), veh/h	134	303	314	188	540	518	62	180	0	139	0	108
Grp Sat Flow(s),veh/h/ln	1767	1777	1834	1781	1777	1706	1668	1870	0	1781	0	1721
Q Serve(g_s), s	3.7	10.7	10.7	5.2	22.3	22.4	2.9	8.6	0.0	6.2	0.0	5.3
Cycle Q Clear(g_c), s	3.7	10.7	10.7	5.2	22.3	22.4	2.9	8.6	0.0	6.2	0.0	5.3
Prop In Lane	1.00		0.11	1.00		0.54	1.00		0.00	1.00		0.48
Lane Grp Cap(c), veh/h	315	775	799	482	790	758	278	232		251	0	240
V/C Ratio(X)	0.43	0.39	0.39	0.39	0.68	0.68	0.22	0.77		0.55	0.00	0.45
Avail Cap(c_a), veh/h	338	775	799	567	790	758	304	568		251	0	523
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.4	17.7	17.7	12.8	20.4	20.4	31.9	39.1	0.0	32.5	0.0	36.4
Incr Delay (d2), s/veh	0.9	1.5	1.4	0.5	4.8	5.0	0.4	5.5	0.0	2.7	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	5.0	5.2	2.3	10.9	10.5	1.3	4.6	0.0	3.1	0.0	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.3	19.2	19.1	13.3	25.2	25.4	32.3	44.6	0.0	35.1	0.0	37.7
LnGrp LOS	B	B	B	B	C	C	C	D		D	A	D
Approach Vol, veh/h		751			1246			242	A		247	
Approach Delay, s/veh		18.6			23.5			41.5			36.3	
Approach LOS		B			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.6	47.2	11.6	18.9	13.8	48.0	13.0	17.5				
Change Period (Y+Rc), s	7.0	7.0	6.0	6.0	7.0	7.0	6.0	6.0				
Max Green Setting (Gmax), s	12.0	37.0	7.0	28.0	8.0	41.0	7.0	28.0				
Max Q Clear Time (g_c+I1), s	7.2	0.0	4.9	7.3	5.7	0.0	8.2	10.6				
Green Ext Time (p_c), s	0.4	0.0	0.0	0.5	0.1	0.0	0.0	0.9				
Intersection Summary												
HCM 6th Ctrl Delay			25.0									
HCM 6th LOS			C									
Notes												
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.												

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	187	1026	6	11	1629	31	39	3	18	26	2	210
Future Volume (veh/h)	187	1026	6	11	1629	31	39	3	18	26	2	210
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1841	1870	1870
Adj Flow Rate, veh/h	215	1179	7	12	1790	0	75	6	35	35	3	0
Peak Hour Factor	0.87	0.87	0.87	0.91	0.91	0.91	0.52	0.52	0.52	0.75	0.75	0.75
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	4	2	2
Cap, veh/h	251	2204	13	304	1907		204	22	130	241	366	
Arrive On Green	0.09	0.61	0.61	0.02	0.54	0.00	0.09	0.09	0.09	0.04	0.20	0.00
Sat Flow, veh/h	1781	3622	22	1781	3647	0	1414	237	1384	1753	1870	0
Grp Volume(v), veh/h	215	578	608	12	1790	0	75	0	41	35	3	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1866	1781	1777	0	1414	0	1621	1753	1870	0
Q Serve(g_s), s	7.0	19.4	19.4	0.3	48.2	0.0	5.2	0.0	2.4	1.8	0.1	0.0
Cycle Q Clear(g_c), s	7.0	19.4	19.4	0.3	48.2	0.0	5.2	0.0	2.4	1.8	0.1	0.0
Prop In Lane	1.00		0.01	1.00		0.00	1.00		0.85	1.00		0.00
Lane Grp Cap(c), veh/h	251	1081	1136	304	1907		204	0	153	241	366	
V/C Ratio(X)	0.86	0.53	0.53	0.04	0.94		0.37	0.00	0.27	0.15	0.01	
Avail Cap(c_a), veh/h	314	1081	1136	495	1907		484	0	475	388	548	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	29.0	11.6	11.6	10.9	22.2	0.0	44.4	0.0	43.1	37.3	33.2	0.0
Incr Delay (d2), s/veh	17.1	1.9	1.8	0.1	10.5	0.0	1.1	0.0	0.9	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	8.8	9.2	0.1	23.8	0.0	2.0	0.0	1.1	0.8	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.1	13.5	13.4	10.9	32.6	0.0	45.5	0.0	44.1	37.5	33.2	0.0
LnGrp LOS	D	B	B	B	C		D	A	D	D	C	
Approach Vol, veh/h		1401			1802	A		116			38	A
Approach Delay, s/veh		18.5			32.5			45.0			37.2	
Approach LOS		B			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	8.0	68.4	10.4	15.7	15.4	61.0		26.1				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	13.0	55.0	13.0	30.0	13.0	55.0		30.0				
Max Q Clear Time (g_c+I1), s	2.3	0.0	3.8	7.2	9.0	0.0		2.1				
Green Ext Time (p_c), s	0.0	0.0	0.1	0.6	0.4	0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			27.1									
HCM 6th LOS			C									
Notes												
Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↑	↑↑	↑	↑
Traffic Volume (veh/h)	607	89	764	1120	89	644
Future Volume (veh/h)	607	89	764	1120	89	644
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	706	0	888	1302	110	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.81	0.81
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1300		891	2833	161	
Arrive On Green	0.37	0.00	0.38	0.80	0.09	0.00
Sat Flow, veh/h	3741	0	1781	3647	1781	1585
Grp Volume(v), veh/h	706	0	888	1302	110	0
Grp Sat Flow(s),veh/h/ln	1777	0	1781	1777	1781	1585
Q Serve(g_s), s	16.8	0.0	39.7	12.5	6.4	0.0
Cycle Q Clear(g_c), s	16.8	0.0	39.7	12.5	6.4	0.0
Prop In Lane		0.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1300		891	2833	161	
V/C Ratio(X)	0.54		1.00	0.46	0.68	
Avail Cap(c_a), veh/h	1300		891	2833	384	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	26.8	0.0	19.9	3.5	47.0	0.0
Incr Delay (d2), s/veh	1.6	0.0	29.4	0.5	5.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.9	0.0	28.8	4.8	3.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	28.4	0.0	49.3	4.0	52.1	0.0
LnGrp LOS	C		D	A	D	
Approach Vol, veh/h	706	A		2190	110	A
Approach Delay, s/veh	28.4			22.4	52.1	
Approach LOS	C			C	D	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	46.0	45.0		15.6		91.0
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0
Max Green Setting (Gmax), s	40.0	39.0		23.0		75.0
Max Q Clear Time (g_c+I1), s	41.7	0.0		8.4		0.0
Green Ext Time (p_c), s	0.0	0.0		0.4		0.0
Intersection Summary						
HCM 6th Ctrl Delay			24.9			
HCM 6th LOS			C			
Notes						
Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.						

Intersection												
Int Delay, s/veh	5.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	42	2	28	17	3	18	82	404	50	53	439	116
Future Vol, veh/h	42	2	28	17	3	18	82	404	50	53	439	116
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	250	-	-	250	-	-	850	-	-	500	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	67	67	67	63	63	63	95	95	95	93	93	93
Heavy Vehicles, %	2	50	2	7	2	4	2	3	2	2	2	2
Mvmt Flow	63	3	42	27	5	29	86	425	53	57	472	125

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1290	1299	535	1295	1335	452	597	0	0	478	0	0
Stage 1	649	649	-	624	624	-	-	-	-	-	-	-
Stage 2	641	650	-	671	711	-	-	-	-	-	-	-
Critical Hdwy	7.12	7	6.22	7.17	6.52	6.24	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	6	-	6.17	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	6	-	6.17	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.45	3.318	3.563	4.018	3.336	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	140	130	545	136	154	603	980	-	-	1084	-	-
Stage 1	458	399	-	465	478	-	-	-	-	-	-	-
Stage 2	463	398	-	438	436	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	116	112	545	110	133	603	980	-	-	1084	-	-
Mov Cap-2 Maneuver	116	112	-	110	133	-	-	-	-	-	-	-
Stage 1	418	378	-	424	436	-	-	-	-	-	-	-
Stage 2	398	363	-	380	413	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	45.5		29.7		1.4		0.7	
HCM LOS	E		D					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	980	-	-	116	433	110	401	1084	-	-
HCM Lane V/C Ratio	0.088	-	-	0.54	0.103	0.245	0.083	0.053	-	-
HCM Control Delay (s)	9	-	-	67.7	14.3	48.1	14.8	8.5	-	-
HCM Lane LOS	A	-	-	F	B	E	B	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	2.6	0.3	0.9	0.3	0.2	-	-

Intersection

Int Delay, s/veh 4.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	230	458	61	251	604
Future Vol, veh/h	4	230	458	61	251	604
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	400	0	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	91	91	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	271	503	67	264	636

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1701	537	0
Stage 1	537	-	-
Stage 2	1164	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	101	544	-
Stage 1	586	-	-
Stage 2	297	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	74	544	-
Mov Cap-2 Maneuver	74	-	-
Stage 1	432	-	-
Stage 2	297	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.7	0	2.9
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT
Capacity (veh/h)	-	- 74 544 1002	-	-
HCM Lane V/C Ratio	-	- 0.064 0.497 0.264	-	-
HCM Control Delay (s)	-	- 56.9 18 9.9	-	-
HCM Lane LOS	-	- F C A	-	-
HCM 95th %tile Q(veh)	-	- 0.2 2.7 1.1	-	-

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	81	933	1140	260	153	62
Future Volume (veh/h)	81	933	1140	260	153	62
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1796	1870	1870	1870	1949	1949
Adj Flow Rate, veh/h	93	1072	1239	283	194	78
Peak Hour Factor	0.87	0.87	0.92	0.92	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	320	2480	1544	348	323	288
Arrive On Green	0.10	0.70	0.54	0.54	0.17	0.17
Sat Flow, veh/h	1710	3647	2974	650	1856	1651
Grp Volume(v), veh/h	93	1072	758	764	194	78
Grp Sat Flow(s),veh/h/ln	1710	1777	1777	1753	1856	1651
Q Serve(g_s), s	1.7	11.2	29.7	30.8	8.3	3.5
Cycle Q Clear(g_c), s	1.7	11.2	29.7	30.8	8.3	3.5
Prop In Lane	1.00			0.37	1.00	1.00
Lane Grp Cap(c), veh/h	320	2480	952	940	323	288
V/C Ratio(X)	0.29	0.43	0.80	0.81	0.60	0.27
Avail Cap(c_a), veh/h	361	2480	952	940	453	403
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.9	5.6	16.1	16.4	32.7	30.8
Incr Delay (d2), s/veh	0.5	0.6	6.9	7.6	1.8	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	4.5	14.4	14.9	4.2	3.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	14.4	6.2	23.0	24.0	34.5	31.3
LnGrp LOS	B	A	C	C	C	C
Approach Vol, veh/h		1165	1522		272	
Approach Delay, s/veh		6.8	23.5		33.6	
Approach LOS		A	C		C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		66.0		20.0	13.9	52.1
Change Period (Y+Rc), s		6.0		5.0	5.0	6.0
Max Green Setting (Gmax), s		60.0		21.0	11.0	44.0
Max Q Clear Time (g_c+I1), s		0.0		10.3	3.7	0.0
Green Ext Time (p_c), s		0.0		1.1	0.2	0.0
Intersection Summary						
HCM 6th Ctrl Delay			17.9			
HCM 6th LOS			B			

Intersection												
Int Delay, s/veh	5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↱		↰	↰↱			↰↱		↰		↰
Traffic Vol, veh/h	16	1190	8	51	913	82	3	0	53	19	0	14
Future Vol, veh/h	16	1190	8	51	913	82	3	0	53	19	0	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	250	-	-	-	-	-	350	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	90	90	90	50	50	50	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	19	1434	10	57	1014	91	6	0	106	23	0	17

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1105	0	0	1444	0	0	2098	2696	722	1929	-	553
Stage 1	-	-	-	-	-	-	1477	1477	-	1174	-	-
Stage 2	-	-	-	-	-	-	621	1219	-	755	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	-	3.32
Pot Cap-1 Maneuver	628	-	-	465	-	-	30	21	369	40	0	477
Stage 1	-	-	-	-	-	-	132	188	-	204	0	-
Stage 2	-	-	-	-	-	-	442	251	-	367	0	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	628	-	-	465	-	-	26	18	369	25	-	477
Mov Cap-2 Maneuver	-	-	-	-	-	-	26	18	-	25	-	-
Stage 1	-	-	-	-	-	-	128	182	-	198	-	-
Stage 2	-	-	-	-	-	-	374	220	-	254	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.7			38.3			218.9		
HCM LOS							E			F		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	216	628	-	-	465	-	-	25	477
HCM Lane V/C Ratio	0.519	0.031	-	-	0.122	-	-	0.905	0.035
HCM Control Delay (s)	38.3	10.9	-	-	13.8	-	-	370.7	12.8
HCM Lane LOS	E	B	-	-	B	-	-	F	B
HCM 95th %tile Q(veh)	2.7	0.1	-	-	0.4	-	-	2.8	0.1

Intersection												
Int Delay, s/veh	7.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	56	1148	2	30	883	18	2	1	10	29	0	45
Future Vol, veh/h	56	1148	2	30	883	18	2	1	10	29	0	45
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	-	350	-	-	-	-	-	300	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	96	96	96	65	65	65	69	69	69
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	72	1472	3	31	920	19	3	2	15	42	0	65
Major/Minor	Major1		Major2			Minor1			Minor2			
Conflicting Flow All	939	0	0	1475	0	0	2140	2619	738	1873	-	470
Stage 1	-	-	-	-	-	-	1618	1618	-	992	-	-
Stage 2	-	-	-	-	-	-	522	1001	-	881	-	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	-	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	-	3.32
Pot Cap-1 Maneuver	726	-	-	453	-	-	28	24	360	44	0	540
Stage 1	-	-	-	-	-	-	108	161	-	264	0	-
Stage 2	-	-	-	-	-	-	506	319	-	308	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	726	-	-	453	-	-	22	20	360	~ 35	-	540
Mov Cap-2 Maneuver	-	-	-	-	-	-	22	20	-	~ 35	-	-
Stage 1	-	-	-	-	-	-	97	145	-	238	-	-
Stage 2	-	-	-	-	-	-	414	297	-	263	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	0.5		0.4			67.4			161.7			
HCM LOS						F			F			
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2			
Capacity (veh/h)	77	726	-	-	453	-	-	35	540			
HCM Lane V/C Ratio	0.26	0.099	-	-	0.069	-	-	1.201	0.121			
HCM Control Delay (s)	67.4	10.5	-	-	13.5	-	-	\$ 393.1	12.6			
HCM Lane LOS	F	B	-	-	B	-	-	F	B			
HCM 95th %tile Q(veh)	0.9	0.3	-	-	0.2	-	-	4.4	0.4			
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s			+: Computation Not Defined				*: All major volume in platoon			

172093 Kenmount Hill CDS TIS
Topsail Road & Mount Carson Avenue/Commonwealth Avenue

S0 Existing PM
01/22/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	78	676	542	337	752	153	248	339	244	62	446	41
Future Volume (veh/h)	78	676	542	337	752	153	248	339	244	62	446	41
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1796	1870	1870	1796	1796	1776	1776	1847	2106	2106	2190
Adj Flow Rate, veh/h	84	727	0	366	817	0	270	368	0	64	460	0
Peak Hour Factor	0.93	0.93	0.93	0.92	0.92	0.92	0.92	0.92	0.92	0.97	0.97	0.97
Percent Heavy Veh, %	3	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	275	881		398	1243		279	552		321	580	
Arrive On Green	0.06	0.26	0.00	0.16	0.36	0.00	0.09	0.31	0.00	0.05	0.28	0.00
Sat Flow, veh/h	1767	3412	1585	1781	3501	0	1692	1776	1565	2006	2106	1856
Grp Volume(v), veh/h	84	727	0	366	817	0	270	368	0	64	460	0
Grp Sat Flow(s),veh/h/ln	1767	1706	1585	1781	1706	0	1692	1776	1565	2006	2106	1856
Q Serve(g_s), s	3.8	22.6	0.0	16.3	22.5	0.0	10.0	20.3	0.0	2.5	22.8	0.0
Cycle Q Clear(g_c), s	3.8	22.6	0.0	16.3	22.5	0.0	10.0	20.3	0.0	2.5	22.8	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	275	881		398	1243		279	552		321	580	
V/C Ratio(X)	0.31	0.83		0.92	0.66		0.97	0.67		0.20	0.79	
Avail Cap(c_a), veh/h	283	881		406	1243		279	552		338	580	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	28.2	39.3	0.0	26.1	29.9	0.0	35.2	33.7	0.0	27.4	37.8	0.0
Incr Delay (d2), s/veh	1.3	8.7	0.0	25.6	2.7	0.0	45.3	6.3	0.0	0.6	10.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	11.1	0.0	10.2	10.3	0.0	6.9	10.4	0.0	1.4	14.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.5	48.0	0.0	51.7	32.6	0.0	80.5	40.0	0.0	28.0	48.4	0.0
LnGrp LOS	C	D		D	C		F	D		C	D	
Approach Vol, veh/h		811	A		1183	A		638	A		524	A
Approach Delay, s/veh		46.1			38.5			57.1			45.9	
Approach LOS		D			D			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.5	35.0	16.0	37.0	12.5	47.0	12.1	40.9				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	19.0	29.0	10.0	31.0	7.0	41.0	7.0	34.0				
Max Q Clear Time (g_c+I1), s	18.3	0.0	12.0	0.0	5.8	0.0	4.5	0.0				
Green Ext Time (p_c), s	0.2	0.0	0.0	0.0	0.1	0.0	0.1	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			45.5									
HCM 6th LOS			D									
Notes												
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	7:15	7:15	7:15	7:15	7:15	7:15	7:15
End Time	8:45	8:45	8:45	8:45	8:45	8:45	8:45
Total Time (min)	90	90	90	90	90	90	90
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4	4
Vehs Entered	11278	11465	11345	11277	11260	11248	11421
Vehs Exited	11345	11412	11414	11259	11290	11261	11476
Starting Vehs	353	318	373	321	339	377	366
Ending Vehs	286	371	304	339	309	364	311
Travel Distance (km)	11796	11820	11825	11677	11703	11747	11837
Travel Time (hr)	411.6	444.5	453.1	385.4	405.4	459.6	442.0
Total Delay (hr)	196.0	227.8	237.0	171.9	190.6	244.4	225.1
Total Stops	10094	10453	9917	9936	10730	11055	11508
Fuel Used (l)	1105.4	1139.4	1143.2	1076.3	1096.7	1145.6	1143.0

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	7:15	7:15	7:15	7:15
End Time	8:45	8:45	8:45	8:45
Total Time (min)	90	90	90	90
Time Recorded (min)	60	60	60	60
# of Intervals	5	5	5	5
# of Recorded Intervals	4	4	4	4
Vehs Entered	11496	11302	11339	11345
Vehs Exited	11557	11356	11390	11377
Starting Vehs	393	344	399	355
Ending Vehs	332	290	348	320
Travel Distance (km)	11815	11687	11892	11780
Travel Time (hr)	465.3	426.2	414.6	430.7
Total Delay (hr)	249.1	212.0	197.1	215.1
Total Stops	10584	10798	10539	10561
Fuel Used (l)	1153.7	1113.1	1121.9	1123.8

Interval #0 Information Seeding

Start Time	7:15
End Time	7:45
Total Time (min)	30
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	7:45
End Time	8:00
Total Time (min)	15
Volumes adjusted by PHF, Growth Factors.	

Run Number	1	10	2	3	4	5	6
Vehs Entered	3194	3315	3328	3244	3076	3246	3196
Vehs Exited	3121	3159	3292	3145	3004	3144	3109
Starting Vehs	353	318	373	321	339	377	366
Ending Vehs	426	474	409	420	411	479	453
Travel Distance (km)	3159	3182	3312	3201	3033	3281	3199
Travel Time (hr)	115.7	113.4	128.6	104.8	105.5	115.8	117.4
Total Delay (hr)	57.8	55.1	68.3	46.2	49.6	55.7	58.8
Total Stops	2860	3042	3003	3100	2844	3263	3421
Fuel Used (l)	299.6	302.7	325.5	295.9	285.9	310.2	308.3

Interval #1 Information Recording

Start Time	7:45
End Time	8:00
Total Time (min)	15
Volumes adjusted by PHF, Growth Factors.	

Run Number	7	8	9	Avg
Vehs Entered	3285	3278	3165	3229
Vehs Exited	3242	3209	3149	3159
Starting Vehs	393	344	399	355
Ending Vehs	436	413	415	427
Travel Distance (km)	3247	3219	3209	3204
Travel Time (hr)	119.5	123.8	123.2	116.8
Total Delay (hr)	59.9	64.9	64.4	58.1
Total Stops	3120	3137	3153	3089
Fuel Used (l)	312.1	313.7	314.0	306.8

Interval #2 Information Recording

Start Time	8:00
End Time	8:15
Total Time (min)	15
Volumes adjusted by Growth Factors, Anti PHF.	

Run Number	1	10	2	3	4	5	6
Vehs Entered	2735	2633	2672	2649	2675	2715	2755
Vehs Exited	2859	2785	2745	2759	2729	2818	2862
Starting Vehs	426	474	409	420	411	479	453
Ending Vehs	302	322	336	310	357	376	346
Travel Distance (km)	2900	2904	2819	2851	2858	2972	2936
Travel Time (hr)	108.2	113.8	117.4	90.1	103.1	128.2	117.5
Total Delay (hr)	55.0	60.6	65.7	37.8	50.9	73.8	63.6
Total Stops	2624	2494	2304	2202	2909	3034	2886
Fuel Used (l)	281.8	285.1	278.8	257.9	271.5	300.5	289.1

Interval #2 Information Recording

Start Time	8:00
End Time	8:15
Total Time (min)	15
Volumes adjusted by Growth Factors, Anti PHF.	

Run Number	7	8	9	Avg
Vehs Entered	2776	2709	2762	2703
Vehs Exited	2883	2774	2821	2805
Starting Vehs	436	413	415	427
Ending Vehs	329	348	356	327
Travel Distance (km)	2949	2871	2943	2900
Travel Time (hr)	112.9	112.4	110.7	111.4
Total Delay (hr)	58.9	59.8	56.9	58.3
Total Stops	2727	2862	2752	2676
Fuel Used (l)	284.7	281.7	286.8	281.8

Interval #3 Information Recording

Start Time	8:15
End Time	8:30
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	10	2	3	4	5	6
Vehs Entered	2673	2746	2692	2642	2696	2603	2714
Vehs Exited	2643	2702	2698	2606	2698	2638	2717
Starting Vehs	302	322	336	310	357	376	346
Ending Vehs	332	366	330	346	355	341	343
Travel Distance (km)	2815	2776	2891	2780	2869	2740	2821
Travel Time (hr)	92.0	105.8	109.2	92.0	98.8	107.3	108.4
Total Delay (hr)	40.6	54.8	56.5	41.5	46.0	57.1	56.8
Total Stops	2275	2329	2487	2201	2639	2455	2707
Fuel Used (l)	257.2	267.0	278.7	257.0	269.6	268.7	275.4

Interval #3 Information Recording

Start Time	8:15
End Time	8:30
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	7	8	9	Avg
Vehs Entered	2657	2667	2612	2670
Vehs Exited	2688	2659	2673	2673
Starting Vehs	329	348	356	327
Ending Vehs	298	356	295	324
Travel Distance (km)	2837	2754	2814	2810
Travel Time (hr)	110.9	96.0	91.9	101.2
Total Delay (hr)	59.2	45.5	40.5	49.9
Total Stops	2501	2426	2290	2424
Fuel Used (l)	274.4	257.2	257.7	266.3

Interval #4 Information Recording

Start Time	8:30
End Time	8:45
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	10	2	3	4	5	6
Vehs Entered	2676	2771	2653	2742	2813	2684	2756
Vehs Exited	2722	2766	2679	2749	2859	2661	2788
Starting Vehs	332	366	330	346	355	341	343
Ending Vehs	286	371	304	339	309	364	311
Travel Distance (km)	2922	2958	2803	2845	2942	2755	2881
Travel Time (hr)	95.7	111.5	97.9	98.5	97.9	108.4	98.7
Total Delay (hr)	42.6	57.4	46.6	46.4	44.0	57.8	45.9
Total Stops	2335	2588	2123	2433	2338	2303	2494
Fuel Used (l)	266.8	284.6	260.2	265.6	269.8	266.3	270.2

Interval #4 Information Recording

Start Time	8:30
End Time	8:45
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	7	8	9	Avg
Vehs Entered	2778	2648	2800	2731
Vehs Exited	2744	2714	2747	2743
Starting Vehs	298	356	295	324
Ending Vehs	332	290	348	320
Travel Distance (km)	2782	2842	2926	2866
Travel Time (hr)	122.0	94.0	88.8	101.4
Total Delay (hr)	71.1	41.8	35.2	48.9
Total Stops	2236	2373	2344	2349
Fuel Used (l)	282.4	260.5	263.4	269.0

2: Marlin Drive/Hemmer Jane Drive & Topsail Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.1	0.7
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	24.4	24.0	1.1
Total Delay (hr)	0.0	0.3	0.0	0.1	1.0	0.0	0.0	0.2	4.1	0.2	5.9
Total Del/Veh (s)	7.2	1.0	0.6	8.8	3.9	3.6	27.2	11.5	167.5	41.8	9.6
Stop Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.2	4.1	0.2	4.7
Stop Del/Veh (s)	5.0	0.1	0.1	5.1	0.4	0.5	25.3	11.0	168.2	41.6	7.6

6: Humber Drive/Moffatt Road & Topsail Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	2.7	0.2	0.3	0.0	0.0	0.0	0.1	0.1	3.9	0.3	0.2
Total Delay (hr)	0.0	0.1	0.0	0.0	0.3	0.0	0.0	0.1	0.7	0.2	1.6
Total Del/Veh (s)	6.1	0.5	0.3	6.4	1.4	1.2	35.7	11.5	55.7	7.4	2.8
Stop Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.7	0.2	1.0
Stop Del/Veh (s)	4.8	0.0	0.0	4.9	0.0	0.0	33.5	11.0	53.7	6.6	1.8

11: Mount Carson Avenue & Lasalle Drive/Brodie Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	3.9	0.2	0.8	4.0	0.2	0.3	3.2	0.5	0.6	3.9	0.3	0.3
Total Delay (hr)	0.7	0.0	0.2	0.2	0.0	0.2	0.0	0.1	0.0	0.0	0.1	0.0
Total Del/Veh (s)	20.5	7.7	5.6	15.6	15.8	9.6	3.5	0.9	0.5	6.5	0.7	0.1
Stop Delay (hr)	0.6	0.0	0.2	0.2	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Stop Del/Veh (s)	19.1	5.7	5.1	13.5	12.9	9.0	1.4	0.0	0.0	3.9	0.0	0.0

11: Mount Carson Avenue & Lasalle Drive/Brodie Street Performance by movement

Movement	All
Denied Delay (hr)	0.3
Denied Del/Veh (s)	0.9
Total Delay (hr)	1.5
Total Del/Veh (s)	4.2
Stop Delay (hr)	1.2
Stop Del/Veh (s)	3.3

14: Allston Street/Brougham Drive & Kenmount Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.7	2.7	1.1
Denied Del/Veh (s)	2.2	0.2	0.2	0.3	0.0	0.0	3.9	0.3	0.2	50.1	50.4	46.2
Total Delay (hr)	0.2	4.9	0.2	0.8	1.1	0.1	0.2	0.6	0.1	9.4	4.6	1.8
Total Del/Veh (s)	17.7	20.8	16.8	21.5	9.1	5.4	46.9	62.6	3.9	97.7	84.5	71.2
Stop Delay (hr)	0.2	3.4	0.1	0.6	0.7	0.1	0.2	0.6	0.0	8.4	4.0	1.5
Stop Del/Veh (s)	12.7	14.5	13.3	17.8	5.6	3.4	43.3	57.7	0.8	87.0	73.0	62.2

14: Allston Street/Brougham Drive & Kenmount Road Performance by movement

Movement	All
Denied Delay (hr)	8.7
Denied Del/Veh (s)	13.3
Total Delay (hr)	24.0
Total Del/Veh (s)	36.4
Stop Delay (hr)	19.8
Stop Del/Veh (s)	30.0

21: Mount Carson Avenue & Wyatt Boulevard Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.1	0.0	0.0	0.0	0.2
Denied Del/Veh (s)	3.5	0.3	0.6	0.6	0.2	0.3	0.5
Total Delay (hr)	0.1	0.4	0.2	0.0	0.3	0.0	1.0
Total Del/Veh (s)	23.2	5.3	0.8	0.4	8.4	0.3	2.4
Stop Delay (hr)	0.1	0.3	0.0	0.0	0.2	0.0	0.6
Stop Del/Veh (s)	20.3	3.6	0.0	0.0	5.5	0.0	1.3

24: Mount Carson Avenue & Kenmount Road Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	4.8	43.5	48.3
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	171.9	176.7	52.4
Total Delay (hr)	9.6	0.6	4.6	1.0	1.8	12.7	30.2
Total Del/Veh (s)	28.4	23.4	35.9	6.0	65.8	53.9	32.9
Stop Delay (hr)	6.5	0.4	3.4	0.3	1.6	10.0	22.3
Stop Del/Veh (s)	19.3	16.4	26.5	1.6	60.9	42.6	24.2

28: Kenmount Road & Great Eastern Avenue Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	2.8	0.3	0.2	0.1	0.1	0.1	3.6	0.1	0.3
Total Delay (hr)	0.8	7.8	0.0	0.2	1.7	0.0	0.1	0.0	0.1	0.8	0.0	0.1
Total Del/Veh (s)	21.6	14.9	13.8	24.7	7.1	3.4	63.8	69.0	21.4	53.1	42.6	2.6
Stop Delay (hr)	0.4	2.4	0.0	0.1	0.8	0.0	0.1	0.0	0.1	0.7	0.0	0.0
Stop Del/Veh (s)	12.0	4.5	4.8	21.3	3.5	0.1	62.4	66.5	21.3	50.0	38.6	0.0

28: Kenmount Road & Great Eastern Avenue Performance by movement

Movement	All
Denied Delay (hr)	0.2
Denied Del/Veh (s)	0.2
Total Delay (hr)	11.7
Total Del/Veh (s)	13.1
Stop Delay (hr)	4.8
Stop Del/Veh (s)	5.4

33: Commonwealth Avenue/Mount Carson Avenue & Topsail Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	1.6	2.7	2.2	0.0	0.1	0.1
Denied Del/Veh (s)	0.3	0.0	0.3	0.2	0.0	0.0	19.3	18.3	20.5	1.3	1.6	4.4
Total Delay (hr)	0.5	8.1	0.7	3.2	4.4	0.2	4.6	12.9	3.5	1.3	3.3	0.2
Total Del/Veh (s)	33.1	35.9	6.6	60.7	25.3	8.3	54.3	83.6	32.2	35.6	39.5	9.1
Stop Delay (hr)	0.4	6.2	0.1	2.9	3.2	0.1	4.0	10.1	2.0	1.1	2.8	0.1
Stop Del/Veh (s)	26.3	27.5	0.6	56.1	18.1	3.2	47.4	65.5	18.2	32.2	33.3	5.4

33: Commonwealth Avenue/Mount Carson Avenue & Topsail Road Performance by movement

Movement	All
Denied Delay (hr)	6.9
Denied Del/Veh (s)	6.4
Total Delay (hr)	42.8
Total Del/Veh (s)	39.5
Stop Delay (hr)	32.9
Stop Del/Veh (s)	30.4

36: Brant Drive/H3 Access #1 & Kenmount Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.0	4.0	0.3	0.3	4.2	0.1	0.2
Total Delay (hr)	0.1	2.8	0.0	0.0	1.2	0.1	0.4	0.6	0.1	0.4	0.2	0.0
Total Del/Veh (s)	11.3	7.9	7.3	17.2	7.8	5.3	49.5	59.2	5.1	51.1	56.0	1.9
Stop Delay (hr)	0.1	0.9	0.0	0.0	0.5	0.0	0.4	0.5	0.0	0.4	0.2	0.0
Stop Del/Veh (s)	6.0	2.5	0.9	13.2	3.4	0.5	46.7	55.0	2.8	48.4	52.4	0.0

36: Brant Drive/H3 Access #1 & Kenmount Road Performance by movement

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.1
Total Delay (hr)	6.0
Total Del/Veh (s)	10.2
Stop Delay (hr)	3.1
Stop Del/Veh (s)	5.3

42: Kenmount Road & H3 Access #2 Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	4.1	0.2	0.1
Total Delay (hr)	0.1	1.9	0.8	0.1	0.5	0.0	3.3
Total Del/Veh (s)	8.1	5.5	4.8	3.5	58.3	1.4	5.9
Stop Delay (hr)	0.0	0.4	0.3	0.0	0.4	0.0	1.2
Stop Del/Veh (s)	3.7	1.2	2.0	0.1	56.2	0.0	2.2

48: Topsail Road & Farrell Drive Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.3	0.0	0.3
Denied Del/Veh (s)	0.0	0.0	0.2	0.3	3.6	0.8	0.5
Total Delay (hr)	0.2	3.6	2.2	0.2	1.7	0.1	8.0
Total Del/Veh (s)	13.6	10.6	10.2	6.2	23.3	6.3	11.5
Stop Delay (hr)	0.1	1.5	1.1	0.1	1.4	0.1	4.4
Stop Del/Veh (s)	8.4	4.5	5.3	3.5	19.7	4.9	6.3

Total Network Performance

Denied Delay (hr)	65.8
Denied Del/Veh (s)	20.8
Total Delay (hr)	149.3
Total Del/Veh (s)	46.0
Stop Delay (hr)	98.2
Stop Del/Veh (s)	30.2

Intersection: 2: Marlin Drive/Hemmer Jane Drive & Topsail Road

Movement	EB	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LTR	L	TR
Maximum Queue (m)	6.7	0.4	1.7	12.8	21.2	20.4	25.5	42.3	75.5
Average Queue (m)	0.8	0.0	0.1	2.9	0.7	0.7	9.6	26.7	23.3
95th Queue (m)	4.6	0.4	0.9	8.5	21.2	20.9	18.4	50.3	79.4
Link Distance (m)		278.5	278.5		215.2	215.2	64.5		83.3
Upstream Blk Time (%)									12
Queuing Penalty (veh)									0
Storage Bay Dist (m)	15.0			25.0				35.0	
Storage Blk Time (%)	0							37	0
Queuing Penalty (veh)	0							6	0

Intersection: 6: Humber Drive/Moffatt Road & Topsail Road

Movement	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	L	T	TR	LTR	L	TR
Maximum Queue (m)	10.9	6.1	0.1	0.7	23.2	28.7	30.9
Average Queue (m)	2.3	0.9	0.0	0.0	7.1	10.3	11.2
95th Queue (m)	7.5	4.4	0.1	0.4	17.1	23.5	27.1
Link Distance (m)			278.5	278.5	185.8		108.6
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (m)	30.0	35.0				30.0	
Storage Blk Time (%)						2	0
Queuing Penalty (veh)						2	0

Intersection: 11: Mount Carson Avenue & Lasalle Drive/Brodie Street

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	L	L
Maximum Queue (m)	30.6	39.0	21.1	25.0	10.7	11.5
Average Queue (m)	15.3	13.2	8.3	11.3	1.1	0.8
95th Queue (m)	27.1	26.0	16.7	20.7	6.2	5.6
Link Distance (m)		43.4		56.6		
Upstream Blk Time (%)		1				
Queuing Penalty (veh)		0				
Storage Bay Dist (m)	25.0		25.0		85.0	50.0
Storage Blk Time (%)	4	0	0	0		
Queuing Penalty (veh)	5	0	0	0		

Intersection: 14: Allston Street/Brougham Drive & Kenmount Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (m)	56.5	107.5	108.6	41.1	67.7	59.6	20.3	46.7	57.4	165.8
Average Queue (m)	10.8	54.8	49.5	18.0	17.6	19.1	4.8	12.2	55.4	132.4
95th Queue (m)	34.2	94.2	90.0	34.9	43.5	44.5	14.9	30.4	64.6	202.7
Link Distance (m)		452.6	452.6		155.1	155.1		136.1		156.0
Upstream Blk Time (%)										35
Queuing Penalty (veh)										0
Storage Bay Dist (m)	50.0			35.0			25.0		50.0	
Storage Blk Time (%)		10		2	1		0	1	45	14
Queuing Penalty (veh)		5		5	1		0	0	127	48

Intersection: 21: Mount Carson Avenue & Wyatt Boulevard

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	L
Maximum Queue (m)	14.0	32.9	5.5	31.3
Average Queue (m)	2.7	16.1	0.3	13.6
95th Queue (m)	10.3	26.7	2.8	25.5
Link Distance (m)		99.9	87.5	139.9
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)	40.0			
Storage Blk Time (%)		0		
Queuing Penalty (veh)		0		

Intersection: 24: Mount Carson Avenue & Kenmount Road

Movement	EB	EB	B26	B26	WB	WB	WB	NB	NB
Directions Served	T	TR	T	T	L	T	T	L	R
Maximum Queue (m)	140.0	142.6	49.4	54.2	117.8	62.4	120.3	138.7	145.1
Average Queue (m)	83.2	83.3	6.7	7.9	60.7	11.7	16.0	121.4	134.4
95th Queue (m)	147.4	154.0	38.6	43.1	102.9	53.9	92.6	173.7	144.9
Link Distance (m)	118.0	118.0	232.8	232.8		432.7	432.7	128.9	128.9
Upstream Blk Time (%)	7	8					0	21	72
Queuing Penalty (veh)	44	53					0	0	0
Storage Bay Dist (m)					120.0				
Storage Blk Time (%)					1				
Queuing Penalty (veh)					3				

Intersection: 28: Kenmount Road & Great Eastern Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (m)	49.8	111.8	351.6	22.9	83.0	62.6	12.6	16.1	36.7	14.7
Average Queue (m)	16.8	35.9	67.4	5.4	32.4	16.2	2.3	4.2	14.6	1.4
95th Queue (m)	37.0	87.0	241.0	15.0	71.2	46.0	9.0	12.4	30.1	8.8
Link Distance (m)		432.7	432.7		241.2	241.2	34.5	34.5		141.4
Upstream Blk Time (%)			1							
Queuing Penalty (veh)			14							
Storage Bay Dist (m)	45.0			40.0					45.0	
Storage Blk Time (%)	0	3			5				0	
Queuing Penalty (veh)	1	4			1				0	

Intersection: 33: Commonwealth Avenue/Mount Carson Avenue & Topsail Road

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	TR	L	T	R	L	T
Maximum Queue (m)	42.3	107.0	112.0	72.5	77.4	93.4	86.6	246.9	290.5	107.5	75.3	100.1
Average Queue (m)	15.6	60.2	58.0	15.6	37.9	42.2	43.3	111.7	184.2	73.7	24.4	52.0
95th Queue (m)	42.2	92.2	96.1	64.6	79.8	85.1	71.1	272.4	336.9	155.1	54.9	92.5
Link Distance (m)		215.2	215.2			293.5	293.5		289.6		91.0	91.0
Upstream Blk Time (%)									10		0	5
Queuing Penalty (veh)									0		0	0
Storage Bay Dist (m)	35.0			65.0	115.0			250.0		100.0		
Storage Blk Time (%)	0	30	4	0	2			0	29	0		21
Queuing Penalty (veh)	0	15	17	0	7			0	203	3		17

Intersection: 33: Commonwealth Avenue/Mount Carson Avenue & Topsail Road

Movement	SB
Directions Served	R
Maximum Queue (m)	47.5
Average Queue (m)	9.5
95th Queue (m)	40.4
Link Distance (m)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	40.0
Storage Blk Time (%)	0
Queuing Penalty (veh)	0

Intersection: 36: Brant Drive/H3 Access #1 & Kenmount Road

Movement	EB	EB	EB	B17	B17	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	T	T	L	T	TR	L	TR	L	TR
Maximum Queue (m)	25.9	63.5	67.4	30.9	66.3	9.8	44.8	47.6	27.5	40.3	27.6	19.3
Average Queue (m)	6.1	23.4	26.0	1.1	3.5	2.3	14.1	16.3	9.3	13.3	8.4	5.1
95th Queue (m)	16.6	48.0	52.3	22.6	42.9	8.6	34.4	37.0	21.9	31.9	20.8	14.0
Link Distance (m)		705.8	705.8	155.1	155.1		421.4	421.4		82.9		156.1
Upstream Blk Time (%)				0	0							
Queuing Penalty (veh)				0	1							
Storage Bay Dist (m)	45.0					45.0			40.0		50.0	
Storage Blk Time (%)		1					0		0	1		
Queuing Penalty (veh)		0					0		0	0		

Intersection: 42: Kenmount Road & H3 Access #2

Movement	EB	EB	EB	WB	WB	SB
Directions Served	L	T	T	T	TR	L
Maximum Queue (m)	18.2	51.8	95.1	41.6	46.1	22.5
Average Queue (m)	4.5	13.9	19.2	13.2	15.5	7.7
95th Queue (m)	13.7	39.7	70.4	33.5	38.3	18.4
Link Distance (m)		421.4	421.4	232.8	232.8	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)	45.0					40.0
Storage Blk Time (%)		0				
Queuing Penalty (veh)		0				

Intersection: 48: Topsail Road & Farrell Drive

Movement	EB	EB	EB	B35	B35	WB	WB	SB	SB
Directions Served	L	T	T	T	T	T	TR	L	R
Maximum Queue (m)	47.9	82.6	84.0	118.3	153.0	68.8	64.2	56.0	47.7
Average Queue (m)	10.0	38.3	42.9	7.3	12.0	33.4	25.9	33.0	10.2
95th Queue (m)	29.5	72.3	75.3	83.0	109.8	55.9	48.7	53.3	28.2
Link Distance (m)		323.4	323.4	293.5	293.5	354.8	354.8		142.8
Upstream Blk Time (%)				0	0				
Queuing Penalty (veh)				0	2				
Storage Bay Dist (m)	45.0							50.0	
Storage Blk Time (%)		3						2	
Queuing Penalty (veh)		1						1	

Network Summary

Network wide Queuing Penalty: 591

Intersection: 14: Allston Street/Brougham Drive & Kenmount Road

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Maximum Green (s)	11.0	39.0	7.0	37.0	7.0	43.0	16.0	28.0
Minimum Green (s)	7.0	25.0	7.0	10.0	7.0	25.0	7.0	10.0
Recall	None	C-Max	None	None	None	C-Max	None	None
Avg. Green (s)	9.2	63.2	9.0	29.4	8.3	67.7	19.4	15.1
g/C Ratio	-0.01	NA	-0.01	NA	-0.01	NA	NA	-0.01
Cycles Skipped (%)	30	0	65	0	59	0	0	29
Cycles @ Minimum (%)	26	0	35	0	30	0	0	21
Cycles Maxed Out (%)	4	100	35	7	4	100	93	4
Cycles with Peds (%)	0	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
Number of Complete Cycles : 0

Intersection: 24: Mount Carson Avenue & Kenmount Road

Phase	1	2	4	6
Movement(s) Served	WBL	EBT	NBL	WBTL
Maximum Green (s)	22.0	40.0	40.0	68.0
Minimum Green (s)	7.0	25.0	10.0	25.0
Recall	None	C-Max	None	C-Max
Avg. Green (s)	28.2	64.2	13.5	106.1
g/C Ratio	-0.01	NA	-0.01	-0.01
Cycles Skipped (%)	18	0	7	7
Cycles @ Minimum (%)	3	0	34	0
Cycles Maxed Out (%)	9	100	0	93
Cycles with Peds (%)	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
Number of Complete Cycles : 0

Intersection: 28: Kenmount Road & Great Eastern Avenue

Phase	1	2	3	4	5	6	8
Movement(s) Served	WBL	EBTL	SBL	NBTL	EBL	WBTL	SBTL
Maximum Green (s)	7.0	59.0	7.0	23.0	10.0	56.0	36.0
Minimum Green (s)	7.0	25.0	7.0	10.0	7.0	25.0	10.0
Recall	None	C-Max	None	None	None	C-Max	None
Avg. Green (s)	8.1	119.5	9.2	11.3	8.6	108.1	13.9
g/C Ratio	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Cycles Skipped (%)	88	17	21	69	52	16	17
Cycles @ Minimum (%)	8	0	25	31	30	0	55
Cycles Maxed Out (%)	0	83	79	0	0	84	0
Cycles with Peds (%)	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

Intersection: 33: Commonwealth Avenue/Mount Carson Avenue & Topsail Road

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Maximum Green (s)	7.0	25.0	9.0	25.0	7.0	25.0	7.0	27.0
Minimum Green (s)	7.0	25.0	7.0	25.0	7.0	25.0	7.0	25.0
Recall	None	Max	None	Max	None	Max	None	Max
Avg. Green (s)	7.1	25.5	9.0	25.8	7.0	31.6	7.2	30.0
g/C Ratio	-0.01	NA	NA	NA	-0.01	NA	-0.01	NA
Cycles Skipped (%)	5	0	0	0	46	0	16	0
Cycles @ Minimum (%)	95	97	0	97	54	54	84	0
Cycles Maxed Out (%)	95	100	97	100	54	100	84	100
Cycles with Peds (%)	0	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

Intersection: 36: Brant Drive/H3 Access #1 & Kenmount Road

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	WBL	EBTL	NBL	SBTL	EBL	WBL	SBL	NBTL
Maximum Green (s)	7.0	59.0	7.0	23.0	7.0	59.0	7.0	23.0
Minimum Green (s)	7.0	25.0	7.0	10.0	7.0	25.0	7.0	10.0
Recall	None	C-Max	None	None	None	C-Max	None	None
Avg. Green (s)	8.1	97.7	11.6	13.8	7.5	95.3	9.7	12.3
g/C Ratio	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Cycles Skipped (%)	92	4	41	36	73	4	44	21
Cycles @ Minimum (%)	8	0	33	46	19	0	44	57
Cycles Maxed Out (%)	0	96	59	0	0	96	56	0
Cycles with Peds (%)	0	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

Intersection: 42: Kenmount Road & H3 Access #2

Phase	2	4	5	6
Movement(s) Served	EBTL	SBL	EBL	WBL
Maximum Green (s)	83.0	25.0	9.0	68.0
Minimum Green (s)	25.0	10.0	7.0	25.0
Recall	C-Max	None	None	C-Max
Avg. Green (s)	169.0	10.6	7.4	154.6
g/C Ratio	-0.01	-0.01	-0.01	-0.01
Cycles Skipped (%)	44	41	85	40
Cycles @ Minimum (%)	0	56	12	0
Cycles Maxed Out (%)	56	0	0	60
Cycles with Peds (%)	0	0	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

Intersection: 48: Topsail Road & Farrell Drive

Phase	2	4	5	6
Movement(s) Served	EBTL	SBL	EBL	WBT
Maximum Green (s)	39.0	24.0	7.0	26.0
Minimum Green (s)	25.0	10.0	7.0	25.0
Recall	Max	None	None	Max
Avg. Green (s)	40.4	15.6	7.1	37.2
g/C Ratio	NA	NA	-0.01	NA
Cycles Skipped (%)	0	0	80	0
Cycles @ Minimum (%)	0	19	20	0
Cycles Maxed Out (%)	100	12	20	100
Cycles with Peds (%)	0	0	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

172093 Kenmount Hill CDS TIS
Kenmount Road & Brougham Drive/Allston Street

S1A 5-year with Background AM

01/28/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	840	39	129	391	84	18	35	107	339	194	87
Future Volume (veh/h)	44	840	39	129	391	84	18	35	107	339	194	87
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1856	1856	1841	1826	1826	1811	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	51	966	45	168	508	109	23	45	0	365	209	94
Peak Hour Factor	0.87	0.87	0.87	0.77	0.77	0.77	0.77	0.77	0.77	0.93	0.93	0.93
Percent Heavy Veh, %	5	3	3	4	5	5	6	2	2	2	2	2
Cap, veh/h	458	1683	78	334	1446	309	145	175		395	239	108
Arrive On Green	0.05	0.49	0.49	0.07	0.51	0.51	0.03	0.09	0.00	0.13	0.20	0.20
Sat Flow, veh/h	1739	3430	160	1753	2844	607	1725	1870	0	1781	1222	550
Grp Volume(v), veh/h	51	496	515	168	309	308	23	45	0	365	0	303
Grp Sat Flow(s),veh/h/ln	1739	1763	1827	1753	1735	1717	1725	1870	0	1781	0	1771
Q Serve(g_s), s	1.7	24.0	24.0	5.6	12.8	12.9	1.4	2.7	0.0	16.0	0.0	19.9
Cycle Q Clear(g_c), s	1.7	24.0	24.0	5.6	12.8	12.9	1.4	2.7	0.0	16.0	0.0	19.9
Prop In Lane	1.00		0.09	1.00		0.35	1.00		0.00	1.00		0.31
Lane Grp Cap(c), veh/h	458	865	897	334	882	873	145	175		395	0	347
V/C Ratio(X)	0.11	0.57	0.57	0.50	0.35	0.35	0.16	0.26		0.92	0.00	0.87
Avail Cap(c_a), veh/h	477	865	897	380	882	873	192	436		395	0	546
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.7	21.7	21.7	16.5	17.6	17.7	46.8	50.5	0.0	45.0	0.0	46.8
Incr Delay (d2), s/veh	0.1	2.8	2.7	1.2	1.1	1.1	0.5	0.8	0.0	27.4	0.0	9.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	11.3	11.7	2.6	5.8	5.8	0.7	1.4	0.0	6.8	0.0	10.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.8	24.4	24.3	17.7	18.7	18.8	47.3	51.3	0.0	72.4	0.0	56.1
LnGrp LOS	B	C	C	B	B	B	D	D		E	A	E
Approach Vol, veh/h		1062			785			68	A		668	
Approach Delay, s/veh		23.9			18.5			49.9			65.0	
Approach LOS		C			B			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.9	65.9	9.7	29.5	12.7	68.0	22.0	17.2				
Change Period (Y+Rc), s	7.0	7.0	6.0	6.0	7.0	7.0	6.0	6.0				
Max Green Setting (Gmax), s	11.0	39.0	7.0	37.0	7.0	43.0	16.0	28.0				
Max Q Clear Time (g_c+I1), s	7.6	0.0	3.4	21.9	3.7	0.0	18.0	4.7				
Green Ext Time (p_c), s	0.2	0.0	0.0	1.6	0.0	0.0	0.0	0.2				
Intersection Summary												
HCM 6th Ctrl Delay			33.6									
HCM 6th LOS			C									
Notes												
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.												

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	129	1894	7	23	836	27	8	1	12	54	3	199
Future Volume (veh/h)	129	1894	7	23	836	27	8	1	12	54	3	199
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1870	1870	1826	1841	1841	1870	1870	1870	1781	1870	1870
Adj Flow Rate, veh/h	143	2104	8	26	929	0	12	2	18	74	4	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.66	0.66	0.66	0.73	0.73	0.73
Percent Heavy Veh, %	3	2	2	5	4	4	2	2	2	8	2	2
Cap, veh/h	459	2377	9	152	2205		142	9	84	212	302	
Arrive On Green	0.06	0.65	0.65	0.03	0.63	0.00	0.06	0.06	0.06	0.05	0.16	0.00
Sat Flow, veh/h	1767	3631	14	1739	3589	0	1412	161	1449	1697	1870	0
Grp Volume(v), veh/h	143	1029	1083	26	929	0	12	0	20	74	4	0
Grp Sat Flow(s),veh/h/ln	1767	1777	1868	1739	1749	0	1412	0	1610	1697	1870	0
Q Serve(g_s), s	3.3	57.0	57.2	0.6	16.0	0.0	1.0	0.0	1.4	4.8	0.2	0.0
Cycle Q Clear(g_c), s	3.3	57.0	57.2	0.6	16.0	0.0	1.0	0.0	1.4	4.8	0.2	0.0
Prop In Lane	1.00		0.01	1.00		0.00	1.00		0.90	1.00		0.00
Lane Grp Cap(c), veh/h	459	1163	1223	152	2205		142	0	94	212	302	
V/C Ratio(X)	0.31	0.88	0.89	0.17	0.42		0.08	0.00	0.21	0.35	0.01	
Avail Cap(c_a), veh/h	504	1163	1223	195	2205		331	0	309	220	561	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	7.7	17.0	17.0	21.1	11.2	0.0	53.7	0.0	53.9	47.7	42.3	0.0
Incr Delay (d2), s/veh	0.4	10.0	9.6	0.5	0.6	0.0	0.3	0.0	1.1	1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	27.6	29.0	0.4	7.0	0.0	0.4	0.0	0.6	2.2	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.1	27.0	26.7	21.7	11.7	0.0	53.9	0.0	55.0	48.7	42.3	0.0
LnGrp LOS	A	C	C	C	B		D	A	E	D	D	
Approach Vol, veh/h	2255			955			A			32		
Approach Delay, s/veh	25.6			12.0			54.6			48.4		
Approach LOS	C			B			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	8					
Phs Duration (G+Y+Rc), s	10.1	84.5	12.4	13.0	12.9	81.7	25.4					
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0					
Max Green Setting (Gmax), s	7.0	59.0	7.0	23.0	10.0	56.0	36.0					
Max Q Clear Time (g_c+I1), s	2.6	0.0	6.8	3.4	5.3	0.0	2.2					
Green Ext Time (p_c), s	0.0	0.0	0.0	0.1	0.3	0.0	0.0					
Intersection Summary												
HCM 6th Ctrl Delay	22.5											
HCM 6th LOS	C											
Notes												

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	38	1267	576	74	27	20
Future Volume (veh/h)	38	1267	576	74	27	20
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	41	1377	626	0	29	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	699	3015	2683		92	
Arrive On Green	0.04	0.85	0.75	0.00	0.05	0.00
Sat Flow, veh/h	1781	3647	3741	0	1781	1585
Grp Volume(v), veh/h	41	1377	626	0	29	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	0	1781	1585
Q Serve(g_s), s	0.5	11.5	6.3	0.0	1.9	0.0
Cycle Q Clear(g_c), s	0.5	11.5	6.3	0.0	1.9	0.0
Prop In Lane	1.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	699	3015	2683		92	
V/C Ratio(X)	0.06	0.46	0.23		0.32	
Avail Cap(c_a), veh/h	755	3015	2683		371	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	2.4	2.3	4.4	0.0	54.9	0.0
Incr Delay (d2), s/veh	0.0	0.5	0.2	0.0	1.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	4.1	2.6	0.0	0.9	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	2.4	2.8	4.6	0.0	56.8	0.0
LnGrp LOS	A	A	A		E	
Approach Vol, veh/h		1418	626	A	29	A
Approach Delay, s/veh		2.7	4.6		56.8	
Approach LOS		A	A		E	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		107.8		12.2	11.2	96.6
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		83.0		25.0	9.0	68.0
Max Q Clear Time (g_c+I1), s		0.0		3.9	2.5	0.0
Green Ext Time (p_c), s		0.0		0.1	0.0	0.0
Intersection Summary						
HCM 6th Ctrl Delay			4.1			
HCM 6th LOS			A			
Notes						
Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.						

172093 Kenmount Hill CDS TIS
Kenmount Road & H3 Access #1/Brant Drive

S1A 5-year with Background AM

01/28/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	1225	22	11	554	33	34	35	63	27	16	20
Future Volume (veh/h)	40	1225	22	11	554	33	34	35	63	27	16	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	43	1332	0	12	602	0	37	38	0	29	17	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	598	2350		283	2260		231	156		213	146	
Arrive On Green	0.04	0.66	0.00	0.02	0.64	0.00	0.04	0.08	0.00	0.04	0.08	0.00
Sat Flow, veh/h	1781	3647	0	1781	3647	0	1781	1870	0	1781	1870	0
Grp Volume(v), veh/h	43	1332	0	12	602	0	37	38	0	29	17	0
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	0	1781	1870	0	1781	1870	0
Q Serve(g_s), s	0.9	24.4	0.0	0.3	8.9	0.0	2.2	2.3	0.0	1.8	1.0	0.0
Cycle Q Clear(g_c), s	0.9	24.4	0.0	0.3	8.9	0.0	2.2	2.3	0.0	1.8	1.0	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	598	2350		283	2260		231	156		213	146	
V/C Ratio(X)	0.07	0.57		0.04	0.27		0.16	0.24		0.14	0.12	
Avail Cap(c_a), veh/h	623	2350		352	2260		261	358		252	358	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	6.6	11.0	0.0	9.1	9.6	0.0	47.5	51.4	0.0	47.8	51.4	0.0
Incr Delay (d2), s/veh	0.1	1.0	0.0	0.1	0.3	0.0	0.3	0.8	0.0	0.3	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	10.7	0.0	0.1	3.9	0.0	1.1	1.2	0.0	0.9	0.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.7	12.0	0.0	9.2	9.9	0.0	47.8	52.2	0.0	48.1	51.8	0.0
LnGrp LOS	A	B		A	A		D	D		D	D	
Approach Vol, veh/h		1375	A		614	A		75	A		46	A
Approach Delay, s/veh		11.8			9.8			50.1			49.5	
Approach LOS		B			A			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.3	85.3	11.0	15.4	11.3	82.3	10.3	16.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	7.0	59.0	7.0	23.0	7.0	59.0	7.0	23.0				
Max Q Clear Time (g_c+I1), s	2.3	0.0	4.2	3.0	2.9	0.0	3.8	4.3				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1				
Intersection Summary												
HCM 6th Ctrl Delay			13.4									
HCM 6th LOS			B									
Notes												
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↑	↑↑	↑	↑
Traffic Volume (veh/h)	1174	88	461	552	97	880
Future Volume (veh/h)	1174	88	461	552	97	880
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1841	1870	1870
Adj Flow Rate, veh/h	1276	0	496	594	107	0
Peak Hour Factor	0.92	0.92	0.93	0.93	0.91	0.91
Percent Heavy Veh, %	2	2	2	4	2	2
Cap, veh/h	2128		525	2864	144	
Arrive On Green	0.60	0.00	0.17	0.82	0.08	0.00
Sat Flow, veh/h	3741	0	1781	3589	1781	1585
Grp Volume(v), veh/h	1276	0	496	594	107	0
Grp Sat Flow(s),veh/h/ln	1777	0	1781	1749	1781	1585
Q Serve(g_s), s	27.0	0.0	17.7	4.4	7.0	0.0
Cycle Q Clear(g_c), s	27.0	0.0	17.7	4.4	7.0	0.0
Prop In Lane		0.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2128		525	2864	144	
V/C Ratio(X)	0.60		0.94	0.21	0.74	
Avail Cap(c_a), veh/h	2128		549	2864	594	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	15.1	0.0	25.8	2.4	53.9	0.0
Incr Delay (d2), s/veh	1.3	0.0	24.8	0.2	7.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.1	0.0	18.7	1.7	3.6	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	16.3	0.0	50.6	2.5	61.2	0.0
LnGrp LOS	B		D	A	E	
Approach Vol, veh/h	1276	A		1090	107	A
Approach Delay, s/veh	16.3			24.4	61.2	
Approach LOS	B			C	E	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	26.4	77.9		15.7		104.3
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0
Max Green Setting (Gmax), s	22.0	40.0		40.0		68.0
Max Q Clear Time (g_c+l1), s	19.7	0.0		9.0		0.0
Green Ext Time (p_c), s	0.7	0.0		0.6		0.0
Intersection Summary						
HCM 6th Ctrl Delay			21.8			
HCM 6th LOS			C			
Notes						
Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.						

Intersection												
Int Delay, s/veh	16											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	118	1	107	52	3	74	12	562	15	4	321	24
Future Vol, veh/h	118	1	107	52	3	74	12	562	15	4	321	24
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	250	-	-	250	-	-	850	-	-	500	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	91	91	91	73	73	73
Heavy Vehicles, %	2	2	5	2	33	3	8	2	15	25	2	2
Mvmt Flow	136	1	123	60	3	85	13	618	16	5	440	33

Major/Minor	Minor2		Minor1		Major1		Major2		Major2		Major2	
Conflicting Flow All	1163	1127	457	1181	1135	626	473	0	0	634	0	0
Stage 1	467	467	-	652	652	-	-	-	-	-	-	-
Stage 2	696	660	-	529	483	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.25	7.12	6.83	6.23	4.18	-	-	4.35	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.83	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.83	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.345	3.518	4.297	3.327	2.272	-	-	2.425	-	-
Pot Cap-1 Maneuver	172	205	597	167	178	482	1058	-	-	848	-	-
Stage 1	576	562	-	457	419	-	-	-	-	-	-	-
Stage 2	432	460	-	533	504	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	138	201	597	130	175	482	1058	-	-	848	-	-
Mov Cap-2 Maneuver	138	201	-	130	175	-	-	-	-	-	-	-
Stage 1	569	559	-	452	414	-	-	-	-	-	-	-
Stage 2	348	454	-	420	501	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	76.4		30.8		0.2		0.1	
HCM LOS	F		D					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1058	-	-	138	586	130	451	848	-	-
HCM Lane V/C Ratio	0.012	-	-	0.983	0.212	0.46	0.196	0.006	-	-
HCM Control Delay (s)	8.4	-	-	134.7	12.8	54.3	14.9	9.3	-	-
HCM Lane LOS	A	-	-	F	B	F	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	7	0.8	2.1	0.7	0	-	-

Intersection						
Int Delay, s/veh	6.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	11	277	710	21	156	369
Future Vol, veh/h	11	277	710	21	156	369
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	400	0	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	99	99	93	93	75	75
Heavy Vehicles, %	2	2	2	5	2	2
Mvmt Flow	11	280	763	23	208	492
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1683	775	0	0	786	0
Stage 1	775	-	-	-	-	-
Stage 2	908	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	104	398	-	-	833	-
Stage 1	454	-	-	-	-	-
Stage 2	393	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	78	398	-	-	833	-
Mov Cap-2 Maneuver	78	-	-	-	-	-
Stage 1	341	-	-	-	-	-
Stage 2	393	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	33.8	0	3.2			
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 78 398	833	-		
HCM Lane V/C Ratio	-	- 0.142 0.703	0.25	-		
HCM Control Delay (s)	-	- 58.7 32.8	10.8	-		
HCM Lane LOS	-	- F D	B	-		
HCM 95th %tile Q(veh)	-	- 0.5 5.2	1	-		

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	38	1174	776	137	258	74
Future Volume (veh/h)	38	1174	776	137	258	74
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1710	1856	1841	1841	1934	1949
Adj Flow Rate, veh/h	42	1304	882	156	290	83
Peak Hour Factor	0.90	0.90	0.88	0.88	0.89	0.89
Percent Heavy Veh, %	8	3	4	4	3	2
Cap, veh/h	317	2137	1353	239	382	342
Arrive On Green	0.06	0.61	0.46	0.46	0.21	0.21
Sat Flow, veh/h	1629	3618	3062	525	1842	1651
Grp Volume(v), veh/h	42	1304	519	519	290	83
Grp Sat Flow(s),veh/h/ln	1629	1763	1749	1746	1842	1651
Q Serve(g_s), s	0.8	14.9	14.8	14.8	9.5	2.7
Cycle Q Clear(g_c), s	0.8	14.9	14.8	14.8	9.5	2.7
Prop In Lane	1.00			0.30	1.00	1.00
Lane Grp Cap(c), veh/h	317	2137	796	795	382	342
V/C Ratio(X)	0.13	0.61	0.65	0.65	0.76	0.24
Avail Cap(c_a), veh/h	401	2137	796	795	687	616
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.3	7.9	13.6	13.6	24.0	21.3
Incr Delay (d2), s/veh	0.2	1.3	4.1	4.1	3.1	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	6.1	7.0	7.0	4.8	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.5	9.2	17.7	17.7	27.1	21.6
LnGrp LOS	A	A	B	B	C	C
Approach Vol, veh/h		1346	1038		373	
Approach Delay, s/veh		9.2	17.7		25.9	
Approach LOS		A	B		C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		45.0		19.3	9.7	35.3
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		39.0		24.0	7.0	26.0
Max Q Clear Time (g_c+I1), s		0.0		11.5	2.8	0.0
Green Ext Time (p_c), s		0.0		1.8	0.0	0.0
Intersection Summary						
HCM 6th Ctrl Delay			14.7			
HCM 6th LOS			B			

Intersection												
Int Delay, s/veh	32											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↱	↱↱		↱	↱↱			↱↱		↱	↱	
Traffic Vol, veh/h	7	999	7	29	894	21	3	0	62	80	0	14
Future Vol, veh/h	7	999	7	29	894	21	3	0	62	80	0	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	250	-	-	-	-	-	350	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	86	86	86	85	85	85	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	1265	9	34	1040	24	4	0	73	96	0	17
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1064	0	0	1274	0	0	1876	2420	637	1771	2412	532
Stage 1	-	-	-	-	-	-	1288	1288	-	1120	1120	-
Stage 2	-	-	-	-	-	-	588	1132	-	651	1292	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	651	-	-	541	-	-	44	32	420	~ 53	32	492
Stage 1	-	-	-	-	-	-	173	233	-	220	280	-
Stage 2	-	-	-	-	-	-	462	276	-	424	232	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	651	-	-	541	-	-	40	30	420	~ 41	30	492
Mov Cap-2 Maneuver	-	-	-	-	-	-	40	30	-	~ 41	30	-
Stage 1	-	-	-	-	-	-	171	230	-	217	262	-
Stage 2	-	-	-	-	-	-	418	259	-	346	229	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.4			21.6			\$ 705.9		
HCM LOS							C			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2			
Capacity (veh/h)	292	651	-	-	541	-	-	41	492			
HCM Lane V/C Ratio	0.262	0.014	-	-	0.062	-	-	2.351	0.034			
HCM Control Delay (s)	21.6	10.6	-	-	12.1	-	-	\$ 827.2	12.6			
HCM Lane LOS	C	B	-	-	B	-	-	F	B			
HCM 95th %tile Q(veh)	1	0	-	-	0.2	-	-	10.4	0.1			
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s			+: Computation Not Defined				*: All major volume in platoon			

Intersection												
Int Delay, s/veh	8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↱		↰	↰↱			↱↰		↰	↰	
Traffic Vol, veh/h	23	935	5	8	824	52	5	0	33	47	0	82
Future Vol, veh/h	23	935	5	8	824	52	5	0	33	47	0	82
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	-	350	-	-	-	-	-	300	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	82	82	82	65	65	65	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	1100	6	10	1005	63	8	0	51	59	0	104

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1068	0	0	1106	0	0	1680	2245	553	1661	2217	534
Stage 1	-	-	-	-	-	-	1157	1157	-	1057	1057	-
Stage 2	-	-	-	-	-	-	523	1088	-	604	1160	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	648	-	-	627	-	-	62	41	477	64	43	491
Stage 1	-	-	-	-	-	-	209	269	-	240	300	-
Stage 2	-	-	-	-	-	-	505	290	-	452	268	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	648	-	-	627	-	-	47	39	477	~ 55	41	491
Mov Cap-2 Maneuver	-	-	-	-	-	-	47	39	-	~ 55	41	-
Stage 1	-	-	-	-	-	-	200	258	-	230	295	-
Stage 2	-	-	-	-	-	-	392	285	-	387	257	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.1	27.7	106.8
HCM LOS			D	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	216	648	-	-	627	-	-	55	491
HCM Lane V/C Ratio	0.271	0.042	-	-	0.016	-	-	1.082	0.211
HCM Control Delay (s)	27.7	10.8	-	-	10.8	-	-	268.3	14.3
HCM Lane LOS	D	B	-	-	B	-	-	F	B
HCM 95th %tile Q(veh)	1.1	0.1	-	-	0	-	-	5	0.8

Notes			
~: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	737	381	196	599	74	303	541	377	131	309	75
Future Volume (veh/h)	49	737	381	196	599	74	303	541	377	131	309	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1753	1841	1870	1796	1796	1776	1776	1847	2106	2091	2159
Adj Flow Rate, veh/h	53	801	0	225	689	0	337	601	0	166	391	0
Peak Hour Factor	0.92	0.92	0.92	0.87	0.87	0.87	0.90	0.90	0.90	0.79	0.79	0.79
Percent Heavy Veh, %	4	5	4	2	2	2	2	2	2	2	3	4
Cap, veh/h	270	925		252	1018		354	533		236	581	
Arrive On Green	0.06	0.28	0.00	0.08	0.30	0.00	0.10	0.30	0.00	0.08	0.28	0.00
Sat Flow, veh/h	1753	3330	1560	1781	3501	0	1692	1776	1565	2006	2091	1830
Grp Volume(v), veh/h	53	801	0	225	689	0	337	601	0	166	391	0
Grp Sat Flow(s),veh/h/ln	1753	1665	1560	1781	1706	0	1692	1776	1565	2006	2091	1830
Q Serve(g_s), s	1.9	20.6	0.0	7.0	16.0	0.0	9.0	27.0	0.0	5.2	15.0	0.0
Cycle Q Clear(g_c), s	1.9	20.6	0.0	7.0	16.0	0.0	9.0	27.0	0.0	5.2	15.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	270	925		252	1018		354	533		236	581	
V/C Ratio(X)	0.20	0.87		0.89	0.68		0.95	1.13		0.70	0.67	
Avail Cap(c_a), veh/h	306	925		252	1018		354	533		236	581	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	21.7	30.9	0.0	27.1	27.8	0.0	28.6	31.5	0.0	23.8	28.9	0.0
Incr Delay (d2), s/veh	0.8	10.7	0.0	30.5	3.6	0.0	35.7	79.2	0.0	11.4	6.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	10.1	0.0	3.9	7.4	0.0	7.3	24.2	0.0	3.4	9.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.5	41.6	0.0	57.6	31.4	0.0	64.3	110.7	0.0	35.2	35.0	0.0
LnGrp LOS	C	D		E	C		E	F		D	C	
Approach Vol, veh/h		854	A		914	A		938	A		557	A
Approach Delay, s/veh		40.4			37.8			94.0			35.1	
Approach LOS		D			D			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.0	31.0	15.0	31.0	11.1	32.9	13.0	33.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	7.0	25.0	9.0	25.0	7.0	25.0	7.0	27.0				
Max Q Clear Time (g_c+I1), s	9.0	0.0	11.0	0.0	3.9	0.0	7.2	0.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	54.2
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	3:45	3:45	3:45	3:45	3:45	3:45	3:45
End Time	5:15	5:15	5:15	5:15	5:15	5:15	5:15
Total Time (min)	90	90	90	90	90	90	90
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4	4
Vehs Entered	14028	14193	13877	13931	14217	13888	14217
Vehs Exited	13904	14025	13827	13799	14105	13622	13963
Starting Vehs	593	661	654	648	566	585	600
Ending Vehs	717	829	704	780	678	851	854
Travel Distance (km)	14259	14512	14167	13995	14499	14136	14632
Travel Time (hr)	1076.1	1021.0	1227.8	1126.7	975.3	1280.7	994.9
Total Delay (hr)	812.6	753.6	966.3	868.1	707.7	1020.0	725.2
Total Stops	18964	19900	18980	19095	18785	19510	19365
Fuel Used (l)	1856.9	1825.3	1987.7	1886.0	1787.9	2020.7	1806.0

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	3:45	3:45	3:45	3:45
End Time	5:15	5:15	5:15	5:15
Total Time (min)	90	90	90	90
Time Recorded (min)	60	60	60	60
# of Intervals	5	5	5	5
# of Recorded Intervals	4	4	4	4
Vehs Entered	13961	14036	13662	13998
Vehs Exited	13771	13899	13625	13853
Starting Vehs	633	605	558	612
Ending Vehs	823	742	595	756
Travel Distance (km)	14384	14377	13973	14293
Travel Time (hr)	1087.5	1030.5	1004.1	1082.5
Total Delay (hr)	822.5	765.5	745.3	818.7
Total Stops	20164	19503	17671	19190
Fuel Used (l)	1877.6	1826.6	1780.1	1865.5

Interval #0 Information Seeding

Start Time	3:45
End Time	4:15
Total Time (min)	30
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	4:15
End Time	4:30
Total Time (min)	15
Volumes adjusted by PHF, Growth Factors.	

Run Number	1	10	2	3	4	5	6
Vehs Entered	3881	3958	3832	3927	3941	3881	3868
Vehs Exited	3745	3843	3661	3797	3788	3666	3691
Starting Vehs	593	661	654	648	566	585	600
Ending Vehs	729	776	825	778	719	800	777
Travel Distance (km)	3764	3914	3675	3700	3830	3751	3826
Travel Time (hr)	216.6	228.3	261.4	242.6	210.1	237.3	204.5
Total Delay (hr)	147.0	156.2	193.3	174.0	139.4	168.1	134.0
Total Stops	4866	5073	4961	5140	4608	4935	4769
Fuel Used (l)	435.8	455.0	468.6	450.6	432.6	449.9	425.4

Interval #1 Information Recording

Start Time	4:15
End Time	4:30
Total Time (min)	15
Volumes adjusted by PHF, Growth Factors.	

Run Number	7	8	9	Avg
Vehs Entered	3956	3935	3811	3899
Vehs Exited	3796	3736	3638	3738
Starting Vehs	633	605	558	612
Ending Vehs	793	804	731	765
Travel Distance (km)	3881	3760	3640	3774
Travel Time (hr)	221.9	219.9	214.5	225.7
Total Delay (hr)	150.1	150.3	146.7	155.9
Total Stops	5142	4962	4691	4913
Fuel Used (l)	445.9	435.8	423.1	442.3

Interval #2 Information Recording

Start Time	4:30
End Time	4:45
Total Time (min)	15
Volumes adjusted by Growth Factors, Anti PHF.	

Run Number	1	10	2	3	4	5	6
Vehs Entered	3367	3359	3293	3363	3425	3290	3495
Vehs Exited	3416	3378	3404	3398	3485	3320	3487
Starting Vehs	729	776	825	778	719	800	777
Ending Vehs	680	757	714	743	659	770	785
Travel Distance (km)	3439	3467	3506	3472	3618	3451	3605
Travel Time (hr)	260.5	247.5	315.5	280.0	249.1	300.7	251.8
Total Delay (hr)	196.8	183.7	251.1	216.0	182.4	237.1	185.2
Total Stops	4548	4661	4628	4695	4886	4541	4899
Fuel Used (l)	447.9	438.2	504.0	468.2	451.5	485.2	452.7

Interval #2 Information Recording

Start Time	4:30
End Time	4:45
Total Time (min)	15
Volumes adjusted by Growth Factors, Anti PHF.	

Run Number	7	8	9	Avg
Vehs Entered	3342	3456	3284	3363
Vehs Exited	3362	3480	3382	3409
Starting Vehs	793	804	731	765
Ending Vehs	773	780	633	720
Travel Distance (km)	3536	3619	3511	3522
Travel Time (hr)	250.6	260.9	264.4	268.1
Total Delay (hr)	185.7	194.3	199.4	203.2
Total Stops	4904	5046	4706	4741
Fuel Used (l)	449.5	463.0	458.5	461.9

Interval #3 Information Recording

Start Time	4:45
End Time	5:00
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	10	2	3	4	5	6
Vehs Entered	3399	3410	3343	3295	3414	3445	3425
Vehs Exited	3296	3374	3304	3283	3393	3346	3456
Starting Vehs	680	757	714	743	659	770	785
Ending Vehs	783	793	753	755	680	869	754
Travel Distance (km)	3465	3590	3464	3372	3588	3484	3665
Travel Time (hr)	289.3	264.8	319.3	293.0	252.4	343.6	262.9
Total Delay (hr)	225.4	198.7	255.4	230.7	186.3	279.4	195.5
Total Stops	4740	5037	4654	4571	4684	4858	4662
Fuel Used (l)	475.2	461.0	500.5	472.5	451.9	521.1	462.9

Interval #3 Information Recording

Start Time	4:45
End Time	5:00
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	7	8	9	Avg
Vehs Entered	3278	3227	3278	3350
Vehs Exited	3270	3312	3356	3341
Starting Vehs	773	780	633	720
Ending Vehs	781	695	555	737
Travel Distance (km)	3481	3435	3492	3504
Travel Time (hr)	282.5	271.4	256.7	283.6
Total Delay (hr)	218.3	208.3	192.3	219.0
Total Stops	4856	4680	4249	4699
Fuel Used (l)	470.5	456.6	448.5	472.1

Interval #4 Information Recording

Start Time	5:00
End Time	5:15
Total Time (min)	15
Volumes adjusted by Growth Factors, Anti PHF.	

Run Number	1	10	2	3	4	5	6
Vehs Entered	3381	3466	3409	3346	3437	3272	3429
Vehs Exited	3447	3430	3458	3321	3439	3290	3329
Starting Vehs	783	793	753	755	680	869	754
Ending Vehs	717	829	704	780	678	851	854
Travel Distance (km)	3590	3542	3521	3451	3463	3450	3536
Travel Time (hr)	309.7	280.5	331.6	310.9	263.8	399.0	275.6
Total Delay (hr)	243.4	215.0	266.5	247.3	199.7	335.4	210.5
Total Stops	4810	5129	4737	4689	4607	5176	5035
Fuel Used (l)	498.0	471.1	514.6	494.7	451.8	564.4	465.1

Interval #4 Information Recording

Start Time	5:00
End Time	5:15
Total Time (min)	15
Volumes adjusted by Growth Factors, Anti PHF.	

Run Number	7	8	9	Avg
Vehs Entered	3385	3418	3289	3376
Vehs Exited	3343	3371	3249	3368
Starting Vehs	781	695	555	737
Ending Vehs	823	742	595	756
Travel Distance (km)	3486	3562	3330	3493
Travel Time (hr)	332.6	278.3	268.6	305.1
Total Delay (hr)	268.3	212.5	206.9	240.6
Total Stops	5262	4815	4025	4827
Fuel Used (l)	511.7	471.3	450.0	489.3

2: Marlin Drive/Hemmer Jane Drive & Topsail Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.4	0.5	2.0
Denied Del/Veh (s)	0.3	0.0	0.0	0.1	0.0	0.0	0.2	3.9	82.4	109.8	2.7
Total Delay (hr)	0.1	0.5	0.0	0.2	1.5	0.2	0.1	0.8	7.0	0.4	10.7
Total Del/Veh (s)	13.9	1.4	0.8	13.1	5.2	5.2	109.5	46.2	374.4	98.9	14.3
Stop Delay (hr)	0.1	0.0	0.0	0.1	0.1	0.0	0.1	0.8	7.0	0.4	8.6
Stop Del/Veh (s)	12.0	0.0	0.1	9.1	0.3	0.4	108.1	46.2	376.5	98.5	11.5

6: Humber Drive/Moffatt Road & Topsail Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.0	1.6	20.0
Denied Del/Veh (s)	2.4	0.4	0.6	0.1	0.0	0.0	0.2	0.1	0.1	1239.7	1402.2	1222.4
Total Delay (hr)	0.2	0.3	0.0	0.1	0.6	0.1	0.1	0.1	0.1	13.4	0.1	3.3
Total Del/Veh (s)	10.8	0.9	0.8	10.1	2.3	2.6	132.4	196.1	29.6	628.2	438.6	342.6
Stop Delay (hr)	0.2	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	13.6	0.1	3.4
Stop Del/Veh (s)	9.0	0.0	0.0	8.1	0.0	0.0	130.5	191.6	29.2	634.2	439.9	345.0

6: Humber Drive/Moffatt Road & Topsail Road Performance by movement

Movement	All
Denied Delay (hr)	62.8
Denied Del/Veh (s)	88.8
Total Delay (hr)	18.4
Total Del/Veh (s)	26.6
Stop Delay (hr)	17.5
Stop Del/Veh (s)	25.3

11: Mount Carson Avenue & Lasalle Drive/Brodie Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.0
Denied Del/Veh (s)	4.0	0.2	0.3	4.0	0.2	0.1	3.1	0.7	0.8	3.0	0.8	0.8
Total Delay (hr)	0.5	0.0	0.1	0.1	0.0	0.0	0.2	0.2	0.0	0.1	0.3	0.0
Total Del/Veh (s)	35.8	32.3	5.8	23.1	27.7	7.1	8.5	1.2	0.6	5.7	2.0	1.1
Stop Delay (hr)	0.4	0.0	0.0	0.1	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Stop Del/Veh (s)	34.4	28.6	5.5	21.2	24.9	6.8	6.1	0.0	0.0	3.1	0.0	0.0

11: Mount Carson Avenue & Lasalle Drive/Brodie Street Performance by movement

Movement	All
Denied Delay (hr)	0.5
Denied Del/Veh (s)	1.1
Total Delay (hr)	1.5
Total Del/Veh (s)	3.6
Stop Delay (hr)	0.8
Stop Del/Veh (s)	2.0

14: Allston Street/Brougham Drive & Kenmount Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.1	0.0	0.0	0.0	0.0	0.0	1.6	5.0	4.1	0.1	0.0	0.0
Denied Del/Veh (s)	2.3	0.2	0.3	0.0	0.0	0.0	115.1	118.3	125.9	3.8	0.5	0.5
Total Delay (hr)	1.1	3.4	0.1	1.0	4.9	1.2	2.2	7.5	3.6	2.3	0.7	0.3
Total Del/Veh (s)	35.3	16.8	11.4	20.1	17.2	16.5	155.7	177.4	112.9	64.9	49.0	24.2
Stop Delay (hr)	1.0	2.3	0.1	0.7	2.8	0.8	2.1	7.1	3.4	2.1	0.6	0.3
Stop Del/Veh (s)	30.2	11.5	8.8	14.2	10.0	10.4	147.2	167.6	105.9	60.9	43.9	22.0

14: Allston Street/Brougham Drive & Kenmount Road Performance by movement

Movement	All
Denied Delay (hr)	11.0
Denied Del/Veh (s)	13.9
Total Delay (hr)	28.4
Total Del/Veh (s)	35.4
Stop Delay (hr)	23.3
Stop Del/Veh (s)	29.1

21: Mount Carson Avenue & Wyatt Boulevard Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.1	0.0	0.0	0.1	0.2
Denied Del/Veh (s)	3.7	0.3	0.5	0.5	0.4	0.4	0.5
Total Delay (hr)	0.1	0.4	0.2	0.0	0.9	0.2	1.8
Total Del/Veh (s)	60.4	4.9	1.6	0.8	10.9	1.0	3.3
Stop Delay (hr)	0.1	0.2	0.0	0.0	0.6	0.0	0.9
Stop Del/Veh (s)	57.2	3.1	0.0	0.1	7.1	0.0	1.7

24: Mount Carson Avenue & Kenmount Road Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	12.8	3.0	1.0	0.9	0.0	0.1	17.8
Denied Del/Veh (s)	58.1	49.7	4.7	2.5	0.6	0.8	16.2
Total Delay (hr)	27.8	6.4	36.8	15.8	3.9	2.3	92.9
Total Del/Veh (s)	125.1	106.8	165.9	42.8	61.4	12.5	82.8
Stop Delay (hr)	24.5	5.7	28.7	5.4	3.5	1.2	69.0
Stop Del/Veh (s)	110.5	95.5	129.3	14.6	55.6	6.2	61.5

28: Kenmount Road & Great Eastern Avenue Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.6	78.5	1.3	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	166.3	152.7	153.2	0.2	0.1	0.1	3.7	0.3	0.4
Total Delay (hr)	3.1	3.5	0.0	0.3	43.4	0.5	0.6	0.0	0.1	0.5	0.1	1.2
Total Del/Veh (s)	55.3	10.2	9.4	99.7	86.4	63.6	54.5	44.0	15.9	61.6	63.3	16.1
Stop Delay (hr)	2.7	1.2	0.0	0.2	30.0	0.3	0.6	0.0	0.1	0.5	0.0	0.9
Stop Del/Veh (s)	47.2	3.3	3.2	75.5	59.6	41.4	52.8	42.0	15.8	57.4	58.4	12.3

28: Kenmount Road & Great Eastern Avenue Performance by movement

Movement	All
Denied Delay (hr)	80.4
Denied Del/Veh (s)	78.3
Total Delay (hr)	53.4
Total Del/Veh (s)	52.3
Stop Delay (hr)	36.6
Stop Del/Veh (s)	35.8

33: Commonwealth Avenue/Mount Carson Avenue & Topsail Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.1	2.3	3.6	0.5	8.0	9.3	5.4	17.2	119.0	9.7
Denied Del/Veh (s)	0.4	0.0	0.3	24.2	15.1	11.5	83.1	76.7	78.1	696.3	710.4	731.2
Total Delay (hr)	1.3	11.1	1.9	32.6	14.4	1.5	26.4	7.2	1.7	0.9	11.4	0.5
Total Del/Veh (s)	58.5	50.6	10.5	325.7	60.8	34.1	273.5	60.8	25.4	50.4	95.1	50.2
Stop Delay (hr)	1.1	8.9	0.3	32.2	10.4	0.9	25.8	5.7	1.0	0.8	10.4	0.4
Stop Del/Veh (s)	50.5	40.6	1.8	321.6	44.0	20.2	267.8	48.1	15.5	47.2	86.6	44.7

33: Commonwealth Avenue/Mount Carson Avenue & Topsail Road Performance by movement

Movement	All
Denied Delay (hr)	175.1
Denied Del/Veh (s)	136.5
Total Delay (hr)	110.8
Total Del/Veh (s)	90.1
Stop Delay (hr)	98.0
Stop Del/Veh (s)	79.7

36: Brant Drive/H3 Access #1 & Kenmount Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.4	0.2	0.1
Denied Del/Veh (s)	0.2	0.0	0.0	0.0	0.0	0.0	5.7	1.5	3.3	6.9	5.0	2.5
Total Delay (hr)	1.4	2.9	0.1	0.4	7.1	0.4	0.6	3.0	0.2	4.5	2.0	1.1
Total Del/Veh (s)	41.2	12.2	7.3	23.0	20.0	15.6	48.1	70.0	29.2	85.6	65.1	27.5
Stop Delay (hr)	1.2	1.3	0.0	0.3	2.9	0.1	0.5	2.8	0.2	4.2	1.8	0.9
Stop Del/Veh (s)	34.7	5.7	1.4	13.7	8.1	4.5	43.5	64.3	25.9	80.1	57.4	22.1

36: Brant Drive/H3 Access #1 & Kenmount Road Performance by movement

Movement	All
Denied Delay (hr)	0.8
Denied Del/Veh (s)	0.9
Total Delay (hr)	23.7
Total Del/Veh (s)	27.3
Stop Delay (hr)	16.1
Stop Del/Veh (s)	18.6

42: Kenmount Road & H3 Access #2 Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.2	0.1	0.3
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	4.4	1.5	0.4
Total Delay (hr)	3.3	28.0	5.2	0.6	3.1	0.2	40.4
Total Del/Veh (s)	100.3	111.7	14.0	9.3	57.9	5.7	49.9
Stop Delay (hr)	2.9	24.6	2.4	0.1	2.9	0.1	33.0
Stop Del/Veh (s)	87.9	98.2	6.4	1.9	54.1	2.8	40.7

48: Topsail Road & Farrell Drive Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.1	0.0	0.2	0.0	0.4
Denied Del/Veh (s)	0.2	0.0	0.4	0.5	3.7	0.5	0.4
Total Delay (hr)	0.6	2.4	6.0	1.0	1.3	0.3	11.6
Total Del/Veh (s)	25.9	8.6	17.1	13.8	28.8	10.6	14.5
Stop Delay (hr)	0.5	0.9	2.8	0.5	1.1	0.2	6.1
Stop Del/Veh (s)	20.7	3.2	8.0	7.2	25.6	9.4	7.7

Total Network Performance

Denied Delay (hr)	351.2
Denied Del/Veh (s)	87.3
Total Delay (hr)	467.5
Total Del/Veh (s)	115.2
Stop Delay (hr)	363.6
Stop Del/Veh (s)	89.6

Intersection: 2: Marlin Drive/Hemmer Jane Drive & Topsail Road

Movement	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	TR	L	T	TR	LTR	L	TR
Maximum Queue (m)	9.5	1.2	17.2	21.4	24.5	46.1	42.4	87.0
Average Queue (m)	2.6	0.0	5.1	0.8	0.9	13.7	34.5	45.7
95th Queue (m)	8.5	0.8	12.6	21.0	21.3	37.8	53.2	109.1
Link Distance (m)		278.5		215.2	215.2	64.5		83.3
Upstream Blk Time (%)						2		30
Queuing Penalty (veh)						0		0
Storage Bay Dist (m)	15.0		25.0				35.0	
Storage Blk Time (%)	0		0				65	0
Queuing Penalty (veh)	1		1				10	0

Intersection: 6: Humber Drive/Moffatt Road & Topsail Road

Movement	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	TR	L	T	TR	LTR	L	TR
Maximum Queue (m)	22.9	0.1	12.8	0.9	2.5	19.3	37.4	121.1
Average Queue (m)	6.9	0.0	3.8	0.0	0.2	4.4	36.5	112.6
95th Queue (m)	16.2	0.1	9.8	0.9	1.4	13.8	38.7	120.4
Link Distance (m)		175.9		278.5	278.5	185.8		108.6
Upstream Blk Time (%)								99
Queuing Penalty (veh)								0
Storage Bay Dist (m)	30.0		35.0				30.0	
Storage Blk Time (%)	0						100	1
Queuing Penalty (veh)	1						56	1

Intersection: 11: Mount Carson Avenue & Lasalle Drive/Brodie Street

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (m)	26.5	24.4	16.1	16.2	22.6	6.1	15.3	10.3
Average Queue (m)	10.2	7.1	3.9	4.7	9.4	0.4	5.7	0.9
95th Queue (m)	21.2	17.6	12.2	13.2	19.0	3.1	13.8	5.3
Link Distance (m)		43.4		56.6		149.3		91.4
Upstream Blk Time (%)		0						
Queuing Penalty (veh)		0						
Storage Bay Dist (m)	25.0		25.0		85.0		50.0	
Storage Blk Time (%)	2	0	0	0				
Queuing Penalty (veh)	1	0	0	0				

Intersection: 14: Allston Street/Brougham Drive & Kenmount Road

Movement	EB	EB	EB	WB	WB	WB	B17	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	T	L	TR	L	TR
Maximum Queue (m)	56.2	82.4	83.0	42.4	104.1	113.7	284.4	32.3	147.9	54.4	63.3
Average Queue (m)	23.6	44.8	38.1	21.7	40.8	50.1	12.7	17.8	111.6	29.6	21.0
95th Queue (m)	48.3	71.4	68.6	41.4	79.5	88.6	167.2	37.7	182.3	51.4	47.2
Link Distance (m)		452.6	452.6		163.2	163.2	696.5		136.1		156.0
Upstream Blk Time (%)						0	0		50		
Queuing Penalty (veh)						0	1		0		
Storage Bay Dist (m)	50.0			35.0				25.0		50.0	
Storage Blk Time (%)	0	5		2	15			5	46	3	0
Queuing Penalty (veh)	1	6		8	28			14	24	3	0

Intersection: 21: Mount Carson Avenue & Wyatt Boulevard

Movement	WB	WB	NB	SB	SB
Directions Served	L	R	TR	L	T
Maximum Queue (m)	9.5	32.7	9.5	60.9	14.2
Average Queue (m)	1.1	16.0	1.4	22.5	0.5
95th Queue (m)	5.9	26.1	6.2	45.0	14.5
Link Distance (m)		99.9	87.5	139.9	139.9
Upstream Blk Time (%)				0	0
Queuing Penalty (veh)				0	0
Storage Bay Dist (m)	40.0				
Storage Blk Time (%)		0			
Queuing Penalty (veh)		0			

Intersection: 24: Mount Carson Avenue & Kenmount Road

Movement	EB	EB	B26	B26	WB	WB	WB	NB	NB
Directions Served	T	TR	T	T	L	T	T	L	R
Maximum Queue (m)	149.3	151.4	234.4	234.9	127.5	438.8	464.4	114.8	132.5
Average Queue (m)	140.1	140.6	201.4	204.1	127.3	384.5	392.4	55.9	62.9
95th Queue (m)	147.1	148.3	303.1	302.5	129.1	503.9	551.1	101.0	116.3
Link Distance (m)	118.0	118.0	234.0	234.0		432.7	432.7	128.9	128.9
Upstream Blk Time (%)	76	77	24	26		3	15	1	1
Queuing Penalty (veh)	401	404	125	136		28	160	0	0
Storage Bay Dist (m)					120.0				
Storage Blk Time (%)					62	0			
Queuing Penalty (veh)					418	3			

Intersection: 28: Kenmount Road & Great Eastern Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (m)	52.3	108.4	291.8	40.3	257.2	253.2	34.9	18.6	52.2	109.4
Average Queue (m)	38.1	19.3	40.9	5.0	245.7	243.5	11.9	5.5	12.5	34.1
95th Queue (m)	55.8	72.5	191.4	23.8	269.0	270.2	26.2	14.7	36.2	94.5
Link Distance (m)		432.7	432.7		241.2	241.2	34.5	34.5		141.4
Upstream Blk Time (%)			1		59	31	0			0
Queuing Penalty (veh)			5		0	0	0			0
Storage Bay Dist (m)	45.0			40.0					45.0	
Storage Blk Time (%)	9	0		0	48				0	13
Queuing Penalty (veh)	58	0		0	5				0	4

Intersection: 33: Commonwealth Avenue/Mount Carson Avenue & Topsail Road

Movement	EB	EB	EB	EB	WB	WB	WB	B35	B35	NB	NB	NB
Directions Served	L	T	T	R	L	T	TR	T	T	L	T	R
Maximum Queue (m)	42.4	143.9	157.1	72.5	122.5	323.1	314.1	159.7	159.4	250.3	288.2	96.7
Average Queue (m)	25.2	77.6	79.6	38.6	120.7	269.5	203.0	61.0	55.6	206.5	198.4	15.0
95th Queue (m)	52.1	117.3	131.8	97.9	136.0	379.4	355.8	200.5	198.2	308.1	372.7	74.1
Link Distance (m)		215.2	215.2			293.5	293.5	323.4	323.4		289.6	
Upstream Blk Time (%)						49	4	0	0		20	
Queuing Penalty (veh)						322	24	1	1		0	
Storage Bay Dist (m)	35.0			65.0	115.0					250.0		100.0
Storage Blk Time (%)	2	43	11	0	87	2				16	4	0
Queuing Penalty (veh)	6	35	74	1	376	6				107	25	0

Intersection: 33: Commonwealth Avenue/Mount Carson Avenue & Topsail Road

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (m)	94.5	105.4	47.5
Average Queue (m)	27.4	96.4	14.6
95th Queue (m)	77.7	100.6	50.1
Link Distance (m)	91.0	91.0	
Upstream Blk Time (%)	4	80	
Queuing Penalty (veh)	0	0	
Storage Bay Dist (m)			40.0
Storage Blk Time (%)		76	0
Queuing Penalty (veh)		33	1

Intersection: 36: Brant Drive/H3 Access #1 & Kenmount Road

Movement	EB	EB	EB	B17	B17	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	T	T	L	T	TR	L	TR	L	TR
Maximum Queue (m)	51.4	76.9	75.5	16.5	34.0	51.8	126.5	193.1	47.3	81.4	57.4	157.6
Average Queue (m)	23.9	27.5	29.7	0.6	1.2	13.9	44.5	50.8	14.8	43.1	43.5	62.8
95th Queue (m)	42.6	56.5	59.3	16.8	24.8	36.5	95.5	124.4	40.3	77.3	67.2	139.2
Link Distance (m)		696.5	696.5	163.2	163.2		421.2	421.2		82.8		156.1
Upstream Blk Time (%)				0	0			0		2		3
Queuing Penalty (veh)				0	0			0		0		0
Storage Bay Dist (m)	45.0					45.0			40.0		50.0	
Storage Blk Time (%)	1	2					7		0	21	19	10
Queuing Penalty (veh)	3	2					5		0	9	48	18

Intersection: 42: Kenmount Road & H3 Access #2

Movement	EB	EB	EB	WB	WB	SB	SB
Directions Served	L	T	T	T	TR	L	R
Maximum Queue (m)	52.3	279.6	281.0	88.1	94.9	47.3	91.4
Average Queue (m)	30.4	140.8	144.4	44.8	47.7	37.7	25.1
95th Queue (m)	60.4	344.2	344.9	79.0	87.6	53.6	82.5
Link Distance (m)		421.2	421.2	234.0	234.0		88.9
Upstream Blk Time (%)		1	2				2
Queuing Penalty (veh)		5	7				0
Storage Bay Dist (m)	45.0					40.0	
Storage Blk Time (%)	1	40				19	0
Queuing Penalty (veh)	2	47				25	0

Intersection: 48: Topsail Road & Farrell Drive

Movement	EB	EB	EB	B35	B35	WB	WB	SB	SB
Directions Served	L	T	T	T	T	T	TR	L	R
Maximum Queue (m)	44.7	77.6	80.2	59.1	150.2	123.8	124.9	47.1	24.2
Average Queue (m)	15.5	26.7	31.5	2.1	4.3	61.4	56.2	24.7	11.5
95th Queue (m)	32.6	63.1	67.8	43.2	63.3	106.2	103.7	42.3	20.9
Link Distance (m)		323.4	323.4	293.5	293.5	354.8	354.8		142.8
Upstream Blk Time (%)				0	0				
Queuing Penalty (veh)				0	1				
Storage Bay Dist (m)	45.0							50.0	
Storage Blk Time (%)	0	2						0	
Queuing Penalty (veh)	0	1						0	

Network Summary

Network wide Queuing Penalty: 3086

Intersection: 14: Allston Street/Brougham Drive & Kenmount Road

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Maximum Green (s)	15.0	44.0	7.0	28.0	8.0	51.0	7.0	28.0
Minimum Green (s)	7.0	25.0	7.0	10.0	7.0	25.0	7.0	10.0
Recall	None	C-Max	None	None	None	C-Max	None	None
Avg. Green (s)	9.0	68.8	12.1	20.0	10.1	68.1	7.2	15.9
g/C Ratio	-0.01	NA	-0.01	-0.01	-0.01	NA	-0.01	NA
Cycles Skipped (%)	22	0	29	11	22	0	3	0
Cycles @ Minimum (%)	30	0	54	7	22	0	97	14
Cycles Maxed Out (%)	0	100	71	0	4	100	97	0
Cycles with Peds (%)	0	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
Number of Complete Cycles : 0

Intersection: 24: Mount Carson Avenue & Kenmount Road

Phase	1	2	4	6
Movement(s) Served	WBL	EBT	NBL	WBTL
Maximum Green (s)	41.0	37.0	24.0	84.0
Minimum Green (s)	7.0	25.0	10.0	25.0
Recall	None	C-Max	None	C-Max
Avg. Green (s)	44.6	37.0	21.1	90.5
g/C Ratio	NA	NA	NA	NA
Cycles Skipped (%)	0	0	0	0
Cycles @ Minimum (%)	0	0	0	0
Cycles Maxed Out (%)	100	100	45	100
Cycles with Peds (%)	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
Number of Complete Cycles : 0

Intersection: 28: Kenmount Road & Great Eastern Avenue

Phase	1	2	3	4	5	6	8
Movement(s) Served	WBL	EBTL	SBL	NBTL	EBL	WBTL	SBTL
Maximum Green (s)	7.0	59.0	7.0	23.0	9.0	57.0	36.0
Minimum Green (s)	7.0	25.0	7.0	10.0	7.0	25.0	10.0
Recall	None	C-Max	None	None	None	C-Max	None
Avg. Green (s)	7.7	109.1	7.9	11.6	13.4	75.6	17.7
g/C Ratio	-0.01	-0.01	-0.01	-0.01	-0.01	NA	-0.01
Cycles Skipped (%)	92	13	43	25	3	0	11
Cycles @ Minimum (%)	8	0	43	46	7	0	32
Cycles Maxed Out (%)	0	88	57	0	3	100	0
Cycles with Peds (%)	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

Intersection: 33: Commonwealth Avenue/Mount Carson Avenue & Topsail Road

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Maximum Green (s)	14.0	32.0	14.0	31.0	7.0	39.0	7.0	38.0
Minimum Green (s)	7.0	25.0	7.0	25.0	7.0	25.0	7.0	25.0
Recall	None	Max	None	Max	None	Max	None	Max
Avg. Green (s)	14.0	32.2	14.0	31.0	7.1	41.9	7.2	42.0
g/C Ratio	NA	NA	NA	NA	-0.01	NA	-0.01	NA
Cycles Skipped (%)	0	0	0	0	17	0	21	0
Cycles @ Minimum (%)	0	0	0	0	83	0	79	0
Cycles Maxed Out (%)	97	100	100	100	83	100	79	100
Cycles with Peds (%)	0	0	0	0	0	0	0	3

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

Intersection: 36: Brant Drive/H3 Access #1 & Kenmount Road

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Maximum Green (s)	7.0	58.0	7.0	24.0	8.0	57.0	8.0	23.0
Minimum Green (s)	7.0	25.0	7.0	10.0	7.0	25.0	7.0	10.0
Recall	None	C-Max	None	None	None	C-Max	None	None
Avg. Green (s)	7.7	73.1	7.9	23.6	9.2	67.5	8.3	17.0
g/C Ratio	-0.01	NA	-0.01	NA	-0.01	NA	NA	NA
Cycles Skipped (%)	65	0	36	0	26	0	0	0
Cycles @ Minimum (%)	19	0	61	0	26	0	0	3
Cycles Maxed Out (%)	8	100	64	18	19	100	97	17
Cycles with Peds (%)	0	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

Intersection: 42: Kenmount Road & H3 Access #2

Phase	2	4	5	6
Movement(s) Served	EBTL	SBL	EBL	WBT
Maximum Green (s)	85.0	23.0	10.0	69.0
Minimum Green (s)	25.0	10.0	7.0	25.0
Recall	C-Max	None	None	C-Max
Avg. Green (s)	93.1	18.9	9.4	84.6
g/C Ratio	NA	NA	-0.01	NA
Cycles Skipped (%)	0	0	43	0
Cycles @ Minimum (%)	0	7	18	0
Cycles Maxed Out (%)	100	33	7	100
Cycles with Peds (%)	0	0	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

Intersection: 48: Topsail Road & Farrell Drive

Phase	2	4	5	6
Movement(s) Served	EBTL	SBL	EBL	WBT
Maximum Green (s)	54.0	24.0	7.0	41.0
Minimum Green (s)	25.0	10.0	7.0	25.0
Recall	Max	None	None	Max
Avg. Green (s)	57.4	14.2	7.2	48.8
g/C Ratio	-0.01	-0.01	-0.01	NA
Cycles Skipped (%)	2	2	52	0
Cycles @ Minimum (%)	0	30	48	0
Cycles Maxed Out (%)	98	5	48	100
Cycles with Peds (%)	0	2	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

172093 Kenmount Hill CDS TIS
Kenmount Road & Brougham Drive/Allston Street

S1A 5-year with Background PM

01/28/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	707	29	186	1016	275	52	150	112	122	49	46
Future Volume (veh/h)	110	707	29	186	1016	275	52	150	112	122	49	46
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1870	1870	1870	1870	1870	1752	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	139	895	37	196	1069	289	65	188	0	145	58	55
Peak Hour Factor	0.79	0.79	0.79	0.95	0.95	0.95	0.80	0.80	0.80	0.84	0.84	0.84
Percent Heavy Veh, %	3	2	2	2	2	2	10	2	2	2	2	2
Cap, veh/h	264	1854	77	408	1511	406	226	227		192	113	107
Arrive On Green	0.06	0.53	0.53	0.07	0.55	0.55	0.05	0.12	0.00	0.06	0.13	0.13
Sat Flow, veh/h	1767	3478	144	1781	2770	743	1668	1870	0	1781	883	837
Grp Volume(v), veh/h	139	457	475	196	683	675	65	188	0	145	0	113
Grp Sat Flow(s),veh/h/ln	1767	1777	1844	1781	1777	1737	1668	1870	0	1781	0	1720
Q Serve(g_s), s	4.2	19.4	19.4	5.9	34.0	34.7	4.0	11.8	0.0	7.0	0.0	7.4
Cycle Q Clear(g_c), s	4.2	19.4	19.4	5.9	34.0	34.7	4.0	11.8	0.0	7.0	0.0	7.4
Prop In Lane	1.00		0.08	1.00		0.43	1.00		0.00	1.00		0.49
Lane Grp Cap(c), veh/h	264	947	984	408	969	948	226	227		192	0	221
V/C Ratio(X)	0.53	0.48	0.48	0.48	0.70	0.71	0.29	0.83		0.76	0.00	0.51
Avail Cap(c_a), veh/h	280	947	984	506	969	948	238	436		192	0	401
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.9	17.6	17.6	12.9	20.1	20.3	42.9	51.5	0.0	46.8	0.0	48.8
Incr Delay (d2), s/veh	1.6	1.8	1.7	0.9	4.3	4.5	0.7	7.4	0.0	15.6	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	9.1	9.4	2.7	16.2	16.2	1.8	6.4	0.0	2.0	0.0	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.6	19.4	19.3	13.8	24.4	24.8	43.6	58.9	0.0	62.4	0.0	50.6
LnGrp LOS	B	B	B	B	C	C	D	E		E	A	D
Approach Vol, veh/h		1071			1554			253	A		258	
Approach Delay, s/veh		19.4			23.2			55.0			57.2	
Approach LOS		B			C			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.4	71.0	12.2	21.4	13.9	72.5	13.0	20.6				
Change Period (Y+Rc), s	7.0	7.0	6.0	6.0	7.0	7.0	6.0	6.0				
Max Green Setting (Gmax), s	15.0	44.0	7.0	28.0	8.0	51.0	7.0	28.0				
Max Q Clear Time (g_c+I1), s	7.9	0.0	6.0	9.4	6.2	0.0	9.0	13.8				
Green Ext Time (p_c), s	0.5	0.0	0.0	0.5	0.1	0.0	0.0	0.8				
Intersection Summary												
HCM 6th Ctrl Delay			27.3									
HCM 6th LOS			C									
Notes												
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.												

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	218	1243	6	11	1857	32	41	3	19	27	2	257
Future Volume (veh/h)	218	1243	6	11	1857	32	41	3	19	27	2	257
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1841	1870	1870
Adj Flow Rate, veh/h	251	1429	7	12	2041	0	79	6	37	36	3	0
Peak Hour Factor	0.87	0.87	0.87	0.91	0.91	0.91	0.52	0.52	0.52	0.75	0.75	0.75
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	4	2	2
Cap, veh/h	207	2386	12	256	2140		176	19	114	208	323	
Arrive On Green	0.08	0.66	0.66	0.02	0.60	0.00	0.08	0.08	0.08	0.04	0.17	0.00
Sat Flow, veh/h	1781	3626	18	1781	3647	0	1414	226	1394	1753	1870	0
Grp Volume(v), veh/h	251	700	736	12	2041	0	79	0	43	36	3	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1867	1781	1777	0	1414	0	1620	1753	1870	0
Q Serve(g_s), s	9.0	26.7	26.7	0.3	64.4	0.0	6.5	0.0	3.0	2.2	0.2	0.0
Cycle Q Clear(g_c), s	9.0	26.7	26.7	0.3	64.4	0.0	6.5	0.0	3.0	2.2	0.2	0.0
Prop In Lane	1.00		0.01	1.00		0.00	1.00		0.86	1.00		0.00
Lane Grp Cap(c), veh/h	207	1169	1229	256	2140		176	0	133	208	323	
V/C Ratio(X)	1.21	0.60	0.60	0.05	0.95		0.45	0.00	0.32	0.17	0.01	
Avail Cap(c_a), veh/h	207	1169	1229	326	2140		331	0	310	239	561	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	40.6	11.6	11.6	10.4	22.3	0.0	53.6	0.0	51.9	45.5	41.1	0.0
Incr Delay (d2), s/veh	131.4	2.3	2.2	0.1	11.3	0.0	1.8	0.0	1.4	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.1	12.1	12.7	0.1	31.4	0.0	2.5	0.0	1.4	1.0	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	172.0	13.9	13.7	10.5	33.6	0.0	55.3	0.0	53.3	45.9	41.1	0.0
LnGrp LOS	F	B	B	B	C		E	A	D	D	D	
Approach Vol, veh/h		1687			2053	A		122			39	A
Approach Delay, s/veh		37.3			33.4			54.6			45.5	
Approach LOS		D			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	8.3	85.0	10.9	15.8	15.0	78.3		26.7				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	7.0	59.0	7.0	23.0	9.0	57.0		36.0				
Max Q Clear Time (g_c+I1), s	2.3	0.0	4.2	8.5	11.0	0.0		2.2				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.5	0.0	0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			35.9									
HCM 6th LOS			D									
Notes												
Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	118	871	1353	238	183	130
Future Volume (veh/h)	118	871	1353	238	183	130
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	128	947	1471	0	199	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	314	2733	2351		233	
Arrive On Green	0.06	0.77	0.66	0.00	0.13	0.00
Sat Flow, veh/h	1781	3647	3741	0	1781	1585
Grp Volume(v), veh/h	128	947	1471	0	199	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1777	0	1781	1585
Q Serve(g_s), s	2.5	10.1	28.7	0.0	13.1	0.0
Cycle Q Clear(g_c), s	2.5	10.1	28.7	0.0	13.1	0.0
Prop In Lane	1.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	314	2733	2351		233	
V/C Ratio(X)	0.41	0.35	0.63		0.85	
Avail Cap(c_a), veh/h	360	2733	2351		341	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	10.6	4.4	11.7	0.0	51.0	0.0
Incr Delay (d2), s/veh	0.8	0.3	1.3	0.0	12.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	4.1	12.6	0.0	7.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.5	4.7	13.0	0.0	64.0	0.0
LnGrp LOS	B	A	B		E	
Approach Vol, veh/h		1075	1471	A	199	A
Approach Delay, s/veh		5.5	13.0		64.0	
Approach LOS		A	B		E	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		98.3		21.7	12.9	85.4
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		85.0		23.0	10.0	69.0
Max Q Clear Time (g_c+I1), s		0.0		15.1	4.5	0.0
Green Ext Time (p_c), s		0.0		0.6	0.2	0.0
Intersection Summary						
HCM 6th Ctrl Delay			13.8			
HCM 6th LOS			B			
Notes						
Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.						

172093 Kenmount Hill CDS TIS
Kenmount Road & H3 Access/Brant Drive

S1A 5-year with Background PM

01/28/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	118	789	41	68	1331	92	43	154	21	183	109	135
Future Volume (veh/h)	118	789	41	68	1331	92	43	154	21	183	109	135
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	128	858	0	74	1447	0	47	167	0	199	118	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	262	2029		435	2015		232	204		205	242	
Arrive On Green	0.06	0.57	0.00	0.05	0.57	0.00	0.05	0.11	0.00	0.07	0.13	0.00
Sat Flow, veh/h	1781	3647	0	1781	3647	0	1781	1870	0	1781	1870	0
Grp Volume(v), veh/h	128	858	0	74	1447	0	47	167	0	199	118	0
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	0	1781	1870	0	1781	1870	0
Q Serve(g_s), s	3.5	16.4	0.0	2.0	35.7	0.0	2.7	10.5	0.0	8.0	7.0	0.0
Cycle Q Clear(g_c), s	3.5	16.4	0.0	2.0	35.7	0.0	2.7	10.5	0.0	8.0	7.0	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	262	2029		435	2015		232	204		205	242	
V/C Ratio(X)	0.49	0.42		0.17	0.72		0.20	0.82		0.97	0.49	
Avail Cap(c_a), veh/h	278	2029		444	2015		254	358		205	374	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	17.3	14.6	0.0	10.2	19.0	0.0	44.1	52.3	0.0	49.6	48.5	0.0
Incr Delay (d2), s/veh	1.4	0.6	0.0	0.2	2.2	0.0	0.4	7.9	0.0	54.3	1.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	7.4	0.0	0.9	16.3	0.0	1.3	5.7	0.0	5.5	3.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.7	15.2	0.0	10.4	21.2	0.0	44.5	60.2	0.0	104.0	50.1	0.0
LnGrp LOS	B	B		B	C		D	E		F	D	
Approach Vol, veh/h	986		A	1521		A	214		A	317		A
Approach Delay, s/veh	15.7			20.7			56.8			83.9		
Approach LOS	B			C			E			F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.4	74.5	11.5	21.5	12.9	74.0	14.0	19.1				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	7.0	58.0	7.0	24.0	8.0	57.0	8.0	23.0				
Max Q Clear Time (g_c+I1), s	4.0	0.0	4.7	9.0	5.5	0.0	10.0	12.5				
Green Ext Time (p_c), s	0.1	0.0	0.0	0.5	0.1	0.0	0.0	0.6				
Intersection Summary												
HCM 6th Ctrl Delay			28.2									
HCM 6th LOS			C									
Notes												

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↑	↑↑	↑	↑
Traffic Volume (veh/h)	830	232	804	1357	227	670
Future Volume (veh/h)	830	232	804	1357	227	670
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	965	0	935	1578	280	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.81	0.81
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1185		718	2577	312	
Arrive On Green	0.33	0.00	0.34	0.73	0.17	0.00
Sat Flow, veh/h	3741	0	1781	3647	1781	1585
Grp Volume(v), veh/h	965	0	935	1578	280	0
Grp Sat Flow(s),veh/h/ln	1777	0	1781	1777	1781	1585
Q Serve(g_s), s	29.8	0.0	41.0	26.3	18.5	0.0
Cycle Q Clear(g_c), s	29.8	0.0	41.0	26.3	18.5	0.0
Prop In Lane		0.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1185		718	2577	312	
V/C Ratio(X)	0.81		1.30	0.61	0.90	
Avail Cap(c_a), veh/h	1185		718	2577	356	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	36.6	0.0	30.4	8.2	48.5	0.0
Incr Delay (d2), s/veh	6.2	0.0	146.0	1.1	22.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.7	0.0	51.2	11.2	10.7	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	42.8	0.0	176.4	9.3	71.2	0.0
LnGrp LOS	D		F	A	E	
Approach Vol, veh/h	965	A		2513	280	A
Approach Delay, s/veh	42.8			71.4	71.2	
Approach LOS	D			E	E	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	47.0	46.0		27.0		93.0
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0
Max Green Setting (Gmax), s	41.0	37.0		24.0		84.0
Max Q Clear Time (g_c+I1), s	43.0	0.0		20.5		0.0
Green Ext Time (p_c), s	0.0	0.0		0.5		0.0
Intersection Summary						
HCM 6th Ctrl Delay			64.1			
HCM 6th LOS			E			
Notes						
Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.						

Intersection												
Int Delay, s/veh	9.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	45	2	29	18	3	19	85	496	52	55	548	139
Future Vol, veh/h	45	2	29	18	3	19	85	496	52	55	548	139
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	250	-	-	250	-	-	850	-	-	500	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	67	67	67	63	63	63	95	95	95	93	93	93
Heavy Vehicles, %	2	50	2	7	2	4	2	3	2	2	2	2
Mvmt Flow	67	3	43	29	5	30	89	522	55	59	589	149

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1527	1537	664	1533	1584	550	738	0	0	577	0	0
Stage 1	782	782	-	728	728	-	-	-	-	-	-	-
Stage 2	745	755	-	805	856	-	-	-	-	-	-	-
Critical Hdwy	7.12	7	6.22	7.17	6.52	6.24	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	6	-	6.17	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	6	-	6.17	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.45	3.318	3.563	4.018	3.336	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	96	91	461	93	108	531	868	-	-	996	-	-
Stage 1	387	343	-	407	429	-	-	-	-	-	-	-
Stage 2	406	354	-	369	374	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	77	77	461	72	91	531	868	-	-	996	-	-
Mov Cap-2 Maneuver	77	77	-	72	91	-	-	-	-	-	-	-
Stage 1	347	323	-	365	385	-	-	-	-	-	-	-
Stage 2	339	318	-	312	352	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	102.5		47.8		1.3		0.7	
HCM LOS	F		E					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	868	-	-	77	349	72	320	996	-	-
HCM Lane V/C Ratio	0.103	-	-	0.872	0.133	0.397	0.109	0.059	-	-
HCM Control Delay (s)	9.6	-	-	161.5	16.9	84.7	17.6	8.8	-	-
HCM Lane LOS	A	-	-	F	C	F	C	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	4.4	0.5	1.5	0.4	0.2	-	-

Intersection						
Int Delay, s/veh	6.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	290	560	83	294	743
Future Vol, veh/h	4	290	560	83	294	743
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	400	0	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	91	91	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	341	615	91	309	782
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	2061	661	0	0	706	0
Stage 1	661	-	-	-	-	-
Stage 2	1400	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	60	462	-	-	892	-
Stage 1	514	-	-	-	-	-
Stage 2	228	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	39	462	-	-	892	-
Mov Cap-2 Maneuver	39	-	-	-	-	-
Stage 1	336	-	-	-	-	-
Stage 2	228	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	32.8	0	3.2			
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 39 462	892	-		
HCM Lane V/C Ratio	-	- 0.121 0.738	0.347	-		
HCM Control Delay (s)	-	- 109.6 31.7	11.2	-		
HCM Lane LOS	-	- F D	B	-		
HCM 95th %tile Q(veh)	-	- 0.4 6	1.6	-		

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	84	1019	1272	271	159	85
Future Volume (veh/h)	84	1019	1272	271	159	85
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1796	1870	1870	1870	1949	1949
Adj Flow Rate, veh/h	97	1171	1383	295	201	108
Peak Hour Factor	0.87	0.87	0.92	0.92	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	260	2475	1579	330	276	246
Arrive On Green	0.08	0.70	0.54	0.54	0.15	0.15
Sat Flow, veh/h	1710	3647	3018	612	1856	1651
Grp Volume(v), veh/h	97	1171	830	848	201	108
Grp Sat Flow(s),veh/h/ln	1710	1777	1777	1760	1856	1651
Q Serve(g_s), s	1.7	11.6	31.3	33.2	8.0	4.6
Cycle Q Clear(g_c), s	1.7	11.6	31.3	33.2	8.0	4.6
Prop In Lane	1.00			0.35	1.00	1.00
Lane Grp Cap(c), veh/h	260	2475	959	950	276	246
V/C Ratio(X)	0.37	0.47	0.87	0.89	0.73	0.44
Avail Cap(c_a), veh/h	279	2475	959	950	574	511
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.2	5.3	15.4	15.8	31.5	30.1
Incr Delay (d2), s/veh	0.9	0.7	10.3	12.5	3.6	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	4.6	15.7	17.0	4.1	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	17.1	6.0	25.7	28.4	35.1	31.3
LnGrp LOS	B	A	C	C	D	C
Approach Vol, veh/h		1268	1678		309	
Approach Delay, s/veh		6.8	27.0		33.8	
Approach LOS		A	C		C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		60.0		17.5	12.1	47.9
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		54.0		24.0	7.0	41.0
Max Q Clear Time (g_c+I1), s		0.0		10.0	3.7	0.0
Green Ext Time (p_c), s		0.0		1.5	0.1	0.0
Intersection Summary						
HCM 6th Ctrl Delay			19.8			
HCM 6th LOS			B			

Intersection												
Int Delay, s/veh	64.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	1314	8	53	1076	130	3	0	55	65	0	15
Future Vol, veh/h	17	1314	8	53	1076	130	3	0	55	65	0	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	250	-	-	-	-	-	350	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	90	90	90	50	50	50	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	1583	10	59	1196	144	6	0	110	77	0	18
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1340	0	0	1593	0	0	2344	3086	797	2218	3019	670
Stage 1	-	-	-	-	-	-	1628	1628	-	1386	1386	-
Stage 2	-	-	-	-	-	-	716	1458	-	832	1633	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	510	-	-	408	-	-	19	12	329	~ 24	13	399
Stage 1	-	-	-	-	-	-	106	159	-	151	209	-
Stage 2	-	-	-	-	-	-	387	192	-	330	158	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	510	-	-	408	-	-	16	10	329	~ 14	11	399
Mov Cap-2 Maneuver	-	-	-	-	-	-	16	10	-	~ 14	11	-
Stage 1	-	-	-	-	-	-	102	153	-	145	179	-
Stage 2	-	-	-	-	-	-	316	164	-	211	152	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.6			67.5			\$ 2095.5		
HCM LOS							F			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2			
Capacity (veh/h)	164	510	-	-	408	-	-	14	399			
HCM Lane V/C Ratio	0.707	0.04	-	-	0.144	-	-	5.527	0.045			
HCM Control Delay (s)	67.5	12.4	-	-	15.3	-	-	\$ 2575.8	14.4			
HCM Lane LOS	F	B	-	-	C	-	-	F	B			
HCM 95th %tile Q(veh)	4.2	0.1	-	-	0.5	-	-	10.6	0.1			
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s			+: Computation Not Defined				*: All major volume in platoon			

Intersection												
Int Delay, s/veh	146.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	73	1194	2	31	919	145	2	1	11	105	3	53
Future Vol, veh/h	73	1194	2	31	919	145	2	1	11	105	3	53
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	-	350	-	-	-	-	-	300	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	96	96	96	65	65	65	69	69	69
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	94	1531	3	32	957	151	3	2	17	152	4	77
Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	1108	0	0	1534	0	0	2266	2893	767	2052	2819	554
Stage 1	-	-	-	-	-	-	1721	1721	-	1097	1097	-
Stage 2	-	-	-	-	-	-	545	1172	-	955	1722	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	626	-	-	430	-	-	22	16	345	~ 32	18	476
Stage 1	-	-	-	-	-	-	93	143	-	227	287	-
Stage 2	-	-	-	-	-	-	490	264	-	278	142	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	626	-	-	430	-	-	12	13	345	~ 23	14	476
Mov Cap-2 Maneuver	-	-	-	-	-	-	12	13	-	~ 23	14	-
Stage 1	-	-	-	-	-	-	79	122	-	193	266	-
Stage 2	-	-	-	-	-	-	374	244	-	222	121	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	0.7		0.4		119.7		\$ 1881.2					
HCM LOS					F		F					
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2			
Capacity (veh/h)	51	626	-	-	430	-	-	23	172			
HCM Lane V/C Ratio	0.422	0.15	-	-	0.075	-	-	6.616	0.472			
HCM Control Delay (s)	119.7	11.8	-	-	14.1	-	-	\$ 2861.4	43.4			
HCM Lane LOS	F	B	-	-	B	-	-	F	E			
HCM 95th %tile Q(veh)	1.5	0.5	-	-	0.2	-	-	19.1	2.2			
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s			+: Computation Not Defined				*: All major volume in platoon			

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	81	737	651	350	868	159	342	427	254	80	539	43
Future Volume (veh/h)	81	737	651	350	868	159	342	427	254	80	539	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1796	1870	1870	1796	1796	1776	1776	1847	2106	2106	2190
Adj Flow Rate, veh/h	87	792	0	380	943	0	372	464	0	82	556	0
Peak Hour Factor	0.93	0.93	0.93	0.92	0.92	0.92	0.92	0.92	0.92	0.97	0.97	0.97
Percent Heavy Veh, %	3	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	218	949		321	1170		275	595		280	568	
Arrive On Green	0.06	0.28	0.00	0.12	0.34	0.00	0.12	0.33	0.00	0.06	0.27	0.00
Sat Flow, veh/h	1767	3412	1585	1781	3501	0	1692	1776	1565	2006	2106	1856
Grp Volume(v), veh/h	87	792	0	380	943	0	372	464	0	82	556	0
Grp Sat Flow(s),veh/h/ln	1767	1706	1585	1781	1706	0	1692	1776	1565	2006	2106	1856
Q Serve(g_s), s	4.0	25.1	0.0	14.0	28.9	0.0	14.0	27.0	0.0	3.3	30.1	0.0
Cycle Q Clear(g_c), s	4.0	25.1	0.0	14.0	28.9	0.0	14.0	27.0	0.0	3.3	30.1	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	218	949		321	1170		275	595		280	568	
V/C Ratio(X)	0.40	0.83		1.19	0.81		1.35	0.78		0.29	0.98	
Avail Cap(c_a), veh/h	224	949		321	1170		275	595		289	568	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	29.1	39.0	0.0	29.3	34.3	0.0	31.7	34.4	0.0	29.0	41.7	0.0
Incr Delay (d2), s/veh	2.5	8.6	0.0	110.5	6.0	0.0	181.5	9.8	0.0	1.2	33.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	12.2	0.0	16.5	13.6	0.0	19.6	14.2	0.0	1.8	22.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.6	47.6	0.0	139.8	40.3	0.0	213.2	44.2	0.0	30.3	74.7	0.0
LnGrp LOS	C	D		F	D		F	D		C	E	
Approach Vol, veh/h		879	A		1323	A		836	A		638	A
Approach Delay, s/veh		46.0			68.9			119.4			69.0	
Approach LOS		D			E			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.0	38.0	20.0	37.0	12.6	45.4	12.5	44.5				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	14.0	32.0	14.0	31.0	7.0	39.0	7.0	38.0				
Max Q Clear Time (g_c+I1), s	16.0	0.0	16.0	0.0	6.0	0.0	5.3	0.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			74.9									
HCM 6th LOS			E									
Notes												
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	6:45	6:45	6:45	6:45	6:45	6:45	6:45
End Time	8:15	8:15	8:15	8:15	8:15	8:15	8:15
Total Time (min)	90	90	90	90	90	90	90
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4	4
Vehs Entered	12230	12337	12266	12253	12187	12324	12379
Vehs Exited	12269	12348	12334	12249	12206	12400	12412
Starting Vehs	375	375	457	399	383	434	400
Ending Vehs	336	364	389	403	364	358	367
Travel Distance (km)	12246	12291	12359	12405	12210	12418	12283
Travel Time (hr)	744.0	645.3	684.8	605.0	579.2	542.9	632.1
Total Delay (hr)	518.8	419.5	457.7	377.2	354.9	314.5	406.1
Total Stops	12375	12968	12605	12539	11910	12143	12452
Fuel Used (l)	1430.8	1357.2	1392.8	1325.5	1295.0	1267.7	1341.4

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	6:45	6:45	6:45	6:45
End Time	8:15	8:15	8:15	8:15
Total Time (min)	90	90	90	90
Time Recorded (min)	60	60	60	60
# of Intervals	5	5	5	5
# of Recorded Intervals	4	4	4	4
Vehs Entered	12248	12104	12225	12257
Vehs Exited	12297	12129	12239	12288
Starting Vehs	396	352	400	390
Ending Vehs	347	327	386	360
Travel Distance (km)	12274	12120	12225	12283
Travel Time (hr)	635.9	555.6	613.2	623.8
Total Delay (hr)	410.1	332.7	388.2	398.0
Total Stops	12313	11779	12026	12306
Fuel Used (l)	1344.3	1265.3	1317.1	1333.7

Interval #0 Information Seeding

Start Time	6:45
End Time	7:15
Total Time (min)	30
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	7:15
End Time	7:30
Total Time (min)	15
Volumes adjusted by PHF, Growth Factors.	

Run Number	1	10	2	3	4	5	6
Vehs Entered	3392	3553	3470	3528	3467	3496	3476
Vehs Exited	3283	3377	3440	3399	3361	3439	3418
Starting Vehs	375	375	457	399	383	434	400
Ending Vehs	484	551	487	528	489	491	458
Travel Distance (km)	3280	3427	3390	3442	3317	3407	3364
Travel Time (hr)	155.4	157.4	153.6	155.5	137.2	136.9	149.8
Total Delay (hr)	95.0	94.7	91.3	92.3	76.4	74.4	87.9
Total Stops	3457	3865	3537	3400	3236	3400	3707
Fuel Used (l)	347.2	359.5	354.0	358.4	337.1	339.1	350.3

Interval #1 Information Recording

Start Time	7:15
End Time	7:30
Total Time (min)	15
Volumes adjusted by PHF, Growth Factors.	

Run Number	7	8	9	Avg
Vehs Entered	3487	3503	3437	3479
Vehs Exited	3372	3407	3354	3382
Starting Vehs	396	352	400	390
Ending Vehs	511	448	483	484
Travel Distance (km)	3329	3381	3308	3364
Travel Time (hr)	153.9	129.4	142.5	147.2
Total Delay (hr)	92.6	67.3	81.7	85.4
Total Stops	3522	3175	3382	3466
Fuel Used (l)	351.4	333.5	337.6	346.8

Interval #2 Information Recording

Start Time	7:30
End Time	7:45
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	10	2	3	4	5	6
Vehs Entered	2958	2877	2941	2850	2856	2987	2979
Vehs Exited	3052	3057	2998	2984	3009	3077	3044
Starting Vehs	484	551	487	528	489	491	458
Ending Vehs	390	371	430	394	336	401	393
Travel Distance (km)	3058	2958	3070	3014	2965	3067	3068
Travel Time (hr)	186.2	159.5	172.3	153.8	145.0	143.5	157.8
Total Delay (hr)	130.1	105.0	115.9	98.3	90.4	87.0	101.5
Total Stops	3306	3172	3234	3207	2930	3262	3011
Fuel Used (l)	357.3	329.3	348.7	327.4	317.3	321.8	334.3

Interval #2 Information Recording

Start Time	7:30
End Time	7:45
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	7	8	9	Avg
Vehs Entered	2949	2989	3016	2933
Vehs Exited	3082	3037	3056	3041
Starting Vehs	511	448	483	484
Ending Vehs	378	400	443	384
Travel Distance (km)	3063	3007	3086	3036
Travel Time (hr)	157.9	140.8	159.4	157.6
Total Delay (hr)	101.5	85.5	102.4	101.8
Total Stops	3182	3046	3173	3153
Fuel Used (l)	336.0	317.9	337.4	332.7

Interval #3 Information Recording

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	10	2	3	4	5	6
Vehs Entered	2952	2953	2950	2958	2888	2966	2944
Vehs Exited	2956	2901	3003	2994	2886	2977	2932
Starting Vehs	390	371	430	394	336	401	393
Ending Vehs	386	423	377	358	338	390	405
Travel Distance (km)	2989	2936	2989	2997	2943	3024	2926
Travel Time (hr)	194.2	157.9	172.5	147.9	147.5	131.4	160.1
Total Delay (hr)	139.2	103.9	117.7	92.9	93.4	75.8	106.4
Total Stops	2792	2933	2967	3063	2874	2828	2836
Fuel Used (l)	359.7	327.6	342.5	322.7	318.2	306.8	327.4

Interval #3 Information Recording

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	7	8	9	Avg
Vehs Entered	2935	2768	2824	2913
Vehs Exited	2950	2840	2961	2939
Starting Vehs	378	400	443	384
Ending Vehs	363	328	306	358
Travel Distance (km)	2988	2893	2881	2957
Travel Time (hr)	154.5	137.0	149.0	155.2
Total Delay (hr)	99.4	84.0	96.0	100.9
Total Stops	2835	2715	2692	2849
Fuel Used (l)	323.5	304.2	314.9	324.7

Interval #4 Information Recording

Start Time	8:00
End Time	8:15
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	10	2	3	4	5	6
Vehs Entered	2928	2954	2905	2917	2976	2875	2980
Vehs Exited	2978	3013	2893	2872	2950	2907	3018
Starting Vehs	386	423	377	358	338	390	405
Ending Vehs	336	364	389	403	364	358	367
Travel Distance (km)	2919	2971	2911	2952	2985	2920	2925
Travel Time (hr)	208.2	170.5	186.4	147.8	149.5	131.1	164.4
Total Delay (hr)	154.5	115.8	132.8	93.7	94.7	77.3	110.4
Total Stops	2820	2998	2867	2869	2870	2653	2898
Fuel Used (l)	366.6	340.8	347.6	317.0	322.5	300.0	329.4

Interval #4 Information Recording

Start Time	8:00
End Time	8:15
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	7	8	9	Avg
Vehs Entered	2877	2844	2948	2923
Vehs Exited	2893	2845	2868	2923
Starting Vehs	363	328	306	358
Ending Vehs	347	327	386	360
Travel Distance (km)	2894	2838	2950	2926
Travel Time (hr)	169.6	148.3	162.3	163.8
Total Delay (hr)	116.6	96.1	108.0	110.0
Total Stops	2774	2843	2779	2836
Fuel Used (l)	333.3	309.7	327.3	329.4

2: Marlin Drive/Hemmer Jane Drive & Topsail Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.2
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	9.3	3.3	0.4
Total Delay (hr)	0.0	0.3	0.0	0.1	1.0	0.0	0.0	0.2	2.7	0.1	4.4
Total Del/Veh (s)	7.5	1.0	0.5	8.9	4.0	4.2	38.0	13.2	117.0	15.2	7.4
Stop Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.2	2.7	0.1	3.2
Stop Del/Veh (s)	5.6	0.1	0.0	4.9	0.5	0.6	35.9	12.7	116.6	14.6	5.3

6: Humber Drive/Moffatt Road & Topsail Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	2.9	0.2	0.5	0.0	0.0	0.0	0.1	0.1	3.9	0.3	0.2
Total Delay (hr)	0.0	0.1	0.0	0.0	0.3	0.0	0.1	0.1	0.6	0.2	1.4
Total Del/Veh (s)	5.8	0.5	0.2	5.9	1.4	1.3	35.6	8.9	51.9	6.3	2.5
Stop Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.6	0.1	0.9
Stop Del/Veh (s)	4.6	0.0	0.0	4.2	0.0	0.0	33.3	8.5	49.8	5.5	1.6

11: Mount Carson Avenue & Lasalle Drive/Brodie Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.2	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	5.1	0.6	2.3	3.8	0.2	0.3	3.2	0.5	0.6	2.7	0.4	0.3
Total Delay (hr)	1.0	0.0	0.2	0.3	0.0	0.3	0.0	0.2	0.0	0.0	0.1	0.0
Total Del/Veh (s)	29.1	17.2	6.9	19.3	25.9	11.4	3.5	0.9	0.4	5.1	0.8	0.2
Stop Delay (hr)	0.9	0.0	0.2	0.3	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Stop Del/Veh (s)	28.0	13.1	6.5	17.2	22.3	10.9	1.4	0.0	0.0	2.8	0.0	0.0

11: Mount Carson Avenue & Lasalle Drive/Brodie Street Performance by movement

Movement	All
Denied Delay (hr)	0.5
Denied Del/Veh (s)	1.1
Total Delay (hr)	2.0
Total Del/Veh (s)	5.0
Stop Delay (hr)	1.6
Stop Del/Veh (s)	4.1

14: Allston Street/Brougham Drive & Kenmount Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.1	3.3	1.6
Denied Del/Veh (s)	2.1	0.2	0.2	0.2	0.0	0.0	3.7	0.2	0.2	63.3	61.2	65.4
Total Delay (hr)	0.2	5.6	0.2	0.8	1.6	0.2	0.2	0.6	0.1	9.2	4.6	1.8
Total Del/Veh (s)	17.7	22.7	16.8	23.5	11.4	8.3	52.8	59.2	3.6	94.2	83.6	72.6
Stop Delay (hr)	0.2	3.9	0.1	0.7	1.0	0.1	0.2	0.5	0.0	8.2	4.0	1.6
Stop Del/Veh (s)	12.1	15.9	13.2	19.5	7.3	5.8	49.6	54.4	0.6	83.7	72.1	63.7

14: Allston Street/Brougham Drive & Kenmount Road Performance by movement

Movement	All
Denied Delay (hr)	11.1
Denied Del/Veh (s)	16.2
Total Delay (hr)	25.2
Total Del/Veh (s)	36.3
Stop Delay (hr)	20.5
Stop Del/Veh (s)	29.7

21: Mount Carson Avenue & Penney Access/Wyatt Boulevard Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.1	0.1	1.3	0.1	0.2	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	3.7	1.6	1.1	15.8	15.2	12.5	3.0	1.0	1.0	0.2	0.3	0.3
Total Delay (hr)	0.1	0.7	0.6	0.9	0.5	3.0	0.1	0.2	0.0	0.4	0.1	0.0
Total Del/Veh (s)	30.5	68.9	32.4	93.2	54.5	28.1	4.3	1.3	0.6	8.7	1.0	0.5
Stop Delay (hr)	0.0	0.6	0.6	0.9	0.5	3.0	0.1	0.0	0.0	0.3	0.0	0.0
Stop Del/Veh (s)	27.5	65.6	32.1	90.5	52.0	28.2	2.0	0.0	0.0	5.6	0.0	0.0

21: Mount Carson Avenue & Penney Access/Wyatt Boulevard Performance by movement

Movement	All
Denied Delay (hr)	2.0
Denied Del/Veh (s)	3.7
Total Delay (hr)	6.6
Total Del/Veh (s)	12.3
Stop Delay (hr)	6.0
Stop Del/Veh (s)	11.1

24: Mount Carson Avenue & Kenmount Road Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	10.0	111.9	122.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	400.6	406.6	124.4
Total Delay (hr)	12.5	0.7	5.8	1.1	1.4	12.9	34.4
Total Del/Veh (s)	36.7	32.2	38.4	6.1	63.5	55.2	36.4
Stop Delay (hr)	8.8	0.5	4.2	0.2	1.3	10.0	25.1
Stop Del/Veh (s)	26.0	24.0	27.6	1.3	58.9	42.7	26.5

28: Kenmount Road & Great Eastern Avenue Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	2.7	0.3	0.3	0.1	0.1	0.1	3.6	0.4	0.4
Total Delay (hr)	0.8	8.1	0.0	0.2	2.1	0.0	0.2	0.0	0.1	0.8	0.0	0.2
Total Del/Veh (s)	24.2	15.2	14.7	27.7	8.1	3.6	62.1	83.2	25.0	53.0	50.4	2.8
Stop Delay (hr)	0.5	2.4	0.0	0.1	1.0	0.0	0.2	0.0	0.1	0.8	0.0	0.0
Stop Del/Veh (s)	14.4	4.5	5.3	23.8	3.8	0.2	60.6	80.0	24.9	50.0	45.6	0.0

28: Kenmount Road & Great Eastern Avenue Performance by movement

Movement	All
Denied Delay (hr)	0.2
Denied Del/Veh (s)	0.2
Total Delay (hr)	12.6
Total Del/Veh (s)	13.6
Stop Delay (hr)	5.1
Stop Del/Veh (s)	5.5

33: Commonwealth Avenue/Mount Carson Avenue & Topsail Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	18.4	36.2	22.1	0.7	1.6	0.4
Denied Del/Veh (s)	0.2	0.0	0.4	0.2	0.0	0.0	215.8	214.4	207.2	16.1	15.9	19.6
Total Delay (hr)	0.5	8.2	0.7	3.4	4.8	0.3	5.1	21.0	6.8	2.5	5.1	0.4
Total Del/Veh (s)	34.1	37.1	6.9	59.6	27.0	9.7	64.1	132.0	67.5	58.7	49.9	17.6
Stop Delay (hr)	0.4	6.3	0.1	3.1	3.4	0.1	4.4	17.0	4.7	2.4	4.4	0.3
Stop Del/Veh (s)	27.3	28.5	0.9	54.5	19.4	4.2	54.6	107.0	46.7	55.4	43.0	13.4

33: Commonwealth Avenue/Mount Carson Avenue & Topsail Road Performance by movement

Movement	All
Denied Delay (hr)	79.4
Denied Del/Veh (s)	70.7
Total Delay (hr)	58.7
Total Del/Veh (s)	52.8
Stop Delay (hr)	46.5
Stop Del/Veh (s)	41.8

36: Brant Drive/H3 Access #1 & Kenmount Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.0	3.8	0.2	0.3	4.0	0.2	0.2
Total Delay (hr)	0.1	3.1	0.1	0.0	1.5	0.1	0.4	0.5	0.1	0.2	0.3	0.0
Total Del/Veh (s)	10.4	8.3	8.0	16.5	8.2	5.4	50.5	53.4	4.4	52.8	61.8	2.0
Stop Delay (hr)	0.1	1.0	0.0	0.0	0.7	0.0	0.4	0.5	0.0	0.2	0.2	0.0
Stop Del/Veh (s)	4.7	2.6	1.1	13.1	3.9	0.9	47.7	49.1	2.2	50.3	58.0	0.0

36: Brant Drive/H3 Access #1 & Kenmount Road Performance by movement

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.1
Total Delay (hr)	6.3
Total Del/Veh (s)	10.0
Stop Delay (hr)	3.1
Stop Del/Veh (s)	4.9

42: Penney Access/H3 Access #2 & Kenmount Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.0	0.0	3.9	0.3	0.4	4.2	0.2	0.1
Total Delay (hr)	0.1	2.9	0.2	0.1	0.9	0.0	0.7	0.6	0.1	0.2	0.4	0.0
Total Del/Veh (s)	10.6	8.4	7.9	17.2	5.0	3.0	45.5	49.3	7.1	42.6	52.4	3.0
Stop Delay (hr)	0.1	0.7	0.0	0.1	0.5	0.0	0.7	0.6	0.1	0.2	0.4	0.0
Stop Del/Veh (s)	5.4	2.1	1.1	14.9	2.8	0.1	42.9	45.6	5.4	40.0	48.6	1.0

42: Penney Access/H3 Access #2 & Kenmount Road Performance by movement

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.1
Total Delay (hr)	6.3
Total Del/Veh (s)	10.0
Stop Delay (hr)	3.2
Stop Del/Veh (s)	5.1

48: Topsail Road & Farrell Drive Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.3	0.0	0.3
Denied Del/Veh (s)	0.0	0.0	0.2	0.3	3.6	0.7	0.5
Total Delay (hr)	0.1	3.6	2.5	0.3	1.6	0.2	8.3
Total Del/Veh (s)	14.2	10.6	11.1	6.8	22.3	6.9	11.7
Stop Delay (hr)	0.1	1.5	1.3	0.2	1.4	0.1	4.6
Stop Del/Veh (s)	9.2	4.5	5.9	3.9	18.6	5.5	6.5

Total Network Performance

Denied Delay (hr)	216.0
Denied Del/Veh (s)	61.9
Total Delay (hr)	182.0
Total Del/Veh (s)	51.8
Stop Delay (hr)	123.4
Stop Del/Veh (s)	35.1

Intersection: 2: Marlin Drive/Hemmer Jane Drive & Topsail Road

Movement	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	TR	L	TR	LTR	L	TR
Maximum Queue (m)	7.9	1.6	12.0	0.4	27.2	42.3	69.7
Average Queue (m)	1.1	0.1	2.5	0.0	9.6	22.4	14.9
95th Queue (m)	5.4	1.0	7.9	0.4	20.2	43.6	59.8
Link Distance (m)		278.5		215.2	64.5		83.3
Upstream Blk Time (%)							6
Queuing Penalty (veh)							0
Storage Bay Dist (m)	15.0		25.0			35.0	
Storage Blk Time (%)	0		0			22	
Queuing Penalty (veh)	0		0			3	

Intersection: 6: Humber Drive/Moffatt Road & Topsail Road

Movement	EB	WB	WB	NB	SB	SB
Directions Served	L	L	TR	LTR	L	TR
Maximum Queue (m)	10.4	6.2	0.6	20.2	30.4	24.7
Average Queue (m)	2.0	0.8	0.0	7.3	9.7	10.5
95th Queue (m)	7.1	4.1	0.3	16.1	22.7	19.0
Link Distance (m)			278.5	185.8		108.6
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)	30.0	35.0			30.0	
Storage Blk Time (%)					2	0
Queuing Penalty (veh)					2	0

Intersection: 11: Mount Carson Avenue & Lasalle Drive/Brodie Street

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (m)	31.0	44.2	23.3	28.3	10.2	0.6	10.5	0.6
Average Queue (m)	16.3	15.7	9.3	11.6	1.1	0.0	0.7	0.0
95th Queue (m)	29.0	34.2	18.7	21.7	6.0	0.7	5.6	0.7
Link Distance (m)		43.4		56.6		149.3		91.4
Upstream Blk Time (%)		3						
Queuing Penalty (veh)		0						
Storage Bay Dist (m)	25.0		25.0		85.0		50.0	
Storage Blk Time (%)	8	1	1	0				
Queuing Penalty (veh)	9	1	1	0				

Intersection: 14: Allston Street/Brougham Drive & Kenmount Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (m)	57.2	115.1	107.4	42.3	71.2	68.3	21.4	40.8	57.4	167.1
Average Queue (m)	12.2	60.2	54.9	20.0	24.4	28.9	4.3	10.5	55.8	130.0
95th Queue (m)	39.0	98.4	94.0	38.8	53.2	56.8	13.7	29.2	63.6	200.5
Link Distance (m)		452.6	452.6		155.1	155.1		136.1		156.0
Upstream Blk Time (%)										32
Queuing Penalty (veh)										0
Storage Bay Dist (m)	50.0			35.0			25.0		50.0	
Storage Blk Time (%)	0	13		3	2		0	1	45	18
Queuing Penalty (veh)	0	6		8	3		0	0	127	60

Intersection: 21: Mount Carson Avenue & Penney Access/Wyatt Boulevard

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (m)	16.0	64.8	47.4	108.8	18.2	2.1	35.4	2.8
Average Queue (m)	1.9	19.8	14.9	49.2	6.7	0.2	13.8	0.2
95th Queue (m)	12.0	49.5	43.2	107.0	14.6	1.3	25.3	2.0
Link Distance (m)		85.2		99.2		82.7	136.6	136.6
Upstream Blk Time (%)		2		14				
Queuing Penalty (veh)		0		0				
Storage Bay Dist (m)	40.0		40.0		50.0			
Storage Blk Time (%)		8	1	26				
Queuing Penalty (veh)		1	3	10				

Intersection: 24: Mount Carson Avenue & Kenmount Road

Movement	EB	EB	B26	B26	WB	WB	WB	NB	NB
Directions Served	T	TR	T	T	L	T	T	L	R
Maximum Queue (m)	142.0	145.6	89.0	103.1	120.2	108.5	156.9	137.7	144.6
Average Queue (m)	92.3	92.8	16.2	18.5	72.4	13.6	14.0	115.9	134.8
95th Queue (m)	161.3	166.6	80.0	86.8	118.8	70.8	82.5	182.1	139.7
Link Distance (m)	117.9	117.9	232.6	232.6		432.7	432.7	128.9	128.9
Upstream Blk Time (%)	11	12		0			0	22	74
Queuing Penalty (veh)	68	78		0			0	0	0
Storage Bay Dist (m)					120.0				
Storage Blk Time (%)					2				
Queuing Penalty (veh)					6				

Intersection: 28: Kenmount Road & Great Eastern Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (m)	40.2	132.6	291.5	39.0	98.9	88.2	16.1	19.5	36.8	8.3
Average Queue (m)	16.1	34.9	54.2	6.5	37.7	20.4	3.0	4.2	14.0	0.9
95th Queue (m)	31.4	84.1	188.4	20.3	77.0	57.6	11.3	13.7	29.0	5.4
Link Distance (m)		432.7	432.7		241.2	241.2	34.5	34.5		141.4
Upstream Blk Time (%)			1					0		
Queuing Penalty (veh)			10					0		
Storage Bay Dist (m)	45.0			40.0					45.0	
Storage Blk Time (%)	0	3			6				0	
Queuing Penalty (veh)	1	4			1				0	

Intersection: 33: Commonwealth Avenue/Mount Carson Avenue & Topsail Road

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	TR	L	T	R	L	T
Maximum Queue (m)	42.3	118.8	126.1	72.5	86.1	80.3	88.1	257.5	305.0	107.5	90.6	99.2
Average Queue (m)	17.4	60.9	57.8	15.4	41.7	40.1	44.9	226.5	287.7	104.5	38.3	67.4
95th Queue (m)	44.9	98.0	97.8	64.0	78.3	68.7	74.5	345.1	337.5	132.5	83.8	108.1
Link Distance (m)		215.2	215.2			293.5	293.5		289.6		91.0	91.0
Upstream Blk Time (%)									39		4	18
Queuing Penalty (veh)									0		0	0
Storage Bay Dist (m)	35.0			65.0	115.0			250.0		100.0		
Storage Blk Time (%)	0	30	5	0	0	0		0	53	1		35
Queuing Penalty (veh)	0	15	18	0	0	0		0	361	5		28

Intersection: 33: Commonwealth Avenue/Mount Carson Avenue & Topsail Road

Movement	SB
Directions Served	R
Maximum Queue (m)	47.5
Average Queue (m)	18.4
95th Queue (m)	55.9
Link Distance (m)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	40.0
Storage Blk Time (%)	0
Queuing Penalty (veh)	1

Intersection: 36: Brant Drive/H3 Access #1 & Kenmount Road

Movement	EB	EB	EB	B17	B17	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	T	T	L	T	TR	L	TR	L	TR
Maximum Queue (m)	23.5	66.6	68.0	62.4	98.0	9.8	49.4	55.2	29.8	38.8	16.5	17.9
Average Queue (m)	5.2	27.0	30.6	2.8	3.5	2.3	20.5	22.7	9.2	11.0	4.1	4.8
95th Queue (m)	16.1	51.2	56.0	36.8	42.5	8.8	42.6	45.4	21.3	30.2	13.1	13.8
Link Distance (m)		705.8	705.8	155.1	155.1		417.7	417.7		82.9		156.1
Upstream Blk Time (%)				0	0					0		
Queuing Penalty (veh)				0	0					0		
Storage Bay Dist (m)	45.0					45.0			40.0		50.0	
Storage Blk Time (%)		1					0			1		
Queuing Penalty (veh)		0					0			0		

Intersection: 42: Penney Access/H3 Access #2 & Kenmount Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (m)	21.4	61.2	176.0	16.9	31.2	35.1	34.1	40.8	17.2	25.4
Average Queue (m)	5.3	15.9	22.6	4.0	11.9	15.4	14.2	14.3	5.0	7.6
95th Queue (m)	15.2	43.1	97.9	11.6	26.2	30.7	27.2	32.8	14.1	18.8
Link Distance (m)		417.7	417.7		232.6	232.6		55.8		88.8
Upstream Blk Time (%)			0					0		
Queuing Penalty (veh)			1					0		
Storage Bay Dist (m)	45.0			45.0			40.0		40.0	
Storage Blk Time (%)		1			0		0	1		
Queuing Penalty (veh)		0			0		0	0		

Intersection: 48: Topsail Road & Farrell Drive

Movement	EB	EB	EB	B35	B35	WB	WB	SB	SB
Directions Served	L	T	T	T	T	T	TR	L	R
Maximum Queue (m)	39.2	72.9	79.1	118.6	123.8	69.3	66.0	55.1	67.5
Average Queue (m)	8.1	37.0	42.8	6.3	15.3	36.9	29.7	32.7	11.3
95th Queue (m)	23.8	68.9	73.7	76.6	125.1	60.7	56.0	51.9	32.8
Link Distance (m)		323.4	323.4	293.5	293.5	354.8	354.8		142.8
Upstream Blk Time (%)				0	0				
Queuing Penalty (veh)				0	2				
Storage Bay Dist (m)	45.0							50.0	
Storage Blk Time (%)		3						2	
Queuing Penalty (veh)		1						1	

Network Summary

Network wide Queuing Penalty: 839

Intersection: 14: Allston Street/Brougham Drive & Kenmount Road

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Maximum Green (s)	10.0	40.0	7.0	37.0	7.0	43.0	16.0	28.0
Minimum Green (s)	7.0	25.0	7.0	10.0	7.0	25.0	7.0	10.0
Recall	None	C-Max	None	None	None	C-Max	None	None
Avg. Green (s)	10.6	62.7	7.8	30.0	7.9	69.9	21.3	14.8
g/C Ratio	-0.01	NA	-0.01	NA	-0.01	NA	NA	-0.01
Cycles Skipped (%)	25	0	67	0	58	0	0	35
Cycles @ Minimum (%)	18	0	30	0	27	0	0	15
Cycles Maxed Out (%)	7	100	33	7	0	100	97	4
Cycles with Peds (%)	0	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

Intersection: 24: Mount Carson Avenue & Kenmount Road

Phase	1	2	4	6
Movement(s) Served	WBL	EBT	NBL	WBTL
Maximum Green (s)	22.0	39.0	41.0	67.0
Minimum Green (s)	7.0	25.0	10.0	25.0
Recall	None	C-Max	None	C-Max
Avg. Green (s)	35.5	57.2	12.8	111.7
g/C Ratio	-0.01	NA	-0.01	-0.01
Cycles Skipped (%)	18	0	10	12
Cycles @ Minimum (%)	0	0	34	0
Cycles Maxed Out (%)	21	100	0	88
Cycles with Peds (%)	0	0	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

Intersection: 28: Kenmount Road & Great Eastern Avenue

Phase	1	2	3	4	5	6	8
Movement(s) Served	WBL	EBTL	SBL	NBTL	EBL	WBTL	SBTL
Maximum Green (s)	7.0	59.0	7.0	23.0	11.0	55.0	36.0
Minimum Green (s)	7.0	25.0	7.0	10.0	7.0	25.0	10.0
Recall	None	C-Max	None	None	None	C-Max	None
Avg. Green (s)	7.9	112.5	9.1	10.4	8.8	103.2	14.1
g/C Ratio	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Cycles Skipped (%)	88	12	17	65	54	8	11
Cycles @ Minimum (%)	8	0	24	31	23	0	64
Cycles Maxed Out (%)	0	88	83	0	0	92	0
Cycles with Peds (%)	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

Intersection: 33: Commonwealth Avenue/Mount Carson Avenue & Topsail Road

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Maximum Green (s)	7.0	25.0	9.0	25.0	7.0	25.0	7.0	27.0
Minimum Green (s)	7.0	25.0	7.0	25.0	7.0	25.0	7.0	25.0
Recall	None	Max	None	Max	None	Max	None	Max
Avg. Green (s)	7.2	25.6	9.1	25.6	7.3	31.2	7.0	27.9
g/C Ratio	NA	NA	-0.01	NA	-0.01	NA	-0.01	NA
Cycles Skipped (%)	0	0	3	0	50	0	5	0
Cycles @ Minimum (%)	100	100	0	93	50	50	95	0
Cycles Maxed Out (%)	100	100	95	100	50	100	95	100
Cycles with Peds (%)	0	0	0	0	0	3	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

Intersection: 36: Brant Drive/H3 Access #1 & Kenmount Road

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Maximum Green (s)	7.0	59.0	7.0	23.0	7.0	59.0	7.0	23.0
Minimum Green (s)	7.0	25.0	7.0	10.0	7.0	25.0	7.0	10.0
Recall	None	C-Max	None	None	None	C-Max	None	None
Avg. Green (s)	7.7	102.9	10.2	12.4	8.6	101.9	9.2	13.5
g/C Ratio	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Cycles Skipped (%)	92	8	33	39	85	8	65	17
Cycles @ Minimum (%)	8	0	33	46	15	0	27	55
Cycles Maxed Out (%)	0	92	67	0	0	92	35	0
Cycles with Peds (%)	0	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
Number of Complete Cycles : 0

Intersection: 42: Penney Access/H3 Access #2 & Kenmount Road

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Maximum Green (s)	7.0	59.0	7.0	23.0	7.0	59.0	7.0	23.0
Minimum Green (s)	7.0	25.0	7.0	10.0	7.0	25.0	7.0	10.0
Recall	None	C-Max	None	None	None	C-Max	None	None
Avg. Green (s)	8.0	91.3	9.8	12.2	7.9	95.0	9.3	14.6
g/C Ratio	-0.01	NA	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Cycles Skipped (%)	81	0	18	36	85	4	62	10
Cycles @ Minimum (%)	15	0	46	46	12	0	35	48
Cycles Maxed Out (%)	0	100	82	0	0	96	38	0
Cycles with Peds (%)	0	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
Number of Complete Cycles : 0

Intersection: 48: Topsail Road & Farrell Drive

Phase	2	4	5	6
Movement(s) Served	EBTL	SBL	EBL	WBT
Maximum Green (s)	39.0	24.0	7.0	26.0
Minimum Green (s)	25.0	10.0	7.0	25.0
Recall	Max	None	None	Max
Avg. Green (s)	40.1	15.6	7.2	37.4
g/C Ratio	NA	NA	-0.01	NA
Cycles Skipped (%)	0	0	78	0
Cycles @ Minimum (%)	0	19	22	0
Cycles Maxed Out (%)	100	12	22	100
Cycles with Peds (%)	0	0	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

172093 Kenmount Hill CDS TIS
Kenmount Road & Brougham Drive/Allston Street

S1B 5-year with Development AM

01/29/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	892	39	129	453	84	18	35	107	339	194	87
Future Volume (veh/h)	44	892	39	129	453	84	18	35	107	339	194	87
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1856	1856	1841	1826	1826	1811	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	51	1025	45	168	588	109	23	45	0	365	209	94
Peak Hour Factor	0.87	0.87	0.87	0.77	0.77	0.77	0.77	0.77	0.77	0.93	0.93	0.93
Percent Heavy Veh, %	5	3	3	4	5	5	6	2	2	2	2	2
Cap, veh/h	424	1690	74	317	1486	275	145	175		395	239	108
Arrive On Green	0.05	0.49	0.49	0.06	0.51	0.51	0.03	0.09	0.00	0.13	0.20	0.20
Sat Flow, veh/h	1739	3440	151	1753	2923	540	1725	1870	0	1781	1222	550
Grp Volume(v), veh/h	51	525	545	168	348	349	23	45	0	365	0	303
Grp Sat Flow(s),veh/h/ln	1739	1763	1828	1753	1735	1729	1725	1870	0	1781	0	1771
Q Serve(g_s), s	1.7	25.9	25.9	5.6	14.8	14.9	1.4	2.7	0.0	16.0	0.0	19.9
Cycle Q Clear(g_c), s	1.7	25.9	25.9	5.6	14.8	14.9	1.4	2.7	0.0	16.0	0.0	19.9
Prop In Lane	1.00		0.08	1.00		0.31	1.00		0.00	1.00		0.31
Lane Grp Cap(c), veh/h	424	866	898	317	882	879	145	175		395	0	347
V/C Ratio(X)	0.12	0.61	0.61	0.53	0.39	0.40	0.16	0.26		0.92	0.00	0.87
Avail Cap(c_a), veh/h	442	866	898	349	882	879	192	436		395	0	546
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.9	22.1	22.1	17.2	18.1	18.2	46.8	50.5	0.0	45.0	0.0	46.8
Incr Delay (d2), s/veh	0.1	3.1	3.0	1.4	1.3	1.3	0.5	0.8	0.0	27.4	0.0	9.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	12.3	12.7	2.6	6.8	6.8	0.7	1.4	0.0	6.8	0.0	10.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.0	25.3	25.1	18.6	19.5	19.5	47.3	51.3	0.0	72.4	0.0	56.1
LnGrp LOS	B	C	C	B	B	B	D	D		E	A	E
Approach Vol, veh/h		1121			865			68	A		668	
Approach Delay, s/veh		24.7			19.3			49.9			65.0	
Approach LOS		C			B			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.8	66.0	9.7	29.5	12.7	68.0	22.0	17.2				
Change Period (Y+Rc), s	7.0	7.0	6.0	6.0	7.0	7.0	6.0	6.0				
Max Green Setting (Gmax), s	10.0	40.0	7.0	37.0	7.0	43.0	16.0	28.0				
Max Q Clear Time (g_c+I1), s	7.6	0.0	3.4	21.9	3.7	0.0	18.0	4.7				
Green Ext Time (p_c), s	0.2	0.0	0.0	1.6	0.0	0.0	0.0	0.2				
Intersection Summary												
HCM 6th Ctrl Delay			33.5									
HCM 6th LOS			C									
Notes												
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.												

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗
Traffic Volume (veh/h)	1183	76	514	575	87	953
Future Volume (veh/h)	1183	76	514	575	87	953
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1841	1870	1870
Adj Flow Rate, veh/h	1286	0	553	618	96	0
Peak Hour Factor	0.92	0.92	0.93	0.93	0.91	0.91
Percent Heavy Veh, %	2	2	2	4	2	2
Cap, veh/h	2085		538	2868	142	
Arrive On Green	0.59	0.00	0.18	0.82	0.08	0.00
Sat Flow, veh/h	3741	0	1781	3589	1781	1585
Grp Volume(v), veh/h	1286	0	553	618	96	0
Grp Sat Flow(s),veh/h/ln	1777	0	1781	1749	1781	1585
Q Serve(g_s), s	28.1	0.0	22.0	4.6	6.3	0.0
Cycle Q Clear(g_c), s	28.1	0.0	22.0	4.6	6.3	0.0
Prop In Lane		0.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2085		538	2868	142	
V/C Ratio(X)	0.62		1.03	0.22	0.67	
Avail Cap(c_a), veh/h	2085		538	2868	609	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	16.1	0.0	28.7	2.4	53.7	0.0
Incr Delay (d2), s/veh	1.4	0.0	46.2	0.2	5.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.7	0.0	23.6	1.7	3.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	17.4	0.0	74.8	2.5	59.1	0.0
LnGrp LOS	B		F	A	E	
Approach Vol, veh/h	1286	A		1171	96	A
Approach Delay, s/veh	17.4			36.7	59.1	
Approach LOS	B			D	E	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	28.0	76.4		15.6		104.4
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0
Max Green Setting (Gmax), s	22.0	39.0		41.0		67.0
Max Q Clear Time (g_c+I1), s	24.0	0.0		8.3		0.0
Green Ext Time (p_c), s	0.0	0.0		0.5		0.0
Intersection Summary						
HCM 6th Ctrl Delay			27.8			
HCM 6th LOS			C			

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

172093 Kenmount Hill CDS TIS
Kenmount Road & Brougham Drive/Allston Street

S1B 5-year with Development AM

01/29/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	1970	7	23	898	27	8	1	12	54	3	213
Future Volume (veh/h)	135	1970	7	23	898	27	8	1	12	54	3	213
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1870	1870	1826	1841	1841	1870	1870	1870	1781	1870	1870
Adj Flow Rate, veh/h	150	2189	8	26	998	0	12	2	18	74	4	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.66	0.66	0.66	0.73	0.73	0.73
Percent Heavy Veh, %	3	2	2	5	4	4	2	2	2	8	2	2
Cap, veh/h	433	2377	9	141	2205		142	9	84	212	302	
Arrive On Green	0.06	0.65	0.65	0.03	0.63	0.00	0.06	0.06	0.06	0.05	0.16	0.00
Sat Flow, veh/h	1767	3632	13	1739	3589	0	1412	161	1449	1697	1870	0
Grp Volume(v), veh/h	150	1070	1127	26	998	0	12	0	20	74	4	0
Grp Sat Flow(s),veh/h/ln	1767	1777	1868	1739	1749	0	1412	0	1610	1697	1870	0
Q Serve(g_s), s	3.5	62.8	63.0	0.6	17.7	0.0	1.0	0.0	1.4	4.8	0.2	0.0
Cycle Q Clear(g_c), s	3.5	62.8	63.0	0.6	17.7	0.0	1.0	0.0	1.4	4.8	0.2	0.0
Prop In Lane	1.00		0.01	1.00		0.00	1.00		0.90	1.00		0.00
Lane Grp Cap(c), veh/h	433	1163	1223	141	2205		142	0	94	212	302	
V/C Ratio(X)	0.35	0.92	0.92	0.18	0.45		0.08	0.00	0.21	0.35	0.01	
Avail Cap(c_a), veh/h	492	1163	1223	184	2205		331	0	309	220	561	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	8.2	18.0	18.0	24.6	11.5	0.0	53.7	0.0	53.9	47.7	42.3	0.0
Incr Delay (d2), s/veh	0.5	13.1	12.7	0.6	0.7	0.0	0.3	0.0	1.1	1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	31.0	32.6	0.5	7.7	0.0	0.4	0.0	0.6	2.2	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.6	31.1	30.7	25.2	12.1	0.0	53.9	0.0	55.0	48.7	42.3	0.0
LnGrp LOS	A	C	C	C	B		D	A	E	D	D	
Approach Vol, veh/h	2347				1024	A	32				78	A
Approach Delay, s/veh	29.5				12.5		54.6				48.4	
Approach LOS	C				B		D				D	
Timer - Assigned Phs	1	2	3	4	5	6	8					
Phs Duration (G+Y+Rc), s	10.1	84.5	12.4	13.0	13.0	81.7	25.4					
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0					
Max Green Setting (Gmax), s	7.0	59.0	7.0	23.0	11.0	55.0	36.0					
Max Q Clear Time (g_c+I1), s	2.6	0.0	6.8	3.4	5.5	0.0	2.2					
Green Ext Time (p_c), s	0.0	0.0	0.0	0.1	0.3	0.0	0.0					
Intersection Summary												
HCM 6th Ctrl Delay	25.1											
HCM 6th LOS	C											
Notes												

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	737	381	199	600	104	303	585	378	151	360	76
Future Volume (veh/h)	50	737	381	199	600	104	303	585	378	151	360	76
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1753	1841	1870	1796	1796	1776	1776	1847	2106	2091	2159
Adj Flow Rate, veh/h	54	801	0	229	690	0	337	650	0	191	456	0
Peak Hour Factor	0.92	0.92	0.92	0.87	0.87	0.87	0.90	0.90	0.90	0.79	0.79	0.79
Percent Heavy Veh, %	4	5	4	2	2	2	2	2	2	2	3	4
Cap, veh/h	270	925		252	1016		317	533		236	581	
Arrive On Green	0.06	0.28	0.00	0.08	0.30	0.00	0.10	0.30	0.00	0.08	0.28	0.00
Sat Flow, veh/h	1753	3330	1560	1781	3501	0	1692	1776	1565	2006	2091	1830
Grp Volume(v), veh/h	54	801	0	229	690	0	337	650	0	191	456	0
Grp Sat Flow(s),veh/h/ln	1753	1665	1560	1781	1706	0	1692	1776	1565	2006	2091	1830
Q Serve(g_s), s	1.9	20.6	0.0	7.0	16.0	0.0	9.0	27.0	0.0	6.1	18.1	0.0
Cycle Q Clear(g_c), s	1.9	20.6	0.0	7.0	16.0	0.0	9.0	27.0	0.0	6.1	18.1	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	270	925		252	1016		317	533		236	581	
V/C Ratio(X)	0.20	0.87		0.91	0.68		1.06	1.22		0.81	0.79	
Avail Cap(c_a), veh/h	305	925		252	1016		317	533		236	581	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	21.7	30.9	0.0	27.4	27.8	0.0	28.5	31.5	0.0	24.1	30.0	0.0
Incr Delay (d2), s/veh	0.8	10.7	0.0	33.7	3.7	0.0	68.3	115.1	0.0	20.7	10.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	10.1	0.0	4.3	7.4	0.0	9.3	29.5	0.0	4.5	11.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.5	41.6	0.0	61.1	31.5	0.0	96.8	146.6	0.0	44.9	40.3	0.0
LnGrp LOS	C	D		E	C		F	F		D	D	
Approach Vol, veh/h		855	A		919	A		987	A		647	A
Approach Delay, s/veh		40.4			38.8			129.6			41.6	
Approach LOS		D			D			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.0	31.0	15.0	31.0	11.2	32.8	13.0	33.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	7.0	25.0	9.0	25.0	7.0	25.0	7.0	27.0				
Max Q Clear Time (g_c+I1), s	9.0	0.0	11.0	0.0	3.9	0.0	8.1	0.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			66.0									
HCM 6th LOS			E									
Notes												
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations														
Traffic Volume (veh/h)	40	1288	22	11	619	33	34	35	65	16	16	20		
Future Volume (veh/h)	40	1288	22	11	619	33	34	35	65	16	16	20		
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870		
Adj Flow Rate, veh/h	43	1400	0	12	673	0	37	38	0	17	17	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2		
Cap, veh/h	563	2358		266	2269		228	172		205	142			
Arrive On Green	0.04	0.66	0.00	0.02	0.64	0.00	0.04	0.09	0.00	0.03	0.08	0.00		
Sat Flow, veh/h	1781	3647	0	1781	3647	0	1781	1870	0	1781	1870	0		
Grp Volume(v), veh/h	43	1400	0	12	673	0	37	38	0	17	17	0		
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	0	1781	1870	0	1781	1870	0		
Q Serve(g_s), s	0.9	26.2	0.0	0.3	10.1	0.0	2.2	2.3	0.0	1.0	1.0	0.0		
Cycle Q Clear(g_c), s	0.9	26.2	0.0	0.3	10.1	0.0	2.2	2.3	0.0	1.0	1.0	0.0		
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00		
Lane Grp Cap(c), veh/h	563	2358		266	2269		228	172		205	142			
V/C Ratio(X)	0.08	0.59		0.05	0.30		0.16	0.22		0.08	0.12			
Avail Cap(c_a), veh/h	588	2358		335	2269		258	358		264	358			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	6.6	11.2	0.0	9.4	9.7	0.0	47.8	50.5	0.0	49.0	51.7	0.0		
Incr Delay (d2), s/veh	0.1	1.1	0.0	0.1	0.3	0.0	0.3	0.6	0.0	0.2	0.4	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.4	11.5	0.0	0.1	4.5	0.0	1.1	1.2	0.0	0.5	0.5	0.0		
Unsig. Movement Delay, s/veh														
LnGrp Delay(d),s/veh	6.7	12.3	0.0	9.5	10.0	0.0	48.1	51.1	0.0	49.1	52.1	0.0		
LnGrp LOS	A	B		A	B		D	D		D	D			
Approach Vol, veh/h	1443		A	685		A	75		A	34		A		
Approach Delay, s/veh	12.1			10.0			49.6			50.6				
Approach LOS	B			A			D			D				
Timer - Assigned Phs	1	2	3	4	5	6	7	8						
Phs Duration (G+Y+Rc), s	8.3	85.6	11.0	15.1	11.3	82.6	9.0	17.0						
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0						
Max Green Setting (Gmax), s	7.0	59.0	7.0	23.0	7.0	59.0	7.0	23.0						
Max Q Clear Time (g_c+I1), s	2.3	0.0	4.2	3.0	2.9	0.0	3.0	4.3						
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1						
Intersection Summary														
HCM 6th Ctrl Delay	13.3													
HCM 6th LOS	B													
Notes														

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	1239	84	23	605	34	51	43	34	16	25	20
Future Volume (veh/h)	38	1239	84	23	605	34	51	43	34	16	25	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	41	1347	0	25	658	0	55	47	0	17	27	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	559	2270		288	2232		238	193		213	148	
Arrive On Green	0.04	0.64	0.00	0.03	0.63	0.00	0.05	0.10	0.00	0.03	0.08	0.00
Sat Flow, veh/h	1781	3647	0	1781	3647	0	1781	1870	0	1781	1870	0
Grp Volume(v), veh/h	41	1347	0	25	658	0	55	47	0	17	27	0
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	0	1781	1870	0	1781	1870	0
Q Serve(g_s), s	0.9	26.5	0.0	0.6	10.1	0.0	3.3	2.8	0.0	1.0	1.6	0.0
Cycle Q Clear(g_c), s	0.9	26.5	0.0	0.6	10.1	0.0	3.3	2.8	0.0	1.0	1.6	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	559	2270		288	2232		238	193		213	148	
V/C Ratio(X)	0.07	0.59		0.09	0.29		0.23	0.24		0.08	0.18	
Avail Cap(c_a), veh/h	586	2270		333	2232		255	358		272	358	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	7.1	12.6	0.0	9.8	10.2	0.0	47.1	49.5	0.0	48.6	51.6	0.0
Incr Delay (d2), s/veh	0.1	1.2	0.0	0.1	0.3	0.0	0.5	0.6	0.0	0.2	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	11.7	0.0	0.3	4.5	0.0	1.6	1.4	0.0	0.5	0.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.1	13.8	0.0	9.9	10.5	0.0	47.5	50.2	0.0	48.7	52.2	0.0
LnGrp LOS	A	B		A	B		D	D		D	D	
Approach Vol, veh/h	1388		A	683		A	102		A	44		A
Approach Delay, s/veh	13.6			10.5			48.7			50.9		
Approach LOS	B			B			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.0	82.6	11.9	15.5	11.2	81.4	9.0	18.4				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	7.0	59.0	7.0	23.0	7.0	59.0	7.0	23.0				
Max Q Clear Time (g_c+I1), s	2.6	0.0	5.3	3.6	2.9	0.0	3.0	4.8				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1				
Intersection Summary												
HCM 6th Ctrl Delay	15.0											
HCM 6th LOS	B											
Notes												

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	39	1194	806	138	262	79
Future Volume (veh/h)	39	1194	806	138	262	79
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1710	1856	1841	1841	1934	1949
Adj Flow Rate, veh/h	43	1327	916	157	294	89
Peak Hour Factor	0.90	0.90	0.88	0.88	0.89	0.89
Percent Heavy Veh, %	8	3	4	4	3	2
Cap, veh/h	308	2130	1352	232	386	347
Arrive On Green	0.06	0.60	0.45	0.45	0.21	0.21
Sat Flow, veh/h	1629	3618	3078	512	1842	1651
Grp Volume(v), veh/h	43	1327	536	537	294	89
Grp Sat Flow(s),veh/h/ln	1629	1763	1749	1749	1842	1651
Q Serve(g_s), s	0.8	15.4	15.6	15.6	9.7	2.9
Cycle Q Clear(g_c), s	0.8	15.4	15.6	15.6	9.7	2.9
Prop In Lane	1.00			0.29	1.00	1.00
Lane Grp Cap(c), veh/h	308	2130	792	792	386	347
V/C Ratio(X)	0.14	0.62	0.68	0.68	0.76	0.26
Avail Cap(c_a), veh/h	390	2130	792	792	685	614
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.6	8.1	13.9	13.9	24.0	21.3
Incr Delay (d2), s/veh	0.2	1.4	4.6	4.6	3.1	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	6.3	7.4	7.4	4.9	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.8	9.5	18.5	18.6	27.1	21.7
LnGrp LOS	A	A	B	B	C	C
Approach Vol, veh/h		1370	1073		383	
Approach Delay, s/veh		9.5	18.6		25.8	
Approach LOS		A	B		C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		45.0		19.5	9.8	35.2
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		39.0		24.0	7.0	26.0
Max Q Clear Time (g_c+I1), s		0.0		11.7	2.8	0.0
Green Ext Time (p_c), s		0.0		1.9	0.0	0.0
Intersection Summary						
HCM 6th Ctrl Delay			15.2			
HCM 6th LOS			B			

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	135	1970	7	23	898	27	8	1	12	54	3	213	
Future Volume (veh/h)	135	1970	7	23	898	27	8	1	12	54	3	213	
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach	No			No			No			No			
Adj Sat Flow, veh/h/ln	1856	1870	1870	1826	1841	1841	1870	1870	1870	1781	1870	1870	
Adj Flow Rate, veh/h	150	2189	8	26	998	0	12	2	18	74	4	0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.66	0.66	0.66	0.73	0.73	0.73	
Percent Heavy Veh, %	3	2	2	5	4	4	2	2	2	8	2	2	
Cap, veh/h	433	2377	9	141	2205		142	9	84	212	302		
Arrive On Green	0.06	0.65	0.65	0.03	0.63	0.00	0.06	0.06	0.06	0.05	0.16	0.00	
Sat Flow, veh/h	1767	3632	13	1739	3589	0	1412	161	1449	1697	1870	0	
Grp Volume(v), veh/h	150	1070	1127	26	998	0	12	0	20	74	4	0	
Grp Sat Flow(s),veh/h/ln	1767	1777	1868	1739	1749	0	1412	0	1610	1697	1870	0	
Q Serve(g_s), s	3.5	62.8	63.0	0.6	17.7	0.0	1.0	0.0	1.4	4.8	0.2	0.0	
Cycle Q Clear(g_c), s	3.5	62.8	63.0	0.6	17.7	0.0	1.0	0.0	1.4	4.8	0.2	0.0	
Prop In Lane	1.00		0.01	1.00		0.00	1.00		0.90	1.00		0.00	
Lane Grp Cap(c), veh/h	433	1163	1223	141	2205		142	0	94	212	302		
V/C Ratio(X)	0.35	0.92	0.92	0.18	0.45		0.08	0.00	0.21	0.35	0.01		
Avail Cap(c_a), veh/h	492	1163	1223	184	2205		331	0	309	220	561		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	
Uniform Delay (d), s/veh	8.2	18.0	18.0	24.6	11.5	0.0	53.7	0.0	53.9	47.7	42.3	0.0	
Incr Delay (d2), s/veh	0.5	13.1	12.7	0.6	0.7	0.0	0.3	0.0	1.1	1.0	0.0	0.0	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	1.5	31.0	32.6	0.5	7.7	0.0	0.4	0.0	0.6	2.2	0.1	0.0	
Unsig. Movement Delay, s/veh													
LnGrp Delay(d),s/veh	8.6	31.1	30.7	25.2	12.1	0.0	53.9	0.0	55.0	48.7	42.3	0.0	
LnGrp LOS	A	C	C	C	B		D	A	E	D	D		
Approach Vol, veh/h	2347		1024			A		32		78			A
Approach Delay, s/veh	29.5		12.5					54.6		48.4			
Approach LOS	C		B					D		D			
Timer - Assigned Phs	1	2	3	4	5	6	8						
Phs Duration (G+Y+Rc), s	10.1	84.5	12.4	13.0	13.0	81.7	25.4						
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0						
Max Green Setting (Gmax), s	7.0	59.0	7.0	23.0	11.0	55.0	36.0						
Max Q Clear Time (g_c+I1), s	2.6	0.0	6.8	3.4	5.5	0.0	2.2						
Green Ext Time (p_c), s	0.0	0.0	0.0	0.1	0.3	0.0	0.0						
Intersection Summary													
HCM 6th Ctrl Delay	25.1												
HCM 6th LOS	C												
Notes													

172093 Kenmount Hill CDS TIS
Kenmount Road & H3 Access #2/Penney Access

S1B 5-year with Development AM

01/29/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	1239	84	23	605	34	51	43	34	16	25	20
Future Volume (veh/h)	38	1239	84	23	605	34	51	43	34	16	25	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	41	1347	0	25	658	0	55	47	0	17	27	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	559	2270		288	2232		238	193		213	148	
Arrive On Green	0.04	0.64	0.00	0.03	0.63	0.00	0.05	0.10	0.00	0.03	0.08	0.00
Sat Flow, veh/h	1781	3647	0	1781	3647	0	1781	1870	0	1781	1870	0
Grp Volume(v), veh/h	41	1347	0	25	658	0	55	47	0	17	27	0
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	0	1781	1870	0	1781	1870	0
Q Serve(g_s), s	0.9	26.5	0.0	0.6	10.1	0.0	3.3	2.8	0.0	1.0	1.6	0.0
Cycle Q Clear(g_c), s	0.9	26.5	0.0	0.6	10.1	0.0	3.3	2.8	0.0	1.0	1.6	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	559	2270		288	2232		238	193		213	148	
V/C Ratio(X)	0.07	0.59		0.09	0.29		0.23	0.24		0.08	0.18	
Avail Cap(c_a), veh/h	586	2270		333	2232		255	358		272	358	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	7.1	12.6	0.0	9.8	10.2	0.0	47.1	49.5	0.0	48.6	51.6	0.0
Incr Delay (d2), s/veh	0.1	1.2	0.0	0.1	0.3	0.0	0.5	0.6	0.0	0.2	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	11.7	0.0	0.3	4.5	0.0	1.6	1.4	0.0	0.5	0.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.1	13.8	0.0	9.9	10.5	0.0	47.5	50.2	0.0	48.7	52.2	0.0
LnGrp LOS	A	B		A	B		D	D		D	D	
Approach Vol, veh/h	1388		A	683		A	102		A	44		A
Approach Delay, s/veh	13.6			10.5			48.7			50.9		
Approach LOS	B			B			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.0	82.6	11.9	15.5	11.2	81.4	9.0	18.4				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	7.0	59.0	7.0	23.0	7.0	59.0	7.0	23.0				
Max Q Clear Time (g_c+I1), s	2.6	0.0	5.3	3.6	2.9	0.0	3.0	4.8				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1				

Intersection Summary

HCM 6th Ctrl Delay	15.0
HCM 6th LOS	B

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

172093 Kenmount Hill CDS TIS
Kenmount Road & H3 Access #1/Brant Drive

S1B 5-year with Development AM

01/29/2018

														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations		 			 									
Traffic Volume (veh/h)	40	1288	22	11	619	33	34	35	65	16	16	20		
Future Volume (veh/h)	40	1288	22	11	619	33	34	35	65	16	16	20		
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870		
Adj Flow Rate, veh/h	43	1400	0	12	673	0	37	38	0	17	17	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2		
Cap, veh/h	563	2358		266	2269		228	172		205	142			
Arrive On Green	0.04	0.66	0.00	0.02	0.64	0.00	0.04	0.09	0.00	0.03	0.08	0.00		
Sat Flow, veh/h	1781	3647	0	1781	3647	0	1781	1870	0	1781	1870	0		
Grp Volume(v), veh/h	43	1400	0	12	673	0	37	38	0	17	17	0		
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	0	1781	1870	0	1781	1870	0		
Q Serve(g_s), s	0.9	26.2	0.0	0.3	10.1	0.0	2.2	2.3	0.0	1.0	1.0	0.0		
Cycle Q Clear(g_c), s	0.9	26.2	0.0	0.3	10.1	0.0	2.2	2.3	0.0	1.0	1.0	0.0		
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00		
Lane Grp Cap(c), veh/h	563	2358		266	2269		228	172		205	142			
V/C Ratio(X)	0.08	0.59		0.05	0.30		0.16	0.22		0.08	0.12			
Avail Cap(c_a), veh/h	588	2358		335	2269		258	358		264	358			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	6.6	11.2	0.0	9.4	9.7	0.0	47.8	50.5	0.0	49.0	51.7	0.0		
Incr Delay (d2), s/veh	0.1	1.1	0.0	0.1	0.3	0.0	0.3	0.6	0.0	0.2	0.4	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.4	11.5	0.0	0.1	4.5	0.0	1.1	1.2	0.0	0.5	0.5	0.0		
Unsig. Movement Delay, s/veh														
LnGrp Delay(d),s/veh	6.7	12.3	0.0	9.5	10.0	0.0	48.1	51.1	0.0	49.1	52.1	0.0		
LnGrp LOS	A	B		A	B		D	D		D	D			
Approach Vol, veh/h	1443		A	685		A	75		A	34		A		
Approach Delay, s/veh	12.1			10.0			49.6			50.6				
Approach LOS	B			A			D			D				
Timer - Assigned Phs	1	2	3	4	5	6	7	8						
Phs Duration (G+Y+Rc), s	8.3	85.6	11.0	15.1	11.3	82.6	9.0	17.0						
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0						
Max Green Setting (Gmax), s	7.0	59.0	7.0	23.0	7.0	59.0	7.0	23.0						
Max Q Clear Time (g_c+I1), s	2.3	0.0	4.2	3.0	2.9	0.0	3.0	4.3						
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1						
Intersection Summary														
HCM 6th Ctrl Delay	13.3													
HCM 6th LOS	B													
Notes														

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↑	↑↑	↑	↑
Traffic Volume (veh/h)	1183	76	514	575	87	953
Future Volume (veh/h)	1183	76	514	575	87	953
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1841	1870	1870
Adj Flow Rate, veh/h	1286	0	553	618	96	0
Peak Hour Factor	0.92	0.92	0.93	0.93	0.91	0.91
Percent Heavy Veh, %	2	2	2	4	2	2
Cap, veh/h	2085		538	2868	142	
Arrive On Green	0.59	0.00	0.18	0.82	0.08	0.00
Sat Flow, veh/h	3741	0	1781	3589	1781	1585
Grp Volume(v), veh/h	1286	0	553	618	96	0
Grp Sat Flow(s),veh/h/ln	1777	0	1781	1749	1781	1585
Q Serve(g_s), s	28.1	0.0	22.0	4.6	6.3	0.0
Cycle Q Clear(g_c), s	28.1	0.0	22.0	4.6	6.3	0.0
Prop In Lane		0.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2085		538	2868	142	
V/C Ratio(X)	0.62		1.03	0.22	0.67	
Avail Cap(c_a), veh/h	2085		538	2868	609	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	16.1	0.0	28.7	2.4	53.7	0.0
Incr Delay (d2), s/veh	1.4	0.0	46.2	0.2	5.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.7	0.0	23.6	1.7	3.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	17.4	0.0	74.8	2.5	59.1	0.0
LnGrp LOS	B		F	A	E	
Approach Vol, veh/h	1286	A		1171	96	A
Approach Delay, s/veh	17.4			36.7	59.1	
Approach LOS	B			D	E	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	28.0	76.4		15.6		104.4
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0
Max Green Setting (Gmax), s	22.0	39.0		41.0		67.0
Max Q Clear Time (g_c+I1), s	24.0	0.0		8.3		0.0
Green Ext Time (p_c), s	0.0	0.0		0.5		0.0
Intersection Summary						
HCM 6th Ctrl Delay			27.8			
HCM 6th LOS			C			
Notes						
Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.						

Intersection												
Int Delay, s/veh	30.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	121	1	107	52	3	74	12	640	15	4	394	27
Future Vol, veh/h	121	1	107	52	3	74	12	640	15	4	394	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	250	-	-	250	-	-	850	-	-	500	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	91	91	91	73	73	73
Heavy Vehicles, %	2	2	5	2	33	3	8	2	15	25	2	2
Mvmt Flow	139	1	123	60	3	85	13	703	16	5	540	37
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	1350	1314	559	1368	1324	711	577	0	0	719	0	0
Stage 1	569	569	-	737	737	-	-	-	-	-	-	-
Stage 2	781	745	-	631	587	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.25	7.12	6.83	6.23	4.18	-	-	4.35	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.83	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.83	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.345	3.518	4.297	3.327	2.272	-	-	2.425	-	-
Pot Cap-1 Maneuver	~ 128	158	523	124	135	431	967	-	-	786	-	-
Stage 1	507	506	-	410	382	-	-	-	-	-	-	-
Stage 2	388	421	-	469	450	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	~ 99	155	523	93	132	431	967	-	-	786	-	-
Mov Cap-2 Maneuver	~ 99	155	-	93	132	-	-	-	-	-	-	-
Stage 1	500	503	-	405	377	-	-	-	-	-	-	-
Stage 2	304	416	-	356	447	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	170.2		48.7			0.2			0.1			
HCM LOS	F		E									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR		
Capacity (veh/h)	967	-	-	99	512	93	396	786	-	-		
HCM Lane V/C Ratio	0.014	-	-	1.405	0.242	0.643	0.223	0.007	-	-		
HCM Control Delay (s)	8.8	-	-	\$ 309.3	14.3	96.2	16.7	9.6	-	-		
HCM Lane LOS	A	-	-	F	B	F	C	A	-	-		
HCM 95th %tile Q(veh)	0	-	-	10.1	0.9	3.1	0.8	0	-	-		
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s			+: Computation Not Defined				*: All major volume in platoon			

Intersection												
Int Delay, s/veh	162.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱		↰	↱		↰	↱		↰	↱	
Traffic Vol, veh/h	6	36	65	39	33	390	123	655	38	169	353	32
Future Vol, veh/h	6	36	65	39	33	390	123	655	38	169	353	32
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	400	-	-	400	-	-	500	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	99	92	99	92	93	93	75	75	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	5	2	2	2
Mvmt Flow	7	39	71	39	36	394	134	704	41	225	471	35

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2147	1952	489	1987	1949	725	506	0	0	745	0	0
Stage 1	939	939	-	993	993	-	-	-	-	-	-	-
Stage 2	1208	1013	-	994	956	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	35	64	579	46	64	425	1059	-	-	863	-	-
Stage 1	317	343	-	296	323	-	-	-	-	-	-	-
Stage 2	224	316	-	295	336	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	0	41	579	~ 5	41	425	1059	-	-	863	-	-
Mov Cap-2 Maneuver	0	41	-	~ 5	41	-	-	-	-	-	-	-
Stage 1	277	253	-	258	282	-	-	-	-	-	-	-
Stage 2	12	276	-	162	248	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s		\$ 753.6	1.4	3.3
HCM LOS	-	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1059	-	-	-	102	5	239	863	-	-
HCM Lane V/C Ratio	0.126	-	-	-	1.076	7.879	1.798	0.261	-	-
HCM Control Delay (s)	8.9	-	-	-	189.3	4497.2	410.5	10.6	-	-
HCM Lane LOS	A	-	-	-	F	F	F	B	-	-
HCM 95th %tile Q(veh)	0.4	-	-	-	6.9	6.6	29.3	1	-	-

Notes										
~: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined						*: All major volume in platoon		

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	39	1194	806	138	262	79
Future Volume (veh/h)	39	1194	806	138	262	79
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1710	1856	1841	1841	1934	1949
Adj Flow Rate, veh/h	43	1327	916	157	294	89
Peak Hour Factor	0.90	0.90	0.88	0.88	0.89	0.89
Percent Heavy Veh, %	8	3	4	4	3	2
Cap, veh/h	308	2130	1352	232	386	347
Arrive On Green	0.06	0.60	0.45	0.45	0.21	0.21
Sat Flow, veh/h	1629	3618	3078	512	1842	1651
Grp Volume(v), veh/h	43	1327	536	537	294	89
Grp Sat Flow(s),veh/h/ln	1629	1763	1749	1749	1842	1651
Q Serve(g_s), s	0.8	15.4	15.6	15.6	9.7	2.9
Cycle Q Clear(g_c), s	0.8	15.4	15.6	15.6	9.7	2.9
Prop In Lane	1.00			0.29	1.00	1.00
Lane Grp Cap(c), veh/h	308	2130	792	792	386	347
V/C Ratio(X)	0.14	0.62	0.68	0.68	0.76	0.26
Avail Cap(c_a), veh/h	390	2130	792	792	685	614
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.6	8.1	13.9	13.9	24.0	21.3
Incr Delay (d2), s/veh	0.2	1.4	4.6	4.6	3.1	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	6.3	7.4	7.4	4.9	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.8	9.5	18.5	18.6	27.1	21.7
LnGrp LOS	A	A	B	B	C	C
Approach Vol, veh/h		1370	1073		383	
Approach Delay, s/veh		9.5	18.6		25.8	
Approach LOS		A	B		C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		45.0		19.5	9.8	35.2
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		39.0		24.0	7.0	26.0
Max Q Clear Time (g_c+I1), s		0.0		11.7	2.8	0.0
Green Ext Time (p_c), s		0.0		1.9	0.0	0.0
Intersection Summary						
HCM 6th Ctrl Delay			15.2			
HCM 6th LOS			B			

Intersection												
Int Delay, s/veh	31.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↱		↰	↰↱			↰↱		↰	↰	
Traffic Vol, veh/h	7	1000	7	29	896	21	3	0	62	80	0	14
Future Vol, veh/h	7	1000	7	29	896	21	3	0	62	80	0	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	250	-	-	-	-	-	350	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	86	86	86	85	85	85	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	1266	9	34	1042	24	4	0	73	96	0	17

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1066	0	0	1275	0	0	1878	2423	638	1773	2415	533
Stage 1	-	-	-	-	-	-	1289	1289	-	1122	1122	-
Stage 2	-	-	-	-	-	-	589	1134	-	651	1293	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	649	-	-	540	-	-	44	32	419	~ 53	32	491
Stage 1	-	-	-	-	-	-	173	232	-	219	279	-
Stage 2	-	-	-	-	-	-	461	276	-	424	231	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	649	-	-	540	-	-	40	30	419	~ 41	30	491
Mov Cap-2 Maneuver	-	-	-	-	-	-	40	30	-	~ 41	30	-
Stage 1	-	-	-	-	-	-	171	229	-	216	261	-
Stage 2	-	-	-	-	-	-	417	259	-	345	228	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.4	21.6	\$ 705.9
HCM LOS			C	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	292	649	-	-	540	-	-	41	491
HCM Lane V/C Ratio	0.262	0.014	-	-	0.062	-	-	2.351	0.034
HCM Control Delay (s)	21.6	10.6	-	-	12.1	-	-	\$ 827.2	12.6
HCM Lane LOS	C	B	-	-	B	-	-	F	B
HCM 95th %tile Q(veh)	1	0	-	-	0.2	-	-	10.4	0.1

Notes			
~: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection												
Int Delay, s/veh	8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱↰		↰	↱↰			↱↰		↰	↱	
Traffic Vol, veh/h	23	936	5	8	825	52	5	0	33	47	0	82
Future Vol, veh/h	23	936	5	8	825	52	5	0	33	47	0	82
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	-	350	-	-	-	-	-	300	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	82	82	82	65	65	65	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	1101	6	10	1006	63	8	0	51	59	0	104

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1069	0	0	1107	0	0	1681	2247	554	1663	2219	535
Stage 1	-	-	-	-	-	-	1158	1158	-	1058	1058	-
Stage 2	-	-	-	-	-	-	523	1089	-	605	1161	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	648	-	-	626	-	-	62	41	476	64	43	490
Stage 1	-	-	-	-	-	-	208	269	-	240	300	-
Stage 2	-	-	-	-	-	-	505	290	-	451	268	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	648	-	-	626	-	-	47	39	476	~ 55	41	490
Mov Cap-2 Maneuver	-	-	-	-	-	-	47	39	-	~ 55	41	-
Stage 1	-	-	-	-	-	-	199	258	-	230	295	-
Stage 2	-	-	-	-	-	-	392	285	-	386	257	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.1	27.7	106.8
HCM LOS			D	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	216	648	-	-	626	-	-	55	490
HCM Lane V/C Ratio	0.271	0.042	-	-	0.016	-	-	1.082	0.212
HCM Control Delay (s)	27.7	10.8	-	-	10.8	-	-	268.3	14.3
HCM Lane LOS	D	B	-	-	B	-	-	F	B
HCM 95th %tile Q(veh)	1.1	0.1	-	-	0	-	-	5	0.8

Notes			
~: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	737	381	199	600	104	303	585	378	151	360	76
Future Volume (veh/h)	50	737	381	199	600	104	303	585	378	151	360	76
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1753	1841	1870	1796	1796	1776	1776	1847	2106	2091	2159
Adj Flow Rate, veh/h	54	801	0	229	690	0	337	650	0	191	456	0
Peak Hour Factor	0.92	0.92	0.92	0.87	0.87	0.87	0.90	0.90	0.90	0.79	0.79	0.79
Percent Heavy Veh, %	4	5	4	2	2	2	2	2	2	2	3	4
Cap, veh/h	270	925		252	1016		317	533		236	581	
Arrive On Green	0.06	0.28	0.00	0.08	0.30	0.00	0.10	0.30	0.00	0.08	0.28	0.00
Sat Flow, veh/h	1753	3330	1560	1781	3501	0	1692	1776	1565	2006	2091	1830
Grp Volume(v), veh/h	54	801	0	229	690	0	337	650	0	191	456	0
Grp Sat Flow(s),veh/h/ln	1753	1665	1560	1781	1706	0	1692	1776	1565	2006	2091	1830
Q Serve(g_s), s	1.9	20.6	0.0	7.0	16.0	0.0	9.0	27.0	0.0	6.1	18.1	0.0
Cycle Q Clear(g_c), s	1.9	20.6	0.0	7.0	16.0	0.0	9.0	27.0	0.0	6.1	18.1	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	270	925		252	1016		317	533		236	581	
V/C Ratio(X)	0.20	0.87		0.91	0.68		1.06	1.22		0.81	0.79	
Avail Cap(c_a), veh/h	305	925		252	1016		317	533		236	581	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	21.7	30.9	0.0	27.4	27.8	0.0	28.5	31.5	0.0	24.1	30.0	0.0
Incr Delay (d2), s/veh	0.8	10.7	0.0	33.7	3.7	0.0	68.3	115.1	0.0	20.7	10.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	10.1	0.0	4.3	7.4	0.0	9.3	29.5	0.0	4.5	11.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.5	41.6	0.0	61.1	31.5	0.0	96.8	146.6	0.0	44.9	40.3	0.0
LnGrp LOS	C	D		E	C		F	F		D	D	
Approach Vol, veh/h		855	A		919	A		987	A		647	A
Approach Delay, s/veh		40.4			38.8			129.6			41.6	
Approach LOS		D			D			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.0	31.0	15.0	31.0	11.2	32.8	13.0	33.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	7.0	25.0	9.0	25.0	7.0	25.0	7.0	27.0				
Max Q Clear Time (g_c+I1), s	9.0	0.0	11.0	0.0	3.9	0.0	8.1	0.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			66.0									
HCM 6th LOS			E									
Notes												
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	3:45	3:45	3:45	3:45	3:45	3:45	3:45
End Time	5:15	5:15	5:15	5:15	5:15	5:15	5:15
Total Time (min)	90	90	90	90	90	90	90
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4	4
Vehs Entered	13401	13242	13257	13397	13159	13367	13415
Vehs Exited	13293	13116	13032	13243	12939	13310	13259
Starting Vehs	691	674	612	627	660	647	595
Ending Vehs	799	800	837	781	880	704	751
Travel Distance (km)	14860	14591	14642	14870	14512	14962	14847
Travel Time (hr)	1784.7	2042.1	1840.9	1935.5	1905.6	1773.3	1748.9
Total Delay (hr)	1509.7	1771.6	1570.1	1660.8	1637.4	1496.8	1474.4
Total Stops	19520	18534	19731	20725	19986	18360	18981
Fuel Used (l)	2512.3	2719.5	2539.4	2650.2	2584.8	2511.9	2484.9

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	3:45	3:45	3:45	3:45
End Time	5:15	5:15	5:15	5:15
Total Time (min)	90	90	90	90
Time Recorded (min)	60	60	60	60
# of Intervals	5	5	5	5
# of Recorded Intervals	4	4	4	4
Vehs Entered	13443	13033	13212	13291
Vehs Exited	13397	13003	13062	13169
Starting Vehs	766	741	701	658
Ending Vehs	812	771	851	796
Travel Distance (km)	15316	14689	14668	14796
Travel Time (hr)	1858.7	1948.6	1918.0	1875.6
Total Delay (hr)	1576.0	1676.7	1646.7	1602.0
Total Stops	19987	19544	19004	19438
Fuel Used (l)	2601.6	2641.7	2610.7	2585.7

Interval #0 Information Seeding

Start Time	3:45
End Time	4:15
Total Time (min)	30
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	4:15
End Time	4:30
Total Time (min)	15
Volumes adjusted by PHF, Growth Factors.	

Run Number	1	10	2	3	4	5	6
Vehs Entered	3612	3769	3629	3759	3668	3686	3754
Vehs Exited	3585	3600	3435	3525	3487	3620	3549
Starting Vehs	691	674	612	627	660	647	595
Ending Vehs	718	843	806	861	841	713	800
Travel Distance (km)	3940	3886	3768	3963	3811	3977	3964
Travel Time (hr)	345.3	394.3	338.5	373.1	347.1	344.5	329.2
Total Delay (hr)	272.4	322.2	268.7	299.9	276.5	271.1	256.1
Total Stops	5039	5024	4707	5342	5212	4716	5282
Fuel Used (l)	557.6	597.5	538.6	583.3	548.0	562.6	545.8

Interval #1 Information Recording

Start Time	4:15
End Time	4:30
Total Time (min)	15
Volumes adjusted by PHF, Growth Factors.	

Run Number	7	8	9	Avg
Vehs Entered	3701	3619	3687	3683
Vehs Exited	3620	3530	3537	3549
Starting Vehs	766	741	701	658
Ending Vehs	847	830	851	808
Travel Distance (km)	4020	3883	3961	3917
Travel Time (hr)	357.5	365.5	353.1	354.8
Total Delay (hr)	283.5	293.7	280.0	282.4
Total Stops	5211	5333	5204	5102
Fuel Used (l)	572.0	571.6	565.6	564.3

Interval #2 Information Recording

Start Time	4:30
End Time	4:45
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	10	2	3	4	5	6
Vehs Entered	3247	3091	3207	3295	3160	3227	3202
Vehs Exited	3242	3196	3260	3321	3171	3273	3273
Starting Vehs	718	843	806	861	841	713	800
Ending Vehs	723	738	753	835	830	667	729
Travel Distance (km)	3662	3573	3636	3643	3541	3609	3701
Travel Time (hr)	415.9	478.8	425.7	462.9	450.7	421.3	420.7
Total Delay (hr)	348.2	412.6	358.4	395.5	385.0	354.3	352.2
Total Stops	4730	4357	4826	5318	4827	4479	4605
Fuel Used (l)	598.0	648.5	603.1	638.0	616.3	600.7	607.5

Interval #2 Information Recording

Start Time	4:30
End Time	4:45
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	7	8	9	Avg
Vehs Entered	3222	3107	3212	3190
Vehs Exited	3232	3128	3227	3234
Starting Vehs	847	830	851	808
Ending Vehs	837	809	836	772
Travel Distance (km)	3707	3583	3575	3623
Travel Time (hr)	446.9	459.0	451.6	443.3
Total Delay (hr)	378.0	392.6	385.3	376.2
Total Stops	4571	4671	4811	4715
Fuel Used (l)	628.2	630.0	622.3	619.3

Interval #3 Information Recording

Start Time	4:45
End Time	5:00
Total Time (min)	15
Volumes adjusted by Growth Factors, Anti PHF.	

Run Number	1	10	2	3	4	5	6
Vehs Entered	3267	3227	3209	3265	3239	3212	3253
Vehs Exited	3219	3203	3161	3297	3193	3208	3262
Starting Vehs	723	738	753	835	830	667	729
Ending Vehs	771	762	801	803	876	671	720
Travel Distance (km)	3641	3587	3607	3732	3593	3650	3610
Travel Time (hr)	483.7	548.7	494.5	521.7	513.2	475.9	470.4
Total Delay (hr)	416.4	482.3	427.8	452.8	447.0	408.5	403.4
Total Stops	4779	4574	4908	5185	5062	4403	4554
Fuel Used (l)	653.5	708.5	660.1	697.3	675.5	647.8	641.6

Interval #3 Information Recording

Start Time	4:45
End Time	5:00
Total Time (min)	15
Volumes adjusted by Growth Factors, Anti PHF.	

Run Number	7	8	9	Avg
Vehs Entered	3294	3121	3069	3211
Vehs Exited	3263	3132	3152	3208
Starting Vehs	837	809	836	772
Ending Vehs	868	798	753	780
Travel Distance (km)	3725	3554	3494	3619
Travel Time (hr)	503.5	528.7	525.4	506.6
Total Delay (hr)	434.6	462.7	460.6	439.6
Total Stops	5128	4637	4530	4772
Fuel Used (l)	676.1	686.1	680.4	672.7

Interval #4 Information Recording

Start Time	5:00
End Time	5:15
Total Time (min)	15
Volumes adjusted by Growth Factors, Anti PHF.	

Run Number	1	10	2	3	4	5	6
Vehs Entered	3275	3155	3212	3078	3092	3242	3206
Vehs Exited	3247	3117	3176	3100	3088	3209	3175
Starting Vehs	771	762	801	803	876	671	720
Ending Vehs	799	800	837	781	880	704	751
Travel Distance (km)	3617	3546	3630	3531	3567	3726	3572
Travel Time (hr)	539.7	620.3	582.2	577.8	594.7	531.6	528.5
Total Delay (hr)	472.6	554.5	515.1	512.6	528.9	462.9	462.6
Total Stops	4972	4579	5290	4880	4885	4762	4540
Fuel Used (l)	703.3	765.1	737.6	731.7	745.1	700.7	689.9

Interval #4 Information Recording

Start Time	5:00
End Time	5:15
Total Time (min)	15
Volumes adjusted by Growth Factors, Anti PHF.	

Run Number	7	8	9	Avg
Vehs Entered	3226	3186	3244	3190
Vehs Exited	3282	3213	3146	3171
Starting Vehs	868	798	753	780
Ending Vehs	812	771	851	796
Travel Distance (km)	3863	3669	3638	3636
Travel Time (hr)	550.9	595.4	587.9	570.9
Total Delay (hr)	479.9	527.6	520.8	503.8
Total Stops	5077	4903	4459	4834
Fuel Used (l)	725.2	754.0	742.4	729.5

2: Marlin Drive/Hemmer Jane Drive & Topsail Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	0.6	3.5
Denied Del/Veh (s)	0.2	0.0	0.0	0.0	0.0	0.0	0.1	1.2	159.1	140.9	4.8
Total Delay (hr)	0.1	0.5	0.0	0.1	1.5	0.2	0.1	0.6	5.8	0.3	9.1
Total Del/Veh (s)	13.9	1.4	0.9	10.9	5.3	5.4	83.7	37.5	317.1	71.7	12.4
Stop Delay (hr)	0.1	0.0	0.0	0.1	0.1	0.0	0.1	0.6	5.8	0.3	7.1
Stop Del/Veh (s)	11.8	0.1	0.1	7.0	0.3	0.5	82.1	37.4	318.8	71.5	9.6

6: Humber Drive/Moffatt Road & Topsail Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	32.3	1.4	16.0
Denied Del/Veh (s)	2.4	0.4	0.4	0.1	0.0	0.0	0.1	0.1	0.1	1039.2	986.1	1090.0
Total Delay (hr)	0.2	0.3	0.0	0.1	0.6	0.1	0.0	0.0	0.1	13.0	0.3	3.0
Total Del/Veh (s)	11.1	0.9	0.6	9.4	2.3	2.7	50.6	74.0	20.6	545.6	333.6	295.0
Stop Delay (hr)	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	13.2	0.3	3.1
Stop Del/Veh (s)	9.4	0.0	0.0	7.2	0.0	0.0	49.0	71.1	20.3	551.5	332.7	297.2

6: Humber Drive/Moffatt Road & Topsail Road Performance by movement

Movement	All
Denied Delay (hr)	49.9
Denied Del/Veh (s)	72.3
Total Delay (hr)	17.8
Total Del/Veh (s)	26.1
Stop Delay (hr)	16.9
Stop Del/Veh (s)	24.8

11: Mount Carson Avenue & Lasalle Drive/Brodie Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.2	0.0	0.1	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.2	0.0
Denied Del/Veh (s)	15.8	7.7	17.4	4.0	0.1	0.2	3.1	0.9	0.9	3.1	1.1	1.1
Total Delay (hr)	1.4	0.1	0.2	0.2	0.1	0.1	0.3	0.3	0.0	0.1	0.5	0.1
Total Del/Veh (s)	105.4	59.8	19.9	55.7	69.8	12.7	13.4	1.4	0.8	7.6	2.5	1.4
Stop Delay (hr)	1.4	0.1	0.2	0.2	0.1	0.1	0.3	0.0	0.0	0.1	0.0	0.0
Stop Del/Veh (s)	105.0	56.9	19.7	53.9	66.8	12.3	10.8	0.0	0.0	4.7	0.0	0.1

11: Mount Carson Avenue & Lasalle Drive/Brodie Street Performance by movement

Movement	All
Denied Delay (hr)	0.9
Denied Del/Veh (s)	1.8
Total Delay (hr)	3.3
Total Del/Veh (s)	6.4
Stop Delay (hr)	2.3
Stop Del/Veh (s)	4.5

14: Allston Street/Brougham Drive & Kenmount Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.1	0.0	0.0	0.0	0.0	0.0	0.9	1.9	1.7	0.1	0.0	0.0
Denied Del/Veh (s)	2.2	0.2	0.2	0.0	0.0	0.0	59.0	45.6	55.2	3.7	0.6	0.5
Total Delay (hr)	1.1	3.9	0.1	1.2	5.7	1.4	2.6	7.4	3.5	2.2	0.6	0.3
Total Del/Veh (s)	36.2	17.4	11.6	23.5	18.6	19.0	164.9	173.7	109.9	64.1	47.0	23.9
Stop Delay (hr)	0.9	2.6	0.1	0.9	3.4	0.9	2.5	6.9	3.3	2.1	0.6	0.3
Stop Del/Veh (s)	30.8	11.4	8.7	17.2	11.0	12.2	155.7	163.4	102.5	60.2	42.3	21.7

14: Allston Street/Brougham Drive & Kenmount Road Performance by movement

Movement	All
Denied Delay (hr)	4.7
Denied Del/Veh (s)	5.7
Total Delay (hr)	30.1
Total Del/Veh (s)	35.6
Stop Delay (hr)	24.4
Stop Del/Veh (s)	28.8

21: Mount Carson Avenue & Penney Access/Wyatt Boulevard Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	46.9	84.7	105.3	18.9	73.5	204.6	0.2	0.2	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	1895.8	1848.1	1805.2	1888.4	1837.3	1864.7	3.2	1.2	1.2	0.0	0.0	0.0
Total Delay (hr)	3.4	4.9	4.5	0.8	3.3	6.6	0.9	0.3	0.0	1.1	0.4	0.0
Total Del/Veh (s)	503.2	410.9	344.8	379.8	352.6	277.1	13.5	2.5	1.1	11.8	1.8	1.1
Stop Delay (hr)	3.4	4.9	4.6	0.8	3.4	6.8	0.7	0.0	0.0	0.8	0.0	0.0
Stop Del/Veh (s)	503.6	414.1	350.9	379.6	356.6	284.1	10.5	0.0	0.1	8.5	0.0	0.1

21: Mount Carson Avenue & Penney Access/Wyatt Boulevard Performance by movement

Movement	All
Denied Delay (hr)	534.3
Denied Del/Veh (s)	650.7
Total Delay (hr)	26.3
Total Del/Veh (s)	43.7
Stop Delay (hr)	25.4
Stop Del/Veh (s)	42.2

24: Mount Carson Avenue & Kenmount Road Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	14.2	2.8	0.2	0.1	0.0	0.0	17.3
Denied Del/Veh (s)	67.1	50.2	0.7	0.4	0.0	0.1	16.5
Total Delay (hr)	26.5	6.0	22.4	8.4	1.1	1.2	65.7
Total Del/Veh (s)	122.4	106.8	86.2	22.7	54.8	8.5	61.4
Stop Delay (hr)	23.5	5.4	14.2	2.4	1.1	0.6	47.2
Stop Del/Veh (s)	108.6	95.9	54.6	6.5	52.0	4.2	44.1

28: Kenmount Road & Great Eastern Avenue Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.6	127.2	1.9	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	202.9	227.1	238.6	0.2	0.1	0.1	3.7	0.2	0.5
Total Delay (hr)	3.3	2.9	0.0	0.3	40.2	0.4	0.6	0.0	0.1	0.4	0.1	1.3
Total Del/Veh (s)	59.4	9.6	7.6	82.8	75.5	54.3	56.7	44.1	13.5	56.9	71.4	16.4
Stop Delay (hr)	2.8	0.9	0.0	0.2	25.7	0.3	0.6	0.0	0.1	0.4	0.1	1.0
Stop Del/Veh (s)	51.2	2.9	0.9	58.4	48.3	32.3	55.1	41.7	13.4	52.6	66.0	12.3

28: Kenmount Road & Great Eastern Avenue Performance by movement

Movement	All
Denied Delay (hr)	129.8
Denied Del/Veh (s)	126.5
Total Delay (hr)	49.6
Total Del/Veh (s)	49.5
Stop Delay (hr)	32.0
Stop Del/Veh (s)	31.9

33: Commonwealth Avenue/Mount Carson Avenue & Topsail Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.1	5.7	13.1	3.5	22.3	35.2	16.6	35.5	199.1	14.1
Denied Del/Veh (s)	0.3	0.0	0.3	61.8	54.6	57.4	235.0	234.4	231.7	954.3	949.3	940.5
Total Delay (hr)	1.4	10.5	1.7	36.1	18.9	3.0	33.7	12.1	2.9	1.2	11.2	0.4
Total Del/Veh (s)	62.1	48.8	9.6	374.4	79.4	51.0	372.3	89.1	46.8	51.9	85.1	45.0
Stop Delay (hr)	1.2	8.4	0.2	36.1	14.1	2.0	33.6	9.6	2.0	1.1	10.1	0.4
Stop Del/Veh (s)	54.6	39.1	1.2	375.0	59.3	33.5	370.7	70.5	31.2	48.4	76.5	39.4

33: Commonwealth Avenue/Mount Carson Avenue & Topsail Road Performance by movement

Movement	All
Denied Delay (hr)	345.1
Denied Del/Veh (s)	249.8
Total Delay (hr)	133.2
Total Del/Veh (s)	105.4
Stop Delay (hr)	118.8
Stop Del/Veh (s)	94.0

36: Brant Drive/H3 Access #1 & Kenmount Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.3	0.2
Denied Del/Veh (s)	0.3	0.0	0.0	0.0	0.0	0.0	3.8	0.5	0.4	13.3	8.6	5.8
Total Delay (hr)	1.7	4.7	0.1	0.5	9.5	0.5	0.5	2.5	0.1	3.7	2.1	1.2
Total Del/Veh (s)	51.1	17.4	12.0	26.6	24.8	19.9	45.2	57.6	19.0	88.2	67.3	31.6
Stop Delay (hr)	1.5	2.6	0.1	0.3	4.6	0.2	0.5	2.3	0.1	3.5	1.9	1.0
Stop Del/Veh (s)	43.8	9.8	5.0	16.5	12.0	7.6	40.9	51.9	15.6	82.7	59.9	26.5

36: Brant Drive/H3 Access #1 & Kenmount Road Performance by movement

Movement	All
Denied Delay (hr)	1.1
Denied Del/Veh (s)	1.3
Total Delay (hr)	27.2
Total Del/Veh (s)	29.7
Stop Delay (hr)	18.5
Stop Del/Veh (s)	20.2

42: Penney Access/H3 Access #2 & Kenmount Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.2	0.0	0.0	0.0	0.0	2.3	2.7	0.8	0.6	0.2	0.5
Denied Del/Veh (s)	1.0	1.0	0.8	0.1	0.0	0.0	56.2	57.3	56.6	13.6	12.6	12.4
Total Delay (hr)	3.2	23.3	5.1	0.2	7.2	0.3	3.1	4.6	0.8	4.5	0.8	0.4
Total Del/Veh (s)	98.6	104.1	95.9	20.7	20.0	11.7	75.3	96.8	54.3	102.9	54.8	9.7
Stop Delay (hr)	2.8	19.8	4.4	0.2	4.1	0.1	2.9	4.3	0.7	4.4	0.7	0.3
Stop Del/Veh (s)	85.0	88.3	82.4	15.0	11.5	4.6	70.3	90.2	50.4	100.3	49.7	6.8

42: Penney Access/H3 Access #2 & Kenmount Road Performance by movement

Movement	All
Denied Delay (hr)	7.4
Denied Del/Veh (s)	8.3
Total Delay (hr)	53.5
Total Del/Veh (s)	59.0
Stop Delay (hr)	44.6
Stop Del/Veh (s)	49.3

48: Topsail Road & Farrell Drive Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	2.1	0.5	0.2	0.0	2.8
Denied Del/Veh (s)	0.1	0.0	5.7	6.8	3.8	0.5	3.5
Total Delay (hr)	0.6	2.3	12.1	2.2	1.3	0.2	18.9
Total Del/Veh (s)	26.5	8.5	32.9	28.3	30.1	12.8	23.4
Stop Delay (hr)	0.5	0.9	7.9	1.5	1.2	0.2	12.2
Stop Del/Veh (s)	21.7	3.1	21.4	19.2	26.9	11.6	15.1

Total Network Performance

Denied Delay (hr)	1096.9
Denied Del/Veh (s)	265.1
Total Delay (hr)	505.1
Total Del/Veh (s)	130.2
Stop Delay (hr)	399.0
Stop Del/Veh (s)	102.9

Intersection: 2: Marlin Drive/Hemmer Jane Drive & Topsail Road

Movement	EB	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LTR	L	TR
Maximum Queue (m)	11.8	3.3	1.3	13.6	0.7	6.6	38.6	41.6	75.7
Average Queue (m)	2.6	0.1	0.0	4.2	0.0	0.3	12.8	30.6	35.8
95th Queue (m)	9.0	2.4	0.6	9.8	0.5	3.9	33.6	52.2	99.2
Link Distance (m)		278.5	278.5		215.2	215.2	64.5		83.3
Upstream Blk Time (%)							2		24
Queuing Penalty (veh)							0		0
Storage Bay Dist (m)	15.0			25.0				35.0	
Storage Blk Time (%)	0	0		0				51	0
Queuing Penalty (veh)	3	0		0				8	0

Intersection: 6: Humber Drive/Moffatt Road & Topsail Road

Movement	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	TR	L	TR	LTR	L	TR
Maximum Queue (m)	20.5	0.8	12.6	4.5	15.0	37.4	120.0
Average Queue (m)	7.0	0.0	3.4	0.3	4.0	36.4	110.3
95th Queue (m)	16.2	0.4	9.6	2.6	12.3	41.9	137.7
Link Distance (m)		175.9		278.5	185.8		108.6
Upstream Blk Time (%)							94
Queuing Penalty (veh)							0
Storage Bay Dist (m)	30.0		35.0			30.0	
Storage Blk Time (%)	0					97	2
Queuing Penalty (veh)	0					55	2

Intersection: 11: Mount Carson Avenue & Lasalle Drive/Brodie Street

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (m)	30.7	41.1	17.3	17.5	29.9	6.7	16.2	15.0
Average Queue (m)	14.4	12.2	4.8	5.1	10.9	0.5	6.7	1.7
95th Queue (m)	30.7	35.8	14.1	13.7	21.3	3.4	14.7	8.3
Link Distance (m)		43.4		56.6		149.3		91.4
Upstream Blk Time (%)		7						
Queuing Penalty (veh)		0						
Storage Bay Dist (m)	25.0		25.0		85.0		50.0	
Storage Blk Time (%)	16	1	0	0				
Queuing Penalty (veh)	6	0	0	0				

Intersection: 14: Allston Street/Brougham Drive & Kenmount Road

Movement	EB	EB	EB	WB	WB	WB	B17	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	T	L	TR	L	TR
Maximum Queue (m)	57.3	91.3	87.6	42.4	121.6	124.6	142.6	32.3	149.3	55.0	68.8
Average Queue (m)	24.0	47.6	40.0	24.3	49.7	57.2	7.6	18.5	116.9	28.0	19.2
95th Queue (m)	49.8	78.9	73.9	44.4	95.3	100.5	128.5	38.9	178.2	49.9	43.1
Link Distance (m)		452.6	452.6		163.2	163.2	696.5		136.1		156.0
Upstream Blk Time (%)						0	0		42		
Queuing Penalty (veh)						0	1		0		
Storage Bay Dist (m)	50.0			35.0				25.0		50.0	
Storage Blk Time (%)	0	6		3	18			8	48	3	0
Queuing Penalty (veh)	1	8		16	34			22	25	3	0

Intersection: 21: Mount Carson Avenue & Penney Access/Wyatt Boulevard

Movement	EB	EB	WB	WB	NB	NB	SB	SB	B20
Directions Served	L	TR	L	TR	L	TR	L	TR	T
Maximum Queue (m)	47.4	76.5	47.4	81.1	52.7	41.2	64.8	12.9	22.1
Average Queue (m)	28.5	70.7	10.4	72.6	21.8	2.7	25.9	1.6	0.8
95th Queue (m)	59.6	74.2	39.2	78.4	41.6	20.3	50.2	7.1	22.5
Link Distance (m)		66.6		68.4		84.2	126.3	126.3	204.4
Upstream Blk Time (%)		99		100		0			
Queuing Penalty (veh)		0		0		0			
Storage Bay Dist (m)	40.0		40.0		50.0				
Storage Blk Time (%)	11	97	0	100	1				
Queuing Penalty (veh)	32	68	0	32	5				

Intersection: 24: Mount Carson Avenue & Kenmount Road

Movement	EB	EB	B26	B26	WB	WB	WB	NB	NB
Directions Served	T	TR	T	T	L	T	T	L	R
Maximum Queue (m)	145.3	145.6	231.3	236.9	127.5	394.1	459.9	48.1	110.7
Average Queue (m)	134.7	135.5	167.8	171.4	122.6	224.5	173.5	19.5	37.2
95th Queue (m)	150.3	149.3	302.0	304.0	143.7	458.6	464.5	38.5	82.9
Link Distance (m)	113.9	113.9	234.1	234.1		433.1	433.1	204.4	204.4
Upstream Blk Time (%)	73	75	14	16		0	5		
Queuing Penalty (veh)	365	374	71	78		4	58		
Storage Bay Dist (m)					120.0				
Storage Blk Time (%)					36	0			
Queuing Penalty (veh)					239	3			

Intersection: 28: Kenmount Road & Great Eastern Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (m)	52.1	78.0	369.6	37.2	254.9	255.5	35.2	18.1	44.9	106.9
Average Queue (m)	38.4	16.2	35.6	4.6	246.5	244.1	11.2	5.9	9.7	37.3
95th Queue (m)	55.9	57.4	188.1	23.3	257.8	261.4	26.5	15.3	30.1	94.2
Link Distance (m)		433.1	433.1		241.2	241.2	34.5	34.5		141.4
Upstream Blk Time (%)			0		54	26	1	0		1
Queuing Penalty (veh)			2		0	0	0	0		0
Storage Bay Dist (m)	45.0			40.0					45.0	
Storage Blk Time (%)	12	0		0	41					15
Queuing Penalty (veh)	75	0		0	5					4

Intersection: 33: Commonwealth Avenue/Mount Carson Avenue & Topsail Road

Movement	EB	EB	EB	EB	WB	WB	WB	B35	B35	NB	NB	NB
Directions Served	L	T	T	R	L	T	TR	T	T	L	T	R
Maximum Queue (m)	42.4	125.3	141.6	72.5	122.4	323.0	318.1	168.8	170.2	257.5	304.4	107.5
Average Queue (m)	27.1	73.4	75.3	37.1	121.9	293.3	223.9	94.2	89.8	249.9	284.9	37.1
95th Queue (m)	52.4	110.0	124.5	96.6	129.9	371.2	372.2	272.7	272.7	281.3	346.4	120.5
Link Distance (m)		215.2	215.2			293.5	293.5	323.4	323.4		289.6	
Upstream Blk Time (%)						66	9	1	1		45	
Queuing Penalty (veh)						455	64	8	10		0	
Storage Bay Dist (m)	35.0			65.0	115.0					250.0		100.0
Storage Blk Time (%)	1	42	10	0	92	4				28	16	0
Queuing Penalty (veh)	5	35	63	1	398	13				215	97	1

Intersection: 33: Commonwealth Avenue/Mount Carson Avenue & Topsail Road

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (m)	93.7	104.4	47.5
Average Queue (m)	31.9	96.4	14.7
95th Queue (m)	81.1	100.6	50.3
Link Distance (m)	91.0	91.0	
Upstream Blk Time (%)	4	78	
Queuing Penalty (veh)	0	0	
Storage Bay Dist (m)			40.0
Storage Blk Time (%)		73	0
Queuing Penalty (veh)		33	1

Intersection: 36: Brant Drive/H3 Access #1 & Kenmount Road

Movement	EB	EB	EB	B17	B17	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	T	T	L	T	TR	L	TR	L	TR
Maximum Queue (m)	50.1	99.5	103.2	16.3	16.4	49.0	121.9	287.7	47.3	82.4	57.3	139.5
Average Queue (m)	25.4	36.7	38.9	0.6	0.6	14.3	54.5	68.3	14.0	42.2	39.2	59.9
95th Queue (m)	47.6	104.1	104.8	16.6	16.7	36.9	101.5	183.3	37.4	74.1	64.5	127.7
Link Distance (m)		696.5	696.5	163.2	163.2		417.4	417.4		82.8		156.1
Upstream Blk Time (%)								0		1		3
Queuing Penalty (veh)								3		0		0
Storage Bay Dist (m)	45.0					45.0			40.0		50.0	
Storage Blk Time (%)	3	4					14		0	15	13	12
Queuing Penalty (veh)	12	4					10		0	7	32	18

Intersection: 42: Penney Access/H3 Access #2 & Kenmount Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (m)	52.4	269.4	285.6	52.2	108.7	113.3	47.4	85.6	82.6	74.4
Average Queue (m)	30.9	146.7	155.6	9.0	58.4	61.7	38.7	65.5	46.8	22.9
95th Queue (m)	60.9	358.1	365.6	30.3	95.1	99.5	58.9	101.8	88.0	58.7
Link Distance (m)		417.4	417.4		234.1	234.1		77.0	89.0	89.0
Upstream Blk Time (%)		1	3					34	9	1
Queuing Penalty (veh)		7	14					0	0	0
Storage Bay Dist (m)	45.0			45.0			40.0			
Storage Blk Time (%)	1	37			14		12	46		
Queuing Penalty (veh)	3	43			7		27	69		

Intersection: 48: Topsail Road & Farrell Drive

Movement	EB	EB	EB	B35	B35	WB	WB	SB	SB
Directions Served	L	T	T	T	T	T	TR	L	R
Maximum Queue (m)	42.0	76.7	81.0	118.2	151.8	170.0	168.0	50.9	32.2
Average Queue (m)	15.0	25.8	31.2	4.2	6.5	92.3	88.8	24.8	10.5
95th Queue (m)	29.8	60.3	67.1	62.1	78.8	230.0	226.7	43.5	26.0
Link Distance (m)		323.4	323.4	293.5	293.5	354.8	354.8		142.8
Upstream Blk Time (%)				0	0	4	4		
Queuing Penalty (veh)				0	1	0	0		
Storage Bay Dist (m)	45.0							50.0	
Storage Blk Time (%)	0	2						0	
Queuing Penalty (veh)	0	2						0	

Network Summary

Network wide Queuing Penalty: 3261

Intersection: 14: Allston Street/Brougham Drive & Kenmount Road

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Maximum Green (s)	13.0	46.0	7.0	28.0	7.0	52.0	7.0	28.0
Minimum Green (s)	7.0	25.0	7.0	10.0	7.0	25.0	7.0	10.0
Recall	None	C-Max	None	None	None	C-Max	None	None
Avg. Green (s)	9.6	66.9	11.4	20.0	9.8	66.8	7.2	15.3
g/C Ratio	-0.01	NA	-0.01	-0.01	-0.01	NA	NA	NA
Cycles Skipped (%)	24	0	29	14	21	0	0	0
Cycles @ Minimum (%)	24	0	54	4	25	0	97	11
Cycles Maxed Out (%)	0	100	71	0	4	100	100	0
Cycles with Peds (%)	0	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

Intersection: 24: Mount Carson Avenue & Kenmount Road

Phase	1	2	4	6
Movement(s) Served	WBL	EBT	NBL	WBTL
Maximum Green (s)	42.0	34.0	26.0	82.0
Minimum Green (s)	7.0	25.0	10.0	25.0
Recall	None	C-Max	None	C-Max
Avg. Green (s)	56.8	36.6	13.5	119.5
g/C Ratio	NA	NA	-0.01	-0.01
Cycles Skipped (%)	0	0	14	17
Cycles @ Minimum (%)	0	0	25	0
Cycles Maxed Out (%)	93	100	0	83
Cycles with Peds (%)	0	0	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

Intersection: 28: Kenmount Road & Great Eastern Avenue

Phase	1	2	3	4	5	6	8
Movement(s) Served	WBL	EBTL	SBL	NBTL	EBL	WBTL	SBTL
Maximum Green (s)	7.0	59.0	7.0	23.0	11.0	55.0	36.0
Minimum Green (s)	7.0	25.0	7.0	10.0	7.0	25.0	10.0
Recall	None	C-Max	None	None	None	C-Max	None
Avg. Green (s)	7.7	109.4	8.2	11.3	14.2	78.6	16.7
g/C Ratio	-0.01	-0.01	-0.01	-0.01	-0.01	NA	-0.01
Cycles Skipped (%)	92	16	48	25	4	0	14
Cycles @ Minimum (%)	8	0	37	43	7	0	31
Cycles Maxed Out (%)	0	84	52	0	4	100	0
Cycles with Peds (%)	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

Intersection: 33: Commonwealth Avenue/Mount Carson Avenue & Topsail Road

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Maximum Green (s)	13.0	32.0	12.0	34.0	7.0	38.0	7.0	39.0
Minimum Green (s)	7.0	25.0	7.0	25.0	7.0	25.0	7.0	25.0
Recall	None	Max	None	Max	None	Max	None	Max
Avg. Green (s)	12.9	32.1	12.0	34.0	7.1	40.7	7.1	42.2
g/C Ratio	NA	NA	NA	NA	-0.01	NA	-0.01	NA
Cycles Skipped (%)	0	0	0	0	20	0	14	0
Cycles @ Minimum (%)	0	0	0	0	80	0	86	0
Cycles Maxed Out (%)	97	100	100	100	80	100	86	100
Cycles with Peds (%)	0	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

Intersection: 36: Brant Drive/H3 Access #1 & Kenmount Road

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Maximum Green (s)	7.0	59.0	7.0	23.0	7.0	59.0	7.0	23.0
Minimum Green (s)	7.0	25.0	7.0	10.0	7.0	25.0	7.0	10.0
Recall	None	C-Max	None	None	None	C-Max	None	None
Avg. Green (s)	7.7	71.9	8.6	22.2	9.0	68.1	7.4	17.4
g/C Ratio	-0.01	NA	-0.01	-0.01	-0.01	NA	NA	NA
Cycles Skipped (%)	48	0	32	4	29	0	0	0
Cycles @ Minimum (%)	33	0	64	4	29	0	97	7
Cycles Maxed Out (%)	7	100	68	15	21	100	100	15
Cycles with Peds (%)	0	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

Intersection: 42: Penney Access/H3 Access #2 & Kenmount Road

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Maximum Green (s)	7.0	58.0	7.0	24.0	7.0	58.0	8.0	23.0
Minimum Green (s)	7.0	25.0	7.0	10.0	7.0	25.0	7.0	5.0
Recall	None	C-Max	None	None	None	C-Max	None	None
Avg. Green (s)	7.4	71.2	13.6	20.0	8.5	66.8	8.2	18.3
g/C Ratio	-0.01	NA	-0.01	-0.01	-0.01	NA	NA	NA
Cycles Skipped (%)	54	0	3	21	30	0	0	0
Cycles @ Minimum (%)	38	0	69	4	37	0	0	0
Cycles Maxed Out (%)	15	100	97	25	33	100	97	31
Cycles with Peds (%)	0	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

Intersection: 48: Topsail Road & Farrell Drive

Phase	2	4	5	6
Movement(s) Served	EBTL	SBL	EBL	WBT
Maximum Green (s)	54.0	24.0	7.0	41.0
Minimum Green (s)	25.0	10.0	7.0	25.0
Recall	Max	None	None	Max
Avg. Green (s)	57.3	14.1	7.2	49.7
g/C Ratio	-0.01	-0.01	-0.01	NA
Cycles Skipped (%)	5	5	55	0
Cycles @ Minimum (%)	0	25	45	0
Cycles Maxed Out (%)	95	5	45	100
Cycles with Peds (%)	0	2	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

172093 Kenmount Hill CDS TIS
Kenmount Road & Brougham Drive/Allston Street

S1B 5-year with Development PM

01/29/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	801	29	186	1113	275	52	150	114	122	49	46
Future Volume (veh/h)	110	801	29	186	1113	275	52	150	114	122	49	46
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1870	1870	1870	1870	1870	1752	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	139	1014	37	196	1172	289	65	188	0	145	58	55
Peak Hour Factor	0.79	0.79	0.79	0.95	0.95	0.95	0.80	0.80	0.80	0.84	0.84	0.84
Percent Heavy Veh, %	3	2	2	2	2	2	10	2	2	2	2	2
Cap, veh/h	241	1868	68	368	1545	377	226	227		192	113	107
Arrive On Green	0.06	0.53	0.53	0.07	0.55	0.55	0.05	0.12	0.00	0.06	0.13	0.13
Sat Flow, veh/h	1767	3497	128	1781	2832	691	1668	1870	0	1781	883	837
Grp Volume(v), veh/h	139	515	536	196	731	730	65	188	0	145	0	113
Grp Sat Flow(s),veh/h/ln	1767	1777	1847	1781	1777	1746	1668	1870	0	1781	0	1720
Q Serve(g_s), s	4.2	22.8	22.8	5.9	38.1	39.2	4.0	11.8	0.0	7.0	0.0	7.4
Cycle Q Clear(g_c), s	4.2	22.8	22.8	5.9	38.1	39.2	4.0	11.8	0.0	7.0	0.0	7.4
Prop In Lane	1.00		0.07	1.00		0.40	1.00		0.00	1.00		0.49
Lane Grp Cap(c), veh/h	241	949	987	368	969	953	226	227		192	0	221
V/C Ratio(X)	0.58	0.54	0.54	0.53	0.75	0.77	0.29	0.83		0.76	0.00	0.51
Avail Cap(c_a), veh/h	242	949	987	438	969	953	238	436		192	0	401
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.5	18.3	18.3	14.0	21.0	21.3	42.9	51.5	0.0	46.8	0.0	48.8
Incr Delay (d2), s/veh	3.3	2.2	2.1	1.2	5.4	5.9	0.7	7.4	0.0	15.6	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	10.7	11.1	2.7	18.3	18.6	1.8	6.4	0.0	2.0	0.0	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.9	20.6	20.5	15.2	26.5	27.2	43.6	58.9	0.0	62.4	0.0	50.6
LnGrp LOS	C	C	C	B	C	C	D	E		E	A	D
Approach Vol, veh/h		1190			1657			253	A		258	
Approach Delay, s/veh		20.9			25.4			55.0			57.2	
Approach LOS		C			C			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.3	71.1	12.2	21.4	13.9	72.5	13.0	20.6				
Change Period (Y+Rc), s	7.0	7.0	6.0	6.0	7.0	7.0	6.0	6.0				
Max Green Setting (Gmax), s	13.0	46.0	7.0	28.0	7.0	52.0	7.0	28.0				
Max Q Clear Time (g_c+I1), s	7.9	0.0	6.0	9.4	6.2	0.0	9.0	13.8				
Green Ext Time (p_c), s	0.4	0.0	0.0	0.5	0.0	0.0	0.0	0.8				
Intersection Summary												
HCM 6th Ctrl Delay			28.5									
HCM 6th LOS			C									
Notes												
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.												

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	248	1277	6	11	1967	32	41	3	19	27	2	290	
Future Volume (veh/h)	248	1277	6	11	1967	32	41	3	19	27	2	290	
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach	No			No			No			No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1841	1870	1870	
Adj Flow Rate, veh/h	285	1468	7	12	2162	0	79	6	37	36	3	0	
Peak Hour Factor	0.87	0.87	0.87	0.91	0.91	0.91	0.52	0.52	0.52	0.75	0.75	0.75	
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	4	2	2	
Cap, veh/h	223	2386	11	247	2081		176	19	114	208	323		
Arrive On Green	0.09	0.66	0.66	0.02	0.59	0.00	0.08	0.08	0.08	0.04	0.17	0.00	
Sat Flow, veh/h	1781	3627	17	1781	3647	0	1414	226	1394	1753	1870	0	
Grp Volume(v), veh/h	285	719	756	12	2162	0	79	0	43	36	3	0	
Grp Sat Flow(s),veh/h/ln	1781	1777	1867	1781	1777	0	1414	0	1620	1753	1870	0	
Q Serve(g_s), s	11.0	27.9	27.9	0.3	70.3	0.0	6.5	0.0	3.0	2.2	0.2	0.0	
Cycle Q Clear(g_c), s	11.0	27.9	27.9	0.3	70.3	0.0	6.5	0.0	3.0	2.2	0.2	0.0	
Prop In Lane	1.00		0.01	1.00		0.00	1.00		0.86	1.00		0.00	
Lane Grp Cap(c), veh/h	223	1169	1229	247	2081		176	0	133	208	323		
V/C Ratio(X)	1.28	0.62	0.62	0.05	1.04		0.45	0.00	0.32	0.17	0.01		
Avail Cap(c_a), veh/h	223	1169	1229	316	2081		331	0	310	239	561		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	
Uniform Delay (d), s/veh	43.2	11.8	11.8	11.0	24.9	0.0	53.6	0.0	51.9	45.5	41.1	0.0	
Incr Delay (d2), s/veh	154.4	2.4	2.3	0.1	30.7	0.0	1.8	0.0	1.4	0.4	0.0	0.0	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	16.6	12.7	13.3	0.1	39.7	0.0	2.5	0.0	1.4	1.0	0.1	0.0	
Unsig. Movement Delay, s/veh													
LnGrp Delay(d),s/veh	197.5	14.2	14.1	11.1	55.6	0.0	55.3	0.0	53.3	45.9	41.1	0.0	
LnGrp LOS	F	B	B	B	F		E	A	D	D	D		
Approach Vol, veh/h	1760		2174			A		122		39			A
Approach Delay, s/veh	43.9		55.4					54.6		45.5			
Approach LOS	D		E					D		D			
Timer - Assigned Phs	1	2	3	4	5	6	8						
Phs Duration (G+Y+Rc), s	8.3	85.0	10.9	15.8	17.0	76.3	26.7						
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0						
Max Green Setting (Gmax), s	7.0	59.0	7.0	23.0	11.0	55.0	36.0						
Max Q Clear Time (g_c+I1), s	2.3	29.9	4.2	8.5	13.0	72.3	2.2						
Green Ext Time (p_c), s	0.0	15.0	0.0	0.4	0.0	0.0	0.0						
Intersection Summary													
HCM 6th Ctrl Delay			50.3										
HCM 6th LOS			D										
Notes													

172093 Kenmount Hill CDS TIS
Kenmount Road & H3 Access #2/Penney Access

S1B 5-year with Development PM

01/29/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	118	797	194	47	1319	97	150	166	52	158	54	130
Future Volume (veh/h)	118	797	194	47	1319	97	150	166	52	158	54	130
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	128	866	0	51	1434	0	163	180	0	172	59	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	260	2022		420	1987		294	218		206	234	
Arrive On Green	0.06	0.57	0.00	0.05	0.56	0.00	0.06	0.12	0.00	0.07	0.12	0.00
Sat Flow, veh/h	1781	3647	0	1781	3647	0	1781	1870	0	1781	1870	0
Grp Volume(v), veh/h	128	866	0	51	1434	0	163	180	0	172	59	0
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	0	1781	1870	0	1781	1870	0
Q Serve(g_s), s	3.6	16.7	0.0	1.4	35.8	0.0	7.0	11.3	0.0	8.0	3.4	0.0
Cycle Q Clear(g_c), s	3.6	16.7	0.0	1.4	35.8	0.0	7.0	11.3	0.0	8.0	3.4	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	260	2022		420	1987		294	218		206	234	
V/C Ratio(X)	0.49	0.43		0.12	0.72		0.56	0.83		0.84	0.25	
Avail Cap(c_a), veh/h	261	2022		439	1987		294	358		206	374	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	17.6	14.7	0.0	10.6	19.5	0.0	45.8	51.8	0.0	47.4	47.4	0.0
Incr Delay (d2), s/veh	1.4	0.7	0.0	0.1	2.3	0.0	2.3	7.8	0.0	24.6	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	7.5	0.0	0.6	16.4	0.0	1.6	6.1	0.0	3.0	1.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.1	15.4	0.0	10.8	21.9	0.0	48.1	59.6	0.0	72.0	48.0	0.0
LnGrp LOS	B	B		B	C		D	E		E	D	
Approach Vol, veh/h	994		A	1485		A	343		A	231		A
Approach Delay, s/veh	15.9			21.5			54.1			65.9		
Approach LOS	B			C			D			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.7	74.3	13.0	21.0	12.9	73.1	14.0	20.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	7.0	58.0	7.0	24.0	7.0	58.0	8.0	23.0				
Max Q Clear Time (g_c+I1), s	3.4	0.0	9.0	5.4	5.6	0.0	10.0	13.3				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.7				
Intersection Summary												
HCM 6th Ctrl Delay			26.7									
HCM 6th LOS			C									
Notes												

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	118	913	41	70	1436	92	43	154	26	158	109	135
Future Volume (veh/h)	118	913	41	70	1436	92	43	154	26	158	109	135
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	128	992	0	76	1561	0	47	167	0	172	118	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	242	2055		391	2042		222	205		191	228	
Arrive On Green	0.06	0.58	0.00	0.05	0.57	0.00	0.05	0.11	0.00	0.06	0.12	0.00
Sat Flow, veh/h	1781	3647	0	1781	3647	0	1781	1870	0	1781	1870	0
Grp Volume(v), veh/h	128	992	0	76	1561	0	47	167	0	172	118	0
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	0	1781	1870	0	1781	1870	0
Q Serve(g_s), s	3.4	19.6	0.0	2.0	40.0	0.0	2.7	10.5	0.0	7.0	7.1	0.0
Cycle Q Clear(g_c), s	3.4	19.6	0.0	2.0	40.0	0.0	2.7	10.5	0.0	7.0	7.1	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	242	2055		391	2042		222	205		191	228	
V/C Ratio(X)	0.53	0.48		0.19	0.76		0.21	0.81		0.90	0.52	
Avail Cap(c_a), veh/h	244	2055		400	2042		244	358		191	358	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	19.6	14.8	0.0	10.4	19.4	0.0	44.1	52.2	0.0	49.7	49.4	0.0
Incr Delay (d2), s/veh	2.1	0.8	0.0	0.2	2.8	0.0	0.5	7.6	0.0	38.5	1.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	8.8	0.0	0.9	18.4	0.0	1.3	5.7	0.0	4.1	3.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.8	15.6	0.0	10.7	22.2	0.0	44.5	59.9	0.0	88.2	51.2	0.0
LnGrp LOS	C	B		B	C		D	E		F	D	
Approach Vol, veh/h		1120	A		1637	A		214	A		290	A
Approach Delay, s/veh		16.3			21.6			56.5			73.2	
Approach LOS		B			C			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.4	75.4	11.5	20.6	12.9	74.9	13.0	19.2				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	7.0	59.0	7.0	23.0	7.0	59.0	7.0	23.0				
Max Q Clear Time (g_c+I1), s	4.0	0.0	4.7	9.1	5.4	0.0	9.0	12.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.5	0.1	0.0	0.0	0.7				
Intersection Summary												
HCM 6th Ctrl Delay			26.7									
HCM 6th LOS			C									
Notes												
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↑	↑↑	↑	↑
Traffic Volume (veh/h)	813	206	946	1359	106	752
Future Volume (veh/h)	813	206	946	1359	106	752
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	945	0	1100	1580	131	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.81	0.81
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1453		799	2875	162	
Arrive On Green	0.41	0.00	0.35	0.81	0.09	0.00
Sat Flow, veh/h	3741	0	1781	3647	1781	1585
Grp Volume(v), veh/h	945	0	1100	1580	131	0
Grp Sat Flow(s),veh/h/ln	1777	0	1781	1777	1781	1585
Q Serve(g_s), s	25.7	0.0	42.0	18.3	8.7	0.0
Cycle Q Clear(g_c), s	25.7	0.0	42.0	18.3	8.7	0.0
Prop In Lane		0.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1453		799	2875	162	
V/C Ratio(X)	0.65		1.38	0.55	0.81	
Avail Cap(c_a), veh/h	1453		799	2875	386	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	28.5	0.0	26.8	3.9	53.5	0.0
Incr Delay (d2), s/veh	2.3	0.0	177.3	0.8	9.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.1	0.0	63.7	7.2	4.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	30.8	0.0	204.1	4.7	62.6	0.0
LnGrp LOS	C		F	A	E	
Approach Vol, veh/h	945	A		2680	131	A
Approach Delay, s/veh	30.8			86.5	62.6	
Approach LOS	C			F	E	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	48.0	55.1		16.9		103.1
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0
Max Green Setting (Gmax), s	42.0	34.0		26.0		82.0
Max Q Clear Time (g_c+I1), s	44.0	27.7		10.7		20.3
Green Ext Time (p_c), s	0.0	3.5		0.4		24.6
Intersection Summary						
HCM 6th Ctrl Delay			71.7			
HCM 6th LOS			E			

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Intersection												
Int Delay, s/veh	30.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱		↰	↱		↰	↱		↰	↱	
Traffic Vol, veh/h	51	2	29	18	3	19	85	662	52	55	725	147
Future Vol, veh/h	51	2	29	18	3	19	85	662	52	55	725	147
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	250	-	-	250	-	-	850	-	-	500	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	67	67	67	63	63	63	95	95	95	93	93	93
Heavy Vehicles, %	2	50	2	7	2	4	2	3	2	2	2	2
Mvmt Flow	76	3	43	29	5	30	89	697	55	59	780	158

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1897	1907	859	1903	1959	725	938	0	0	752	0	0
Stage 1	977	977	-	903	903	-	-	-	-	-	-	-
Stage 2	920	930	-	1000	1056	-	-	-	-	-	-	-
Critical Hdwy	7.12	7	6.22	7.17	6.52	6.24	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	6	-	6.17	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	6	-	6.17	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.45	3.318	3.563	4.018	3.336	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	~ 53	52	356	51	64	422	730	-	-	858	-	-
Stage 1	302	273	-	325	356	-	-	-	-	-	-	-
Stage 2	325	289	-	287	302	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	~ 39	42	356	37	52	422	730	-	-	858	-	-
Mov Cap-2 Maneuver	~ 39	42	-	37	52	-	-	-	-	-	-	-
Stage 1	265	254	-	285	313	-	-	-	-	-	-	-
Stage 2	261	254	-	232	281	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	424.2	122.7	1.1	0.6
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	730	-	-	39	240	37	214	858	-	-
HCM Lane V/C Ratio	0.123	-	-	1.952	0.193	0.772	0.163	0.069	-	-
HCM Control Delay (s)	10.6	-	-	\$ 667.7	23.5	241.9	25.1	9.5	-	-
HCM Lane LOS	B	-	-	F	C	F	D	A	-	-
HCM 95th %tile Q(veh)	0.4	-	-	8.1	0.7	2.8	0.6	0.2	-	-

Notes												
~: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined							*: All major volume in platoon			

Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	70	133	171	32	111	299	257	442	104	334	736	62
Future Vol, veh/h	70	133	171	32	111	299	257	442	104	334	736	62
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	400	-	-	400	-	-	500	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	85	92	85	92	91	91	95	95	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	76	145	186	38	121	352	279	486	114	352	775	67
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2851	2671	809	2779	2647	543	842	0	0	600	0	0
Stage 1	1513	1513	-	1101	1101	-	-	-	-	-	-	-
Stage 2	1338	1158	-	1678	1546	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	~ 11	~ 22	380	~ 12	~ 23	540	794	-	-	977	-	-
Stage 1	150	182	-	257	288	-	-	-	-	-	-	-
Stage 2	189	270	-	120	176	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	-	~ 9	380	-	~ 10	540	794	-	-	977	-	-
Mov Cap-2 Maneuver	-	~ 9	-	-	~ 10	-	-	-	-	-	-	-
Stage 1	97	~ 116	-	167	187	-	-	-	-	-	-	-
Stage 2	~ 15	175	-	-	~ 113	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s					3.8		3.2					
HCM LOS	-		-									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR		
Capacity (veh/h)	794	-	-	-	20	-	37	977	-	-		
HCM Lane V/C Ratio	0.352	-	-	-	16.522	-	12.768	0.36	-	-		
HCM Control Delay (s)	12	-	-	-	\$ 7356.4	-	\$ 5501.4	10.7	-	-		
HCM Lane LOS	B	-	-	-	F	-	F	B	-	-		
HCM 95th %tile Q(veh)	1.6	-	-	-	41.8	-	57.5	1.7	-	-		
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s			+: Computation Not Defined				*: All major volume in platoon			

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	88	1056	1331	281	161	69
Future Volume (veh/h)	88	1056	1331	281	161	69
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1796	1870	1870	1870	1949	1949
Adj Flow Rate, veh/h	101	1214	1447	305	204	87
Peak Hour Factor	0.87	0.87	0.92	0.92	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	250	2486	1589	327	269	239
Arrive On Green	0.08	0.70	0.54	0.54	0.15	0.15
Sat Flow, veh/h	1710	3647	3027	604	1856	1651
Grp Volume(v), veh/h	101	1214	863	889	204	87
Grp Sat Flow(s),veh/h/ln	1710	1777	1777	1762	1856	1651
Q Serve(g_s), s	1.7	12.0	33.4	36.0	8.2	3.7
Cycle Q Clear(g_c), s	1.7	12.0	33.4	36.0	8.2	3.7
Prop In Lane	1.00			0.34	1.00	1.00
Lane Grp Cap(c), veh/h	250	2486	962	954	269	239
V/C Ratio(X)	0.40	0.49	0.90	0.93	0.76	0.36
Avail Cap(c_a), veh/h	268	2486	962	954	577	513
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.0	5.3	15.8	16.4	31.7	29.8
Incr Delay (d2), s/veh	1.0	0.7	12.8	16.7	4.4	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	4.7	17.3	19.3	4.3	3.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	18.0	6.0	28.6	33.1	36.1	30.7
LnGrp LOS	B	A	C	C	D	C
Approach Vol, veh/h		1315	1752		291	
Approach Delay, s/veh		6.9	30.8		34.5	
Approach LOS		A	C		C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		60.0		17.2	12.2	47.8
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		54.0		24.0	7.0	41.0
Max Q Clear Time (g_c+l1), s		14.0		10.2	3.7	38.0
Green Ext Time (p_c), s		13.9		1.1	0.1	2.6
Intersection Summary						
HCM 6th Ctrl Delay			21.8			
HCM 6th LOS			C			

Intersection												
Int Delay, s/veh	64.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	1316	8	53	1079	130	3	0	55	65	0	15
Future Vol, veh/h	17	1316	8	53	1079	130	3	0	55	65	0	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	250	-	-	-	-	-	350	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	90	90	90	50	50	50	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	1586	10	59	1199	144	6	0	110	77	0	18
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1343	0	0	1596	0	0	2349	3092	798	2222	3025	672
Stage 1	-	-	-	-	-	-	1631	1631	-	1389	1389	-
Stage 2	-	-	-	-	-	-	718	1461	-	833	1636	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	509	-	-	407	-	-	19	12	329	~ 24	13	398
Stage 1	-	-	-	-	-	-	106	158	-	150	208	-
Stage 2	-	-	-	-	-	-	386	192	-	329	157	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	509	-	-	407	-	-	16	10	329	~ 14	11	398
Mov Cap-2 Maneuver	-	-	-	-	-	-	16	10	-	~ 14	11	-
Stage 1	-	-	-	-	-	-	102	152	-	144	178	-
Stage 2	-	-	-	-	-	-	315	164	-	210	151	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.6			67.5			\$ 2095.6		
HCM LOS							F			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2			
Capacity (veh/h)	164	509	-	-	407	-	-	14	398			
HCM Lane V/C Ratio	0.707	0.04	-	-	0.145	-	-	5.527	0.045			
HCM Control Delay (s)	67.5	12.4	-	-	15.3	-	-	\$ 2575.8	14.5			
HCM Lane LOS	F	B	-	-	C	-	-	F	B			
HCM 95th %tile Q(veh)	4.2	0.1	-	-	0.5	-	-	10.6	0.1			
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s				+: Computation Not Defined				*: All major volume in platoon		

Intersection												
Int Delay, s/veh	147.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	73	1196	2	31	922	145	2	1	11	105	4	53
Future Vol, veh/h	73	1196	2	31	922	145	2	1	11	105	4	53
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	-	350	-	-	-	-	-	300	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	96	96	96	65	65	65	69	69	69
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	94	1533	3	32	960	151	3	2	17	152	6	77
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1111	0	0	1536	0	0	2270	2898	768	2056	2824	556
Stage 1	-	-	-	-	-	-	1723	1723	-	1100	1100	-
Stage 2	-	-	-	-	-	-	547	1175	-	956	1724	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	624	-	-	429	-	-	22	16	344	~ 32	17	475
Stage 1	-	-	-	-	-	-	92	142	-	226	286	-
Stage 2	-	-	-	-	-	-	489	264	-	277	142	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	624	-	-	429	-	-	10	13	344	~ 23	13	475
Mov Cap-2 Maneuver	-	-	-	-	-	-	10	13	-	~ 23	13	-
Stage 1	-	-	-	-	-	-	78	121	-	192	265	-
Stage 2	-	-	-	-	-	-	371	244	-	221	121	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.7			0.4			143.7			\$ 1877.8		
HCM LOS							F			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2			
Capacity (veh/h)	45	624	-	-	429	-	-	23	136			
HCM Lane V/C Ratio	0.479	0.15	-	-	0.075	-	-	6.616	0.607			
HCM Control Delay (s)	143.7	11.8	-	-	14.1	-	-	\$ 2861.4	65.8			
HCM Lane LOS	F	B	-	-	B	-	-	F	F			
HCM 95th %tile Q(veh)	1.7	0.5	-	-	0.2	-	-	19.1	3.2			
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s				+: Computation Not Defined				*: All major volume in platoon		

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	737	651	353	869	218	342	532	257	118	675	45
Future Volume (veh/h)	82	737	651	353	869	218	342	532	257	118	675	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1796	1870	1870	1796	1796	1776	1776	1847	2106	2106	2190
Adj Flow Rate, veh/h	88	792	0	384	945	0	372	578	0	122	696	0
Peak Hour Factor	0.93	0.93	0.93	0.92	0.92	0.92	0.92	0.92	0.92	0.97	0.97	0.97
Percent Heavy Veh, %	3	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	210	949		305	1140		239	605		203	623	
Arrive On Green	0.06	0.28	0.00	0.11	0.33	0.00	0.10	0.34	0.00	0.06	0.30	0.00
Sat Flow, veh/h	1767	3412	1585	1781	3501	0	1692	1776	1565	2006	2106	1856
Grp Volume(v), veh/h	88	792	0	384	945	0	372	578	0	122	696	0
Grp Sat Flow(s),veh/h/ln	1767	1706	1585	1781	1706	0	1692	1776	1565	2006	2106	1856
Q Serve(g_s), s	4.0	25.1	0.0	13.0	29.3	0.0	12.0	36.6	0.0	4.8	34.0	0.0
Cycle Q Clear(g_c), s	4.0	25.1	0.0	13.0	29.3	0.0	12.0	36.6	0.0	4.8	34.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	210	949		305	1140		239	605		203	623	
V/C Ratio(X)	0.42	0.83		1.26	0.83		1.56	0.96		0.60	1.12	
Avail Cap(c_a), veh/h	217	949		305	1140		239	605		206	623	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	29.4	39.0	0.0	30.3	35.3	0.0	32.2	37.1	0.0	30.3	40.5	0.0
Incr Delay (d2), s/veh	2.8	8.6	0.0	140.2	7.0	0.0	269.6	27.3	0.0	7.2	73.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	12.2	0.0	18.2	14.0	0.0	25.2	21.6	0.0	2.9	31.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.2	47.6	0.0	170.5	42.3	0.0	301.8	64.3	0.0	37.5	113.5	0.0
LnGrp LOS	C	D		F	D		F	E		D	F	
Approach Vol, veh/h		880	A		1329	A		950	A		818	A
Approach Delay, s/veh		46.0			79.3			157.3			102.1	
Approach LOS		D			E			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.0	38.0	18.0	40.0	12.6	44.4	12.9	45.1				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	13.0	32.0	12.0	34.0	7.0	38.0	7.0	39.0				
Max Q Clear Time (g_c+I1), s	15.0	27.1	14.0	36.0	6.0	31.3	6.8	38.6				
Green Ext Time (p_c), s	0.0	3.3	0.0	0.0	0.0	4.9	0.0	0.2				
Intersection Summary												
HCM 6th Ctrl Delay			95.3									
HCM 6th LOS			F									
Notes												
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	7:15	7:15	7:15	7:15	7:15	7:15	7:15
End Time	8:45	8:45	8:45	8:45	8:45	8:45	8:45
Total Time (min)	90	90	90	90	90	90	90
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4	4
Vehs Entered	12497	12652	12321	12394	12362	12377	12667
Vehs Exited	12556	12694	12305	12445	12358	12390	12656
Starting Vehs	263	231	213	241	241	228	216
Ending Vehs	204	189	229	190	245	215	227
Travel Distance (km)	9012	9009	8871	8949	8749	8917	9123
Travel Time (hr)	259.8	239.6	231.3	228.3	245.4	246.8	245.6
Total Delay (hr)	100.3	80.0	74.4	69.7	90.2	89.0	84.1
Total Stops	6128	6191	5854	5877	5650	5795	6442
Fuel Used (l)	791.2	774.1	754.3	759.2	762.7	768.7	788.3

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	7:15	7:15	7:15	7:15
End Time	8:45	8:45	8:45	8:45
Total Time (min)	90	90	90	90
Time Recorded (min)	60	60	60	60
# of Intervals	5	5	5	5
# of Recorded Intervals	4	4	4	4
Vehs Entered	12529	12293	12350	12439
Vehs Exited	12528	12286	12383	12460
Starting Vehs	200	231	225	223
Ending Vehs	201	238	192	199
Travel Distance (km)	8947	8732	8748	8906
Travel Time (hr)	255.0	240.4	232.9	242.5
Total Delay (hr)	96.3	85.5	77.4	84.7
Total Stops	6330	5832	5668	5978
Fuel Used (l)	782.6	755.3	748.6	768.5

Interval #0 Information Seeding

Start Time	7:15
End Time	7:45
Total Time (min)	30
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	3523	3618	3480	3505	3490	3542	3659
Vehs Exited	3524	3566	3435	3460	3453	3448	3552
Starting Vehs	263	231	213	241	241	228	216
Ending Vehs	262	283	258	286	278	322	323
Travel Distance (km)	2503	2522	2442	2491	2459	2480	2546
Travel Time (hr)	69.1	68.6	65.6	65.6	71.0	71.5	75.5
Total Delay (hr)	24.7	23.9	22.3	21.6	27.3	27.5	30.3
Total Stops	1781	1895	1803	1755	1763	1794	2227
Fuel Used (l)	219.9	218.8	213.3	217.5	217.2	218.3	230.1

Interval #1 Information Recording

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	3632	3588	3525	3555
Vehs Exited	3526	3520	3434	3491
Starting Vehs	200	231	225	223
Ending Vehs	306	299	316	287
Travel Distance (km)	2511	2446	2466	2487
Travel Time (hr)	70.8	75.1	70.3	70.3
Total Delay (hr)	26.2	31.6	26.6	26.2
Total Stops	1981	1912	1768	1867
Fuel Used (l)	222.3	222.8	218.7	219.9

Interval #2 Information Recording

Start Time	8:00
End Time	8:15
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	10	2	3	4	5	6
Vehs Entered	3058	3001	2888	2999	2857	2970	3057
Vehs Exited	3087	3050	2931	3051	2918	3054	3130
Starting Vehs	262	283	258	286	278	322	323
Ending Vehs	233	234	215	234	217	238	250
Travel Distance (km)	2261	2241	2119	2195	2021	2139	2234
Travel Time (hr)	63.2	60.3	57.2	56.6	57.1	62.4	60.5
Total Delay (hr)	23.2	20.6	19.7	17.6	21.4	24.4	21.2
Total Stops	1538	1484	1333	1429	1264	1403	1465
Fuel Used (l)	196.8	193.7	180.9	186.1	176.6	187.2	194.3

Interval #2 Information Recording

Start Time	8:00
End Time	8:15
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	7	8	9	Avg
Vehs Entered	2902	2884	2988	2962
Vehs Exited	2983	2979	3090	3028
Starting Vehs	306	299	316	287
Ending Vehs	225	204	214	221
Travel Distance (km)	2107	2108	2124	2155
Travel Time (hr)	60.9	59.3	57.5	59.5
Total Delay (hr)	23.6	21.9	19.6	21.3
Total Stops	1397	1333	1416	1406
Fuel Used (l)	184.5	183.1	182.8	186.6

Interval #3 Information Recording

Start Time	8:15
End Time	8:30
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	10	2	3	4	5	6
Vehs Entered	2894	3058	2993	2903	2948	2953	2951
Vehs Exited	2894	3072	2964	2950	2936	2935	2979
Starting Vehs	233	234	215	234	217	238	250
Ending Vehs	233	220	244	187	229	256	222
Travel Distance (km)	2049	2166	2174	2070	2105	2133	2175
Travel Time (hr)	59.7	58.8	55.3	51.5	56.9	59.8	55.8
Total Delay (hr)	23.5	20.3	16.9	14.8	19.5	22.3	17.3
Total Stops	1326	1519	1331	1303	1279	1349	1389
Fuel Used (l)	179.3	187.6	181.8	173.0	180.3	185.9	183.0

Interval #3 Information Recording

Start Time	8:15
End Time	8:30
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	7	8	9	Avg
Vehs Entered	3010	2841	2922	2946
Vehs Exited	2996	2841	2922	2949
Starting Vehs	225	204	214	221
Ending Vehs	239	204	214	218
Travel Distance (km)	2176	2057	2065	2117
Travel Time (hr)	63.1	50.6	53.3	56.5
Total Delay (hr)	24.5	14.2	16.6	19.0
Total Stops	1486	1236	1220	1341
Fuel Used (l)	189.3	170.5	173.1	180.4

Interval #4 Information Recording

Start Time	8:30
End Time	8:45
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	10	2	3	4	5	6
Vehs Entered	3022	2975	2960	2987	3067	2912	3000
Vehs Exited	3051	3006	2975	2984	3051	2953	2995
Starting Vehs	233	220	244	187	229	256	222
Ending Vehs	204	189	229	190	245	215	227
Travel Distance (km)	2200	2080	2137	2193	2164	2165	2168
Travel Time (hr)	67.9	52.0	53.3	54.6	60.4	53.1	53.7
Total Delay (hr)	28.9	15.2	15.4	15.7	21.9	14.8	15.3
Total Stops	1483	1293	1387	1390	1344	1249	1361
Fuel Used (l)	195.2	174.1	178.3	182.7	188.6	177.4	180.9

Interval #4 Information Recording

Start Time	8:30
End Time	8:45
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	7	8	9	Avg
Vehs Entered	2985	2980	2915	2977
Vehs Exited	3023	2946	2937	2992
Starting Vehs	239	204	214	218
Ending Vehs	201	238	192	199
Travel Distance (km)	2152	2121	2092	2147
Travel Time (hr)	60.2	55.4	51.7	56.2
Total Delay (hr)	22.0	17.9	14.5	18.2
Total Stops	1466	1351	1264	1359
Fuel Used (l)	186.5	178.9	174.0	181.7

2: Marlin Drive/Hemmer Jane Drive & Topsail Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.3	2.1
Denied Del/Veh (s)	0.2	0.0	0.0	2.6	0.2	0.2	0.1	0.1	81.0	64.7	3.6
Total Delay (hr)	0.0	0.3	0.0	0.0	0.1	0.0	0.1	0.2	5.7	0.3	6.7
Total Del/Veh (s)	5.6	1.0	0.3	5.9	0.4	0.1	82.6	13.4	244.6	66.0	11.3
Stop Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	5.8	0.3	6.4
Stop Del/Veh (s)	3.3	0.1	0.0	4.6	0.0	0.0	80.6	12.8	246.7	66.0	10.7

6: Humber Drive/Moffatt Road & Topsail Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	2.6	0.2	0.2	0.0	0.0	0.0	0.1	0.1	4.0	0.3	0.2
Total Delay (hr)	0.0	0.1	0.0	0.0	0.2	0.0	0.1	0.1	1.0	0.2	1.7
Total Del/Veh (s)	4.7	0.5	0.2	4.9	0.8	0.5	46.3	10.3	79.4	7.9	3.0
Stop Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.0	0.2	1.3
Stop Del/Veh (s)	3.3	0.0	0.0	2.9	0.0	0.0	44.6	9.8	77.6	7.1	2.3

11: Mount Carson Avenue & Lasalle Drive/Brodie Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	3.7	1.0	0.5	3.9	0.3	0.3	3.1	0.6	0.7	3.1	0.4	0.4
Total Delay (hr)	0.7	0.0	0.2	0.3	0.0	0.2	0.0	1.7	0.0	0.0	0.9	0.0
Total Del/Veh (s)	22.1	12.9	6.8	20.1	19.0	9.3	9.9	9.7	7.7	10.9	8.2	5.5
Stop Delay (hr)	0.7	0.0	0.2	0.2	0.0	0.2	0.0	0.9	0.0	0.0	0.5	0.0
Stop Del/Veh (s)	20.1	10.4	6.3	17.9	15.3	8.6	6.7	5.0	4.5	8.0	4.8	3.8

11: Mount Carson Avenue & Lasalle Drive/Brodie Street Performance by movement

Movement	All
Denied Delay (hr)	0.4
Denied Del/Veh (s)	0.9
Total Delay (hr)	4.2
Total Del/Veh (s)	10.4
Stop Delay (hr)	2.8
Stop Del/Veh (s)	6.9

14: Allston Street/Brougham Drive & Kenmount Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	1.5	0.6
Denied Del/Veh (s)	2.2	0.2	0.3	0.3	0.0	0.1	3.8	0.3	0.3	26.7	27.7	24.1
Total Delay (hr)	0.2	5.5	0.2	0.8	1.5	0.2	0.2	0.6	0.1	8.6	4.6	1.8
Total Del/Veh (s)	19.5	21.9	17.3	21.6	10.3	7.2	44.2	63.2	3.6	89.9	82.3	68.3
Stop Delay (hr)	0.2	3.8	0.2	0.7	1.0	0.1	0.2	0.5	0.0	7.7	4.0	1.5
Stop Del/Veh (s)	13.8	15.1	13.4	18.0	7.0	5.5	40.5	58.1	0.6	79.6	70.8	59.6

14: Allston Street/Brougham Drive & Kenmount Road Performance by movement

Movement	All
Denied Delay (hr)	4.8
Denied Del/Veh (s)	6.9
Total Delay (hr)	24.3
Total Del/Veh (s)	34.8
Stop Delay (hr)	19.8
Stop Del/Veh (s)	28.4

28: Kenmount Road & Great Eastern Avenue Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Denied Del/Veh (s)	2.2	0.8	0.8	2.6	0.2	0.2	0.1	0.1	0.1	3.6	0.3	0.4
Total Delay (hr)	0.6	5.6	0.0	0.1	2.0	0.0	0.1	0.0	0.1	0.6	0.0	0.2
Total Del/Veh (s)	16.9	10.2	7.9	24.0	8.1	3.7	50.4	33.1	19.9	38.7	38.8	2.7
Stop Delay (hr)	0.4	2.1	0.0	0.1	1.1	0.0	0.1	0.0	0.1	0.5	0.0	0.0
Stop Del/Veh (s)	10.4	3.7	3.1	20.3	4.3	0.2	49.0	31.3	19.7	35.6	34.8	0.0

28: Kenmount Road & Great Eastern Avenue Performance by movement

Movement	All
Denied Delay (hr)	0.6
Denied Del/Veh (s)	0.7
Total Delay (hr)	9.4
Total Del/Veh (s)	10.1
Stop Delay (hr)	4.4
Stop Del/Veh (s)	4.7

36: Brant Drive/H3 Access #1 & Kenmount Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.0	3.9	0.2	0.3	3.9	0.2	0.2
Total Delay (hr)	0.1	3.1	0.0	0.1	1.1	0.0	0.5	0.6	0.1	0.2	0.3	0.0
Total Del/Veh (s)	10.8	8.5	6.8	15.2	6.4	4.3	50.3	53.9	5.5	48.8	55.9	2.7
Stop Delay (hr)	0.1	1.0	0.0	0.0	0.5	0.0	0.5	0.5	0.1	0.2	0.3	0.0
Stop Del/Veh (s)	5.2	2.7	0.6	11.2	2.9	0.3	47.3	49.8	3.3	46.2	52.1	0.7

36: Brant Drive/H3 Access #1 & Kenmount Road Performance by movement

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.1
Total Delay (hr)	6.2
Total Del/Veh (s)	9.9
Stop Delay (hr)	3.1
Stop Del/Veh (s)	5.0

42: Penney Access/H3 Access #2 & Kenmount Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	2.9	0.2	0.2	3.9	0.4	0.4	4.1	0.2	0.1
Total Delay (hr)	0.1	3.3	0.2	0.1	1.0	0.0	0.7	0.7	0.1	0.3	0.4	0.0
Total Del/Veh (s)	12.1	9.4	8.4	15.7	6.0	3.0	46.2	51.8	10.3	51.0	54.9	2.7
Stop Delay (hr)	0.1	1.2	0.0	0.1	0.6	0.0	0.7	0.6	0.1	0.2	0.4	0.0
Stop Del/Veh (s)	6.5	3.4	1.4	13.2	3.4	0.0	43.6	48.1	8.5	48.5	51.0	0.8

42: Penney Access/H3 Access #2 & Kenmount Road Performance by movement

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.2
Total Delay (hr)	6.9
Total Del/Veh (s)	11.1
Stop Delay (hr)	3.9
Stop Del/Veh (s)	6.4

48: Topsail Road & Farrell Drive Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.1	0.0	0.0	0.3	0.0	0.4
Denied Del/Veh (s)	2.4	0.2	0.2	0.2	3.7	0.8	0.6
Total Delay (hr)	0.1	3.0	2.4	0.3	1.6	0.1	7.6
Total Del/Veh (s)	13.4	9.1	10.6	6.6	22.5	6.2	10.8
Stop Delay (hr)	0.1	1.4	1.3	0.2	1.4	0.1	4.4
Stop Del/Veh (s)	8.9	4.2	5.7	3.9	18.9	4.9	6.3

Total Network Performance

Denied Delay (hr)	8.7
Denied Del/Veh (s)	2.5
Total Delay (hr)	76.0
Total Del/Veh (s)	21.6
Stop Delay (hr)	47.2
Stop Del/Veh (s)	13.4

Intersection: 2: Marlin Drive/Hemmer Jane Drive & Topsail Road

Movement	EB	EB	WB	NB	SB	SB
Directions Served	L	TR	L	LTR	L	TR
Maximum Queue (m)	7.0	1.3	8.8	29.7	42.4	87.6
Average Queue (m)	0.7	0.0	2.5	10.6	30.2	38.1
95th Queue (m)	4.4	0.8	6.9	22.7	52.8	103.2
Link Distance (m)		278.5		63.7		83.3
Upstream Blk Time (%)				0		27
Queuing Penalty (veh)				0		0
Storage Bay Dist (m)	15.0		25.0		35.0	
Storage Blk Time (%)					51	0
Queuing Penalty (veh)					7	0

Intersection: 6: Humber Drive/Moffatt Road & Topsail Road

Movement	EB	WB	WB	NB	SB	SB
Directions Served	L	L	TR	LTR	L	TR
Maximum Queue (m)	9.4	6.2	0.2	22.2	30.6	41.9
Average Queue (m)	2.3	0.8	0.0	7.4	11.4	11.9
95th Queue (m)	7.2	4.1	0.2	17.2	27.1	36.3
Link Distance (m)			278.5	185.8		108.6
Upstream Blk Time (%)						0
Queuing Penalty (veh)						0
Storage Bay Dist (m)	30.0	35.0			30.0	
Storage Blk Time (%)					6	0
Queuing Penalty (veh)					6	0

Intersection: 11: Mount Carson Avenue & Lasalle Drive/Brodie Street

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (m)	30.5	34.0	24.2	27.0	12.1	100.7	12.7	72.9
Average Queue (m)	16.9	12.6	8.7	10.3	2.4	39.9	0.8	27.5
95th Queue (m)	28.8	24.9	19.1	20.1	9.3	73.5	7.3	54.5
Link Distance (m)		43.4		56.6		149.3		91.4
Upstream Blk Time (%)		0						0
Queuing Penalty (veh)		0						0
Storage Bay Dist (m)	25.0		25.0		85.0		50.0	
Storage Blk Time (%)	3	0	0	0		1		1
Queuing Penalty (veh)	3	1	0	0		0		0

Intersection: 14: Allston Street/Brougham Drive & Kenmount Road

Movement	EB	EB	EB	WB	WB	WB	B17	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	T	L	TR	L	TR
Maximum Queue (m)	57.0	113.3	104.3	41.2	63.6	63.0	71.1	18.1	39.9	57.4	165.6
Average Queue (m)	13.0	59.2	54.2	18.3	21.6	24.2	2.5	5.1	11.2	56.1	130.3
95th Queue (m)	40.9	100.7	94.0	34.3	48.6	50.7	72.5	14.7	27.6	62.4	195.7
Link Distance (m)		452.6	452.6		155.1	155.1	705.8		136.1		156.0
Upstream Blk Time (%)							0				27
Queuing Penalty (veh)							0				0
Storage Bay Dist (m)	50.0			35.0				25.0		50.0	
Storage Blk Time (%)	0	12		1	2			0	1	42	19
Queuing Penalty (veh)	0	6		4	3			0	0	118	65

Intersection: 28: Kenmount Road & Great Eastern Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (m)	49.9	138.5	124.0	30.5	75.1	68.3	11.8	18.9	38.3	8.3
Average Queue (m)	19.1	57.1	49.0	5.9	33.7	21.4	2.2	4.1	13.9	0.8
95th Queue (m)	43.2	120.0	108.3	19.4	64.4	50.4	8.5	13.1	29.8	4.9
Link Distance (m)		179.6	179.6		241.2	241.2	34.3	34.3		141.5
Upstream Blk Time (%)		0	0					0		
Queuing Penalty (veh)		0	0					0		
Storage Bay Dist (m)	45.0			40.0					45.0	
Storage Blk Time (%)	0	8		0	4				0	
Queuing Penalty (veh)	2	10		0	1				0	

Intersection: 36: Brant Drive/H3 Access #1 & Kenmount Road

Movement	EB	EB	EB	B17	B17	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	T	T	L	T	TR	L	TR	L	TR
Maximum Queue (m)	25.9	61.8	63.0	30.6	64.9	11.7	39.8	39.8	31.1	47.4	16.0	23.6
Average Queue (m)	6.0	25.7	29.7	0.5	2.3	2.6	15.0	13.5	9.8	13.3	4.3	6.1
95th Queue (m)	16.4	48.6	53.4	15.7	34.3	9.5	31.3	31.3	23.6	33.9	13.1	17.9
Link Distance (m)		705.8	705.8	155.1	155.1		417.7	417.7		82.9		156.1
Upstream Blk Time (%)				0	0							
Queuing Penalty (veh)				0	0							
Storage Bay Dist (m)	45.0					45.0			40.0		50.0	
Storage Blk Time (%)		1					0		0	1		0
Queuing Penalty (veh)		0					0		0	0		0

Intersection: 42: Penney Access/H3 Access #2 & Kenmount Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (m)	17.5	65.1	102.7	15.7	49.3	41.8	36.6	46.7	16.1	24.0
Average Queue (m)	4.5	22.3	26.4	3.8	21.0	11.3	14.0	16.0	5.0	7.9
95th Queue (m)	13.6	48.1	74.7	12.0	41.3	29.8	29.7	36.9	13.6	19.6
Link Distance (m)		417.7	417.7		241.0	241.0		55.8		88.8
Upstream Blk Time (%)			0					0		
Queuing Penalty (veh)			0					0		
Storage Bay Dist (m)	45.0			45.0			40.0		40.0	
Storage Blk Time (%)		1			0		0	1		0
Queuing Penalty (veh)		0			0		0	1		0

Intersection: 48: Topsail Road & Farrell Drive

Movement	EB	EB	EB	WB	WB	SB	SB
Directions Served	L	T	T	T	TR	L	R
Maximum Queue (m)	37.8	69.7	59.0	68.0	66.6	55.0	44.2
Average Queue (m)	7.9	38.4	30.7	35.9	29.2	32.4	11.2
95th Queue (m)	21.8	59.8	50.7	59.3	55.3	51.4	30.2
Link Distance (m)		331.8	331.8	354.8	354.8		142.8
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (m)	45.0					50.0	
Storage Blk Time (%)	0	2				1	
Queuing Penalty (veh)	0	1				1	

Network Summary

Network wide Queuing Penalty: 232

Intersection: 11: Mount Carson Avenue & Lasalle Drive/Brodie Street

Phase	1	2	4	5	6	8
Movement(s) Served	SBL	NBTL	EBTL	NBL	SBTL	WBTL
Maximum Green (s)	7.0	32.0	18.0	7.0	32.0	18.0
Minimum Green (s)	7.0	25.0	10.0	7.0	25.0	10.0
Recall	None	Max	None	None	Max	None
Avg. Green (s)	0.0	35.0	12.8	7.6	34.0	12.8
g/C Ratio	-0.01	NA	NA	-0.01	NA	NA
Cycles Skipped (%)	100	0	0	91	0	0
Cycles @ Minimum (%)	0	0	37	9	0	37
Cycles Maxed Out (%)	0	100	10	9	100	10
Cycles with Peds (%)	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

Intersection: 14: Allston Street/Brougham Drive & Kenmount Road

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Maximum Green (s)	10.0	40.0	7.0	37.0	7.0	43.0	16.0	28.0
Minimum Green (s)	7.0	25.0	7.0	10.0	7.0	25.0	7.0	10.0
Recall	None	C-Max	None	None	None	C-Max	None	None
Avg. Green (s)	9.6	62.6	7.4	29.2	7.8	68.1	20.1	16.0
g/C Ratio	-0.01	NA	-0.01	NA	-0.01	NA	NA	-0.01
Cycles Skipped (%)	26	0	59	0	58	0	0	33
Cycles @ Minimum (%)	22	0	41	0	27	0	0	19
Cycles Maxed Out (%)	4	100	41	7	4	100	93	4
Cycles with Peds (%)	0	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

Intersection: 28: Kenmount Road & Great Eastern Avenue

Phase	1	2	3	4	5	6	8
Movement(s) Served	WBL	EBTL	SBL	NBTL	EBL	WBTL	SBTL
Maximum Green (s)	7.0	59.0	7.0	23.0	11.0	55.0	36.0
Minimum Green (s)	7.0	25.0	7.0	10.0	7.0	25.0	10.0
Recall	None	Max	None	None	None	Max	None
Avg. Green (s)	8.0	83.8	9.7	11.1	8.1	63.2	12.8
g/C Ratio	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Cycles Skipped (%)	86	17	32	75	38	3	21
Cycles @ Minimum (%)	14	0	13	25	38	0	66
Cycles Maxed Out (%)	14	83	68	0	3	97	0
Cycles with Peds (%)	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

Intersection: 36: Brant Drive/H3 Access #1 & Kenmount Road

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Maximum Green (s)	7.0	59.0	7.0	23.0	7.0	59.0	7.0	23.0
Minimum Green (s)	7.0	25.0	7.0	10.0	7.0	25.0	7.0	10.0
Recall	None	C-Max	None	None	None	C-Max	None	None
Avg. Green (s)	9.5	96.8	10.9	13.0	7.8	94.9	9.0	13.3
g/C Ratio	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Cycles Skipped (%)	92	4	35	41	77	4	62	15
Cycles @ Minimum (%)	8	0	31	44	19	0	31	59
Cycles Maxed Out (%)	0	96	65	0	0	96	38	0
Cycles with Peds (%)	0	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

Intersection: 42: Penney Access/H3 Access #2 & Kenmount Road

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Maximum Green (s)	7.0	59.0	7.0	23.0	7.0	59.0	7.0	23.0
Minimum Green (s)	7.0	25.0	7.0	10.0	7.0	25.0	7.0	10.0
Recall	None	C-Max	None	None	None	C-Max	None	None
Avg. Green (s)	7.6	92.1	10.1	12.0	7.2	91.3	9.1	14.8
g/C Ratio	-0.01	NA	-0.01	-0.01	-0.01	NA	-0.01	-0.01
Cycles Skipped (%)	85	0	21	32	81	0	59	10
Cycles @ Minimum (%)	12	0	48	50	15	0	33	41
Cycles Maxed Out (%)	0	100	79	0	0	100	41	0
Cycles with Peds (%)	0	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

Intersection: 48: Topsail Road & Farrell Drive

Phase	2	4	5	6
Movement(s) Served	EBTL	SBL	EBL	WBT
Maximum Green (s)	39.0	24.0	7.0	26.0
Minimum Green (s)	25.0	10.0	7.0	25.0
Recall	Max	None	None	Max
Avg. Green (s)	39.4	15.5	7.1	37.3
g/C Ratio	NA	NA	-0.01	NA
Cycles Skipped (%)	0	0	80	0
Cycles @ Minimum (%)	0	21	20	0
Cycles Maxed Out (%)	100	11	20	100
Cycles with Peds (%)	0	0	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

172093 Kenmount Hill CDS TIS
Kenmount Road & Brougham Drive/Allston Street

S1C 5-year with Improvements AM

01/28/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	892	39	129	453	84	18	35	107	339	194	87
Future Volume (veh/h)	44	892	39	129	453	84	18	35	107	339	194	87
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1826	1856	1856	1841	1826	1826	1811	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	51	1025	45	168	588	109	23	45	0	365	209	94
Peak Hour Factor	0.87	0.87	0.87	0.77	0.77	0.77	0.77	0.77	0.77	0.93	0.93	0.93
Percent Heavy Veh, %	5	3	3	4	5	5	6	2	2	2	2	2
Cap, veh/h	424	1690	74	317	1486	275	145	175		395	239	108
Arrive On Green	0.05	0.49	0.49	0.06	0.51	0.51	0.03	0.09	0.00	0.13	0.20	0.20
Sat Flow, veh/h	1739	3440	151	1753	2923	540	1725	1870	0	1781	1222	550
Grp Volume(v), veh/h	51	525	545	168	348	349	23	45	0	365	0	303
Grp Sat Flow(s),veh/h/ln	1739	1763	1828	1753	1735	1729	1725	1870	0	1781	0	1771
Q Serve(g_s), s	1.7	25.9	25.9	5.6	14.8	14.9	1.4	2.7	0.0	16.0	0.0	19.9
Cycle Q Clear(g_c), s	1.7	25.9	25.9	5.6	14.8	14.9	1.4	2.7	0.0	16.0	0.0	19.9
Prop In Lane	1.00		0.08	1.00		0.31	1.00		0.00	1.00		0.31
Lane Grp Cap(c), veh/h	424	866	898	317	882	879	145	175		395	0	347
V/C Ratio(X)	0.12	0.61	0.61	0.53	0.39	0.40	0.16	0.26		0.92	0.00	0.87
Avail Cap(c_a), veh/h	442	866	898	349	882	879	192	436		395	0	546
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.9	22.1	22.1	17.2	18.1	18.2	46.8	50.5	0.0	45.0	0.0	46.8
Incr Delay (d2), s/veh	0.1	3.1	3.0	1.4	1.3	1.3	0.5	0.8	0.0	27.4	0.0	9.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	12.3	12.7	2.6	6.8	6.8	0.7	1.4	0.0	6.8	0.0	10.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.0	25.3	25.1	18.6	19.5	19.5	47.3	51.3	0.0	72.4	0.0	56.1
LnGrp LOS	B	C	C	B	B	B	D	D		E	A	E
Approach Vol, veh/h	1121		865				68		A	668		
Approach Delay, s/veh	24.7		19.3				49.9		65.0			
Approach LOS	C		B				D		E			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.8	66.0	9.7	29.5	12.7	68.0	22.0	17.2				
Change Period (Y+Rc), s	7.0	7.0	6.0	6.0	7.0	7.0	6.0	6.0				
Max Green Setting (Gmax), s	10.0	40.0	7.0	37.0	7.0	43.0	16.0	28.0				
Max Q Clear Time (g_c+I1), s	7.6	0.0	3.4	21.9	3.7	0.0	18.0	4.7				
Green Ext Time (p_c), s	0.2	0.0	0.0	1.6	0.0	0.0	0.0	0.2				
Intersection Summary												
HCM 6th Ctrl Delay			33.5									
HCM 6th LOS			C									
Notes												

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	1970	7	23	898	27	8	1	12	54	3	213
Future Volume (veh/h)	135	1970	7	23	898	27	8	1	12	54	3	213
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1870	1870	1826	1841	1841	1870	1870	1870	1781	1870	1870
Adj Flow Rate, veh/h	150	2189	8	26	998	0	12	2	18	74	4	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.66	0.66	0.66	0.73	0.73	0.73
Percent Heavy Veh, %	3	2	2	5	4	4	2	2	2	8	2	2
Cap, veh/h	413	2166	8	136	1968		162	10	92	246	347	
Arrive On Green	0.07	0.60	0.60	0.04	0.56	0.00	0.06	0.06	0.06	0.06	0.19	0.00
Sat Flow, veh/h	1767	3632	13	1739	3589	0	1412	161	1449	1697	1870	0
Grp Volume(v), veh/h	150	1070	1127	26	998	0	12	0	20	74	4	0
Grp Sat Flow(s),veh/h/ln	1767	1777	1868	1739	1749	0	1412	0	1610	1697	1870	0
Q Serve(g_s), s	3.4	59.0	59.0	0.6	17.3	0.0	0.8	0.0	1.2	3.9	0.2	0.0
Cycle Q Clear(g_c), s	3.4	59.0	59.0	0.6	17.3	0.0	0.8	0.0	1.2	3.9	0.2	0.0
Prop In Lane	1.00		0.01	1.00		0.00	1.00		0.90	1.00		0.00
Lane Grp Cap(c), veh/h	413	1060	1114	136	1968		162	0	102	246	347	
V/C Ratio(X)	0.36	1.01	1.01	0.19	0.51		0.07	0.00	0.20	0.30	0.01	
Avail Cap(c_a), veh/h	487	1060	1114	196	1968		401	0	374	261	681	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	9.4	20.0	20.0	23.7	13.2	0.0	43.8	0.0	43.9	37.8	32.9	0.0
Incr Delay (d2), s/veh	0.5	30.2	29.8	0.7	0.9	0.0	0.2	0.0	0.9	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	34.0	35.6	0.4	7.6	0.0	0.3	0.0	0.5	1.8	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.9	50.1	49.8	24.4	14.2	0.0	44.0	0.0	44.9	38.5	32.9	0.0
LnGrp LOS	A	F	F	C	B		D	A	D	D	C	
Approach Vol, veh/h		2347			1024	A		32			78	A
Approach Delay, s/veh		47.4			14.4			44.5			38.2	
Approach LOS		D			B			D			D	
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	9.6	65.0	12.1	12.3	12.9	61.7		24.4				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	7.0	59.0	7.0	23.0	11.0	55.0		36.0				
Max Q Clear Time (g_c+I1), s	2.6	0.0	5.9	3.2	5.4	0.0		2.2				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.1	0.3	0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			37.5									
HCM 6th LOS			D									
Notes												
Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

172093 Kenmount Hill CDS TIS
Kenmount Road & H3 Access #2/Penney Access

S1C 5-year with Improvements AM

01/29/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	1239	84	23	605	34	51	43	34	16	25	20
Future Volume (veh/h)	38	1239	84	23	605	34	51	43	34	16	25	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	41	1347	0	25	658	0	55	47	0	17	27	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	559	2270		288	2232		238	193		213	148	
Arrive On Green	0.04	0.64	0.00	0.03	0.63	0.00	0.05	0.10	0.00	0.03	0.08	0.00
Sat Flow, veh/h	1781	3647	0	1781	3647	0	1781	1870	0	1781	1870	0
Grp Volume(v), veh/h	41	1347	0	25	658	0	55	47	0	17	27	0
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	0	1781	1870	0	1781	1870	0
Q Serve(g_s), s	0.9	26.5	0.0	0.6	10.1	0.0	3.3	2.8	0.0	1.0	1.6	0.0
Cycle Q Clear(g_c), s	0.9	26.5	0.0	0.6	10.1	0.0	3.3	2.8	0.0	1.0	1.6	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	559	2270		288	2232		238	193		213	148	
V/C Ratio(X)	0.07	0.59		0.09	0.29		0.23	0.24		0.08	0.18	
Avail Cap(c_a), veh/h	586	2270		333	2232		255	358		272	358	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	7.1	12.6	0.0	9.8	10.2	0.0	47.1	49.5	0.0	48.6	51.6	0.0
Incr Delay (d2), s/veh	0.1	1.2	0.0	0.1	0.3	0.0	0.5	0.6	0.0	0.2	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	11.7	0.0	0.3	4.5	0.0	1.6	1.4	0.0	0.5	0.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.1	13.8	0.0	9.9	10.5	0.0	47.5	50.2	0.0	48.7	52.2	0.0
LnGrp LOS	A	B		A	B		D	D		D	D	
Approach Vol, veh/h	1388		A	683		A	102		A	44		A
Approach Delay, s/veh	13.6			10.5			48.7			50.9		
Approach LOS	B			B			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.0	82.6	11.9	15.5	11.2	81.4	9.0	18.4				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	7.0	59.0	7.0	23.0	7.0	59.0	7.0	23.0				
Max Q Clear Time (g_c+I1), s	2.6	0.0	5.3	3.6	2.9	0.0	3.0	4.8				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1				
Intersection Summary												
HCM 6th Ctrl Delay	15.0											
HCM 6th LOS	B											
Notes												

172093 Kenmount Hill CDS TIS
Kenmount Road & H3 Access #1/Brant Drive

S1C 5-year with Improvements AM

01/28/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	1288	22	11	619	33	34	35	65	16	16	20
Future Volume (veh/h)	40	1288	22	11	619	33	34	35	65	16	16	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	43	1400	0	12	673	0	37	38	0	17	17	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	563	2358		266	2269		228	172		205	142	
Arrive On Green	0.04	0.66	0.00	0.02	0.64	0.00	0.04	0.09	0.00	0.03	0.08	0.00
Sat Flow, veh/h	1781	3647	0	1781	3647	0	1781	1870	0	1781	1870	0
Grp Volume(v), veh/h	43	1400	0	12	673	0	37	38	0	17	17	0
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	0	1781	1870	0	1781	1870	0
Q Serve(g_s), s	0.9	26.2	0.0	0.3	10.1	0.0	2.2	2.3	0.0	1.0	1.0	0.0
Cycle Q Clear(g_c), s	0.9	26.2	0.0	0.3	10.1	0.0	2.2	2.3	0.0	1.0	1.0	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	563	2358		266	2269		228	172		205	142	
V/C Ratio(X)	0.08	0.59		0.05	0.30		0.16	0.22		0.08	0.12	
Avail Cap(c_a), veh/h	588	2358		335	2269		258	358		264	358	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	6.6	11.2	0.0	9.4	9.7	0.0	47.8	50.5	0.0	49.0	51.7	0.0
Incr Delay (d2), s/veh	0.1	1.1	0.0	0.1	0.3	0.0	0.3	0.6	0.0	0.2	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	11.5	0.0	0.1	4.5	0.0	1.1	1.2	0.0	0.5	0.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.7	12.3	0.0	9.5	10.0	0.0	48.1	51.1	0.0	49.1	52.1	0.0
LnGrp LOS	A	B		A	B		D	D		D	D	
Approach Vol, veh/h	1443		A	685		A	75		A	34		A
Approach Delay, s/veh	12.1			10.0			49.6			50.6		
Approach LOS	B			A			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.3	85.6	11.0	15.1	11.3	82.6	9.0	17.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	7.0	59.0	7.0	23.0	7.0	59.0	7.0	23.0				
Max Q Clear Time (g_c+I1), s	2.3	0.0	4.2	3.0	2.9	0.0	3.0	4.3				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1				
Intersection Summary												
HCM 6th Ctrl Delay	13.3											
HCM 6th LOS	B											
Notes												

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	121	1	107	52	3	74	12	640	15	4	394	27
Future Volume (veh/h)	121	1	107	52	3	74	12	640	15	4	394	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1411	1411	1781	1870	1870	1530	1870	1870
Adj Flow Rate, veh/h	139	1	123	60	3	85	13	703	16	5	540	37
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.91	0.91	0.91	0.73	0.73	0.73
Percent Heavy Veh, %	2	2	2	2	33	33	8	2	2	25	2	2
Cap, veh/h	298	3	323	286	8	239	360	924	21	243	855	59
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.02	0.51	0.51	0.01	0.49	0.49
Sat Flow, veh/h	1309	13	1574	1267	41	1161	1697	1821	41	1457	1730	119
Grp Volume(v), veh/h	139	0	124	60	0	88	13	0	719	5	0	577
Grp Sat Flow(s),veh/h/ln	1309	0	1587	1267	0	1202	1697	0	1863	1457	0	1849
Q Serve(g_s), s	6.6	0.0	4.4	2.8	0.0	4.1	0.2	0.0	20.1	0.1	0.0	14.9
Cycle Q Clear(g_c), s	10.7	0.0	4.4	7.1	0.0	4.1	0.2	0.0	20.1	0.1	0.0	14.9
Prop In Lane	1.00		0.99	1.00		0.97	1.00		0.02	1.00		0.06
Lane Grp Cap(c), veh/h	298	0	326	286	0	247	360	0	945	243	0	914
V/C Ratio(X)	0.47	0.00	0.38	0.21	0.00	0.36	0.04	0.00	0.76	0.02	0.00	0.63
Avail Cap(c_a), veh/h	393	0	441	378	0	334	505	0	945	387	0	914
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.6	0.0	22.2	25.3	0.0	22.1	9.4	0.0	12.8	10.9	0.0	12.0
Incr Delay (d2), s/veh	1.1	0.0	0.7	0.4	0.0	0.9	0.0	0.0	5.8	0.0	0.0	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	1.8	0.9	0.0	1.3	0.1	0.0	10.5	0.0	0.0	7.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.8	0.0	22.9	25.6	0.0	22.9	9.4	0.0	18.6	10.9	0.0	15.4
LnGrp LOS	C	A	C	C	A	C	A	A	B	B	A	B
Approach Vol, veh/h	263			148			732			582		
Approach Delay, s/veh	25.5			24.0			18.4			15.3		
Approach LOS	C			C			B			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.6	38.9		19.3	7.5	38.0		19.3				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	7.0	32.0		18.0	7.0	32.0		18.0				
Max Q Clear Time (g_c+I1), s	2.1	22.1		12.7	2.2	16.9		9.1				
Green Ext Time (p_c), s	0.0	4.1		0.7	0.0	4.0		0.5				
Intersection Summary												
HCM 6th Ctrl Delay	18.9											
HCM 6th LOS	B											

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	39	1194	806	138	262	79
Future Volume (veh/h)	39	1194	806	138	262	79
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1710	1856	1841	1841	1934	1949
Adj Flow Rate, veh/h	43	1327	916	157	294	89
Peak Hour Factor	0.90	0.90	0.88	0.88	0.89	0.89
Percent Heavy Veh, %	8	3	4	4	3	2
Cap, veh/h	355	2130	1203	206	386	347
Arrive On Green	0.11	0.60	0.40	0.40	0.21	0.21
Sat Flow, veh/h	1629	3618	3078	512	1842	1651
Grp Volume(v), veh/h	43	1327	536	537	294	89
Grp Sat Flow(s),veh/h/ln	1629	1763	1749	1749	1842	1651
Q Serve(g_s), s	0.8	15.4	17.1	17.1	9.7	2.9
Cycle Q Clear(g_c), s	0.8	15.4	17.1	17.1	9.7	2.9
Prop In Lane	1.00			0.29	1.00	1.00
Lane Grp Cap(c), veh/h	355	2130	704	704	386	347
V/C Ratio(X)	0.12	0.62	0.76	0.76	0.76	0.26
Avail Cap(c_a), veh/h	355	2130	704	704	685	614
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.0	8.1	16.6	16.6	24.0	21.3
Incr Delay (d2), s/veh	0.7	1.4	4.9	4.9	3.1	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	6.3	8.0	8.1	4.9	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	10.7	9.5	21.5	21.5	27.1	21.7
LnGrp LOS	B	A	C	C	C	C
Approach Vol, veh/h		1370	1073		383	
Approach Delay, s/veh		9.5	21.5		25.8	
Approach LOS		A	C		C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		45.0		19.5	13.0	32.0
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		39.0		24.0	7.0	26.0
Max Q Clear Time (g_c+I1), s		0.0		11.7	2.8	0.0
Green Ext Time (p_c), s		0.0		1.9	0.0	0.0
Intersection Summary						
HCM 6th Ctrl Delay			16.3			
HCM 6th LOS			B			

Intersection												
Int Delay, s/veh	31.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	1000	7	29	896	21	3	0	62	80	0	14
Future Vol, veh/h	7	1000	7	29	896	21	3	0	62	80	0	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	250	-	-	-	-	-	350	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	86	86	86	85	85	85	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	1266	9	34	1042	24	4	0	73	96	0	17
Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	1066	0	0	1275	0	0	1878	2423	638	1773	2415	533
Stage 1	-	-	-	-	-	-	1289	1289	-	1122	1122	-
Stage 2	-	-	-	-	-	-	589	1134	-	651	1293	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	649	-	-	540	-	-	44	32	419	~ 53	32	491
Stage 1	-	-	-	-	-	-	173	232	-	219	279	-
Stage 2	-	-	-	-	-	-	461	276	-	424	231	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	649	-	-	540	-	-	40	30	419	~ 41	30	491
Mov Cap-2 Maneuver	-	-	-	-	-	-	40	30	-	~ 41	30	-
Stage 1	-	-	-	-	-	-	171	229	-	216	261	-
Stage 2	-	-	-	-	-	-	417	259	-	345	228	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	0.1		0.4		21.6		\$ 705.9					
HCM LOS					C		F					
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2			
Capacity (veh/h)	292	649	-	-	540	-	-	41	491			
HCM Lane V/C Ratio	0.262	0.014	-	-	0.062	-	-	2.351	0.034			
HCM Control Delay (s)	21.6	10.6	-	-	12.1	-	-	\$ 827.2	12.6			
HCM Lane LOS	C	B	-	-	B	-	-	F	B			
HCM 95th %tile Q(veh)	1	0	-	-	0.2	-	-	10.4	0.1			
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s			+: Computation Not Defined				*: All major volume in platoon			

Intersection												
Int Delay, s/veh	8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	936	5	8	825	52	5	0	33	47	0	82
Future Vol, veh/h	23	936	5	8	825	52	5	0	33	47	0	82
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	-	350	-	-	-	-	-	300	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	82	82	82	65	65	65	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	1101	6	10	1006	63	8	0	51	59	0	104
Major/Minor	Major1		Major2			Minor1			Minor2			
Conflicting Flow All	1069	0	0	1107	0	0	1681	2247	554	1663	2219	535
Stage 1	-	-	-	-	-	-	1158	1158	-	1058	1058	-
Stage 2	-	-	-	-	-	-	523	1089	-	605	1161	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	648	-	-	626	-	-	62	41	476	64	43	490
Stage 1	-	-	-	-	-	-	208	269	-	240	300	-
Stage 2	-	-	-	-	-	-	505	290	-	451	268	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	648	-	-	626	-	-	47	39	476	~ 55	41	490
Mov Cap-2 Maneuver	-	-	-	-	-	-	47	39	-	~ 55	41	-
Stage 1	-	-	-	-	-	-	199	258	-	230	295	-
Stage 2	-	-	-	-	-	-	392	285	-	386	257	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	0.3		0.1			27.7			106.8			
HCM LOS						D			F			
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2			
Capacity (veh/h)	216	648	-	-	626	-	-	55	490			
HCM Lane V/C Ratio	0.271	0.042	-	-	0.016	-	-	1.082	0.212			
HCM Control Delay (s)	27.7	10.8	-	-	10.8	-	-	268.3	14.3			
HCM Lane LOS	D	B	-	-	B	-	-	F	B			
HCM 95th %tile Q(veh)	1.1	0.1	-	-	0	-	-	5	0.8			
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s			+: Computation Not Defined				*: All major volume in platoon			

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	3:45	3:45	3:45	3:45	3:45	3:45	3:45
End Time	5:15	5:15	5:15	5:15	5:15	5:15	5:15
Total Time (min)	90	90	90	90	90	90	90
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4	4
Vehs Entered	15846	16061	15799	15902	15715	15631	16044
Vehs Exited	15893	16049	15867	15962	15762	15666	16109
Starting Vehs	424	394	417	436	416	371	435
Ending Vehs	377	406	349	376	369	336	370
Travel Distance (km)	11190	11342	11187	11135	11012	11082	11310
Travel Time (hr)	669.2	690.0	682.4	623.2	638.9	606.6	677.9
Total Delay (hr)	469.1	487.0	482.2	424.0	441.9	408.2	475.5
Total Stops	11314	11846	11764	11174	10873	11189	11894
Fuel Used (l)	1327.1	1353.1	1337.3	1283.7	1285.6	1262.9	1344.5

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	3:45	3:45	3:45	3:45
End Time	5:15	5:15	5:15	5:15
Total Time (min)	90	90	90	90
Time Recorded (min)	60	60	60	60
# of Intervals	5	5	5	5
# of Recorded Intervals	4	4	4	4
Vehs Entered	16165	15794	15709	15874
Vehs Exited	16181	15852	15669	15903
Starting Vehs	423	400	362	402
Ending Vehs	407	342	402	368
Travel Distance (km)	11394	11223	11054	11193
Travel Time (hr)	596.0	543.1	582.4	631.0
Total Delay (hr)	392.0	342.2	384.2	430.6
Total Stops	11947	11796	11751	11559
Fuel Used (l)	1279.5	1217.4	1239.8	1293.1

Interval #0 Information Seeding

Start Time	3:45
End Time	4:15
Total Time (min)	30
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	4:15
End Time	4:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	4393	4501	4395	4366	4318	4347	4408
Vehs Exited	4381	4343	4290	4323	4205	4172	4338
Starting Vehs	424	394	417	436	416	371	435
Ending Vehs	436	552	522	479	529	546	505
Travel Distance (km)	3046	3107	3029	3024	2915	3015	3094
Travel Time (hr)	152.9	157.9	169.3	158.6	153.1	142.5	157.6
Total Delay (hr)	98.3	102.3	115.1	104.5	101.0	88.6	102.4
Total Stops	3395	3434	3593	3261	3202	3286	3508
Fuel Used (l)	337.8	343.7	351.5	341.3	328.6	323.0	344.0

Interval #1 Information Recording

Start Time	4:15
End Time	4:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	4515	4434	4396	4408
Vehs Exited	4410	4288	4256	4301
Starting Vehs	423	400	362	402
Ending Vehs	528	546	502	511
Travel Distance (km)	3099	3014	3034	3038
Travel Time (hr)	152.8	146.3	147.7	153.9
Total Delay (hr)	97.4	92.2	93.4	99.5
Total Stops	3455	3558	3689	3437
Fuel Used (l)	342.1	329.3	330.4	337.2

Interval #2 Information Recording

Start Time	4:30
End Time	4:45
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	10	2	3	4	5	6
Vehs Entered	3805	3818	3821	3823	3700	3793	3853
Vehs Exited	3798	3947	3922	3887	3857	3947	3927
Starting Vehs	436	552	522	479	529	546	505
Ending Vehs	443	423	421	415	372	392	431
Travel Distance (km)	2703	2757	2780	2701	2681	2780	2743
Travel Time (hr)	174.7	176.2	184.9	162.8	165.1	162.9	174.2
Total Delay (hr)	126.4	126.7	135.1	114.5	117.1	113.1	125.2
Total Stops	2851	2937	2905	2630	2490	2831	2777
Fuel Used (l)	332.1	337.5	344.4	319.5	321.9	327.9	335.1

Interval #2 Information Recording

Start Time	4:30
End Time	4:45
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	7	8	9	Avg
Vehs Entered	3959	3847	3815	3822
Vehs Exited	4056	3953	3943	3921
Starting Vehs	528	546	502	511
Ending Vehs	431	440	374	411
Travel Distance (km)	2825	2864	2792	2763
Travel Time (hr)	150.9	150.8	156.2	165.9
Total Delay (hr)	100.2	99.7	106.2	116.4
Total Stops	3056	3147	2916	2852
Fuel Used (l)	321.0	322.2	319.9	328.2

Interval #3 Information Recording

Start Time	4:45
End Time	5:00
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	10	2	3	4	5	6
Vehs Entered	3853	3814	3822	3817	3804	3857	3865
Vehs Exited	3877	3855	3841	3823	3804	3830	3876
Starting Vehs	443	423	421	415	372	392	431
Ending Vehs	419	382	402	409	372	419	420
Travel Distance (km)	2755	2763	2703	2663	2652	2714	2710
Travel Time (hr)	176.0	182.5	169.9	152.9	158.6	154.3	173.9
Total Delay (hr)	126.8	133.1	121.5	105.3	111.0	105.8	125.2
Total Stops	2706	2805	2643	2603	2486	2680	2790
Fuel Used (l)	336.0	341.0	327.4	310.9	311.8	314.7	332.0

Interval #3 Information Recording

Start Time	4:45
End Time	5:00
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	7	8	9	Avg
Vehs Entered	3910	3768	3717	3816
Vehs Exited	3941	3825	3730	3838
Starting Vehs	431	440	374	411
Ending Vehs	400	383	361	393
Travel Distance (km)	2780	2634	2641	2702
Travel Time (hr)	147.4	124.9	141.7	158.2
Total Delay (hr)	97.6	77.7	94.3	109.8
Total Stops	2878	2646	2611	2681
Fuel Used (l)	312.2	281.7	297.8	316.6

Interval #4 Information Recording

Start Time	5:00
End Time	5:15
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	10	2	3	4	5	6
Vehs Entered	3795	3928	3761	3896	3893	3634	3918
Vehs Exited	3837	3904	3814	3929	3896	3717	3968
Starting Vehs	419	382	402	409	372	419	420
Ending Vehs	377	406	349	376	369	336	370
Travel Distance (km)	2685	2714	2676	2747	2764	2573	2763
Travel Time (hr)	165.6	173.4	158.4	148.9	162.1	146.9	172.1
Total Delay (hr)	117.7	124.9	110.5	99.7	112.7	100.7	122.6
Total Stops	2362	2670	2623	2680	2695	2392	2819
Fuel Used (l)	321.2	331.0	314.1	312.0	323.2	297.2	333.5

Interval #4 Information Recording

Start Time	5:00
End Time	5:15
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	7	8	9	Avg
Vehs Entered	3781	3745	3781	3812
Vehs Exited	3774	3786	3740	3835
Starting Vehs	400	383	361	393
Ending Vehs	407	342	402	368
Travel Distance (km)	2690	2710	2586	2691
Travel Time (hr)	144.9	121.0	136.7	153.0
Total Delay (hr)	96.8	72.5	90.3	104.8
Total Stops	2558	2445	2535	2575
Fuel Used (l)	304.2	284.2	291.6	311.2

2: Marlin Drive/Hemmer Jane Drive & Topsail Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.3	15.7	3.5	19.6
Denied Del/Veh (s)	0.1	0.0	0.0	2.4	0.3	0.4	27.8	19.6	843.5	741.6	26.0
Total Delay (hr)	0.1	0.4	0.0	0.1	0.4	0.0	0.1	0.9	12.0	1.2	15.1
Total Del/Veh (s)	11.5	1.2	0.6	8.3	1.2	0.8	156.7	57.0	784.5	377.4	20.0
Stop Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.9	12.1	1.2	14.4
Stop Del/Veh (s)	9.0	0.0	0.0	6.7	0.0	0.0	155.9	57.2	789.9	379.1	19.0

6: Humber Drive/Moffatt Road & Topsail Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	48.9	1.9	24.2
Denied Del/Veh (s)	2.3	0.3	0.2	0.1	0.0	0.0	0.1	0.1	0.1	1505.3	1668.0	1453.8
Total Delay (hr)	0.2	0.3	0.0	0.1	0.4	0.1	0.1	0.0	0.1	13.2	0.3	3.4
Total Del/Veh (s)	8.8	0.7	0.2	8.8	1.4	1.3	131.6	167.7	25.0	766.6	588.8	443.1
Stop Delay (hr)	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.1	13.3	0.3	3.5
Stop Del/Veh (s)	6.9	0.0	0.0	6.8	0.0	0.0	129.6	164.9	24.4	773.0	588.9	445.9

6: Humber Drive/Moffatt Road & Topsail Road Performance by movement

Movement	All
Denied Delay (hr)	75.1
Denied Del/Veh (s)	104.4
Total Delay (hr)	18.1
Total Del/Veh (s)	26.0
Stop Delay (hr)	17.5
Stop Del/Veh (s)	25.1

11: Mount Carson Avenue & Lasalle Drive/Brodie Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.1	1.0	0.2
Denied Del/Veh (s)	4.0	0.1	0.3	4.1	0.1	0.2	3.1	1.0	1.1	6.4	5.1	5.4
Total Delay (hr)	0.5	0.0	0.1	0.1	0.0	0.1	0.5	1.7	0.1	0.2	3.0	0.5
Total Del/Veh (s)	32.5	38.7	14.7	33.2	27.1	10.3	19.1	9.0	6.5	15.9	14.7	11.4
Stop Delay (hr)	0.4	0.0	0.1	0.1	0.0	0.0	0.4	0.8	0.0	0.2	1.7	0.3
Stop Del/Veh (s)	30.5	35.4	14.4	31.2	24.5	9.9	15.6	4.4	3.4	11.2	8.1	7.0

11: Mount Carson Avenue & Lasalle Drive/Brodie Street Performance by movement

Movement	All
Denied Delay (hr)	1.7
Denied Del/Veh (s)	3.3
Total Delay (hr)	6.8
Total Del/Veh (s)	13.1
Stop Delay (hr)	4.2
Stop Del/Veh (s)	8.0

14: Allston Street/Brougham Drive & Kenmount Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.1	0.0	0.0	0.0	0.0	0.0	1.6	4.8	3.4	0.1	0.0	0.0
Denied Del/Veh (s)	2.1	0.2	0.2	0.0	0.0	0.0	109.3	111.8	104.2	3.8	0.4	0.5
Total Delay (hr)	1.2	4.0	0.1	1.3	7.1	1.7	2.6	8.1	4.1	2.4	0.6	0.3
Total Del/Veh (s)	39.3	17.6	10.9	26.6	21.7	22.2	181.0	191.5	127.2	69.7	48.2	22.8
Stop Delay (hr)	1.1	2.6	0.1	1.0	4.2	1.1	2.5	7.7	3.9	2.3	0.6	0.3
Stop Del/Veh (s)	33.7	11.6	8.1	19.2	13.0	14.6	172.2	181.1	119.9	65.9	43.5	20.6

14: Allston Street/Brougham Drive & Kenmount Road Performance by movement

Movement	All
Denied Delay (hr)	10.0
Denied Del/Veh (s)	11.7
Total Delay (hr)	33.6
Total Del/Veh (s)	38.7
Stop Delay (hr)	27.2
Stop Del/Veh (s)	31.4

28: Kenmount Road & Great Eastern Avenue Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.2	0.2	0.0	0.5	97.1	1.5	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	2.4	0.5	0.5	176.3	177.6	189.8	0.1	0.1	0.1	3.6	0.5	0.4
Total Delay (hr)	3.0	2.9	0.0	0.3	45.9	0.6	0.5	0.0	0.1	0.3	0.0	0.7
Total Del/Veh (s)	44.0	8.1	5.0	89.0	84.6	72.8	43.6	43.6	13.2	46.5	50.2	8.3
Stop Delay (hr)	2.6	1.3	0.0	0.2	31.0	0.4	0.5	0.0	0.1	0.3	0.0	0.4
Stop Del/Veh (s)	38.1	3.6	3.0	63.8	57.1	50.4	42.0	41.2	13.0	42.5	43.8	4.6

28: Kenmount Road & Great Eastern Avenue Performance by movement

Movement	All
Denied Delay (hr)	99.6
Denied Del/Veh (s)	91.4
Total Delay (hr)	54.4
Total Del/Veh (s)	49.9
Stop Delay (hr)	36.9
Stop Del/Veh (s)	33.9

36: Brant Drive/H3 Access #1 & Kenmount Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.2	0.0	0.0
Denied Del/Veh (s)	0.2	0.0	0.0	0.0	0.0	0.0	4.5	1.3	1.4	3.6	0.9	0.9
Total Delay (hr)	1.7	3.2	0.1	0.7	13.6	0.7	0.6	2.8	0.2	3.5	2.1	1.1
Total Del/Veh (s)	48.5	12.3	8.2	33.5	33.9	26.4	47.3	63.7	26.4	79.4	67.8	27.5
Stop Delay (hr)	1.4	1.4	0.0	0.4	7.2	0.3	0.5	2.5	0.2	3.2	1.9	0.9
Stop Del/Veh (s)	41.6	5.2	1.7	19.6	18.0	11.6	42.9	58.1	23.1	73.9	60.2	22.5

36: Brant Drive/H3 Access #1 & Kenmount Road Performance by movement

Movement	All
Denied Delay (hr)	0.3
Denied Del/Veh (s)	0.4
Total Delay (hr)	30.1
Total Del/Veh (s)	32.2
Stop Delay (hr)	19.9
Stop Del/Veh (s)	21.3

42: Penney Access/H3 Access #2 & Kenmount Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	1.4	1.5	0.5	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	2.3	0.3	0.4	34.8	32.5	33.1	0.3	0.2	0.2
Total Delay (hr)	1.3	5.2	1.0	0.4	10.3	0.4	3.2	4.3	0.7	3.0	0.8	0.3
Total Del/Veh (s)	38.4	23.4	18.0	28.3	28.4	14.8	74.2	89.0	46.7	66.9	52.1	8.1
Stop Delay (hr)	1.0	3.3	0.5	0.3	6.3	0.2	2.9	4.0	0.6	2.9	0.8	0.2
Stop Del/Veh (s)	31.6	14.8	9.6	19.1	17.4	7.1	69.3	82.6	42.8	63.1	47.4	5.2

42: Penney Access/H3 Access #2 & Kenmount Road Performance by movement

Movement	All
Denied Delay (hr)	3.7
Denied Del/Veh (s)	4.0
Total Delay (hr)	30.9
Total Del/Veh (s)	33.6
Stop Delay (hr)	23.0
Stop Del/Veh (s)	25.0

48: Topsail Road & Farrell Drive Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.1	0.1	0.1	0.0	0.2	0.0	0.5
Denied Del/Veh (s)	2.4	0.2	0.3	0.4	3.8	0.6	0.6
Total Delay (hr)	0.6	1.9	7.5	1.3	1.4	0.2	13.0
Total Del/Veh (s)	23.7	6.5	20.1	16.8	30.5	10.6	15.4
Stop Delay (hr)	0.5	0.8	3.8	0.7	1.2	0.2	7.2
Stop Del/Veh (s)	19.8	2.8	10.1	8.8	27.2	9.4	8.6

Total Network Performance

Denied Delay (hr)	210.6
Denied Del/Veh (s)	47.1
Total Delay (hr)	220.1
Total Del/Veh (s)	48.7
Stop Delay (hr)	153.8
Stop Del/Veh (s)	34.0

Intersection: 2: Marlin Drive/Hemmer Jane Drive & Topsail Road

Movement	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	TR	L	T	TR	LTR	L	TR
Maximum Queue (m)	11.2	0.9	13.9	1.8	7.0	45.7	42.4	92.8
Average Queue (m)	3.1	0.0	4.3	0.1	0.3	14.7	41.1	86.8
95th Queue (m)	9.6	0.6	10.2	1.7	3.2	41.6	46.0	92.0
Link Distance (m)		278.5		109.0	109.0	63.7		83.3
Upstream Blk Time (%)						4		99
Queuing Penalty (veh)						0		0
Storage Bay Dist (m)	15.0		25.0				35.0	
Storage Blk Time (%)	0		0				98	1
Queuing Penalty (veh)	2		0				15	1

Intersection: 6: Humber Drive/Moffatt Road & Topsail Road

Movement	EB	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LTR	L	TR
Maximum Queue (m)	20.4	0.3	0.2	11.1	1.3	2.8	17.6	37.4	120.4
Average Queue (m)	6.9	0.0	0.0	3.9	0.0	0.1	4.2	36.4	112.7
95th Queue (m)	15.3	0.3	0.2	9.9	1.3	1.5	13.2	38.7	118.0
Link Distance (m)		175.9	175.9		278.5	278.5	185.8		108.6
Upstream Blk Time (%)									100
Queuing Penalty (veh)									0
Storage Bay Dist (m)	30.0			35.0				30.0	
Storage Blk Time (%)	0							100	0
Queuing Penalty (veh)	0							57	0

Intersection: 11: Mount Carson Avenue & Lasalle Drive/Brodie Street

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (m)	27.5	24.1	19.0	19.2	47.4	109.9	57.3	103.0
Average Queue (m)	10.8	6.4	4.4	4.7	13.0	42.8	13.4	66.6
95th Queue (m)	23.2	16.8	14.0	14.2	27.8	81.5	39.6	113.7
Link Distance (m)		43.4		56.6		149.3		91.4
Upstream Blk Time (%)						0		8
Queuing Penalty (veh)						0		0
Storage Bay Dist (m)	25.0		25.0		85.0		50.0	
Storage Blk Time (%)	1	0	0	0		1	0	14
Queuing Penalty (veh)	1	0	0	0		0	0	8

Intersection: 14: Allston Street/Brougham Drive & Kenmount Road

Movement	EB	EB	EB	WB	WB	WB	B17	B17	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	T	T	L	TR	L	TR
Maximum Queue (m)	57.3	98.4	89.2	42.4	133.6	138.1	9.9	214.7	32.3	149.6	55.0	59.4
Average Queue (m)	24.3	50.5	43.3	25.9	59.7	66.7	0.5	10.6	19.9	121.7	29.7	21.1
95th Queue (m)	50.3	85.1	79.1	47.1	115.1	120.7	8.1	150.6	38.9	184.3	50.4	52.8
Link Distance (m)		452.6	452.6		163.2	163.2	696.5	696.5		136.1		156.0
Upstream Blk Time (%)					0	1		0		54		
Queuing Penalty (veh)					3	5		2		0		
Storage Bay Dist (m)	50.0			35.0					25.0		50.0	
Storage Blk Time (%)	1	7		4	23				7	46	5	0
Queuing Penalty (veh)	2	8		21	42				18	24	5	0

Intersection: 28: Kenmount Road & Great Eastern Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (m)	52.3	136.1	120.8	36.5	257.1	257.0	33.4	21.9	43.0	85.1
Average Queue (m)	39.3	47.9	35.2	4.2	246.5	245.9	10.5	5.0	8.7	22.7
95th Queue (m)	58.9	116.9	91.6	20.0	267.1	268.2	25.3	15.0	25.1	69.4
Link Distance (m)		149.3	149.3		241.2	241.2	34.6	34.6		141.4
Upstream Blk Time (%)		1	0		55	54	0	0		
Queuing Penalty (veh)		0	0		0	0	0	0		
Storage Bay Dist (m)	45.0			40.0					45.0	
Storage Blk Time (%)	13	3			42					6
Queuing Penalty (veh)	87	7			5					2

Intersection: 36: Brant Drive/H3 Access #1 & Kenmount Road

Movement	EB	EB	EB	B17	B17	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	T	T	L	T	TR	L	TR	L	TR
Maximum Queue (m)	51.9	83.4	86.4	15.8	16.2	52.3	180.0	350.3	47.3	81.3	57.3	143.1
Average Queue (m)	25.2	28.9	34.0	1.1	1.1	17.2	78.5	95.3	14.8	42.9	41.6	56.1
95th Queue (m)	46.8	60.2	65.4	22.8	22.8	44.7	145.2	224.2	38.8	76.5	65.3	116.5
Link Distance (m)		696.5	696.5	163.2	163.2		417.4	417.4		82.8		156.1
Upstream Blk Time (%)					0		0	0		3		1
Queuing Penalty (veh)					0		0	1		0		0
Storage Bay Dist (m)	45.0					45.0			40.0		50.0	
Storage Blk Time (%)	2	1				0	26			19	9	14
Queuing Penalty (veh)	10	2				0	18			9	23	22

Intersection: 42: Penney Access/H3 Access #2 & Kenmount Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (m)	52.3	101.6	144.7	49.8	162.3	149.7	47.4	87.7	80.0	62.9
Average Queue (m)	24.9	46.3	54.9	14.6	97.0	86.3	38.9	66.8	40.0	22.7
95th Queue (m)	50.0	85.5	109.3	44.0	150.5	140.4	59.2	100.9	72.3	51.2
Link Distance (m)		417.4	417.4		242.5	242.5		77.0	89.0	89.0
Upstream Blk Time (%)			0		0			32	0	
Queuing Penalty (veh)			0		0			0	0	
Storage Bay Dist (m)	45.0			45.0			40.0			
Storage Blk Time (%)	1	10			28		15	40		
Queuing Penalty (veh)	3	12			13		33	61		

Intersection: 48: Topsail Road & Farrell Drive

Movement	EB	EB	EB	WB	WB	SB	SB
Directions Served	L	T	T	T	TR	L	R
Maximum Queue (m)	37.5	60.6	54.4	156.1	154.9	51.8	34.1
Average Queue (m)	14.4	29.8	23.2	67.0	68.0	26.4	10.6
95th Queue (m)	28.3	50.5	45.0	136.4	139.0	44.3	23.9
Link Distance (m)		331.8	331.8	354.8	354.8		142.8
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (m)	45.0					50.0	
Storage Blk Time (%)	0	1				0	
Queuing Penalty (veh)	0	1				0	

Network Summary

Network wide Queuing Penalty: 522

Intersection: 11: Mount Carson Avenue & Lasalle Drive/Brodie Street

Phase	1	2	4	5	6	8
Movement(s) Served	SBL NBTL	EBTL	NBL	SBTL	WBTL	
Maximum Green (s)	7.0	47.0	18.0	7.0	47.0	18.0
Minimum Green (s)	7.0	25.0	10.0	7.0	25.0	10.0
Recall	None	Max	None	None	Max	None
Avg. Green (s)	7.0	61.5	11.1	7.3	55.6	11.1
g/C Ratio	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Cycles Skipped (%)	68	10	18	51	7	18
Cycles @ Minimum (%)	32	0	56	49	0	56
Cycles Maxed Out (%)	32	90	0	49	93	0
Cycles with Peds (%)	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
Number of Complete Cycles : 0

Intersection: 14: Allston Street/Brougham Drive & Kenmount Road

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Maximum Green (s)	13.0	46.0	7.0	28.0	7.0	52.0	7.0	28.0
Minimum Green (s)	7.0	25.0	7.0	10.0	7.0	25.0	7.0	10.0
Recall	None	C-Max	None	None	None	C-Max	None	None
Avg. Green (s)	10.1	67.1	12.4	20.9	9.8	66.7	7.1	14.8
g/C Ratio	-0.01	NA	-0.01	-0.01	-0.01	NA	NA	NA
Cycles Skipped (%)	21	0	30	14	17	0	0	0
Cycles @ Minimum (%)	25	0	52	7	24	0	100	13
Cycles Maxed Out (%)	0	100	70	0	7	100	100	0
Cycles with Peds (%)	0	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
Number of Complete Cycles : 0

Intersection: 28: Kenmount Road & Great Eastern Avenue

Phase	1	2	3	4	5	6	8
Movement(s) Served	WBL	EBTL	SBL	NBTL	EBL	WBTL	SBTL
Maximum Green (s)	7.0	59.0	7.0	23.0	11.0	55.0	36.0
Minimum Green (s)	7.0	25.0	7.0	10.0	7.0	25.0	10.0
Recall	None	Max	None	None	None	Max	None
Avg. Green (s)	10.2	92.8	8.3	11.2	10.4	56.7	15.5
g/C Ratio	-0.01	-0.01	-0.01	-0.01	-0.01	NA	-0.01
Cycles Skipped (%)	94	24	51	39	3	0	22
Cycles @ Minimum (%)	6	0	29	42	8	0	35
Cycles Maxed Out (%)	6	76	49	0	65	100	0
Cycles with Peds (%)	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
Number of Complete Cycles : 0

Intersection: 36: Brant Drive/H3 Access #1 & Kenmount Road

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Maximum Green (s)	7.0	59.0	7.0	23.0	7.0	59.0	7.0	23.0
Minimum Green (s)	7.0	25.0	7.0	10.0	7.0	25.0	7.0	10.0
Recall	None	C-Max	None	None	None	C-Max	None	None
Avg. Green (s)	8.0	71.6	8.8	22.2	9.3	69.6	7.3	17.5
g/C Ratio	-0.01	NA	-0.01	-0.01	-0.01	NA	NA	NA
Cycles Skipped (%)	48	0	32	3	25	0	0	0
Cycles @ Minimum (%)	33	0	61	3	32	0	100	7
Cycles Maxed Out (%)	15	100	68	21	29	100	100	21
Cycles with Peds (%)	0	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
Number of Complete Cycles : 0

Intersection: 42: Penney Access/H3 Access #2 & Kenmount Road

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Maximum Green (s)	7.0	58.0	7.0	24.0	7.0	58.0	8.0	23.0
Minimum Green (s)	7.0	25.0	7.0	10.0	7.0	25.0	7.0	10.0
Recall	None	C-Max	None	None	None	C-Max	None	None
Avg. Green (s)	7.5	70.7	11.9	20.2	8.9	63.9	8.2	18.9
g/C Ratio	-0.01	NA	-0.01	-0.01	-0.01	NA	NA	NA
Cycles Skipped (%)	56	0	3	17	14	0	0	0
Cycles @ Minimum (%)	37	0	76	0	43	0	4	3
Cycles Maxed Out (%)	15	100	97	28	46	100	93	31
Cycles with Peds (%)	0	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

Intersection: 48: Topsail Road & Farrell Drive

Phase	2	4	5	6
Movement(s) Served	EBTL	SBL	EBL	WBT
Maximum Green (s)	54.0	24.0	7.0	41.0
Minimum Green (s)	25.0	10.0	7.0	25.0
Recall	Max	None	None	Max
Avg. Green (s)	58.2	14.0	7.0	48.8
g/C Ratio	-0.01	-0.01	-0.01	NA
Cycles Skipped (%)	5	5	53	0
Cycles @ Minimum (%)	0	30	47	0
Cycles Maxed Out (%)	95	7	47	100
Cycles with Peds (%)	0	0	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

172093 Kenmount Hill CDS TIS
Kenmount Road & Brougham Drive/Allston Street

S1C 5-year with Improvements PM

01/29/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	801	29	186	1113	275	52	150	114	122	49	46
Future Volume (veh/h)	110	801	29	186	1113	275	52	150	114	122	49	46
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1870	1870	1870	1870	1870	1752	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	139	1014	37	196	1172	289	65	188	0	145	58	55
Peak Hour Factor	0.79	0.79	0.79	0.95	0.95	0.95	0.80	0.80	0.80	0.84	0.84	0.84
Percent Heavy Veh, %	3	2	2	2	2	2	10	2	2	2	2	2
Cap, veh/h	241	1868	68	368	1545	377	226	227		192	113	107
Arrive On Green	0.06	0.53	0.53	0.07	0.55	0.55	0.05	0.12	0.00	0.06	0.13	0.13
Sat Flow, veh/h	1767	3497	128	1781	2832	691	1668	1870	0	1781	883	837
Grp Volume(v), veh/h	139	515	536	196	731	730	65	188	0	145	0	113
Grp Sat Flow(s),veh/h/ln	1767	1777	1847	1781	1777	1746	1668	1870	0	1781	0	1720
Q Serve(g_s), s	4.2	22.8	22.8	5.9	38.1	39.2	4.0	11.8	0.0	7.0	0.0	7.4
Cycle Q Clear(g_c), s	4.2	22.8	22.8	5.9	38.1	39.2	4.0	11.8	0.0	7.0	0.0	7.4
Prop In Lane	1.00		0.07	1.00		0.40	1.00		0.00	1.00		0.49
Lane Grp Cap(c), veh/h	241	949	987	368	969	953	226	227		192	0	221
V/C Ratio(X)	0.58	0.54	0.54	0.53	0.75	0.77	0.29	0.83		0.76	0.00	0.51
Avail Cap(c_a), veh/h	242	949	987	438	969	953	238	436		192	0	401
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.5	18.3	18.3	14.0	21.0	21.3	42.9	51.5	0.0	46.8	0.0	48.8
Incr Delay (d2), s/veh	3.3	2.2	2.1	1.2	5.4	5.9	0.7	7.4	0.0	15.6	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	10.7	11.1	2.7	18.3	18.6	1.8	6.4	0.0	2.0	0.0	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.9	20.6	20.5	15.2	26.5	27.2	43.6	58.9	0.0	62.4	0.0	50.6
LnGrp LOS	C	C	C	B	C	C	D	E		E	A	D
Approach Vol, veh/h		1190			1657			253	A		258	
Approach Delay, s/veh		20.9			25.4			55.0			57.2	
Approach LOS		C			C			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.3	71.1	12.2	21.4	13.9	72.5	13.0	20.6				
Change Period (Y+Rc), s	7.0	7.0	6.0	6.0	7.0	7.0	6.0	6.0				
Max Green Setting (Gmax), s	13.0	46.0	7.0	28.0	7.0	52.0	7.0	28.0				
Max Q Clear Time (g_c+I1), s	7.9	0.0	6.0	9.4	6.2	0.0	9.0	13.8				
Green Ext Time (p_c), s	0.4	0.0	0.0	0.5	0.0	0.0	0.0	0.8				
Intersection Summary												
HCM 6th Ctrl Delay			28.5									
HCM 6th LOS			C									
Notes												
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.												

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	248	1277	6	11	1967	32	41	3	19	27	2	290
Future Volume (veh/h)	248	1277	6	11	1967	32	41	3	19	27	2	290
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1841	1870	1870
Adj Flow Rate, veh/h	285	1468	7	12	2162	0	79	6	37	36	3	0
Peak Hour Factor	0.87	0.87	0.87	0.91	0.91	0.91	0.52	0.52	0.52	0.75	0.75	0.75
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	4	2	2
Cap, veh/h	257	2224	11	230	1875		201	21	130	237	364	
Arrive On Green	0.11	0.61	0.61	0.02	0.53	0.00	0.09	0.09	0.09	0.04	0.19	0.00
Sat Flow, veh/h	1781	3627	17	1781	3647	0	1414	226	1394	1753	1870	0
Grp Volume(v), veh/h	285	719	756	12	2162	0	79	0	43	36	3	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1867	1781	1777	0	1414	0	1620	1753	1870	0
Q Serve(g_s), s	11.0	27.4	27.4	0.3	55.0	0.0	5.6	0.0	2.6	1.8	0.1	0.0
Cycle Q Clear(g_c), s	11.0	27.4	27.4	0.3	55.0	0.0	5.6	0.0	2.6	1.8	0.1	0.0
Prop In Lane	1.00		0.01	1.00		0.00	1.00		0.86	1.00		0.00
Lane Grp Cap(c), veh/h	257	1090	1145	230	1875		201	0	151	237	364	
V/C Ratio(X)	1.11	0.66	0.66	0.05	1.15		0.39	0.00	0.28	0.15	0.01	
Avail Cap(c_a), veh/h	257	1090	1145	314	1875		381	0	357	279	413	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	35.4	13.1	13.1	12.5	24.6	0.0	45.4	0.0	44.0	38.0	33.9	0.0
Incr Delay (d2), s/veh	88.5	3.1	3.0	0.1	75.6	0.0	1.2	0.0	1.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.0	12.6	13.2	0.1	43.7	0.0	2.2	0.0	1.2	0.9	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	123.9	16.2	16.1	12.5	100.2	0.0	46.6	0.0	45.0	38.3	33.9	0.0
LnGrp LOS	F	B	B	B	F		D	A	D	D	C	
Approach Vol, veh/h		1760			2174	A		122			39	A
Approach Delay, s/veh		33.6			99.7			46.1			38.0	
Approach LOS		C			F			D			D	
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	8.1	69.9	10.5	15.7	17.0	61.0		26.3				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	7.0	59.0	7.0	23.0	11.0	55.0		23.0				
Max Q Clear Time (g_c+I1), s	2.3	29.4	3.8	7.6	13.0	57.0		2.1				
Green Ext Time (p_c), s	0.0	15.1	0.0	0.4	0.0	0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			69.1									
HCM 6th LOS			E									
Notes												
Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

172093 Kenmount Hill CDS TIS
Kenmount Road & H3 Access #2/Penney Access

S1C 5-year with Improvements PM

01/29/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	118	797	194	47	1319	97	150	166	52	158	54	130
Future Volume (veh/h)	118	797	194	47	1319	97	150	166	52	158	54	130
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	128	866	0	51	1434	0	163	180	0	172	59	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	260	2022		420	1987		294	218		206	234	
Arrive On Green	0.06	0.57	0.00	0.05	0.56	0.00	0.06	0.12	0.00	0.07	0.12	0.00
Sat Flow, veh/h	1781	3647	0	1781	3647	0	1781	1870	0	1781	1870	0
Grp Volume(v), veh/h	128	866	0	51	1434	0	163	180	0	172	59	0
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	0	1781	1870	0	1781	1870	0
Q Serve(g_s), s	3.6	16.7	0.0	1.4	35.8	0.0	7.0	11.3	0.0	8.0	3.4	0.0
Cycle Q Clear(g_c), s	3.6	16.7	0.0	1.4	35.8	0.0	7.0	11.3	0.0	8.0	3.4	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	260	2022		420	1987		294	218		206	234	
V/C Ratio(X)	0.49	0.43		0.12	0.72		0.56	0.83		0.84	0.25	
Avail Cap(c_a), veh/h	261	2022		439	1987		294	358		206	374	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	17.6	14.7	0.0	10.6	19.5	0.0	45.8	51.8	0.0	47.4	47.4	0.0
Incr Delay (d2), s/veh	1.4	0.7	0.0	0.1	2.3	0.0	2.3	7.8	0.0	24.6	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	7.5	0.0	0.6	16.4	0.0	1.6	6.1	0.0	3.0	1.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.1	15.4	0.0	10.8	21.9	0.0	48.1	59.6	0.0	72.0	48.0	0.0
LnGrp LOS	B	B		B	C		D	E		E	D	
Approach Vol, veh/h	994		A	1485		A	343		A	231		A
Approach Delay, s/veh	15.9			21.5			54.1			65.9		
Approach LOS	B			C			D			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.7	74.3	13.0	21.0	12.9	73.1	14.0	20.0				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	7.0	58.0	7.0	24.0	7.0	58.0	8.0	23.0				
Max Q Clear Time (g_c+I1), s	3.4	0.0	9.0	5.4	5.6	0.0	10.0	13.3				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.7				
Intersection Summary												
HCM 6th Ctrl Delay			26.7									
HCM 6th LOS			C									
Notes												

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	118	913	41	70	1436	92	43	154	26	158	109	135
Future Volume (veh/h)	118	913	41	70	1436	92	43	154	26	158	109	135
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	128	992	0	76	1561	0	47	167	0	172	118	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	242	2055		391	2042		222	205		191	228	
Arrive On Green	0.06	0.58	0.00	0.05	0.57	0.00	0.05	0.11	0.00	0.06	0.12	0.00
Sat Flow, veh/h	1781	3647	0	1781	3647	0	1781	1870	0	1781	1870	0
Grp Volume(v), veh/h	128	992	0	76	1561	0	47	167	0	172	118	0
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	0	1781	1870	0	1781	1870	0
Q Serve(g_s), s	3.4	19.6	0.0	2.0	40.0	0.0	2.7	10.5	0.0	7.0	7.1	0.0
Cycle Q Clear(g_c), s	3.4	19.6	0.0	2.0	40.0	0.0	2.7	10.5	0.0	7.0	7.1	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	242	2055		391	2042		222	205		191	228	
V/C Ratio(X)	0.53	0.48		0.19	0.76		0.21	0.81		0.90	0.52	
Avail Cap(c_a), veh/h	244	2055		400	2042		244	358		191	358	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	19.6	14.8	0.0	10.4	19.4	0.0	44.1	52.2	0.0	49.7	49.4	0.0
Incr Delay (d2), s/veh	2.1	0.8	0.0	0.2	2.8	0.0	0.5	7.6	0.0	38.5	1.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	8.8	0.0	0.9	18.4	0.0	1.3	5.7	0.0	4.1	3.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.8	15.6	0.0	10.7	22.2	0.0	44.5	59.9	0.0	88.2	51.2	0.0
LnGrp LOS	C	B		B	C		D	E		F	D	
Approach Vol, veh/h		1120	A		1637	A		214	A		290	A
Approach Delay, s/veh		16.3			21.6			56.5			73.2	
Approach LOS		B			C			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.4	75.4	11.5	20.6	12.9	74.9	13.0	19.2				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	7.0	59.0	7.0	23.0	7.0	59.0	7.0	23.0				
Max Q Clear Time (g_c+I1), s	4.0	0.0	4.7	9.1	5.4	0.0	9.0	12.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.5	0.1	0.0	0.0	0.7				
Intersection Summary												
HCM 6th Ctrl Delay			26.7									
HCM 6th LOS			C									
Notes												
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	2	29	18	3	19	85	662	52	55	725	147
Future Volume (veh/h)	51	2	29	18	3	19	85	662	52	55	725	147
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1159	1159	1796	1870	1870	1870	1856	1856	1870	1870	1870
Adj Flow Rate, veh/h	76	3	43	29	5	30	89	697	55	59	780	158
Peak Hour Factor	0.67	0.67	0.67	0.63	0.63	0.63	0.95	0.95	0.95	0.93	0.93	0.93
Percent Heavy Veh, %	2	50	50	7	2	2	2	3	3	2	2	2
Cap, veh/h	230	8	113	192	28	169	302	1005	79	421	877	178
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.07	0.59	0.59	0.06	0.58	0.58
Sat Flow, veh/h	1373	65	927	1306	231	1389	1781	1697	134	1781	1510	306
Grp Volume(v), veh/h	76	0	46	29	0	35	89	0	752	59	0	938
Grp Sat Flow(s),veh/h/ln	1373	0	992	1306	0	1620	1781	0	1831	1781	0	1815
Q Serve(g_s), s	4.3	0.0	3.5	1.7	0.0	1.6	1.5	0.0	23.0	1.0	0.0	36.2
Cycle Q Clear(g_c), s	5.8	0.0	3.5	5.1	0.0	1.6	1.5	0.0	23.0	1.0	0.0	36.2
Prop In Lane	1.00		0.93	1.00		0.86	1.00		0.07	1.00		0.17
Lane Grp Cap(c), veh/h	230	0	121	192	0	197	302	0	1085	421	0	1055
V/C Ratio(X)	0.33	0.00	0.38	0.15	0.00	0.18	0.30	0.00	0.69	0.14	0.00	0.89
Avail Cap(c_a), veh/h	368	0	221	324	0	361	323	0	1085	462	0	1055
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.5	0.0	32.7	35.1	0.0	31.9	14.6	0.0	11.4	8.6	0.0	14.7
Incr Delay (d2), s/veh	0.8	0.0	2.0	0.4	0.0	0.4	0.5	0.0	3.7	0.2	0.0	11.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	1.0	0.6	0.0	0.7	1.0	0.0	11.3	0.4	0.0	19.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.3	0.0	34.7	35.4	0.0	32.3	15.1	0.0	15.1	8.7	0.0	25.9
LnGrp LOS	D	A	C	D	A	C	B	A	B	A	A	C
Approach Vol, veh/h	122			64			841			997		
Approach Delay, s/veh	35.1			33.7			15.1			24.9		
Approach LOS	D			C			B			C		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.1	53.9		15.8	12.1	53.0		15.8				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	7.0	47.0		18.0	7.0	47.0		18.0				
Max Q Clear Time (g_c+I1), s	3.0	0.0		7.8	3.5	0.0		7.1				
Green Ext Time (p_c), s	0.1	0.0		0.4	0.1	0.0		0.2				
Intersection Summary												
HCM 6th Ctrl Delay	21.7											
HCM 6th LOS	C											

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	88	1056	1331	281	161	69
Future Volume (veh/h)	88	1056	1331	281	161	69
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1796	1870	1870	1870	1949	1949
Adj Flow Rate, veh/h	101	1214	1447	305	204	87
Peak Hour Factor	0.87	0.87	0.92	0.92	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	250	2486	1589	327	269	239
Arrive On Green	0.08	0.70	0.54	0.54	0.15	0.15
Sat Flow, veh/h	1710	3647	3027	604	1856	1651
Grp Volume(v), veh/h	101	1214	863	889	204	87
Grp Sat Flow(s),veh/h/ln	1710	1777	1777	1762	1856	1651
Q Serve(g_s), s	1.7	12.0	33.4	36.0	8.2	3.7
Cycle Q Clear(g_c), s	1.7	12.0	33.4	36.0	8.2	3.7
Prop In Lane	1.00			0.34	1.00	1.00
Lane Grp Cap(c), veh/h	250	2486	962	954	269	239
V/C Ratio(X)	0.40	0.49	0.90	0.93	0.76	0.36
Avail Cap(c_a), veh/h	268	2486	962	954	577	513
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.0	5.3	15.8	16.4	31.7	29.8
Incr Delay (d2), s/veh	1.0	0.7	12.8	16.7	4.4	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	4.7	17.3	19.3	4.3	3.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	18.0	6.0	28.6	33.1	36.1	30.7
LnGrp LOS	B	A	C	C	D	C
Approach Vol, veh/h		1315	1752		291	
Approach Delay, s/veh		6.9	30.8		34.5	
Approach LOS		A	C		C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		60.0		17.2	12.2	47.8
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		54.0		24.0	7.0	41.0
Max Q Clear Time (g_c+I1), s		14.0		10.2	3.7	38.0
Green Ext Time (p_c), s		13.9		1.1	0.1	2.6
Intersection Summary						
HCM 6th Ctrl Delay			21.8			
HCM 6th LOS			C			

Intersection												
Int Delay, s/veh	64.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	1316	8	53	1079	130	3	0	55	65	0	15
Future Vol, veh/h	17	1316	8	53	1079	130	3	0	55	65	0	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	250	-	-	-	-	-	350	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	90	90	90	50	50	50	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	1586	10	59	1199	144	6	0	110	77	0	18
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1343	0	0	1596	0	0	2349	3092	798	2222	3025	672
Stage 1	-	-	-	-	-	-	1631	1631	-	1389	1389	-
Stage 2	-	-	-	-	-	-	718	1461	-	833	1636	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	509	-	-	407	-	-	19	12	329	~ 24	13	398
Stage 1	-	-	-	-	-	-	106	158	-	150	208	-
Stage 2	-	-	-	-	-	-	386	192	-	329	157	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	509	-	-	407	-	-	16	10	329	~ 14	11	398
Mov Cap-2 Maneuver	-	-	-	-	-	-	16	10	-	~ 14	11	-
Stage 1	-	-	-	-	-	-	102	152	-	144	178	-
Stage 2	-	-	-	-	-	-	315	164	-	210	151	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.6			67.5			\$ 2095.6		
HCM LOS							F			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2			
Capacity (veh/h)	164	509	-	-	407	-	-	14	398			
HCM Lane V/C Ratio	0.707	0.04	-	-	0.145	-	-	5.527	0.045			
HCM Control Delay (s)	67.5	12.4	-	-	15.3	-	-	\$ 2575.8	14.5			
HCM Lane LOS	F	B	-	-	C	-	-	F	B			
HCM 95th %tile Q(veh)	4.2	0.1	-	-	0.5	-	-	10.6	0.1			
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s			+: Computation Not Defined				*: All major volume in platoon			

Intersection												
Int Delay, s/veh	147.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	73	1196	2	31	922	145	2	1	11	105	4	53
Future Vol, veh/h	73	1196	2	31	922	145	2	1	11	105	4	53
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	-	350	-	-	-	-	-	300	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	96	96	96	65	65	65	69	69	69
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	94	1533	3	32	960	151	3	2	17	152	6	77
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1111	0	0	1536	0	0	2270	2898	768	2056	2824	556
Stage 1	-	-	-	-	-	-	1723	1723	-	1100	1100	-
Stage 2	-	-	-	-	-	-	547	1175	-	956	1724	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	624	-	-	429	-	-	22	16	344	~ 32	17	475
Stage 1	-	-	-	-	-	-	92	142	-	226	286	-
Stage 2	-	-	-	-	-	-	489	264	-	277	142	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	624	-	-	429	-	-	10	13	344	~ 23	13	475
Mov Cap-2 Maneuver	-	-	-	-	-	-	10	13	-	~ 23	13	-
Stage 1	-	-	-	-	-	-	78	121	-	192	265	-
Stage 2	-	-	-	-	-	-	371	244	-	221	121	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.7			0.4			143.7			\$ 1877.8		
HCM LOS							F			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2			
Capacity (veh/h)	45	624	-	-	429	-	-	23	136			
HCM Lane V/C Ratio	0.479	0.15	-	-	0.075	-	-	6.616	0.607			
HCM Control Delay (s)	143.7	11.8	-	-	14.1	-	-	\$ 2861.4	65.8			
HCM Lane LOS	F	B	-	-	B	-	-	F	F			
HCM 95th %tile Q(veh)	1.7	0.5	-	-	0.2	-	-	19.1	3.2			
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s				+: Computation Not Defined				*: All major volume in platoon		

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	7:15	7:15	7:15	7:15	7:15	7:15	7:15
End Time	8:45	8:45	8:45	8:45	8:45	8:45	8:45
Total Time (min)	90	90	90	90	90	90	90
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4	4
Vehs Entered	13221	13467	13247	13442	13293	13194	13403
Vehs Exited	13268	13474	13258	13440	13303	13224	13469
Starting Vehs	250	261	237	265	267	263	291
Ending Vehs	203	254	226	267	257	233	225
Travel Distance (km)	9459	9608	9463	9610	9562	9399	9536
Travel Time (hr)	297.3	278.9	308.7	330.1	298.0	306.8	286.3
Total Delay (hr)	129.0	108.2	140.6	159.7	128.4	140.1	116.9
Total Stops	6946	7170	7083	6691	6657	6835	6983
Fuel Used (l)	859.8	856.3	870.6	894.9	863.1	861.3	858.7

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	7:15	7:15	7:15	7:15
End Time	8:45	8:45	8:45	8:45
Total Time (min)	90	90	90	90
Time Recorded (min)	60	60	60	60
# of Intervals	5	5	5	5
# of Recorded Intervals	4	4	4	4
Vehs Entered	13459	13190	13315	13329
Vehs Exited	13486	13213	13335	13349
Starting Vehs	272	263	256	259
Ending Vehs	245	240	236	229
Travel Distance (km)	9653	9305	9458	9505
Travel Time (hr)	318.9	328.2	288.0	304.1
Total Delay (hr)	147.7	162.8	119.9	135.3
Total Stops	7410	6871	6964	6962
Fuel Used (l)	897.1	873.7	849.1	868.5

Interval #0 Information Seeding

Start Time	7:15
End Time	7:45
Total Time (min)	30
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	7:45
End Time	8:00
Total Time (min)	15
Volumes adjusted by PHF, Growth Factors.	

Run Number	1	10	2	3	4	5	6
Vehs Entered	3800	3946	3917	3816	3827	3783	3776
Vehs Exited	3732	3879	3807	3707	3790	3721	3731
Starting Vehs	250	261	237	265	267	263	291
Ending Vehs	318	328	347	374	304	325	336
Travel Distance (km)	2593	2721	2676	2612	2718	2651	2614
Travel Time (hr)	82.8	87.6	89.4	92.6	86.9	88.8	87.9
Total Delay (hr)	36.3	39.1	41.8	46.2	38.7	41.7	41.4
Total Stops	2145	2331	2383	1985	2088	2112	2312
Fuel Used (l)	238.2	252.1	251.8	247.5	250.3	246.5	247.0

Interval #1 Information Recording

Start Time	7:45
End Time	8:00
Total Time (min)	15
Volumes adjusted by PHF, Growth Factors.	

Run Number	7	8	9	Avg
Vehs Entered	3862	3830	3738	3828
Vehs Exited	3789	3741	3710	3759
Starting Vehs	272	263	256	259
Ending Vehs	345	352	284	323
Travel Distance (km)	2682	2599	2609	2648
Travel Time (hr)	87.1	94.8	83.9	88.2
Total Delay (hr)	39.7	48.6	37.5	41.1
Total Stops	2324	2259	2105	2204
Fuel Used (l)	251.8	249.9	239.0	247.4

Interval #2 Information Recording

Start Time	8:00
End Time	8:15
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	10	2	3	4	5	6
Vehs Entered	3210	3248	3097	3205	3161	3200	3201
Vehs Exited	3282	3329	3216	3343	3245	3243	3302
Starting Vehs	318	328	347	374	304	325	336
Ending Vehs	246	247	228	236	220	282	235
Travel Distance (km)	2387	2360	2283	2388	2284	2325	2315
Travel Time (hr)	71.7	69.5	76.7	83.8	75.9	81.3	68.8
Total Delay (hr)	29.4	27.6	36.2	41.5	35.5	40.1	27.8
Total Stops	1752	1614	1753	1600	1507	1634	1546
Fuel Used (l)	216.0	211.5	214.8	224.7	210.4	218.2	208.2

Interval #2 Information Recording

Start Time	8:00
End Time	8:15
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	7	8	9	Avg
Vehs Entered	3241	3074	3153	3176
Vehs Exited	3294	3232	3202	3269
Starting Vehs	345	352	284	323
Ending Vehs	292	194	235	230
Travel Distance (km)	2375	2253	2298	2327
Travel Time (hr)	81.6	75.4	74.0	75.9
Total Delay (hr)	39.5	35.5	33.2	34.6
Total Stops	1867	1492	1561	1639
Fuel Used (l)	225.1	207.8	208.9	214.6

Interval #3 Information Recording

Start Time	8:15
End Time	8:30
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	10	2	3	4	5	6
Vehs Entered	3111	3126	3095	3186	3098	3126	3266
Vehs Exited	3117	3148	3053	3215	3058	3165	3278
Starting Vehs	246	247	228	236	220	282	235
Ending Vehs	240	225	270	207	260	243	223
Travel Distance (km)	2183	2265	2217	2279	2213	2216	2343
Travel Time (hr)	70.8	61.9	71.1	76.0	69.5	71.9	65.3
Total Delay (hr)	32.0	21.6	31.8	35.8	30.1	32.7	23.7
Total Stops	1558	1720	1426	1584	1539	1581	1626
Fuel Used (l)	199.0	197.7	200.1	209.8	199.5	202.3	204.3

Interval #3 Information Recording

Start Time	8:15
End Time	8:30
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	7	8	9	Avg
Vehs Entered	3192	3143	3156	3151
Vehs Exited	3207	3109	3155	3151
Starting Vehs	292	194	235	230
Ending Vehs	277	228	236	240
Travel Distance (km)	2289	2271	2262	2254
Travel Time (hr)	74.8	78.3	65.1	70.5
Total Delay (hr)	34.1	38.1	24.9	30.5
Total Stops	1597	1514	1571	1571
Fuel Used (l)	207.6	208.3	197.7	202.6

Interval #4 Information Recording

Start Time	8:30
End Time	8:45
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	10	2	3	4	5	6
Vehs Entered	3100	3147	3138	3235	3207	3085	3160
Vehs Exited	3137	3118	3182	3175	3210	3095	3158
Starting Vehs	240	225	270	207	260	243	223
Ending Vehs	203	254	226	267	257	233	225
Travel Distance (km)	2295	2262	2287	2332	2346	2206	2264
Travel Time (hr)	72.1	60.0	71.4	77.6	65.7	64.7	64.2
Total Delay (hr)	31.3	19.9	30.8	36.3	24.1	25.5	24.0
Total Stops	1491	1505	1521	1522	1523	1508	1499
Fuel Used (l)	206.6	195.0	204.0	212.8	202.9	194.2	199.1

Interval #4 Information Recording

Start Time	8:30
End Time	8:45
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	7	8	9	Avg
Vehs Entered	3164	3143	3268	3172
Vehs Exited	3196	3131	3268	3165
Starting Vehs	277	228	236	240
Ending Vehs	245	240	236	229
Travel Distance (km)	2307	2182	2289	2277
Travel Time (hr)	75.4	79.6	65.1	69.6
Total Delay (hr)	34.3	40.7	24.3	29.1
Total Stops	1622	1606	1727	1551
Fuel Used (l)	212.5	207.8	203.5	203.8

2: Marlin Drive/Hemmer Jane Drive & Topsail Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	2.3	0.4	2.8
Denied Del/Veh (s)	0.2	0.0	0.0	2.6	0.2	0.3	0.2	0.1	103.3	110.3	4.5
Total Delay (hr)	0.0	0.3	0.0	0.1	0.1	0.0	0.1	0.3	7.2	0.4	8.5
Total Del/Veh (s)	7.7	1.0	0.4	6.7	0.5	0.1	120.5	18.4	303.4	108.6	13.6
Stop Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	7.2	0.4	8.1
Stop Del/Veh (s)	5.4	0.1	0.0	5.3	0.0	0.0	118.7	18.0	306.2	108.7	13.0

6: Humber Drive/Moffatt Road & Topsail Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2
Denied Del/Veh (s)	2.7	0.2	0.3	0.0	0.0	0.0	0.1	0.1	5.3	1.0	0.3
Total Delay (hr)	0.0	0.1	0.0	0.0	0.2	0.0	0.1	0.2	1.8	0.3	2.9
Total Del/Veh (s)	5.5	0.5	0.3	5.7	1.0	0.6	72.9	18.3	127.0	13.6	4.8
Stop Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	1.8	0.3	2.5
Stop Del/Veh (s)	4.2	0.0	0.0	3.9	0.0	0.0	70.7	17.9	125.7	12.6	4.1

11: Mount Carson Avenue & Lasalle Drive/Brodie Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0
Denied Del/Veh (s)	3.8	0.4	0.5	3.9	0.2	0.3	3.2	0.7	0.8	3.0	0.5	0.4
Total Delay (hr)	0.9	0.0	0.2	0.3	0.0	0.2	0.0	1.9	0.0	0.0	0.9	0.0
Total Del/Veh (s)	25.8	8.0	7.0	24.1	20.2	10.4	9.9	10.1	8.1	15.3	8.0	4.8
Stop Delay (hr)	0.8	0.0	0.2	0.3	0.0	0.2	0.0	1.0	0.0	0.0	0.5	0.0
Stop Del/Veh (s)	23.7	5.4	6.4	21.8	16.7	9.8	6.6	5.2	5.0	12.5	4.6	3.1

11: Mount Carson Avenue & Lasalle Drive/Brodie Street Performance by movement

Movement	All
Denied Delay (hr)	0.4
Denied Del/Veh (s)	1.0
Total Delay (hr)	4.7
Total Del/Veh (s)	11.0
Stop Delay (hr)	3.2
Stop Del/Veh (s)	7.5

14: Allston Street/Brougham Drive & Kenmount Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.4	9.8	4.8
Denied Del/Veh (s)	2.1	0.2	0.3	0.3	0.0	0.1	3.8	0.2	0.3	170.6	173.1	178.7
Total Delay (hr)	0.2	7.3	0.3	1.0	1.3	0.2	0.2	0.7	0.1	12.0	6.0	2.5
Total Del/Veh (s)	20.3	24.7	19.7	27.3	9.2	6.4	44.8	65.3	4.4	119.9	107.2	94.9
Stop Delay (hr)	0.2	4.9	0.2	0.9	0.8	0.1	0.2	0.6	0.0	10.7	5.2	2.2
Stop Del/Veh (s)	13.6	16.5	14.4	23.3	5.7	4.5	41.1	60.2	1.3	107.4	93.9	84.2

14: Allston Street/Brougham Drive & Kenmount Road Performance by movement

Movement	All
Denied Delay (hr)	32.1
Denied Del/Veh (s)	42.7
Total Delay (hr)	31.7
Total Del/Veh (s)	42.0
Stop Delay (hr)	26.0
Stop Del/Veh (s)	34.5

28: Kenmount Road & Great Eastern Avenue Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.1	1.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Denied Del/Veh (s)	3.6	2.1	2.0	2.7	0.2	0.3	0.1	0.1	0.1	3.6	0.3	0.4
Total Delay (hr)	0.9	8.2	0.0	0.2	2.5	0.0	0.1	0.0	0.1	0.6	0.0	0.2
Total Del/Veh (s)	23.5	14.2	11.4	27.0	9.1	4.2	51.4	31.5	24.4	38.5	32.3	3.0
Stop Delay (hr)	0.6	3.2	0.0	0.1	1.3	0.0	0.1	0.0	0.1	0.6	0.0	0.0
Stop Del/Veh (s)	14.5	5.5	5.3	23.1	4.7	0.3	50.1	29.1	24.3	35.4	27.9	0.1

28: Kenmount Road & Great Eastern Avenue Performance by movement

Movement	All
Denied Delay (hr)	1.5
Denied Del/Veh (s)	1.5
Total Delay (hr)	12.9
Total Del/Veh (s)	12.9
Stop Delay (hr)	6.0
Stop Del/Veh (s)	6.0

36: Brant Drive/H3 Access #1 & Kenmount Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	3.8	0.3	0.4	3.9	0.3	0.2
Total Delay (hr)	0.3	3.8	0.1	0.1	1.8	0.1	0.4	1.2	0.2	0.3	0.3	0.0
Total Del/Veh (s)	13.4	9.7	7.8	21.6	9.7	5.6	48.5	55.9	10.1	50.7	52.1	3.2
Stop Delay (hr)	0.2	1.3	0.0	0.0	0.9	0.0	0.4	1.1	0.1	0.3	0.3	0.0
Stop Del/Veh (s)	7.3	3.4	1.4	16.9	5.1	0.9	45.2	50.8	7.4	48.1	48.4	1.0

36: Brant Drive/H3 Access #1 & Kenmount Road Performance by movement

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.1
Total Delay (hr)	8.7
Total Del/Veh (s)	12.4
Stop Delay (hr)	4.8
Stop Del/Veh (s)	6.9

42: Penney Access/H3 Access #2 & Kenmount Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	3.0	0.2	0.2	4.1	0.7	0.9	4.1	0.2	0.2
Total Delay (hr)	0.1	3.8	0.2	0.1	1.3	0.1	0.6	1.6	0.2	0.3	0.5	0.0
Total Del/Veh (s)	12.1	10.6	9.5	18.9	7.3	3.3	44.8	53.0	19.0	48.2	53.5	5.1
Stop Delay (hr)	0.1	1.4	0.0	0.1	0.8	0.0	0.6	1.5	0.2	0.3	0.5	0.0
Stop Del/Veh (s)	6.6	3.9	2.0	16.2	4.2	0.1	41.7	48.7	16.9	45.4	49.5	3.0

42: Penney Access/H3 Access #2 & Kenmount Road Performance by movement

Movement	All
Denied Delay (hr)	0.2
Denied Del/Veh (s)	0.2
Total Delay (hr)	8.9
Total Del/Veh (s)	13.1
Stop Delay (hr)	5.3
Stop Del/Veh (s)	7.8

48: Topsail Road & Farrell Drive Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.1	0.0	0.0	0.3	0.0	0.5
Denied Del/Veh (s)	2.4	0.2	0.2	0.3	3.6	0.8	0.6
Total Delay (hr)	0.2	3.5	2.7	0.3	1.8	0.2	8.7
Total Del/Veh (s)	15.2	10.1	11.4	7.0	23.5	7.2	11.7
Stop Delay (hr)	0.1	1.6	1.5	0.2	1.5	0.1	5.0
Stop Del/Veh (s)	10.4	4.6	6.1	4.1	19.6	5.6	6.8

Total Network Performance

Denied Delay (hr)	37.8
Denied Del/Veh (s)	10.2
Total Delay (hr)	97.6
Total Del/Veh (s)	25.9
Stop Delay (hr)	62.1
Stop Del/Veh (s)	16.5

Intersection: 2: Marlin Drive/Hemmer Jane Drive & Topsail Road

Movement	EB	EB	WB	NB	SB	SB
Directions Served	L	TR	L	LTR	L	TR
Maximum Queue (m)	8.9	0.8	11.9	35.8	42.4	86.4
Average Queue (m)	1.3	0.0	3.0	11.5	34.2	48.6
95th Queue (m)	6.3	0.6	8.5	26.1	53.5	115.0
Link Distance (m)	278.5		63.7		83.3	
Upstream Blk Time (%)				0	38	
Queuing Penalty (veh)				0	0	
Storage Bay Dist (m)	15.0	25.0		35.0		
Storage Blk Time (%)	0				63	1
Queuing Penalty (veh)	0				9	0

Intersection: 6: Humber Drive/Moffatt Road & Topsail Road

Movement	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	L	T	TR	LTR	L	TR
Maximum Queue (m)	8.1	6.9	1.2	0.9	30.7	32.7	62.3
Average Queue (m)	2.5	1.0	0.0	0.0	8.9	15.7	17.5
95th Queue (m)	7.4	4.8	1.3	0.8	22.6	34.0	57.3
Link Distance (m)			278.5	278.5	185.8	108.6	
Upstream Blk Time (%)							1
Queuing Penalty (veh)							0
Storage Bay Dist (m)	30.0	35.0					30.0
Storage Blk Time (%)					14		0
Queuing Penalty (veh)					12		0

Intersection: 11: Mount Carson Avenue & Lasalle Drive/Brodie Street

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (m)	31.6	41.1	25.4	26.4	12.6	93.0	10.9	67.7
Average Queue (m)	18.4	14.0	9.7	10.9	2.0	44.7	1.1	28.3
95th Queue (m)	30.2	29.2	20.5	21.9	8.4	79.5	6.1	53.4
Link Distance (m)	43.4		56.6		149.3		91.4	
Upstream Blk Time (%)	0				0		0	
Queuing Penalty (veh)	0				0		0	
Storage Bay Dist (m)	25.0	25.0		85.0		50.0		
Storage Blk Time (%)	4	1	0	0	1		1	
Queuing Penalty (veh)	5	1	0	0	0		0	

Intersection: 14: Allston Street/Brougham Drive & Kenmount Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (m)	57.0	130.2	129.2	41.8	63.6	54.0	22.3	46.5	57.4	169.9
Average Queue (m)	11.5	71.5	67.7	21.2	21.2	23.2	5.0	12.8	57.0	156.4
95th Queue (m)	37.1	118.9	116.0	39.4	48.8	47.0	15.1	32.8	59.4	189.4
Link Distance (m)		452.6	452.6		155.1	155.1		136.1		156.0
Upstream Blk Time (%)										60
Queuing Penalty (veh)										0
Storage Bay Dist (m)	50.0			35.0			25.0		50.0	
Storage Blk Time (%)	0	18		4	2		0	1	57	21
Queuing Penalty (veh)	0	8		10	3		0	0	165	75

Intersection: 28: Kenmount Road & Great Eastern Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (m)	52.3	175.4	159.6	35.4	83.5	73.5	12.0	17.5	39.9	26.3
Average Queue (m)	22.8	74.6	64.4	6.4	38.4	25.1	2.6	4.1	14.1	1.7
95th Queue (m)	49.5	160.7	145.6	19.6	71.7	55.7	9.3	12.9	29.8	12.9
Link Distance (m)		179.6	179.6		241.2	241.2	34.3	34.3		141.5
Upstream Blk Time (%)		3	2							
Queuing Penalty (veh)		0	0							
Storage Bay Dist (m)	45.0			40.0					45.0	
Storage Blk Time (%)	0	11			6				0	0
Queuing Penalty (veh)	2	15			2				0	0

Intersection: 36: Brant Drive/H3 Access #1 & Kenmount Road

Movement	EB	EB	EB	B17	B17	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	T	T	L	T	TR	L	TR	L	TR
Maximum Queue (m)	46.0	81.6	87.3	62.0	64.4	13.9	50.0	54.5	37.6	62.0	18.4	25.5
Average Queue (m)	12.0	33.9	37.4	1.7	2.3	2.6	21.9	21.4	9.1	24.6	6.1	6.3
95th Queue (m)	29.0	64.2	69.6	28.0	33.8	9.7	40.8	44.8	24.5	51.4	15.5	18.8
Link Distance (m)		705.8	705.8	155.1	155.1		417.7	417.7		82.9		156.1
Upstream Blk Time (%)				0	0					0		
Queuing Penalty (veh)				0	1					0		
Storage Bay Dist (m)	45.0					45.0			40.0		50.0	
Storage Blk Time (%)		3					0			5		0
Queuing Penalty (veh)		3					0			2		0

Intersection: 42: Penney Access/H3 Access #2 & Kenmount Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (m)	19.3	101.6	178.6	18.7	56.9	47.6	44.5	57.3	19.6	30.0
Average Queue (m)	4.8	25.3	31.8	3.9	25.9	14.8	14.8	30.6	6.3	9.7
95th Queue (m)	14.2	73.0	105.5	12.2	47.5	35.2	34.2	54.3	15.7	23.5
Link Distance (m)		417.7	417.7		241.0	241.0		55.8		88.8
Upstream Blk Time (%)			0					2		
Queuing Penalty (veh)			0					0		
Storage Bay Dist (m)	45.0			45.0			40.0		40.0	
Storage Blk Time (%)		1			1		0	6		0
Queuing Penalty (veh)		0			0		0	3		0

Intersection: 48: Topsail Road & Farrell Drive

Movement	EB	EB	EB	WB	WB	SB	SB
Directions Served	L	T	T	T	TR	L	R
Maximum Queue (m)	33.1	75.7	69.0	69.0	66.3	55.7	53.2
Average Queue (m)	8.4	41.6	34.7	37.0	32.0	34.8	12.2
95th Queue (m)	23.3	65.2	60.4	59.5	58.2	54.9	35.5
Link Distance (m)		331.8	331.8	354.8	354.8		142.8
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (m)	45.0					50.0	
Storage Blk Time (%)	0	4				2	
Queuing Penalty (veh)	0	2				2	

Network Summary

Network wide Queuing Penalty: 322

Intersection: 11: Mount Carson Avenue & Lasalle Drive/Brodie Street

Phase	1	2	4	5	6	8
Movement(s) Served	SBL	NBTL	EBTL	NBL	SBTL	WBTL
Maximum Green (s)	7.0	37.0	18.0	7.0	37.0	18.0
Minimum Green (s)	7.0	25.0	10.0	7.0	25.0	10.0
Recall	None	Max	None	None	Max	None
Avg. Green (s)	8.4	39.1	13.1	8.9	37.8	13.1
g/C Ratio	-0.01	NA	NA	-0.01	NA	NA
Cycles Skipped (%)	98	0	0	94	0	0
Cycles @ Minimum (%)	2	0	31	6	0	31
Cycles Maxed Out (%)	2	100	13	6	100	13
Cycles with Peds (%)	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
Number of Complete Cycles : 0

Intersection: 14: Allston Street/Brougham Drive & Kenmount Road

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Maximum Green (s)	9.0	43.0	7.0	35.0	7.0	45.0	14.0	28.0
Minimum Green (s)	7.0	25.0	7.0	10.0	7.0	25.0	7.0	10.0
Recall	None	C-Max	None	None	None	C-Max	None	None
Avg. Green (s)	10.0	62.8	8.2	29.2	7.8	68.3	19.0	16.4
g/C Ratio	-0.01	NA	-0.01	NA	-0.01	NA	NA	-0.01
Cycles Skipped (%)	29	0	63	0	58	0	0	30
Cycles @ Minimum (%)	21	0	37	0	31	0	0	19
Cycles Maxed Out (%)	7	100	37	11	4	100	96	7
Cycles with Peds (%)	0	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
Number of Complete Cycles : 0

Intersection: 28: Kenmount Road & Great Eastern Avenue

Phase	1	2	3	4	5	6	8
Movement(s) Served	WBL	EBTL	SBL	NBTL	EBL	WBTL	SBTL
Maximum Green (s)	7.0	59.0	7.0	23.0	12.0	54.0	36.0
Minimum Green (s)	7.0	25.0	7.0	10.0	7.0	25.0	10.0
Recall	None	Max	None	None	None	Max	None
Avg. Green (s)	7.4	75.1	9.3	10.3	8.5	63.2	13.1
g/C Ratio	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Cycles Skipped (%)	83	14	29	69	37	3	18
Cycles @ Minimum (%)	17	0	18	28	34	0	61
Cycles Maxed Out (%)	17	86	71	0	5	97	0
Cycles with Peds (%)	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

Intersection: 36: Brant Drive/H3 Access #1 & Kenmount Road

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Maximum Green (s)	7.0	59.0	7.0	23.0	7.0	59.0	7.0	23.0
Minimum Green (s)	7.0	25.0	7.0	10.0	7.0	25.0	7.0	10.0
Recall	None	C-Max	None	None	None	C-Max	None	None
Avg. Green (s)	12.7	91.5	12.4	15.9	7.9	85.6	8.5	13.7
g/C Ratio	-0.01	NA	-0.01	-0.01	-0.01	NA	-0.01	-0.01
Cycles Skipped (%)	96	0	41	30	48	0	50	4
Cycles @ Minimum (%)	4	0	30	33	37	0	46	46
Cycles Maxed Out (%)	0	100	59	0	0	100	50	0
Cycles with Peds (%)	0	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

Intersection: 42: Penney Access/H3 Access #2 & Kenmount Road

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Maximum Green (s)	7.0	59.0	7.0	23.0	7.0	59.0	7.0	23.0
Minimum Green (s)	7.0	25.0	7.0	10.0	7.0	25.0	7.0	10.0
Recall	None	C-Max	None	None	None	C-Max	None	None
Avg. Green (s)	8.1	87.4	10.8	14.0	8.6	87.7	8.4	16.0
g/C Ratio	-0.01	NA	-0.01	-0.01	-0.01	NA	-0.01	NA
Cycles Skipped (%)	81	0	25	21	84	0	54	0
Cycles @ Minimum (%)	19	0	54	34	16	0	46	21
Cycles Maxed Out (%)	0	100	75	0	0	100	46	0
Cycles with Peds (%)	0	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

Intersection: 48: Topsail Road & Farrell Drive

Phase	2	4	5	6
Movement(s) Served	EBTL	SBL	EBL	WBT
Maximum Green (s)	39.0	24.0	7.0	26.0
Minimum Green (s)	25.0	10.0	7.0	25.0
Recall	Max	None	None	Max
Avg. Green (s)	40.2	16.0	7.4	36.4
g/C Ratio	NA	NA	-0.01	NA
Cycles Skipped (%)	0	0	76	0
Cycles @ Minimum (%)	0	17	24	0
Cycles Maxed Out (%)	100	13	24	100
Cycles with Peds (%)	0	2	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

172093 Kenmount Hill CDS TIS
Kenmount Road & Brougham Drive/Allston Street

S2A 10-year with Background AM

01/26/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	1051	40	134	478	88	18	37	111	353	201	91
Future Volume (veh/h)	46	1051	40	134	478	88	18	37	111	353	201	91
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1826	1856	1856	1841	1826	1826	1811	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	53	1208	46	174	621	114	23	48	0	380	216	98
Peak Hour Factor	0.87	0.87	0.87	0.77	0.77	0.77	0.77	0.77	0.77	0.93	0.93	0.93
Percent Heavy Veh, %	5	3	3	4	5	5	6	2	2	2	2	2
Cap, veh/h	404	1676	64	267	1471	270	144	217		394	245	111
Arrive On Green	0.05	0.48	0.48	0.07	0.50	0.50	0.03	0.12	0.00	0.12	0.20	0.20
Sat Flow, veh/h	1739	3463	132	1753	2928	536	1725	1870	0	1781	1218	553
Grp Volume(v), veh/h	53	615	639	174	367	368	23	48	0	380	0	314
Grp Sat Flow(s),veh/h/ln	1739	1763	1832	1753	1735	1729	1725	1870	0	1781	0	1771
Q Serve(g_s), s	1.8	33.1	33.2	5.9	16.0	16.1	1.4	2.8	0.0	14.0	0.0	20.7
Cycle Q Clear(g_c), s	1.8	33.1	33.2	5.9	16.0	16.1	1.4	2.8	0.0	14.0	0.0	20.7
Prop In Lane	1.00		0.07	1.00		0.31	1.00		0.00	1.00		0.31
Lane Grp Cap(c), veh/h	404	853	887	267	871	869	144	217		394	0	357
V/C Ratio(X)	0.13	0.72	0.72	0.65	0.42	0.42	0.16	0.22		0.97	0.00	0.88
Avail Cap(c_a), veh/h	421	853	887	282	871	869	191	436		394	0	517
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.4	24.5	24.5	21.1	18.8	18.9	44.7	48.1	0.0	45.6	0.0	46.5
Incr Delay (d2), s/veh	0.1	5.2	5.0	4.9	1.5	1.5	0.5	0.5	0.0	36.3	0.0	11.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	16.0	16.6	2.9	7.4	7.4	0.7	1.4	0.0	9.3	0.0	10.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.5	29.7	29.6	26.0	20.3	20.4	45.2	48.6	0.0	82.0	0.0	58.3
LnGrp LOS	B	C	C	C	C	C	D	D		F	A	E
Approach Vol, veh/h	1307					909		71		A		694
Approach Delay, s/veh	29.0					21.4		47.5				71.3
Approach LOS	C					C		D				E
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.0	65.1	9.7	30.2	12.8	67.3	20.0	19.9				
Change Period (Y+Rc), s	7.0	7.0	6.0	6.0	7.0	7.0	6.0	6.0				
Max Green Setting (Gmax), s	9.0	43.0	7.0	35.0	7.0	45.0	14.0	28.0				
Max Q Clear Time (g_c+I1), s	7.9	0.0	3.4	22.7	3.8	0.0	16.0	4.8				
Green Ext Time (p_c), s	0.1	0.0	0.0	1.5	0.0	0.0	0.0	0.2				
Intersection Summary												
HCM 6th Ctrl Delay			37.0									
HCM 6th LOS			D									
Notes												

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	141	2048	8	24	988	28	9	1	13	56	3	230
Future Volume (veh/h)	141	2048	8	24	988	28	9	1	13	56	3	230
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1870	1870	1826	1841	1841	1870	1870	1870	1781	1870	1870
Adj Flow Rate, veh/h	157	2276	9	27	1098	0	14	2	20	77	4	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.66	0.66	0.66	0.73	0.73	0.73
Percent Heavy Veh, %	3	2	2	5	4	4	2	2	2	8	2	2
Cap, veh/h	378	2152	9	137	1960		167	10	98	249	354	
Arrive On Green	0.07	0.59	0.59	0.04	0.56	0.00	0.07	0.07	0.07	0.06	0.19	0.00
Sat Flow, veh/h	1767	3630	14	1739	3589	0	1412	146	1461	1697	1870	0
Grp Volume(v), veh/h	157	1113	1172	27	1098	0	14	0	22	77	4	0
Grp Sat Flow(s),veh/h/ln	1767	1777	1868	1739	1749	0	1412	0	1607	1697	1870	0
Q Serve(g_s), s	3.6	59.0	59.0	0.6	20.0	0.0	0.9	0.0	1.3	4.0	0.2	0.0
Cycle Q Clear(g_c), s	3.6	59.0	59.0	0.6	20.0	0.0	0.9	0.0	1.3	4.0	0.2	0.0
Prop In Lane	1.00		0.01	1.00		0.00	1.00		0.91	1.00		0.00
Lane Grp Cap(c), veh/h	378	1053	1107	137	1960		167	0	108	249	354	
V/C Ratio(X)	0.42	1.06	1.06	0.20	0.56		0.08	0.00	0.20	0.31	0.01	
Avail Cap(c_a), veh/h	451	1053	1107	195	1960		399	0	371	263	676	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	10.4	20.3	20.3	23.8	14.0	0.0	43.7	0.0	43.9	37.8	32.8	0.0
Incr Delay (d2), s/veh	0.7	44.1	43.9	0.7	1.2	0.0	0.2	0.0	0.9	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	38.0	39.9	0.4	8.8	0.0	0.4	0.0	0.6	1.8	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.1	64.4	64.2	24.5	15.2	0.0	43.9	0.0	44.8	38.5	32.8	0.0
LnGrp LOS	B	F	F	C	B		D	A	D	D	C	
Approach Vol, veh/h		2442			1125	A		36			81	A
Approach Delay, s/veh		60.9			15.4			44.5			38.2	
Approach LOS		E			B			D			D	
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	9.7	65.0	12.2	12.7	12.9	61.8		24.9				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	7.0	59.0	7.0	23.0	11.0	55.0		36.0				
Max Q Clear Time (g_c+I1), s	2.6	0.0	6.0	3.3	5.6	0.0		2.2				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.1	0.3	0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			46.3									
HCM 6th LOS			D									
Notes												
Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

172093 Kenmount Hill CDS TIS
Kenmount Road & H3 Access #2/Penney Access

S2A 10-year with Background AM

01/26/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	1290	84	23	660	70	51	104	34	21	33	25
Future Volume (veh/h)	38	1290	84	23	660	70	51	104	34	21	33	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	41	1402	0	25	717	0	55	113	0	23	36	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	526	2256		271	2219		237	189		171	155	
Arrive On Green	0.04	0.63	0.00	0.03	0.62	0.00	0.05	0.10	0.00	0.03	0.08	0.00
Sat Flow, veh/h	1781	3647	0	1781	3647	0	1781	1870	0	1781	1870	0
Grp Volume(v), veh/h	41	1402	0	25	717	0	55	113	0	23	36	0
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	0	1781	1870	0	1781	1870	0
Q Serve(g_s), s	0.9	28.5	0.0	0.6	11.4	0.0	3.3	6.9	0.0	1.4	2.2	0.0
Cycle Q Clear(g_c), s	0.9	28.5	0.0	0.6	11.4	0.0	3.3	6.9	0.0	1.4	2.2	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	526	2256		271	2219		237	189		171	155	
V/C Ratio(X)	0.08	0.62		0.09	0.32		0.23	0.60		0.13	0.23	
Avail Cap(c_a), veh/h	553	2256		317	2219		253	358		219	358	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	7.3	13.2	0.0	10.5	10.6	0.0	46.7	51.6	0.0	47.8	51.4	0.0
Incr Delay (d2), s/veh	0.1	1.3	0.0	0.1	0.4	0.0	0.5	3.0	0.0	0.4	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	12.7	0.0	0.3	5.0	0.0	1.6	3.6	0.0	0.7	1.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.4	14.5	0.0	10.6	11.0	0.0	47.2	54.7	0.0	48.1	52.2	0.0
LnGrp LOS	A	B		B	B		D	D		D	D	
Approach Vol, veh/h	1443		A	742		A	168		A	59		A
Approach Delay, s/veh	14.3			11.0			52.2			50.6		
Approach LOS	B			B			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.0	82.2	11.9	16.0	11.2	80.9	9.7	18.1				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	7.0	59.0	7.0	23.0	7.0	59.0	7.0	23.0				
Max Q Clear Time (g_c+I1), s	2.6	0.0	5.3	4.2	2.9	0.0	3.4	8.9				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.4				
Intersection Summary												
HCM 6th Ctrl Delay			16.8									
HCM 6th LOS			B									
Notes												

172093 Kenmount Hill CDS TIS
Kenmount Road & H3 Access #1/Brant Drive

S2A 10-year with Background AM

01/26/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	1335	22	11	646	66	34	78	65	20	21	25
Future Volume (veh/h)	82	1335	22	11	646	66	34	78	65	20	21	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	89	1451	0	12	702	0	37	85	0	22	23	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	552	2335		249	2207		232	174		180	154	
Arrive On Green	0.06	0.66	0.00	0.02	0.62	0.00	0.04	0.09	0.00	0.03	0.08	0.00
Sat Flow, veh/h	1781	3647	0	1781	3647	0	1781	1870	0	1781	1870	0
Grp Volume(v), veh/h	89	1451	0	12	702	0	37	85	0	22	23	0
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	0	1781	1870	0	1781	1870	0
Q Serve(g_s), s	2.0	28.4	0.0	0.3	11.2	0.0	2.2	5.2	0.0	1.3	1.4	0.0
Cycle Q Clear(g_c), s	2.0	28.4	0.0	0.3	11.2	0.0	2.2	5.2	0.0	1.3	1.4	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	552	2335		249	2207		232	174		180	154	
V/C Ratio(X)	0.16	0.62		0.05	0.32		0.16	0.49		0.12	0.15	
Avail Cap(c_a), veh/h	557	2335		318	2207		262	358		230	358	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	7.1	11.9	0.0	10.3	10.7	0.0	47.1	51.7	0.0	47.9	51.2	0.0
Incr Delay (d2), s/veh	0.1	1.3	0.0	0.1	0.4	0.0	0.3	2.1	0.0	0.3	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	12.5	0.0	0.1	5.0	0.0	1.1	2.7	0.0	0.6	0.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.3	13.2	0.0	10.4	11.1	0.0	47.4	53.8	0.0	48.2	51.6	0.0
LnGrp LOS	A	B		B	B		D	D		D	D	
Approach Vol, veh/h		1540	A		714	A		122	A		45	A
Approach Delay, s/veh		12.8			11.1			51.8			49.9	
Approach LOS		B			B			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.3	84.9	11.0	15.9	12.6	80.5	9.6	17.2				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	7.0	59.0	7.0	23.0	7.0	59.0	7.0	23.0				
Max Q Clear Time (g_c+I1), s	2.3	0.0	4.2	3.4	4.0	0.0	3.3	7.2				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.3				
Intersection Summary												
HCM 6th Ctrl Delay			15.0									
HCM 6th LOS			B									
Notes												
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

172093 Kenmount Hill CDS TIS
Mount Carson Avenue & Lasalle Drive/Brodie Street

S2A 10-year with Background AM

01/23/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	125	1	111	54	3	77	13	698	15	4	410	28
Future Volume (veh/h)	125	1	111	54	3	77	13	698	15	4	410	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1411	1411	1781	1870	1870	1530	1870	1870
Adj Flow Rate, veh/h	144	1	128	62	3	89	14	767	16	5	562	38
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.91	0.91	0.91	0.73	0.73	0.73
Percent Heavy Veh, %	2	2	2	2	33	33	8	2	2	25	2	2
Cap, veh/h	286	3	327	274	8	241	363	970	20	223	896	61
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.02	0.53	0.53	0.01	0.52	0.52
Sat Flow, veh/h	1304	12	1575	1261	39	1163	1697	1825	38	1457	1732	117
Grp Volume(v), veh/h	144	0	129	62	0	92	14	0	783	5	0	600
Grp Sat Flow(s),veh/h/ln	1304	0	1587	1261	0	1202	1697	0	1864	1457	0	1849
Q Serve(g_s), s	7.6	0.0	5.0	3.2	0.0	4.7	0.3	0.0	24.3	0.1	0.0	16.6
Cycle Q Clear(g_c), s	12.3	0.0	5.0	8.2	0.0	4.7	0.3	0.0	24.3	0.1	0.0	16.6
Prop In Lane	1.00		0.99	1.00		0.97	1.00		0.02	1.00		0.06
Lane Grp Cap(c), veh/h	286	0	329	274	0	249	363	0	991	223	0	956
V/C Ratio(X)	0.50	0.00	0.39	0.23	0.00	0.37	0.04	0.00	0.79	0.02	0.00	0.63
Avail Cap(c_a), veh/h	343	0	399	329	0	302	489	0	991	352	0	956
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.6	0.0	24.5	28.0	0.0	24.3	9.6	0.0	13.5	11.9	0.0	12.4
Incr Delay (d2), s/veh	1.4	0.0	0.8	0.4	0.0	0.9	0.0	0.0	6.4	0.0	0.0	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	2.1	1.1	0.0	1.5	0.1	0.0	12.8	0.0	0.0	8.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.0	0.0	25.2	28.4	0.0	25.2	9.6	0.0	20.0	11.9	0.0	15.5
LnGrp LOS	C	A	C	C	A	C	A	A	B	B	A	B
Approach Vol, veh/h	273			154			797			605		
Approach Delay, s/veh	28.3			26.5			19.8			15.4		
Approach LOS	C			C			B			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.7	44.0		20.9	7.7	43.0		20.9				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	7.0	37.0		18.0	7.0	37.0		18.0				
Max Q Clear Time (g_c+I1), s	2.1	0.0		14.3	2.3	0.0		10.2				
Green Ext Time (p_c), s	0.0	0.0		0.5	0.0	0.0		0.4				
Intersection Summary												
HCM 6th Ctrl Delay	20.2											
HCM 6th LOS	C											

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	41	1241	858	143	272	82
Future Volume (veh/h)	41	1241	858	143	272	82
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1710	1856	1841	1841	1934	1949
Adj Flow Rate, veh/h	46	1379	975	162	306	92
Peak Hour Factor	0.90	0.90	0.88	0.88	0.89	0.89
Percent Heavy Veh, %	8	3	4	4	3	2
Cap, veh/h	336	2113	1199	199	398	357
Arrive On Green	0.11	0.60	0.40	0.40	0.22	0.22
Sat Flow, veh/h	1629	3618	3093	498	1842	1651
Grp Volume(v), veh/h	46	1379	568	569	306	92
Grp Sat Flow(s),veh/h/ln	1629	1763	1749	1751	1842	1651
Q Serve(g_s), s	0.9	16.7	18.8	18.8	10.2	3.0
Cycle Q Clear(g_c), s	0.9	16.7	18.8	18.8	10.2	3.0
Prop In Lane	1.00			0.28	1.00	1.00
Lane Grp Cap(c), veh/h	336	2113	699	700	398	357
V/C Ratio(X)	0.14	0.65	0.81	0.81	0.77	0.26
Avail Cap(c_a), veh/h	336	2113	699	700	679	609
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.9	8.6	17.4	17.4	24.0	21.2
Incr Delay (d2), s/veh	0.8	1.6	7.3	7.3	3.1	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	6.9	9.2	9.3	5.1	3.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.7	10.2	24.6	24.7	27.1	21.5
LnGrp LOS	B	B	C	C	C	C
Approach Vol, veh/h		1425	1137		398	
Approach Delay, s/veh		10.2	24.7		25.8	
Approach LOS		B	C		C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		45.0		20.1	13.0	32.0
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		39.0		24.0	7.0	26.0
Max Q Clear Time (g_c+I1), s		0.0		12.2	2.9	0.0
Green Ext Time (p_c), s		0.0		1.9	0.0	0.0
Intersection Summary						
HCM 6th Ctrl Delay			17.9			
HCM 6th LOS			B			

Intersection												
Int Delay, s/veh	42.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱↰		↰	↱↰			↱↰		↰	↱	
Traffic Vol, veh/h	8	1043	8	30	966	22	3	0	64	82	0	14
Future Vol, veh/h	8	1043	8	30	966	22	3	0	64	82	0	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	250	-	-	-	-	-	350	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	86	86	86	85	85	85	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	1320	10	35	1123	26	4	0	75	99	0	17

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1149	0	0	1330	0	0	1977	2564	665	1886	2556	575
Stage 1	-	-	-	-	-	-	1345	1345	-	1206	1206	-
Stage 2	-	-	-	-	-	-	632	1219	-	680	1350	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	604	-	-	515	-	-	37	26	403	~ 43	26	461
Stage 1	-	-	-	-	-	-	160	218	-	195	255	-
Stage 2	-	-	-	-	-	-	435	251	-	407	217	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	604	-	-	515	-	-	33	24	403	~ 33	24	461
Mov Cap-2 Maneuver	-	-	-	-	-	-	33	24	-	~ 33	24	-
Stage 1	-	-	-	-	-	-	157	214	-	192	238	-
Stage 2	-	-	-	-	-	-	391	234	-	325	213	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.4			23.9			\$ 986.6		
HCM LOS							C			F		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	268	604	-	-	515	-	-	33	461
HCM Lane V/C Ratio	0.294	0.017	-	-	0.068	-	-	2.994	0.037
HCM Control Delay (s)	23.9	11.1	-	-	12.5	-	-	\$ 1152.8	13.1
HCM Lane LOS	C	B	-	-	B	-	-	F	B
HCM 95th %tile Q(veh)	1.2	0.1	-	-	0.2	-	-	11.5	0.1

Notes												
~: Volume exceeds capacity	\$: Delay exceeds 300s			+: Computation Not Defined			*: All major volume in platoon					

Intersection												
Int Delay, s/veh	12.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱↰		↰	↱↰			↱↰		↰	↱	
Traffic Vol, veh/h	25	973	6	9	858	88	6	0	34	52	0	85
Future Vol, veh/h	25	973	6	9	858	88	6	0	34	52	0	85
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	-	350	-	-	-	-	-	300	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	82	82	82	65	65	65	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	29	1145	7	11	1046	107	9	0	52	66	0	108

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1153	0	0	1152	0	0	1752	2382	576	1753	2332	577
Stage 1	-	-	-	-	-	-	1207	1207	-	1122	1122	-
Stage 2	-	-	-	-	-	-	545	1175	-	631	1210	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	602	-	-	602	-	-	54	34	460	~ 54	36	460
Stage 1	-	-	-	-	-	-	194	254	-	219	279	-
Stage 2	-	-	-	-	-	-	490	264	-	436	254	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	602	-	-	602	-	-	39	32	460	~ 45	34	460
Mov Cap-2 Maneuver	-	-	-	-	-	-	39	32	-	~ 45	34	-
Stage 1	-	-	-	-	-	-	185	242	-	208	274	-
Stage 2	-	-	-	-	-	-	369	259	-	368	242	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0.1			36.1			176.9		
HCM LOS							E			F		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	176	602	-	-	602	-	-	45	460
HCM Lane V/C Ratio	0.35	0.049	-	-	0.018	-	-	1.463	0.234
HCM Control Delay (s)	36.1	11.3	-	-	11.1	-	-	\$ 441.1	15.2
HCM Lane LOS	E	B	-	-	B	-	-	F	C
HCM 95th %tile Q(veh)	1.5	0.2	-	-	0.1	-	-	6.4	0.9

Notes												
~: Volume exceeds capacity	\$: Delay exceeds 300s			+: Computation Not Defined			*: All major volume in platoon					

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	3:45	3:45	3:45	3:45	3:45	3:45	3:45
End Time	5:15	5:15	5:15	5:15	5:15	5:15	5:15
Total Time (min)	90	90	90	90	90	90	90
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4	4
Vehs Entered	16493	16545	16534	16274	16613	16370	16522
Vehs Exited	16539	16528	16523	16313	16618	16387	16548
Starting Vehs	472	445	427	459	451	471	473
Ending Vehs	426	462	438	420	446	454	447
Travel Distance (km)	11709	11713	11609	11449	11621	11488	11644
Travel Time (hr)	855.8	909.8	852.2	750.5	784.2	874.5	795.2
Total Delay (hr)	646.0	700.3	644.7	545.7	576.0	668.9	586.7
Total Stops	13329	13056	12290	12301	12575	12536	12670
Fuel Used (l)	1518.8	1571.4	1514.6	1409.6	1455.9	1530.2	1466.9

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	3:45	3:45	3:45	3:45
End Time	5:15	5:15	5:15	5:15
Total Time (min)	90	90	90	90
Time Recorded (min)	60	60	60	60
# of Intervals	5	5	5	5
# of Recorded Intervals	4	4	4	4
Vehs Entered	16598	16597	16537	16505
Vehs Exited	16669	16577	16517	16524
Starting Vehs	505	425	429	454
Ending Vehs	434	445	449	435
Travel Distance (km)	11712	11667	11604	11622
Travel Time (hr)	939.8	886.7	852.0	850.1
Total Delay (hr)	730.3	678.1	644.0	642.1
Total Stops	12955	12460	12965	12714
Fuel Used (l)	1597.3	1545.8	1518.0	1512.8

Interval #0 Information Seeding

Start Time	3:45
End Time	4:15
Total Time (min)	30
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	4:15
End Time	4:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	4614	4573	4570	4474	4510	4425	4508
Vehs Exited	4488	4422	4440	4430	4417	4389	4437
Starting Vehs	472	445	427	459	451	471	473
Ending Vehs	598	596	557	503	544	507	544
Travel Distance (km)	3154	3164	3164	3080	3129	3057	3134
Travel Time (hr)	194.4	204.1	182.5	168.8	179.3	182.5	179.2
Total Delay (hr)	137.8	147.4	125.8	113.7	123.1	127.9	123.2
Total Stops	4091	3637	3747	3730	3671	3414	3488
Fuel Used (l)	378.3	388.8	371.4	351.8	365.7	364.7	366.0

Interval #1 Information Recording

Start Time	4:15
End Time	4:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	4532	4465	4545	4522
Vehs Exited	4475	4373	4444	4428
Starting Vehs	505	425	429	454
Ending Vehs	562	517	530	540
Travel Distance (km)	3192	3062	3122	3126
Travel Time (hr)	229.8	205.7	191.5	191.8
Total Delay (hr)	172.6	150.9	135.4	135.8
Total Stops	4028	3515	3629	3691
Fuel Used (l)	414.1	383.0	375.9	376.0

Interval #2 Information Recording

Start Time	4:30
End Time	4:45
Total Time (min)	15
Volumes adjusted by Growth Factors, Anti PHF.	

Run Number	1	10	2	3	4	5	6
Vehs Entered	3905	3949	4040	3894	4018	4063	3955
Vehs Exited	4067	4077	4116	3953	4146	4078	4047
Starting Vehs	598	596	557	503	544	507	544
Ending Vehs	436	468	481	444	416	492	452
Travel Distance (km)	2897	2862	2864	2842	2847	2897	2842
Travel Time (hr)	210.0	236.2	214.1	198.0	193.1	218.4	198.0
Total Delay (hr)	158.2	185.0	162.9	147.3	142.1	166.7	147.3
Total Stops	3206	3320	2932	3051	2896	3118	3040
Fuel Used (l)	375.0	396.5	377.7	360.0	355.7	383.9	361.5

Interval #2 Information Recording

Start Time	4:30
End Time	4:45
Total Time (min)	15
Volumes adjusted by Growth Factors, Anti PHF.	

Run Number	7	8	9	Avg
Vehs Entered	4004	4030	4020	3985
Vehs Exited	4139	4096	4087	4082
Starting Vehs	562	517	530	540
Ending Vehs	427	451	463	448
Travel Distance (km)	2829	2878	2853	2861
Travel Time (hr)	232.1	231.8	211.5	214.3
Total Delay (hr)	181.5	180.3	160.5	163.2
Total Stops	3070	3051	3318	3103
Fuel Used (l)	390.0	393.3	376.8	377.1

Interval #3 Information Recording

Start Time	4:45
End Time	5:00
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	10	2	3	4	5	6
Vehs Entered	3990	3947	3990	3924	4087	3975	4020
Vehs Exited	3982	3960	4054	3943	4060	4039	4044
Starting Vehs	436	468	481	444	416	492	452
Ending Vehs	444	455	417	425	443	428	428
Travel Distance (km)	2844	2829	2834	2720	2816	2846	2860
Travel Time (hr)	217.1	239.2	227.9	195.3	197.3	234.7	204.6
Total Delay (hr)	166.2	188.5	177.3	146.6	146.9	183.6	153.3
Total Stops	2948	3148	2876	2702	2896	3215	3111
Fuel Used (l)	375.3	395.1	386.2	350.1	359.8	394.6	367.8

Interval #3 Information Recording

Start Time	4:45
End Time	5:00
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	7	8	9	Avg
Vehs Entered	4064	4051	3991	4005
Vehs Exited	4052	4028	4024	4016
Starting Vehs	427	451	463	448
Ending Vehs	439	474	430	438
Travel Distance (km)	2833	2847	2801	2823
Travel Time (hr)	229.8	219.3	213.9	217.9
Total Delay (hr)	179.0	168.4	163.6	167.3
Total Stops	2992	2934	2794	2960
Fuel Used (l)	388.6	378.4	371.9	376.8

Interval #4 Information Recording

Start Time	5:00
End Time	5:15
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	10	2	3	4	5	6
Vehs Entered	3984	4076	3934	3982	3998	3907	4039
Vehs Exited	4002	4069	3913	3987	3995	3881	4020
Starting Vehs	444	455	417	425	443	428	428
Ending Vehs	426	462	438	420	446	454	447
Travel Distance (km)	2814	2858	2747	2807	2830	2688	2808
Travel Time (hr)	234.2	230.4	227.7	188.4	214.5	238.9	213.4
Total Delay (hr)	183.9	179.3	178.7	138.2	163.9	190.7	162.9
Total Stops	3084	2951	2735	2818	3112	2789	3031
Fuel Used (l)	390.2	391.0	379.3	347.7	374.7	386.9	371.5

Interval #4 Information Recording

Start Time	5:00
End Time	5:15
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	7	8	9	Avg
Vehs Entered	3998	4051	3981	3994
Vehs Exited	4003	4080	3962	3991
Starting Vehs	439	474	430	438
Ending Vehs	434	445	449	435
Travel Distance (km)	2858	2880	2827	2812
Travel Time (hr)	248.1	230.0	235.1	226.1
Total Delay (hr)	197.2	178.4	184.5	175.8
Total Stops	2865	2960	3224	2953
Fuel Used (l)	404.6	391.1	393.5	383.0

2: Marlin Drive/Hemmer Jane Drive & Topsail Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.3	26.3	6.2	32.9
Denied Del/Veh (s)	0.1	0.0	0.0	2.4	0.3	0.3	9.9	17.7	1277.2	1314.9	42.2
Total Delay (hr)	0.1	0.5	0.0	0.2	0.4	0.0	0.2	0.9	12.3	1.1	15.5
Total Del/Veh (s)	10.8	1.2	0.6	9.5	1.2	0.8	183.7	54.7	886.9	402.1	20.1
Stop Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.2	0.9	12.4	1.1	14.7
Stop Del/Veh (s)	8.5	0.0	0.1	7.9	0.0	0.0	181.9	54.9	892.4	403.7	19.0

6: Humber Drive/Moffatt Road & Topsail Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	85.5	2.9	39.6
Denied Del/Veh (s)	2.3	0.3	0.4	0.1	0.0	0.0	0.1	0.1	0.1	1854.5	1735.0	1850.9
Total Delay (hr)	0.2	0.3	0.0	0.1	0.4	0.1	0.1	0.1	0.1	13.8	0.3	3.0
Total Del/Veh (s)	8.5	0.8	0.3	9.8	1.5	1.5	93.5	132.6	20.1	826.2	600.3	449.0
Stop Delay (hr)	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	13.9	0.3	3.0
Stop Del/Veh (s)	6.6	0.0	0.0	7.7	0.0	0.0	91.9	129.9	19.7	832.6	600.7	452.1

6: Humber Drive/Moffatt Road & Topsail Road Performance by movement

Movement	All
Denied Delay (hr)	128.1
Denied Del/Veh (s)	169.3
Total Delay (hr)	18.3
Total Del/Veh (s)	25.6
Stop Delay (hr)	17.6
Stop Del/Veh (s)	24.7

11: Mount Carson Avenue & Lasalle Drive/Brodie Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.1	1.5	0.3
Denied Del/Veh (s)	4.1	0.2	0.3	4.1	0.4	0.1	3.1	1.0	1.0	7.9	7.1	6.9
Total Delay (hr)	0.5	0.0	0.1	0.1	0.0	0.1	0.6	1.7	0.1	0.3	3.8	0.6
Total Del/Veh (s)	31.9	33.8	15.3	32.3	45.0	12.1	21.4	8.7	7.2	17.5	17.4	14.1
Stop Delay (hr)	0.4	0.0	0.1	0.1	0.0	0.1	0.5	0.8	0.1	0.2	2.2	0.4
Stop Del/Veh (s)	30.0	30.7	14.9	30.3	41.0	11.7	18.0	4.1	3.9	12.1	10.0	9.2

11: Mount Carson Avenue & Lasalle Drive/Brodie Street Performance by movement

Movement	All
Denied Delay (hr)	2.3
Denied Del/Veh (s)	4.3
Total Delay (hr)	7.8
Total Del/Veh (s)	14.5
Stop Delay (hr)	4.9
Stop Del/Veh (s)	9.0

14: Allston Street/Brougham Drive & Kenmount Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.1	0.1	0.0	0.0	0.1	0.0	2.0	5.6	4.0	0.1	0.0	0.0
Denied Del/Veh (s)	2.3	0.2	0.3	0.4	0.3	0.5	134.7	124.2	121.1	3.8	0.5	0.5
Total Delay (hr)	1.4	4.4	0.1	1.8	10.2	2.3	2.4	8.2	4.1	2.5	0.7	0.3
Total Del/Veh (s)	43.0	18.7	11.9	32.4	29.9	29.1	168.1	183.5	125.0	68.9	49.1	23.6
Stop Delay (hr)	1.2	2.9	0.1	1.3	6.3	1.5	2.3	7.8	3.8	2.3	0.6	0.3
Stop Del/Veh (s)	37.1	12.4	8.5	22.9	18.5	19.3	159.1	173.6	117.9	65.0	44.2	21.4

14: Allston Street/Brougham Drive & Kenmount Road Performance by movement

Movement	All
Denied Delay (hr)	11.9
Denied Del/Veh (s)	13.3
Total Delay (hr)	38.3
Total Del/Veh (s)	42.4
Stop Delay (hr)	30.4
Stop Del/Veh (s)	33.6

28: Kenmount Road & Great Eastern Avenue Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.2	0.2	0.0	0.7	169.7	2.9	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	2.4	0.6	0.6	298.9	293.4	302.7	0.2	0.1	0.1	3.7	0.6	0.4
Total Delay (hr)	3.4	3.3	0.0	0.2	46.7	0.6	0.5	0.0	0.1	0.3	0.0	0.7
Total Del/Veh (s)	44.8	8.7	4.5	87.1	86.0	73.0	45.8	49.8	15.8	42.9	63.4	8.6
Stop Delay (hr)	2.9	1.5	0.0	0.1	31.6	0.4	0.5	0.0	0.1	0.3	0.0	0.4
Stop Del/Veh (s)	38.6	3.8	2.5	60.2	58.3	50.2	44.1	47.1	15.6	38.9	55.1	4.9

28: Kenmount Road & Great Eastern Avenue Performance by movement

Movement	All
Denied Delay (hr)	173.7
Denied Del/Veh (s)	150.9
Total Delay (hr)	55.9
Total Del/Veh (s)	50.0
Stop Delay (hr)	38.0
Stop Del/Veh (s)	33.9

36: Brant Drive/H3 Access #1 & Kenmount Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	4.4	3.1	3.1
Denied Del/Veh (s)	0.3	0.0	0.0	0.0	0.0	0.0	4.7	1.7	1.4	77.6	79.4	75.8
Total Delay (hr)	1.8	3.6	0.1	0.9	18.7	1.0	0.6	3.2	0.2	8.9	5.0	3.5
Total Del/Veh (s)	51.9	13.3	8.9	45.8	45.0	37.0	50.5	69.6	31.2	150.3	121.8	85.6
Stop Delay (hr)	1.6	1.6	0.0	0.5	10.2	0.5	0.5	2.9	0.2	8.4	4.5	3.1
Stop Del/Veh (s)	45.0	5.8	1.6	27.3	24.4	18.0	46.1	63.9	27.9	142.3	109.8	76.2

36: Brant Drive/H3 Access #1 & Kenmount Road Performance by movement

Movement	All
Denied Delay (hr)	10.8
Denied Del/Veh (s)	11.1
Total Delay (hr)	47.4
Total Del/Veh (s)	48.2
Stop Delay (hr)	33.9
Stop Del/Veh (s)	34.5

42: Penney Access/H3 Access #2 & Kenmount Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.2	0.0	3.1	3.5	1.1	6.7	2.5	4.2
Denied Del/Veh (s)	0.0	0.0	0.0	2.5	0.4	0.6	69.5	68.1	67.6	118.4	114.6	112.5
Total Delay (hr)	1.4	6.7	1.2	0.5	13.2	0.6	3.4	4.7	0.7	10.3	1.6	0.8
Total Del/Veh (s)	42.5	27.3	21.5	36.2	34.4	21.3	78.1	89.4	46.5	186.7	77.6	23.6
Stop Delay (hr)	1.1	4.3	0.7	0.3	8.2	0.3	3.2	4.3	0.7	10.3	1.5	0.7
Stop Del/Veh (s)	34.9	17.6	12.0	25.3	21.4	11.8	72.9	82.8	42.5	186.0	71.3	19.7

42: Penney Access/H3 Access #2 & Kenmount Road Performance by movement

Movement	All
Denied Delay (hr)	21.2
Denied Del/Veh (s)	21.9
Total Delay (hr)	45.1
Total Del/Veh (s)	46.1
Stop Delay (hr)	35.6
Stop Del/Veh (s)	36.5

48: Topsail Road & Farrell Drive Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.1	0.1	0.1	0.0	0.2	0.0	0.5
Denied Del/Veh (s)	2.4	0.3	0.3	0.5	3.8	0.6	0.6
Total Delay (hr)	0.7	2.1	6.7	1.2	1.6	0.2	12.5
Total Del/Veh (s)	26.2	6.6	17.4	15.1	35.3	10.6	14.3
Stop Delay (hr)	0.6	0.9	3.1	0.6	1.4	0.2	6.8
Stop Del/Veh (s)	22.2	2.9	8.1	7.4	32.0	9.4	7.8

Total Network Performance

Denied Delay (hr)	381.4
Denied Del/Veh (s)	80.9
Total Delay (hr)	260.7
Total Del/Veh (s)	55.3
Stop Delay (hr)	185.6
Stop Del/Veh (s)	39.4

Intersection: 2: Marlin Drive/Hemmer Jane Drive & Topsail Road

Movement	EB	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	TR	LTR	L	TR
Maximum Queue (m)	9.6	0.7	1.4	14.8	6.0	45.7	42.4	91.7
Average Queue (m)	2.8	0.0	0.0	4.9	0.2	14.7	41.4	86.6
95th Queue (m)	8.9	0.7	0.8	11.2	2.9	41.0	44.1	91.4
Link Distance (m)		278.5	278.5		109.0	63.7		83.3
Upstream Blk Time (%)						5		100
Queuing Penalty (veh)						0		0
Storage Bay Dist (m)	15.0			25.0			35.0	
Storage Blk Time (%)	0			0			100	0
Queuing Penalty (veh)	0			0			15	0

Intersection: 6: Humber Drive/Moffatt Road & Topsail Road

Movement	EB	WB	WB	NB	SB	SB
Directions Served	L	L	TR	LTR	L	TR
Maximum Queue (m)	19.4	13.8	5.7	16.8	37.4	119.4
Average Queue (m)	6.5	3.5	0.3	4.0	36.4	112.8
95th Queue (m)	13.9	10.2	2.8	12.7	38.8	117.7
Link Distance (m)			278.5	185.8		108.6
Upstream Blk Time (%)						100
Queuing Penalty (veh)						0
Storage Bay Dist (m)	30.0	35.0			30.0	
Storage Blk Time (%)					100	1
Queuing Penalty (veh)					60	1

Intersection: 11: Mount Carson Avenue & Lasalle Drive/Brodie Street

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (m)	26.6	25.7	17.4	18.0	67.3	109.6	57.3	102.6
Average Queue (m)	10.9	7.5	4.2	4.4	15.8	42.7	14.7	77.1
95th Queue (m)	22.7	19.0	13.5	13.0	37.7	85.9	45.0	118.9
Link Distance (m)		43.4		56.6		149.3		91.4
Upstream Blk Time (%)		0				0		13
Queuing Penalty (veh)		0				0		0
Storage Bay Dist (m)	25.0		25.0		85.0		50.0	
Storage Blk Time (%)	1	0	0	0		1	0	19
Queuing Penalty (veh)	1	0	0	0		1	0	11

Intersection: 14: Allston Street/Brougham Drive & Kenmount Road

Movement	EB	EB	EB	WB	WB	WB	B17	B17	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	T	T	L	TR	L	TR
Maximum Queue (m)	57.3	100.7	96.3	42.4	159.6	167.4	12.6	216.1	32.3	146.0	53.3	56.5
Average Queue (m)	27.3	53.4	46.9	27.8	81.3	88.0	1.6	12.0	18.7	120.3	31.6	20.7
95th Queue (m)	54.1	89.3	82.9	48.4	143.9	150.0	22.1	152.5	39.4	180.7	53.4	44.9
Link Distance (m)		452.6	452.6		163.2	163.2	696.5	696.5		136.1		156.0
Upstream Blk Time (%)					1	1		0		57		
Queuing Penalty (veh)					7	12		2		0		
Storage Bay Dist (m)	50.0			35.0					25.0		50.0	
Storage Blk Time (%)	1	7		4	33				5	45	4	0
Queuing Penalty (veh)	3	9		26	65				14	25	4	0

Intersection: 28: Kenmount Road & Great Eastern Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (m)	52.3	147.7	112.5	39.2	254.9	258.7	32.8	21.2	38.9	89.9
Average Queue (m)	41.6	54.6	41.4	3.8	247.1	247.2	10.8	4.9	8.1	23.1
95th Queue (m)	59.7	124.0	96.2	20.9	251.7	257.0	26.0	15.1	23.4	70.8
Link Distance (m)		149.3	149.3		241.2	241.2	34.6	34.6		141.4
Upstream Blk Time (%)		1			56	55	1	0		
Queuing Penalty (veh)		0			0	0	0	0		
Storage Bay Dist (m)	45.0			40.0					45.0	
Storage Blk Time (%)	14	4		0	43					7
Queuing Penalty (veh)	101	10		0	5					2

Intersection: 36: Brant Drive/H3 Access #1 & Kenmount Road

Movement	EB	EB	EB	B17	B17	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	T	T	L	T	TR	L	TR	L	TR
Maximum Queue (m)	52.0	81.2	80.9	32.9	35.0	52.3	226.1	319.7	46.0	83.6	57.4	163.8
Average Queue (m)	26.6	32.4	37.4	1.1	1.2	17.9	100.4	108.4	15.3	45.7	53.9	130.5
95th Queue (m)	46.7	64.9	69.7	23.5	25.1	45.5	201.8	229.8	38.7	78.6	67.3	208.7
Link Distance (m)		696.5	696.5	163.2	163.2		417.4	417.4		82.8		156.1
Upstream Blk Time (%)				0	0		0	0		3		42
Queuing Penalty (veh)				0	0		0	2		0		0
Storage Bay Dist (m)	45.0					45.0			40.0		50.0	
Storage Blk Time (%)	2	2				0	33			23	43	29
Queuing Penalty (veh)	7	2				0	24			10	124	60

Intersection: 42: Penney Access/H3 Access #2 & Kenmount Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (m)	52.4	116.0	122.0	52.3	186.8	174.1	47.4	85.8	99.5	92.5
Average Queue (m)	27.2	60.0	65.9	13.7	111.9	101.8	40.1	69.5	82.9	46.2
95th Queue (m)	53.5	96.9	104.1	41.9	173.6	162.9	58.5	101.6	116.7	100.9
Link Distance (m)		417.4	417.4		242.5	242.5		77.0	89.0	89.0
Upstream Blk Time (%)					0	0		38	59	5
Queuing Penalty (veh)					0	0		0	0	0
Storage Bay Dist (m)	45.0			45.0			40.0			
Storage Blk Time (%)	1	16			34		16	46		
Queuing Penalty (veh)	3	19			16		35	69		

Intersection: 48: Topsail Road & Farrell Drive

Movement	EB	EB	EB	WB	WB	SB	SB
Directions Served	L	T	T	T	TR	L	R
Maximum Queue (m)	42.6	67.7	62.0	145.2	147.5	52.9	30.6
Average Queue (m)	15.5	29.8	23.7	65.6	64.6	28.5	9.6
95th Queue (m)	30.7	52.6	48.5	119.7	121.4	47.6	20.3
Link Distance (m)		331.8	331.8	354.8	354.8		142.8
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (m)	45.0					50.0	
Storage Blk Time (%)	0	1				1	
Queuing Penalty (veh)	0	1				1	

Network Summary

Network wide Queuing Penalty: 750

Intersection: 11: Mount Carson Avenue & Lasalle Drive/Brodie Street

Phase	1	2	4	5	6	8
Movement(s) Served	SBL NBTL	EBTL	NBL	SBTL	WBTL	
Maximum Green (s)	7.0	47.0	18.0	7.0	47.0	18.0
Minimum Green (s)	7.0	25.0	10.0	7.0	25.0	10.0
Recall	None	Max	None	None	Max	None
Avg. Green (s)	7.0	64.5	11.1	7.2	53.2	11.1
g/C Ratio	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Cycles Skipped (%)	72	14	18	44	2	18
Cycles @ Minimum (%)	28	0	53	56	0	53
Cycles Maxed Out (%)	28	86	2	56	98	2
Cycles with Peds (%)	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
Number of Complete Cycles : 0

Intersection: 14: Allston Street/Brougham Drive & Kenmount Road

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Maximum Green (s)	14.0	45.0	7.0	28.0	7.0	52.0	7.0	28.0
Minimum Green (s)	7.0	25.0	7.0	10.0	7.0	25.0	7.0	10.0
Recall	None	C-Max	None	None	None	C-Max	None	None
Avg. Green (s)	10.0	65.1	12.7	21.4	10.7	64.4	7.1	15.8
g/C Ratio	-0.01	NA	-0.01	-0.01	-0.01	NA	NA	NA
Cycles Skipped (%)	14	0	31	15	14	0	0	0
Cycles @ Minimum (%)	29	0	50	4	25	0	100	10
Cycles Maxed Out (%)	0	100	69	0	7	100	100	0
Cycles with Peds (%)	0	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
Number of Complete Cycles : 0

Intersection: 28: Kenmount Road & Great Eastern Avenue

Phase	1	2	3	4	5	6	8
Movement(s) Served	WBL	EBTL	SBL	NBTL	EBL	WBTL	SBTL
Maximum Green (s)	7.0	59.0	7.0	23.0	11.0	55.0	36.0
Minimum Green (s)	7.0	25.0	7.0	10.0	7.0	25.0	10.0
Recall	None	Max	None	None	None	Max	None
Avg. Green (s)	7.0	98.1	8.0	11.3	10.5	56.3	16.4
g/C Ratio	-0.01	-0.01	-0.01	-0.01	NA	NA	-0.01
Cycles Skipped (%)	94	26	56	39	0	0	27
Cycles @ Minimum (%)	6	0	31	42	5	0	30
Cycles Maxed Out (%)	6	74	44	0	73	100	0
Cycles with Peds (%)	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

Intersection: 36: Brant Drive/H3 Access #1 & Kenmount Road

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Maximum Green (s)	7.0	58.0	7.0	24.0	7.0	58.0	8.0	23.0
Minimum Green (s)	7.0	25.0	7.0	10.0	7.0	25.0	7.0	10.0
Recall	None	C-Max	None	None	None	C-Max	None	None
Avg. Green (s)	7.9	68.3	8.9	24.8	9.1	63.9	8.3	19.1
g/C Ratio	-0.01	NA	-0.01	-0.01	-0.01	NA	NA	NA
Cycles Skipped (%)	44	0	32	3	18	0	0	0
Cycles @ Minimum (%)	41	0	64	0	39	0	0	0
Cycles Maxed Out (%)	19	100	68	31	39	100	97	31
Cycles with Peds (%)	0	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

Intersection: 42: Penney Access/H3 Access #2 & Kenmount Road

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Maximum Green (s)	7.0	57.0	9.0	23.0	7.0	57.0	9.0	23.0
Minimum Green (s)	7.0	25.0	7.0	10.0	7.0	25.0	7.0	10.0
Recall	None	C-Max	None	None	None	C-Max	None	None
Avg. Green (s)	7.5	70.0	13.0	19.2	9.0	62.3	9.0	18.6
g/C Ratio	-0.01	NA	NA	-0.01	-0.01	NA	NA	NA
Cycles Skipped (%)	59	0	0	19	14	0	0	0
Cycles @ Minimum (%)	33	0	3	4	41	0	0	4
Cycles Maxed Out (%)	15	100	86	26	41	100	97	33
Cycles with Peds (%)	0	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

Intersection: 48: Topsail Road & Farrell Drive

Phase	2	4	5	6
Movement(s) Served	EBTL	SBL	EBL	WBT
Maximum Green (s)	64.0	24.0	7.0	51.0
Minimum Green (s)	25.0	10.0	7.0	25.0
Recall	Max	None	None	Max
Avg. Green (s)	67.1	15.0	7.0	58.6
g/C Ratio	-0.01	-0.01	-0.01	NA
Cycles Skipped (%)	3	3	49	0
Cycles @ Minimum (%)	0	21	51	0
Cycles Maxed Out (%)	97	8	51	100
Cycles with Peds (%)	0	3	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

172093 Kenmount Hill CDS TIS
Kenmount Road & Brougham Drive/Allston Street

S2A 10-year with Background PM

01/26/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	829	30	194	1215	285	54	156	119	127	51	48
Future Volume (veh/h)	115	829	30	194	1215	285	54	156	119	127	51	48
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1870	1870	1870	1870	1870	1752	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	146	1049	38	204	1279	300	68	195	0	151	61	57
Peak Hour Factor	0.79	0.79	0.79	0.95	0.95	0.95	0.80	0.80	0.80	0.84	0.84	0.84
Percent Heavy Veh, %	3	2	2	2	2	2	10	2	2	2	2	2
Cap, veh/h	214	1844	67	357	1552	359	228	235		192	117	109
Arrive On Green	0.06	0.53	0.53	0.07	0.54	0.54	0.05	0.13	0.00	0.06	0.13	0.13
Sat Flow, veh/h	1767	3498	127	1781	2866	662	1668	1870	0	1781	890	831
Grp Volume(v), veh/h	146	533	554	204	785	794	68	195	0	151	0	118
Grp Sat Flow(s),veh/h/ln	1767	1777	1848	1781	1777	1751	1668	1870	0	1781	0	1721
Q Serve(g_s), s	4.5	24.3	24.3	6.2	43.6	45.6	4.2	12.2	0.0	7.0	0.0	7.7
Cycle Q Clear(g_c), s	4.5	24.3	24.3	6.2	43.6	45.6	4.2	12.2	0.0	7.0	0.0	7.7
Prop In Lane	1.00		0.07	1.00		0.38	1.00		0.00	1.00		0.48
Lane Grp Cap(c), veh/h	214	937	974	357	962	949	228	235		192	0	226
V/C Ratio(X)	0.68	0.57	0.57	0.57	0.82	0.84	0.30	0.83		0.79	0.00	0.52
Avail Cap(c_a), veh/h	215	937	974	436	962	949	238	436		192	0	402
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.5	19.2	19.2	14.9	22.6	23.1	42.5	51.2	0.0	47.0	0.0	48.6
Incr Delay (d2), s/veh	8.4	2.5	2.4	1.4	7.6	8.7	0.7	7.4	0.0	19.1	0.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	11.5	11.9	2.9	21.3	22.2	1.9	6.6	0.0	2.4	0.0	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.9	21.7	21.6	16.4	30.2	31.7	43.2	58.7	0.0	66.1	0.0	50.4
LnGrp LOS	C	C	C	B	C	C	D	E		E	A	D
Approach Vol, veh/h	1233					1783		263		A		269
Approach Delay, s/veh	23.0					29.3		54.7				59.2
Approach LOS	C					C		D				E
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.7	70.2	12.3	21.8	13.9	72.0	13.0	21.1				
Change Period (Y+Rc), s	7.0	7.0	6.0	6.0	7.0	7.0	6.0	6.0				
Max Green Setting (Gmax), s	14.0	45.0	7.0	28.0	7.0	52.0	7.0	28.0				
Max Q Clear Time (g_c+I1), s	8.2	0.0	6.2	9.7	6.5	0.0	9.0	14.2				
Green Ext Time (p_c), s	0.5	0.0	0.0	0.5	0.0	0.0	0.0	0.8				
Intersection Summary												
HCM 6th Ctrl Delay	31.2											
HCM 6th LOS	C											
Notes												

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	265	1372	6	12	2039	34	42	3	19	28	2	299
Future Volume (veh/h)	265	1372	6	12	2039	34	42	3	19	28	2	299
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1841	1870	1870
Adj Flow Rate, veh/h	305	1577	7	13	2241	0	81	6	37	37	3	0
Peak Hour Factor	0.87	0.87	0.87	0.91	0.91	0.91	0.52	0.52	0.52	0.75	0.75	0.75
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	4	2	2
Cap, veh/h	257	2218	10	207	1873		201	21	130	239	365	
Arrive On Green	0.11	0.61	0.61	0.02	0.53	0.00	0.09	0.09	0.09	0.04	0.20	0.00
Sat Flow, veh/h	1781	3628	16	1781	3647	0	1414	226	1394	1753	1870	0
Grp Volume(v), veh/h	305	772	812	13	2241	0	81	0	43	37	3	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1867	1781	1777	0	1414	0	1620	1753	1870	0
Q Serve(g_s), s	11.0	31.2	31.2	0.3	55.0	0.0	5.7	0.0	2.6	1.9	0.1	0.0
Cycle Q Clear(g_c), s	11.0	31.2	31.2	0.3	55.0	0.0	5.7	0.0	2.6	1.9	0.1	0.0
Prop In Lane	1.00		0.01	1.00		0.00	1.00		0.86	1.00		0.00
Lane Grp Cap(c), veh/h	257	1086	1142	207	1873		201	0	151	239	365	
V/C Ratio(X)	1.19	0.71	0.71	0.06	1.20		0.40	0.00	0.28	0.16	0.01	
Avail Cap(c_a), veh/h	257	1086	1142	289	1873		381	0	357	279	645	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	35.4	13.9	13.9	13.2	24.7	0.0	45.5	0.0	44.1	38.0	33.9	0.0
Incr Delay (d2), s/veh	116.7	4.0	3.8	0.1	93.9	0.0	1.3	0.0	1.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.0	14.4	15.2	0.2	48.5	0.0	2.2	0.0	1.2	0.9	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	152.1	17.9	17.7	13.4	118.6	0.0	46.8	0.0	45.1	38.3	33.9	0.0
LnGrp LOS	F	B	B	B	F		D	A	D	D	C	
Approach Vol, veh/h	1889			2254			A			124		
Approach Delay, s/veh	39.5			118.0			46.2			38.0		
Approach LOS	D			F			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	8					
Phs Duration (G+Y+Rc), s	8.2	69.8	10.6	15.7	17.0	61.0	26.4					
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0					
Max Green Setting (Gmax), s	7.0	59.0	7.0	23.0	11.0	55.0	36.0					
Max Q Clear Time (g_c+I1), s	2.3	33.2	3.9	7.7	13.0	57.0	2.1					
Green Ext Time (p_c), s	0.0	15.4	0.0	0.4	0.0	0.0	0.0					
Intersection Summary												
HCM 6th Ctrl Delay			80.7									
HCM 6th LOS			F									
Notes												

172093 Kenmount Hill CDS TIS
Kenmount Road & H3 Access #2/Penney Access

S2A 10-year with Background PM

01/26/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	118	874	194	47	1372	101	150	173	52	207	73	130
Future Volume (veh/h)	118	874	194	47	1372	101	150	173	52	207	73	130
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	128	950	0	51	1491	0	163	188	0	225	79	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	240	1977		378	1942		302	226		221	226	
Arrive On Green	0.06	0.56	0.00	0.05	0.55	0.00	0.08	0.12	0.00	0.08	0.12	0.00
Sat Flow, veh/h	1781	3647	0	1781	3647	0	1781	1870	0	1781	1870	0
Grp Volume(v), veh/h	128	950	0	51	1491	0	163	188	0	225	79	0
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	0	1781	1870	0	1781	1870	0
Q Serve(g_s), s	3.7	19.4	0.0	1.4	39.3	0.0	9.0	11.8	0.0	9.0	4.7	0.0
Cycle Q Clear(g_c), s	3.7	19.4	0.0	1.4	39.3	0.0	9.0	11.8	0.0	9.0	4.7	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	240	1977		378	1942		302	226		221	226	
V/C Ratio(X)	0.53	0.48		0.13	0.77		0.54	0.83		1.02	0.35	
Avail Cap(c_a), veh/h	241	1977		397	1942		302	358		221	358	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	20.2	16.1	0.0	11.7	21.3	0.0	43.1	51.5	0.0	48.3	48.4	0.0
Incr Delay (d2), s/veh	2.3	0.8	0.0	0.2	3.0	0.0	1.9	8.9	0.0	65.6	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	8.8	0.0	0.6	18.2	0.0	0.6	6.4	0.0	6.7	2.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.5	17.0	0.0	11.8	24.2	0.0	45.0	60.5	0.0	114.0	49.3	0.0
LnGrp LOS	C	B		B	C		D	E		F	D	
Approach Vol, veh/h		1078	A		1542	A		351	A		304	A
Approach Delay, s/veh		17.6			23.8			53.3			97.2	
Approach LOS		B			C			D			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.7	72.8	15.0	20.5	12.9	71.6	15.0	20.5				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	7.0	57.0	9.0	23.0	7.0	57.0	9.0	23.0				
Max Q Clear Time (g_c+I1), s	3.4	0.0	11.0	6.7	5.7	0.0	11.0	13.8				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.3	0.1	0.0	0.0	0.7				
Intersection Summary												
HCM 6th Ctrl Delay			31.7									
HCM 6th LOS			C									
Notes												
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

172093 Kenmount Hill CDS TIS
Kenmount Road & H3 Access #1/Brant Drive

S2A 10-year with Background PM

01/26/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	123	941	41	70	1485	96	43	161	26	207	145	143
Future Volume (veh/h)	123	941	41	70	1485	96	43	161	26	207	145	143
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	134	1023	0	76	1614	0	47	175	0	225	158	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	224	2010		371	1996		209	213		206	251	
Arrive On Green	0.06	0.57	0.00	0.05	0.56	0.00	0.05	0.11	0.00	0.07	0.13	0.00
Sat Flow, veh/h	1781	3647	0	1781	3647	0	1781	1870	0	1781	1870	0
Grp Volume(v), veh/h	134	1023	0	76	1614	0	47	175	0	225	158	0
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	0	1781	1870	0	1781	1870	0
Q Serve(g_s), s	3.7	21.1	0.0	2.1	43.8	0.0	2.7	11.0	0.0	8.0	9.6	0.0
Cycle Q Clear(g_c), s	3.7	21.1	0.0	2.1	43.8	0.0	2.7	11.0	0.0	8.0	9.6	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	224	2010		371	1996		209	213		206	251	
V/C Ratio(X)	0.60	0.51		0.21	0.81		0.22	0.82		1.09	0.63	
Avail Cap(c_a), veh/h	226	2010		379	1996		231	358		206	374	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	22.9	15.9	0.0	11.3	21.1	0.0	43.7	52.0	0.0	49.6	49.1	0.0
Incr Delay (d2), s/veh	4.2	0.9	0.0	0.3	3.7	0.0	0.5	7.6	0.0	89.6	2.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	9.6	0.0	0.9	20.3	0.0	1.3	5.9	0.0	7.8	5.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.1	16.8	0.0	11.6	24.8	0.0	44.2	59.6	0.0	139.2	51.7	0.0
LnGrp LOS	C	B		B	C		D	E		F	D	
Approach Vol, veh/h	1157		A	1690		A	222		A	383		A
Approach Delay, s/veh	18.0			24.2			56.4			103.1		
Approach LOS	B			C			E			F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.4	73.9	11.5	22.1	12.9	73.4	14.0	19.7				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	7.0	58.0	7.0	24.0	7.0	58.0	8.0	23.0				
Max Q Clear Time (g_c+I1), s	4.1	0.0	4.7	11.6	5.7	0.0	10.0	13.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.7	0.1	0.0	0.0	0.7				
Intersection Summary												
HCM 6th Ctrl Delay			32.9									
HCM 6th LOS			C									
Notes												

172093 Kenmount Hill CDS TIS
Mount Carson Avenue & Lasalle Drive/Brodie Street

S2A 10-year with Background PM

01/23/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	2	30	18	3	19	89	682	54	57	772	152
Future Volume (veh/h)	52	2	30	18	3	19	89	682	54	57	772	152
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1159	1159	1796	1870	1870	1870	1856	1856	1870	1870	1870
Adj Flow Rate, veh/h	78	3	45	29	5	30	94	718	57	61	830	163
Peak Hour Factor	0.67	0.67	0.67	0.63	0.63	0.63	0.95	0.95	0.95	0.93	0.93	0.93
Percent Heavy Veh, %	2	50	50	7	2	2	2	3	3	2	2	2
Cap, veh/h	229	8	113	189	28	169	266	1004	80	407	881	173
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.08	0.59	0.59	0.06	0.58	0.58
Sat Flow, veh/h	1373	62	930	1304	231	1389	1781	1697	135	1781	1518	298
Grp Volume(v), veh/h	78	0	48	29	0	35	94	0	775	61	0	993
Grp Sat Flow(s),veh/h/ln	1373	0	992	1304	0	1620	1781	0	1831	1781	0	1817
Q Serve(g_s), s	4.4	0.0	3.6	1.7	0.0	1.6	1.6	0.0	24.3	1.0	0.0	41.0
Cycle Q Clear(g_c), s	5.9	0.0	3.6	5.3	0.0	1.6	1.6	0.0	24.3	1.0	0.0	41.0
Prop In Lane	1.00		0.94	1.00		0.86	1.00		0.07	1.00		0.16
Lane Grp Cap(c), veh/h	229	0	121	189	0	197	266	0	1083	407	0	1054
V/C Ratio(X)	0.34	0.00	0.40	0.15	0.00	0.18	0.35	0.00	0.72	0.15	0.00	0.94
Avail Cap(c_a), veh/h	367	0	220	320	0	360	285	0	1083	446	0	1054
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.6	0.0	32.8	35.3	0.0	31.9	17.4	0.0	11.7	9.0	0.0	15.8
Incr Delay (d2), s/veh	0.9	0.0	2.1	0.4	0.0	0.4	0.8	0.0	4.0	0.2	0.0	16.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	1.0	0.6	0.0	0.7	1.2	0.0	12.0	0.4	0.0	23.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.5	0.0	34.9	35.7	0.0	32.4	18.2	0.0	15.8	9.2	0.0	32.6
LnGrp LOS	D	A	C	D	A	C	B	A	B	A	A	C
Approach Vol, veh/h	126			64			869			1054		
Approach Delay, s/veh	35.3			33.9			16.0			31.3		
Approach LOS	D			C			B			C		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.2	53.9		15.9	12.2	53.0		15.9				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	7.0	47.0		18.0	7.0	47.0		18.0				
Max Q Clear Time (g_c+I1), s	3.0	0.0		7.9	3.6	0.0		7.3				
Green Ext Time (p_c), s	0.1	0.0		0.4	0.1	0.0		0.2				
Intersection Summary												
HCM 6th Ctrl Delay	25.3											
HCM 6th LOS	C											

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	91	1107	1380	291	167	71
Future Volume (veh/h)	91	1107	1380	291	167	71
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1796	1870	1870	1870	1949	1949
Adj Flow Rate, veh/h	105	1272	1500	316	211	90
Peak Hour Factor	0.87	0.87	0.92	0.92	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	235	2562	1704	350	267	238
Arrive On Green	0.07	0.72	0.58	0.58	0.14	0.14
Sat Flow, veh/h	1710	3647	3030	602	1856	1651
Grp Volume(v), veh/h	105	1272	892	924	211	90
Grp Sat Flow(s),veh/h/ln	1710	1777	1777	1762	1856	1651
Q Serve(g_s), s	1.9	13.8	37.5	41.1	9.7	4.4
Cycle Q Clear(g_c), s	1.9	13.8	37.5	41.1	9.7	4.4
Prop In Lane	1.00			0.34	1.00	1.00
Lane Grp Cap(c), veh/h	235	2562	1031	1022	267	238
V/C Ratio(X)	0.45	0.50	0.86	0.90	0.79	0.38
Avail Cap(c_a), veh/h	245	2562	1031	1022	502	446
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.7	5.4	15.7	16.4	36.7	34.4
Incr Delay (d2), s/veh	1.3	0.7	9.6	12.8	5.2	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	5.5	18.5	20.7	5.1	4.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	21.0	6.1	25.3	29.2	41.9	35.4
LnGrp LOS	C	A	C	C	D	D
Approach Vol, veh/h		1377	1816		301	
Approach Delay, s/veh		7.2	27.3		39.9	
Approach LOS		A	C		D	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		70.0		18.8	12.5	57.5
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		64.0		24.0	7.0	51.0
Max Q Clear Time (g_c+I1), s		15.8		11.7	3.9	43.1
Green Ext Time (p_c), s		15.8		1.0	0.1	6.8
Intersection Summary						
HCM 6th Ctrl Delay			20.5			
HCM 6th LOS			C			

Intersection												
Int Delay, s/veh	93.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	1392	9	55	1121	134	3	0	57	70	0	15
Future Vol, veh/h	18	1392	9	55	1121	134	3	0	57	70	0	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	250	-	-	-	-	-	350	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	90	90	90	50	50	50	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	1677	11	61	1246	149	6	0	114	83	0	18
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1395	0	0	1688	0	0	2472	3244	844	2326	3175	698
Stage 1	-	-	-	-	-	-	1727	1727	-	1443	1443	-
Stage 2	-	-	-	-	-	-	745	1517	-	883	1732	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	486	-	-	375	-	-	15	9	307	~ 20	10	383
Stage 1	-	-	-	-	-	-	92	142	-	139	196	-
Stage 2	-	-	-	-	-	-	372	180	-	307	141	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	486	-	-	375	-	-	12	7	307	~ 11	8	383
Mov Cap-2 Maneuver	-	-	-	-	-	-	12	7	-	~ 11	8	-
Stage 1	-	-	-	-	-	-	88	136	-	133	164	-
Stage 2	-	-	-	-	-	-	297	151	-	184	135	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.7			107			\$ 2991.8		
HCM LOS							F			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2			
Capacity (veh/h)	138	486	-	-	375	-	-	11	383			
HCM Lane V/C Ratio	0.87	0.045	-	-	0.163	-	-	7.576	0.047			
HCM Control Delay (s)	107	12.8	-	-	16.5	-	-	\$ 3629.7	14.9			
HCM Lane LOS	F	B	-	-	C	-	-	F	B			
HCM 95th %tile Q(veh)	5.7	0.1	-	-	0.6	-	-	11.7	0.1			
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s			+: Computation Not Defined				*: All major volume in platoon			

Intersection												
Int Delay, s/veh	282											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↱		↰	↰↱			↰↱		↰	↰	
Traffic Vol, veh/h	76	1243	2	32	958	151	2	1	11	134	5	55
Future Vol, veh/h	76	1243	2	32	958	151	2	1	11	134	5	55
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	-	350	-	-	-	-	-	300	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	96	96	96	65	65	65	69	69	69
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	97	1594	3	33	998	157	3	2	17	194	7	80

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1155	0	0	1597	0	0	2359	3011	799	2135	2934	578
Stage 1	-	-	-	-	-	-	1790	1790	-	1143	1143	-
Stage 2	-	-	-	-	-	-	569	1221	-	992	1791	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	601	-	-	406	-	-	19	13	328	~ 28	15	459
Stage 1	-	-	-	-	-	-	84	132	-	213	273	-
Stage 2	-	-	-	-	-	-	474	251	-	264	132	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	601	-	-	406	-	-	7	10	328	~ 19	12	459
Mov Cap-2 Maneuver	-	-	-	-	-	-	7	10	-	~ 19	12	-
Stage 1	-	-	-	-	-	-	70	111	-	~ 179	251	-
Stage 2	-	-	-	-	-	-	349	231	-	207	111	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.4	231.3	\$ 3171.1
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	33	601	-	-	406	-	-	19	112
HCM Lane V/C Ratio	0.653	0.162	-	-	0.082	-	-	10.221	0.776
HCM Control Delay (s)	231.3	12.1	-	-	14.7	-	-	\$ 4544.4	104.1
HCM Lane LOS	F	B	-	-	B	-	-	F	F
HCM 95th %tile Q(veh)	2.2	0.6	-	-	0.3	-	-	24.8	4.4

Notes												
~: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined							*: All major volume in platoon			

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	7:15	7:15	7:15	7:15	7:15	7:15	7:15
End Time	8:45	8:45	8:45	8:45	8:45	8:45	8:45
Total Time (min)	90	90	90	90	90	90	90
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4	4
Vehs Entered	13831	13928	13925	13861	13776	13822	14010
Vehs Exited	13917	13887	13907	13874	13778	13842	14048
Starting Vehs	295	251	265	271	283	305	297
Ending Vehs	209	292	283	258	281	285	259
Travel Distance (km)	9856	9892	9836	9926	9822	9808	9969
Travel Time (hr)	322.2	339.6	297.7	309.8	316.5	334.2	360.2
Total Delay (hr)	147.6	164.0	123.2	133.8	142.0	160.3	183.1
Total Stops	7107	7606	7605	7777	7303	7548	7615
Fuel Used (l)	908.1	927.5	893.8	905.4	902.9	919.6	953.0

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	7:15	7:15	7:15	7:15
End Time	8:45	8:45	8:45	8:45
Total Time (min)	90	90	90	90
Time Recorded (min)	60	60	60	60
# of Intervals	5	5	5	5
# of Recorded Intervals	4	4	4	4
Vehs Entered	13679	13688	14013	13853
Vehs Exited	13718	13730	14101	13881
Starting Vehs	300	274	334	280
Ending Vehs	261	232	246	256
Travel Distance (km)	9621	9618	10096	9844
Travel Time (hr)	337.0	295.9	351.6	326.5
Total Delay (hr)	165.9	125.0	172.3	151.7
Total Stops	7521	7143	7990	7516
Fuel Used (l)	914.0	872.0	957.5	915.4

Interval #0 Information Seeding

Start Time	7:15
End Time	7:45
Total Time (min)	30
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	3997	3930	4020	3914	3845	3980	4023
Vehs Exited	3952	3854	3869	3784	3756	3903	3972
Starting Vehs	295	251	265	271	283	305	297
Ending Vehs	340	327	416	401	372	382	348
Travel Distance (km)	2757	2689	2744	2750	2644	2743	2774
Travel Time (hr)	85.9	96.1	89.9	96.9	86.4	90.1	89.5
Total Delay (hr)	36.9	48.2	41.1	48.0	39.4	41.5	40.2
Total Stops	2349	2481	2572	2647	2125	2380	2298
Fuel Used (l)	254.9	259.3	259.5	264.3	245.5	256.9	258.4

Interval #1 Information Recording

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	3876	3983	3933	3946
Vehs Exited	3859	3922	3910	3879
Starting Vehs	300	274	334	280
Ending Vehs	317	335	357	351
Travel Distance (km)	2661	2699	2800	2726
Travel Time (hr)	97.5	94.4	99.1	92.6
Total Delay (hr)	50.1	46.3	49.4	44.1
Total Stops	2423	2397	2503	2418
Fuel Used (l)	260.6	258.8	270.1	258.8

Interval #2 Information Recording

Start Time	8:00
End Time	8:15
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	10	2	3	4	5	6
Vehs Entered	3250	3376	3258	3325	3199	3343	3354
Vehs Exited	3345	3433	3443	3458	3347	3465	3437
Starting Vehs	340	327	416	401	372	382	348
Ending Vehs	245	270	231	268	224	260	265
Travel Distance (km)	2373	2407	2440	2503	2333	2452	2440
Travel Time (hr)	76.1	88.7	72.0	74.6	75.9	83.2	90.6
Total Delay (hr)	34.1	46.0	29.0	30.2	34.6	39.6	47.3
Total Stops	1510	1786	1751	1757	1633	1957	1874
Fuel Used (l)	216.3	232.4	220.7	225.4	212.3	232.0	235.7

Interval #2 Information Recording

Start Time	8:00
End Time	8:15
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	7	8	9	Avg
Vehs Entered	3296	3290	3353	3305
Vehs Exited	3323	3384	3431	3409
Starting Vehs	317	335	357	351
Ending Vehs	290	241	279	248
Travel Distance (km)	2354	2392	2455	2415
Travel Time (hr)	86.1	71.6	95.2	81.4
Total Delay (hr)	44.3	29.0	51.7	38.6
Total Stops	1770	1549	1853	1742
Fuel Used (l)	227.7	213.7	241.8	225.8

Interval #3 Information Recording

Start Time	8:15
End Time	8:30
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	10	2	3	4	5	6
Vehs Entered	3306	3315	3295	3239	3330	3220	3289
Vehs Exited	3293	3325	3284	3286	3263	3235	3297
Starting Vehs	245	270	231	268	224	260	265
Ending Vehs	258	260	242	221	291	245	257
Travel Distance (km)	2357	2433	2310	2330	2359	2282	2343
Travel Time (hr)	80.6	76.2	61.9	69.7	74.4	76.2	88.4
Total Delay (hr)	39.0	33.0	20.8	28.5	32.4	35.8	46.7
Total Stops	1554	1733	1539	1781	1638	1622	1667
Fuel Used (l)	218.2	220.5	199.6	208.3	215.3	209.4	224.5

Interval #3 Information Recording

Start Time	8:15
End Time	8:30
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	7	8	9	Avg
Vehs Entered	3248	3205	3403	3285
Vehs Exited	3280	3190	3400	3287
Starting Vehs	290	241	279	248
Ending Vehs	258	256	282	247
Travel Distance (km)	2274	2255	2451	2339
Travel Time (hr)	76.1	65.9	83.8	75.3
Total Delay (hr)	35.6	25.9	40.3	33.8
Total Stops	1671	1635	1895	1676
Fuel Used (l)	211.2	199.2	228.6	213.5

Interval #4 Information Recording

Start Time	8:30
End Time	8:45
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	10	2	3	4	5	6
Vehs Entered	3278	3307	3352	3383	3402	3279	3344
Vehs Exited	3327	3275	3311	3346	3412	3239	3342
Starting Vehs	258	260	242	221	291	245	257
Ending Vehs	209	292	283	258	281	285	259
Travel Distance (km)	2368	2362	2342	2342	2486	2332	2411
Travel Time (hr)	79.6	78.6	73.9	68.7	79.7	84.7	91.7
Total Delay (hr)	37.6	36.7	32.4	27.2	35.6	43.3	48.9
Total Stops	1694	1606	1743	1592	1907	1589	1776
Fuel Used (l)	218.8	215.3	214.0	207.3	229.9	221.3	234.3

Interval #4 Information Recording

Start Time	8:30
End Time	8:45
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	7	8	9	Avg
Vehs Entered	3259	3210	3324	3309
Vehs Exited	3256	3234	3360	3309
Starting Vehs	258	256	282	247
Ending Vehs	261	232	246	256
Travel Distance (km)	2332	2272	2390	2364
Travel Time (hr)	77.3	63.9	73.4	77.2
Total Delay (hr)	35.9	23.7	30.9	35.2
Total Stops	1657	1562	1739	1686
Fuel Used (l)	214.5	200.2	217.0	217.3

2: Marlin Drive/Hemmer Jane Drive & Topsail Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.8	1.2	8.1
Denied Del/Veh (s)	0.1	0.0	0.0	2.5	0.2	0.2	0.2	0.1	282.2	318.9	13.0
Total Delay (hr)	0.0	0.3	0.0	0.1	0.1	0.0	0.0	0.2	8.9	0.5	10.1
Total Del/Veh (s)	5.1	1.0	0.4	6.8	0.4	0.1	58.9	11.2	367.8	132.9	16.1
Stop Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	9.0	0.5	9.8
Stop Del/Veh (s)	3.1	0.1	0.1	5.4	0.0	0.0	56.4	10.7	371.6	133.6	15.6

6: Humber Drive/Moffatt Road & Topsail Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.3
Denied Del/Veh (s)	2.8	0.2	0.2	0.0	0.0	0.0	0.1	0.1	7.1	4.5	0.5
Total Delay (hr)	0.0	0.1	0.0	0.0	0.2	0.0	0.1	0.1	1.5	0.4	2.4
Total Del/Veh (s)	6.2	0.5	0.2	5.6	0.9	0.6	38.9	7.7	113.5	13.7	4.0
Stop Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	1.5	0.3	2.0
Stop Del/Veh (s)	4.8	0.0	0.0	4.0	0.0	0.0	36.8	7.2	112.1	12.9	3.3

11: Mount Carson Avenue & Lasalle Drive/Brodie Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.0
Denied Del/Veh (s)	3.8	0.4	0.6	4.0	0.2	0.3	3.1	0.8	0.8	3.6	0.5	0.5
Total Delay (hr)	0.9	0.0	0.3	0.3	0.0	0.3	0.0	2.4	0.0	0.0	1.1	0.0
Total Del/Veh (s)	24.7	14.6	8.2	22.9	18.2	11.7	12.3	11.6	8.2	17.0	8.3	4.7
Stop Delay (hr)	0.8	0.0	0.2	0.3	0.0	0.2	0.0	1.3	0.0	0.0	0.6	0.0
Stop Del/Veh (s)	22.7	13.0	7.7	20.7	15.0	11.1	8.6	6.0	5.4	14.0	4.8	3.1

11: Mount Carson Avenue & Lasalle Drive/Brodie Street Performance by movement

Movement	All
Denied Delay (hr)	0.5
Denied Del/Veh (s)	1.0
Total Delay (hr)	5.4
Total Del/Veh (s)	11.8
Stop Delay (hr)	3.6
Stop Del/Veh (s)	7.8

14: Allston Street/Brougham Drive & Kenmount Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.7	8.5	3.7
Denied Del/Veh (s)	2.0	0.2	0.3	0.3	0.0	0.0	3.7	0.3	0.3	152.0	152.1	150.0
Total Delay (hr)	0.3	8.4	0.2	1.1	1.5	0.2	0.2	0.6	0.1	12.2	6.1	2.4
Total Del/Veh (s)	24.1	27.3	20.0	29.5	9.6	7.6	43.5	57.0	4.0	127.8	110.9	97.9
Stop Delay (hr)	0.2	5.7	0.2	1.0	1.0	0.1	0.2	0.5	0.0	11.0	5.3	2.1
Stop Del/Veh (s)	16.5	18.4	14.7	25.5	6.1	5.5	40.0	52.1	0.9	115.4	97.6	87.0

14: Allston Street/Brougham Drive & Kenmount Road Performance by movement

Movement	All
Denied Delay (hr)	27.1
Denied Del/Veh (s)	35.1
Total Delay (hr)	33.3
Total Del/Veh (s)	43.0
Stop Delay (hr)	27.4
Stop Del/Veh (s)	35.3

28: Kenmount Road & Great Eastern Avenue Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.4	4.8	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Denied Del/Veh (s)	8.8	7.8	7.0	2.5	0.2	0.2	0.1	0.1	0.1	3.6	0.6	0.4
Total Delay (hr)	1.0	11.1	0.0	0.2	2.7	0.0	0.1	0.0	0.1	0.6	0.0	0.2
Total Del/Veh (s)	25.2	18.0	15.8	29.9	9.5	4.0	43.2	42.6	27.7	38.1	39.3	3.0
Stop Delay (hr)	0.6	4.6	0.0	0.2	1.4	0.0	0.1	0.0	0.1	0.5	0.0	0.0
Stop Del/Veh (s)	14.9	7.5	8.8	25.6	4.9	0.3	41.9	40.0	27.6	35.1	34.3	0.1

28: Kenmount Road & Great Eastern Avenue Performance by movement

Movement	All
Denied Delay (hr)	5.3
Denied Del/Veh (s)	5.1
Total Delay (hr)	16.1
Total Del/Veh (s)	15.3
Stop Delay (hr)	7.6
Stop Del/Veh (s)	7.2

36: Brant Drive/H3 Access #1 & Kenmount Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	3.9	0.3	0.3	4.0	0.2	0.2
Total Delay (hr)	0.3	3.9	0.0	0.1	1.8	0.1	0.4	1.2	0.2	0.3	0.3	0.0
Total Del/Veh (s)	13.2	9.6	8.2	18.1	8.8	5.6	48.7	56.6	10.3	51.4	54.1	3.3
Stop Delay (hr)	0.2	1.3	0.0	0.0	0.9	0.0	0.4	1.1	0.1	0.3	0.3	0.0
Stop Del/Veh (s)	7.3	3.2	1.2	13.6	4.3	0.7	45.1	51.6	7.6	48.7	50.5	1.1

36: Brant Drive/H3 Access #1 & Kenmount Road Performance by movement

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.1
Total Delay (hr)	8.7
Total Del/Veh (s)	11.9
Stop Delay (hr)	4.6
Stop Del/Veh (s)	6.4

42: Penney Access/H3 Access #2 & Kenmount Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.2	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	2.9	0.2	0.2	12.0	9.4	9.0	4.0	0.2	0.2
Total Delay (hr)	0.1	4.6	0.4	0.2	1.6	0.1	1.3	2.1	0.8	0.3	0.6	0.0
Total Del/Veh (s)	13.7	12.8	11.2	21.1	8.4	3.4	55.2	67.9	35.7	44.3	57.4	3.7
Stop Delay (hr)	0.1	1.9	0.1	0.2	1.0	0.0	1.2	2.0	0.7	0.3	0.5	0.0
Stop Del/Veh (s)	7.7	5.3	3.1	18.3	4.9	0.2	51.8	63.1	33.3	41.5	53.2	1.5

42: Penney Access/H3 Access #2 & Kenmount Road Performance by movement

Movement	All
Denied Delay (hr)	0.8
Denied Del/Veh (s)	1.2
Total Delay (hr)	12.1
Total Del/Veh (s)	16.6
Stop Delay (hr)	8.0
Stop Del/Veh (s)	10.9

48: Topsail Road & Farrell Drive Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.1	0.0	0.0	0.3	0.0	0.5
Denied Del/Veh (s)	2.5	0.3	0.2	0.3	3.6	0.8	0.6
Total Delay (hr)	0.2	3.7	3.1	0.3	1.8	0.2	9.2
Total Del/Veh (s)	14.3	10.5	12.5	8.3	22.4	7.1	12.2
Stop Delay (hr)	0.1	1.7	1.7	0.2	1.5	0.1	5.3
Stop Del/Veh (s)	9.5	4.9	6.9	5.1	18.6	5.7	7.1

Total Network Performance

Denied Delay (hr)	42.6
Denied Del/Veh (s)	11.0
Total Delay (hr)	109.1
Total Del/Veh (s)	27.8
Stop Delay (hr)	69.6
Stop Del/Veh (s)	17.7

Intersection: 2: Marlin Drive/Hemmer Jane Drive & Topsail Road

Movement	EB	EB	WB	NB	SB	SB
Directions Served	L	TR	L	LTR	L	TR
Maximum Queue (m)	7.8	0.9	10.6	26.2	42.4	90.9
Average Queue (m)	1.1	0.0	2.8	10.1	37.7	60.4
95th Queue (m)	5.4	0.7	7.9	19.5	52.3	122.8
Link Distance (m)	278.5		63.7		83.3	
Upstream Blk Time (%)						58
Queuing Penalty (veh)						0
Storage Bay Dist (m)	15.0	25.0		35.0		
Storage Blk Time (%)					77	0
Queuing Penalty (veh)					11	0

Intersection: 6: Humber Drive/Moffatt Road & Topsail Road

Movement	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	L	T	TR	LTR	L	TR
Maximum Queue (m)	8.6	6.1	0.2	0.4	18.2	32.9	46.4
Average Queue (m)	2.7	0.8	0.0	0.0	7.6	13.0	15.9
95th Queue (m)	7.7	4.2	0.2	0.3	15.5	31.3	52.1
Link Distance (m)			278.5	278.5	185.8	108.6	
Upstream Blk Time (%)							3
Queuing Penalty (veh)							0
Storage Bay Dist (m)	30.0	35.0					30.0
Storage Blk Time (%)						11	0
Queuing Penalty (veh)						11	0

Intersection: 11: Mount Carson Avenue & Lasalle Drive/Brodie Street

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (m)	32.2	46.9	24.0	29.6	27.9	109.2	20.0	76.1
Average Queue (m)	19.6	15.3	10.0	11.5	3.4	49.9	1.6	31.4
95th Queue (m)	32.3	33.9	21.0	23.8	17.7	91.6	9.8	59.5
Link Distance (m)	43.4		56.6		149.3		91.4	
Upstream Blk Time (%)	1				0		0	
Queuing Penalty (veh)	0				0		0	
Storage Bay Dist (m)	25.0	25.0		85.0		50.0		
Storage Blk Time (%)	5	1	0	1	1		1	
Queuing Penalty (veh)	6	1	0	0	0		0	

Intersection: 14: Allston Street/Brougham Drive & Kenmount Road

Movement	EB	EB	EB	WB	WB	WB	B17	B17	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	T	T	L	TR	L	TR
Maximum Queue (m)	57.3	151.5	146.1	42.3	70.0	69.9	70.5	71.1	20.2	48.2	57.4	172.2
Average Queue (m)	15.0	77.2	73.0	21.3	22.4	25.2	2.5	2.5	5.0	11.9	56.8	157.4
95th Queue (m)	46.3	136.1	131.0	40.1	51.7	53.8	72.0	72.5	14.7	31.1	60.4	186.8
Link Distance (m)		452.6	452.6		155.1	155.1	705.8	705.8		136.1		156.0
Upstream Blk Time (%)								0				63
Queuing Penalty (veh)								0				0
Storage Bay Dist (m)	50.0			35.0					25.0		50.0	
Storage Blk Time (%)	0	20		4	2				0	1	58	19
Queuing Penalty (veh)	0	10		13	4				0	0	169	66

Intersection: 28: Kenmount Road & Great Eastern Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (m)	52.3	185.8	182.3	36.1	87.2	79.7	12.5	19.5	35.6	26.0
Average Queue (m)	24.8	92.8	85.1	7.2	40.9	28.8	2.4	3.8	13.7	1.8
95th Queue (m)	52.7	191.1	182.2	21.4	74.7	62.9	9.4	13.2	28.1	13.9
Link Distance (m)		179.6	179.6		241.2	241.2	34.3	34.3		141.5
Upstream Blk Time (%)		6	5							
Queuing Penalty (veh)		0	0							
Storage Bay Dist (m)	45.0			40.0					45.0	
Storage Blk Time (%)	0	14			7				0	0
Queuing Penalty (veh)	1	20			2				0	0

Intersection: 36: Brant Drive/H3 Access #1 & Kenmount Road

Movement	EB	EB	EB	B17	B17	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	T	T	L	T	TR	L	TR	L	TR
Maximum Queue (m)	32.4	83.8	88.8	15.6	98.0	16.4	50.6	52.7	33.1	59.5	18.0	24.2
Average Queue (m)	9.8	30.8	35.4	0.6	3.5	2.9	20.6	20.6	9.1	24.8	5.4	6.5
95th Queue (m)	21.7	60.1	67.2	15.9	42.6	11.5	40.6	42.5	24.0	51.8	14.8	17.9
Link Distance (m)		705.8	705.8	155.1	155.1		417.7	417.7		82.9		156.1
Upstream Blk Time (%)				0	0					0		
Queuing Penalty (veh)				0	1					0		
Storage Bay Dist (m)	45.0					45.0			40.0		50.0	
Storage Blk Time (%)		2					1			5		
Queuing Penalty (veh)		1					0			2		

Intersection: 42: Penney Access/H3 Access #2 & Kenmount Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (m)	26.8	75.8	119.5	27.9	55.9	52.0	47.4	65.7	17.5	29.3
Average Queue (m)	6.1	30.6	35.0	6.0	28.6	18.1	25.5	41.8	6.3	10.5
95th Queue (m)	18.6	60.2	85.5	17.6	49.9	42.3	49.5	71.0	15.2	23.7
Link Distance (m)		417.7	417.7		241.0	241.0		55.8		88.8
Upstream Blk Time (%)			0					16		
Queuing Penalty (veh)			0					0		
Storage Bay Dist (m)	45.0			45.0			40.0		40.0	
Storage Blk Time (%)		3		0	1		2	25		0
Queuing Penalty (veh)		1		0	0		3	21		0

Intersection: 48: Topsail Road & Farrell Drive

Movement	EB	EB	EB	WB	WB	SB	SB
Directions Served	L	T	T	T	TR	L	R
Maximum Queue (m)	34.3	85.7	76.4	79.2	79.5	55.4	45.0
Average Queue (m)	8.9	42.4	36.5	41.6	35.6	34.1	10.7
95th Queue (m)	23.6	67.8	63.3	68.7	67.0	53.3	27.0
Link Distance (m)		331.8	331.8	354.8	354.8		142.8
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (m)	45.0					50.0	
Storage Blk Time (%)		4				2	
Queuing Penalty (veh)		2				1	

Network Summary

Network wide Queuing Penalty: 347

Intersection: 11: Mount Carson Avenue & Lasalle Drive/Brodie Street

Phase	1	2	4	5	6	8
Movement(s) Served	SBL	NBTL	EBTL	NBL	SBTL	WBTL
Maximum Green (s)	7.0	37.0	18.0	7.0	37.0	18.0
Minimum Green (s)	7.0	25.0	10.0	7.0	25.0	10.0
Recall	None	Max	None	None	Max	None
Avg. Green (s)	13.3	39.0	13.3	8.2	38.3	13.3
g/C Ratio	-0.01	NA	NA	-0.01	NA	NA
Cycles Skipped (%)	98	0	0	92	0	0
Cycles @ Minimum (%)	2	0	27	8	0	27
Cycles Maxed Out (%)	2	100	16	8	100	16
Cycles with Peds (%)	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
Number of Complete Cycles : 0

Intersection: 14: Allston Street/Brougham Drive & Kenmount Road

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Maximum Green (s)	8.0	45.0	7.0	34.0	7.0	46.0	13.0	28.0
Minimum Green (s)	7.0	25.0	7.0	10.0	7.0	25.0	7.0	10.0
Recall	None	C-Max	None	None	None	C-Max	None	None
Avg. Green (s)	10.1	62.4	8.6	28.1	7.7	68.9	18.5	17.0
g/C Ratio	-0.01	NA	-0.01	NA	-0.01	NA	NA	-0.01
Cycles Skipped (%)	25	0	59	0	59	0	0	33
Cycles @ Minimum (%)	18	0	37	0	26	0	0	15
Cycles Maxed Out (%)	14	100	41	14	7	100	96	7
Cycles with Peds (%)	0	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
Number of Complete Cycles : 0

Intersection: 28: Kenmount Road & Great Eastern Avenue

Phase	1	2	3	4	5	6	8
Movement(s) Served	WBL	EBTL	SBL	NBTL	EBL	WBTL	SBTL
Maximum Green (s)	7.0	59.0	7.0	23.0	12.0	54.0	36.0
Minimum Green (s)	7.0	25.0	7.0	10.0	7.0	25.0	10.0
Recall	None	Max	None	None	None	Max	None
Avg. Green (s)	7.7	76.4	9.6	11.2	8.2	62.0	12.8
g/C Ratio	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Cycles Skipped (%)	81	14	29	75	34	3	18
Cycles @ Minimum (%)	19	0	16	25	34	0	63
Cycles Maxed Out (%)	19	86	71	0	3	97	0
Cycles with Peds (%)	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
Number of Complete Cycles : 0

Intersection: 36: Brant Drive/H3 Access #1 & Kenmount Road

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Maximum Green (s)	7.0	59.0	7.0	23.0	7.0	59.0	7.0	23.0
Minimum Green (s)	7.0	25.0	7.0	10.0	7.0	25.0	7.0	10.0
Recall	None	C-Max	None	None	None	C-Max	None	None
Avg. Green (s)	7.6	91.2	12.5	14.7	8.0	87.2	7.9	13.4
g/C Ratio	-0.01	NA	-0.01	-0.01	-0.01	NA	-0.01	-0.01
Cycles Skipped (%)	92	0	37	33	58	0	56	4
Cycles @ Minimum (%)	4	0	30	37	31	0	44	43
Cycles Maxed Out (%)	0	100	63	0	0	100	44	0
Cycles with Peds (%)	0	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
Number of Complete Cycles : 0

Intersection: 42: Penney Access/H3 Access #2 & Kenmount Road

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Maximum Green (s)	7.0	59.0	7.0	23.0	7.0	59.0	7.0	23.0
Minimum Green (s)	7.0	25.0	7.0	10.0	7.0	25.0	7.0	10.0
Recall	None	C-Max	None	None	None	C-Max	None	None
Avg. Green (s)	8.1	82.9	11.9	12.7	7.5	82.7	7.7	16.1
g/C Ratio	-0.01	NA	-0.01	-0.01	-0.01	NA	-0.01	-0.01
Cycles Skipped (%)	77	0	10	29	73	0	44	3
Cycles @ Minimum (%)	19	0	59	32	19	0	52	17
Cycles Maxed Out (%)	0	100	90	0	0	100	56	0
Cycles with Peds (%)	0	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

Intersection: 48: Topsail Road & Farrell Drive

Phase	2	4	5	6
Movement(s) Served	EBTL	SBL	EBL	WBT
Maximum Green (s)	39.0	24.0	7.0	26.0
Minimum Green (s)	25.0	10.0	7.0	25.0
Recall	Max	None	None	Max
Avg. Green (s)	39.9	16.4	7.4	36.1
g/C Ratio	NA	NA	-0.01	NA
Cycles Skipped (%)	0	0	76	0
Cycles @ Minimum (%)	0	15	24	0
Cycles Maxed Out (%)	100	15	24	100
Cycles with Peds (%)	0	0	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

172093 Kenmount Hill CDS TIS
Kenmount Road & Brougham Drive/Allston Street

S2B 10-year with Development AM

01/26/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	1083	40	135	516	88	18	37	111	353	201	91
Future Volume (veh/h)	46	1083	40	135	516	88	18	37	111	353	201	91
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1826	1856	1856	1841	1826	1826	1811	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	53	1245	46	175	670	114	23	48	0	380	216	98
Peak Hour Factor	0.87	0.87	0.87	0.77	0.77	0.77	0.77	0.77	0.77	0.93	0.93	0.93
Percent Heavy Veh, %	5	3	3	4	5	5	6	2	2	2	2	2
Cap, veh/h	385	1682	62	259	1491	253	143	231		390	245	111
Arrive On Green	0.05	0.49	0.49	0.07	0.50	0.50	0.03	0.12	0.00	0.11	0.20	0.20
Sat Flow, veh/h	1739	3467	128	1753	2966	504	1725	1870	0	1781	1218	553
Grp Volume(v), veh/h	53	633	658	175	392	392	23	48	0	380	0	314
Grp Sat Flow(s),veh/h/ln	1739	1763	1832	1753	1735	1735	1725	1870	0	1781	0	1771
Q Serve(g_s), s	1.8	34.6	34.7	6.0	17.4	17.4	1.4	2.8	0.0	13.0	0.0	20.7
Cycle Q Clear(g_c), s	1.8	34.6	34.7	6.0	17.4	17.4	1.4	2.8	0.0	13.0	0.0	20.7
Prop In Lane	1.00		0.07	1.00		0.29	1.00		0.00	1.00		0.31
Lane Grp Cap(c), veh/h	385	855	889	259	872	873	143	231		390	0	356
V/C Ratio(X)	0.14	0.74	0.74	0.68	0.45	0.45	0.16	0.21		0.98	0.00	0.88
Avail Cap(c_a), veh/h	402	855	889	259	872	873	190	436		390	0	502
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.5	24.8	24.8	22.0	19.1	19.2	44.0	47.3	0.0	46.0	0.0	46.6
Incr Delay (d2), s/veh	0.2	5.7	5.5	6.8	1.7	1.7	0.5	0.4	0.0	39.0	0.0	12.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	16.7	17.4	3.1	8.0	8.0	0.6	1.4	0.0	10.0	0.0	11.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.7	30.5	30.4	28.8	20.8	20.8	44.5	47.7	0.0	84.9	0.0	59.3
LnGrp LOS	B	C	C	C	C	C	D	D		F	A	E
Approach Vol, veh/h	1344		959				71		A	694		
Approach Delay, s/veh	29.8		22.3				46.7		73.3			
Approach LOS	C		C				D		E			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.0	65.2	9.7	30.1	12.8	67.3	19.0	20.8				
Change Period (Y+Rc), s	7.0	7.0	6.0	6.0	7.0	7.0	6.0	6.0				
Max Green Setting (Gmax), s	8.0	45.0	7.0	34.0	7.0	46.0	13.0	28.0				
Max Q Clear Time (g_c+I1), s	8.0	0.0	3.4	22.7	3.8	0.0	15.0	4.8				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.2				
Intersection Summary												
HCM 6th Ctrl Delay			37.7									
HCM 6th LOS			D									
Notes												

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	143	2180	8	24	1031	28	9	1	13	56	3	237
Future Volume (veh/h)	143	2180	8	24	1031	28	9	1	13	56	3	237
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1870	1870	1826	1841	1841	1870	1870	1870	1781	1870	1870
Adj Flow Rate, veh/h	159	2422	9	27	1146	0	14	2	20	77	4	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.66	0.66	0.66	0.73	0.73	0.73
Percent Heavy Veh, %	3	2	2	5	4	4	2	2	2	8	2	2
Cap, veh/h	363	2152	8	137	1959		167	10	98	249	354	
Arrive On Green	0.07	0.59	0.59	0.04	0.56	0.00	0.07	0.07	0.07	0.06	0.19	0.00
Sat Flow, veh/h	1767	3631	13	1739	3589	0	1412	146	1461	1697	1870	0
Grp Volume(v), veh/h	159	1184	1247	27	1146	0	14	0	22	77	4	0
Grp Sat Flow(s),veh/h/ln	1767	1777	1868	1739	1749	0	1412	0	1607	1697	1870	0
Q Serve(g_s), s	3.6	59.0	59.0	0.6	21.3	0.0	0.9	0.0	1.3	4.0	0.2	0.0
Cycle Q Clear(g_c), s	3.6	59.0	59.0	0.6	21.3	0.0	0.9	0.0	1.3	4.0	0.2	0.0
Prop In Lane	1.00		0.01	1.00		0.00	1.00		0.91	1.00		0.00
Lane Grp Cap(c), veh/h	363	1053	1107	137	1959		167	0	108	249	354	
V/C Ratio(X)	0.44	1.12	1.13	0.20	0.58		0.08	0.00	0.20	0.31	0.01	
Avail Cap(c_a), veh/h	454	1053	1107	195	1959		399	0	371	263	676	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	10.9	20.3	20.3	23.8	14.3	0.0	43.7	0.0	43.9	37.8	32.8	0.0
Incr Delay (d2), s/veh	0.8	68.6	68.7	0.7	1.3	0.0	0.2	0.0	0.9	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	45.2	47.5	0.4	9.4	0.0	0.4	0.0	0.6	1.8	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.7	88.9	89.0	24.5	15.6	0.0	43.9	0.0	44.8	38.5	32.8	0.0
LnGrp LOS	B	F	F	C	B		D	A	D	D	C	
Approach Vol, veh/h		2590			1173	A		36			81	A
Approach Delay, s/veh		84.2			15.8			44.5			38.2	
Approach LOS		F			B			D			D	
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	9.7	65.0	12.2	12.7	12.9	61.8		24.9				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	7.0	59.0	7.0	23.0	12.0	54.0		36.0				
Max Q Clear Time (g_c+I1), s	2.6	0.0	6.0	3.3	5.6	0.0		2.2				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.1	0.4	0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			62.2									
HCM 6th LOS			E									
Notes												
Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

172093 Kenmount Hill CDS TIS
Kenmount Road & H3 Access #2/Penney Access

S2B 10-year with Development AM

01/26/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	1287	129	33	699	70	81	111	78	21	36	25
Future Volume (veh/h)	38	1287	129	33	699	70	81	111	78	21	36	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	41	1399	0	36	760	0	88	121	0	23	39	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	498	2196		275	2187		250	206		177	156	
Arrive On Green	0.04	0.62	0.00	0.04	0.62	0.00	0.06	0.11	0.00	0.03	0.08	0.00
Sat Flow, veh/h	1781	3647	0	1781	3647	0	1781	1870	0	1781	1870	0
Grp Volume(v), veh/h	41	1399	0	36	760	0	88	121	0	23	39	0
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	0	1781	1870	0	1781	1870	0
Q Serve(g_s), s	1.0	29.8	0.0	0.9	12.6	0.0	5.4	7.4	0.0	1.4	2.3	0.0
Cycle Q Clear(g_c), s	1.0	29.8	0.0	0.9	12.6	0.0	5.4	7.4	0.0	1.4	2.3	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	498	2196		275	2187		250	206		177	156	
V/C Ratio(X)	0.08	0.64		0.13	0.35		0.35	0.59		0.13	0.25	
Avail Cap(c_a), veh/h	524	2196		307	2187		251	358		225	358	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	7.8	14.4	0.0	11.2	11.3	0.0	46.6	50.8	0.0	47.7	51.5	0.0
Incr Delay (d2), s/veh	0.1	1.4	0.0	0.2	0.4	0.0	0.8	2.7	0.0	0.3	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	13.3	0.0	0.4	5.6	0.0	2.6	3.8	0.0	0.7	1.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.9	15.9	0.0	11.4	11.7	0.0	47.4	53.5	0.0	48.1	52.3	0.0
LnGrp LOS	A	B		B	B		D	D		D	D	
Approach Vol, veh/h	1440		A	796		A	209		A	62		A
Approach Delay, s/veh	15.6			11.7			50.9			50.8		
Approach LOS	B			B			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.9	80.2	13.0	16.0	11.2	79.8	9.7	19.2				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	7.0	59.0	7.0	23.0	7.0	59.0	7.0	23.0				
Max Q Clear Time (g_c+I1), s	2.9	0.0	7.4	4.3	3.0	0.0	3.4	9.4				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.4				
Intersection Summary												
HCM 6th Ctrl Delay	18.2											
HCM 6th LOS	B											
Notes												

172093 Kenmount Hill CDS TIS
Kenmount Road & H3 Access #1/Brant Drive

S2B 10-year with Development AM

01/26/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	1372	22	11	686	66	34	78	65	20	21	25
Future Volume (veh/h)	82	1372	22	11	686	66	34	78	65	20	21	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	89	1491	0	12	746	0	37	85	0	22	23	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	531	2335		239	2207		232	174		180	154	
Arrive On Green	0.06	0.66	0.00	0.02	0.62	0.00	0.04	0.09	0.00	0.03	0.08	0.00
Sat Flow, veh/h	1781	3647	0	1781	3647	0	1781	1870	0	1781	1870	0
Grp Volume(v), veh/h	89	1491	0	12	746	0	37	85	0	22	23	0
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	0	1781	1870	0	1781	1870	0
Q Serve(g_s), s	2.0	29.7	0.0	0.3	12.1	0.0	2.2	5.2	0.0	1.3	1.4	0.0
Cycle Q Clear(g_c), s	2.0	29.7	0.0	0.3	12.1	0.0	2.2	5.2	0.0	1.3	1.4	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	531	2335		239	2207		232	174		180	154	
V/C Ratio(X)	0.17	0.64		0.05	0.34		0.16	0.49		0.12	0.15	
Avail Cap(c_a), veh/h	536	2335		308	2207		262	358		230	358	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	7.2	12.1	0.0	10.6	10.9	0.0	47.1	51.7	0.0	47.9	51.2	0.0
Incr Delay (d2), s/veh	0.1	1.3	0.0	0.1	0.4	0.0	0.3	2.1	0.0	0.3	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	13.1	0.0	0.1	5.4	0.0	1.1	2.7	0.0	0.6	0.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.4	13.5	0.0	10.7	11.3	0.0	47.4	53.8	0.0	48.2	51.6	0.0
LnGrp LOS	A	B		B	B		D	D		D	D	
Approach Vol, veh/h		1580	A		758	A		122	A		45	A
Approach Delay, s/veh		13.2			11.3			51.8			49.9	
Approach LOS		B			B			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.3	84.9	11.0	15.9	12.6	80.5	9.6	17.2				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	7.0	59.0	7.0	23.0	7.0	59.0	7.0	23.0				
Max Q Clear Time (g_c+I1), s	2.3	0.0	4.2	3.4	4.0	0.0	3.3	7.2				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.3				
Intersection Summary												
HCM 6th Ctrl Delay			15.1									
HCM 6th LOS			B									
Notes												
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

172093 Kenmount Hill CDS TIS
Mount Carson Avenue & Lasalle Drive/Brodie Street

S2B 10-year with Development AM

01/26/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	127	1	111	54	3	77	13	749	15	4	473	29
Future Volume (veh/h)	127	1	111	54	3	77	13	749	15	4	473	29
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1411	1411	1781	1870	1870	1530	1870	1870
Adj Flow Rate, veh/h	146	1	128	62	3	89	14	823	16	5	648	40
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.91	0.91	0.91	0.73	0.73	0.73
Percent Heavy Veh, %	2	2	2	2	33	33	8	2	2	25	2	2
Cap, veh/h	287	3	329	276	8	243	306	970	19	193	900	56
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.02	0.53	0.53	0.01	0.52	0.52
Sat Flow, veh/h	1304	12	1575	1261	39	1163	1697	1828	36	1457	1743	108
Grp Volume(v), veh/h	146	0	129	62	0	92	14	0	839	5	0	688
Grp Sat Flow(s),veh/h/ln	1304	0	1587	1261	0	1202	1697	0	1864	1457	0	1851
Q Serve(g_s), s	7.7	0.0	5.0	3.2	0.0	4.7	0.3	0.0	27.5	0.1	0.0	20.5
Cycle Q Clear(g_c), s	12.4	0.0	5.0	8.2	0.0	4.7	0.3	0.0	27.5	0.1	0.0	20.5
Prop In Lane	1.00		0.99	1.00		0.97	1.00		0.02	1.00		0.06
Lane Grp Cap(c), veh/h	287	0	331	276	0	251	306	0	989	193	0	956
V/C Ratio(X)	0.51	0.00	0.39	0.23	0.00	0.37	0.05	0.00	0.85	0.03	0.00	0.72
Avail Cap(c_a), veh/h	343	0	399	329	0	302	432	0	989	321	0	956
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.6	0.0	24.4	28.0	0.0	24.3	10.6	0.0	14.3	13.0	0.0	13.3
Incr Delay (d2), s/veh	1.4	0.0	0.7	0.4	0.0	0.9	0.1	0.0	9.0	0.1	0.0	4.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	2.1	1.1	0.0	1.5	0.1	0.0	15.0	0.0	0.0	10.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.0	0.0	25.2	28.4	0.0	25.2	10.7	0.0	23.3	13.1	0.0	18.0
LnGrp LOS	C	A	C	C	A	C	B	A	C	B	A	B
Approach Vol, veh/h	275			154			853			693		
Approach Delay, s/veh	28.3			26.5			23.1			18.0		
Approach LOS	C			C			C			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.7	44.0		21.0	7.7	43.0		21.0				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	7.0	37.0		18.0	7.0	37.0		18.0				
Max Q Clear Time (g_c+I1), s	2.1	0.0		14.4	2.3	0.0		10.2				
Green Ext Time (p_c), s	0.0	0.0		0.5	0.0	0.0		0.4				
Intersection Summary												
HCM 6th Ctrl Delay	22.3											
HCM 6th LOS	C											

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	42	1262	877	145	276	86
Future Volume (veh/h)	42	1262	877	145	276	86
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1710	1856	1841	1841	1934	1949
Adj Flow Rate, veh/h	47	1402	997	165	310	97
Peak Hour Factor	0.90	0.90	0.88	0.88	0.89	0.89
Percent Heavy Veh, %	8	3	4	4	3	2
Cap, veh/h	284	2107	1334	221	403	361
Arrive On Green	0.06	0.60	0.44	0.44	0.22	0.22
Sat Flow, veh/h	1629	3618	3096	497	1842	1651
Grp Volume(v), veh/h	47	1402	580	582	310	97
Grp Sat Flow(s),veh/h/ln	1629	1763	1749	1751	1842	1651
Q Serve(g_s), s	0.9	17.3	18.0	18.1	10.3	3.2
Cycle Q Clear(g_c), s	0.9	17.3	18.0	18.1	10.3	3.2
Prop In Lane	1.00			0.28	1.00	1.00
Lane Grp Cap(c), veh/h	284	2107	777	778	403	361
V/C Ratio(X)	0.17	0.67	0.75	0.75	0.77	0.27
Avail Cap(c_a), veh/h	359	2107	777	778	677	607
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.7	8.8	15.1	15.1	24.0	21.2
Incr Delay (d2), s/veh	0.3	1.7	6.5	6.5	3.1	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	7.2	8.8	8.8	5.2	3.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	10.9	10.5	21.6	21.6	27.1	21.6
LnGrp LOS	B	B	C	C	C	C
Approach Vol, veh/h		1449	1162		407	
Approach Delay, s/veh		10.5	21.6		25.8	
Approach LOS		B	C		C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		45.0		20.3	10.0	35.0
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		39.0		24.0	7.0	26.0
Max Q Clear Time (g_c+I1), s		0.0		12.3	2.9	0.0
Green Ext Time (p_c), s		0.0		2.0	0.0	0.0
Intersection Summary						
HCM 6th Ctrl Delay			16.8			
HCM 6th LOS			B			

Intersection												
Int Delay, s/veh	42.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	1043	8	30	970	22	3	0	64	82	0	14
Future Vol, veh/h	8	1043	8	30	970	22	3	0	64	82	0	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	250	-	-	-	-	-	350	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	86	86	86	85	85	85	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	1320	10	35	1128	26	4	0	75	99	0	17
Major/Minor	Major1		Major2			Minor1			Minor2			
Conflicting Flow All	1154	0	0	1330	0	0	1979	2569	665	1891	2561	577
Stage 1	-	-	-	-	-	-	1345	1345	-	1211	1211	-
Stage 2	-	-	-	-	-	-	634	1224	-	680	1350	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	601	-	-	515	-	-	37	26	403	~ 43	26	460
Stage 1	-	-	-	-	-	-	160	218	-	193	253	-
Stage 2	-	-	-	-	-	-	434	250	-	407	217	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	601	-	-	515	-	-	33	24	403	~ 33	24	460
Mov Cap-2 Maneuver	-	-	-	-	-	-	33	24	-	~ 33	24	-
Stage 1	-	-	-	-	-	-	157	214	-	190	236	-
Stage 2	-	-	-	-	-	-	390	233	-	325	213	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	0.1		0.4			23.9			\$ 986.6			
HCM LOS						C			F			
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2			
Capacity (veh/h)	268	601	-	-	515	-	-	33	460			
HCM Lane V/C Ratio	0.294	0.017	-	-	0.068	-	-	2.994	0.037			
HCM Control Delay (s)	23.9	11.1	-	-	12.5	-	-	\$ 1152.8	13.1			
HCM Lane LOS	C	B	-	-	B	-	-	F	B			
HCM 95th %tile Q(veh)	1.2	0.1	-	-	0.2	-	-	11.5	0.1			
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s			+: Computation Not Defined				*: All major volume in platoon			

Intersection												
Int Delay, s/veh	12.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱↰		↰	↱↰			↱↰		↰	↱	
Traffic Vol, veh/h	25	973	6	9	862	88	6	0	34	52	0	85
Future Vol, veh/h	25	973	6	9	862	88	6	0	34	52	0	85
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	-	350	-	-	-	-	-	300	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	82	82	82	65	65	65	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	29	1145	7	11	1051	107	9	0	52	66	0	108

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1158	0	0	1152	0	0	1755	2387	576	1758	2337	579
Stage 1	-	-	-	-	-	-	1207	1207	-	1127	1127	-
Stage 2	-	-	-	-	-	-	548	1180	-	631	1210	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	599	-	-	602	-	-	54	34	460	~ 54	36	458
Stage 1	-	-	-	-	-	-	194	254	-	218	278	-
Stage 2	-	-	-	-	-	-	488	262	-	436	254	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	599	-	-	602	-	-	39	32	460	~ 45	34	458
Mov Cap-2 Maneuver	-	-	-	-	-	-	39	32	-	~ 45	34	-
Stage 1	-	-	-	-	-	-	185	242	-	208	273	-
Stage 2	-	-	-	-	-	-	367	257	-	368	242	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0.1			36.1			176.9		
HCM LOS							E			F		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	176	599	-	-	602	-	-	45	458
HCM Lane V/C Ratio	0.35	0.049	-	-	0.018	-	-	1.463	0.235
HCM Control Delay (s)	36.1	11.3	-	-	11.1	-	-	\$ 441.1	15.3
HCM Lane LOS	E	B	-	-	B	-	-	F	C
HCM 95th %tile Q(veh)	1.5	0.2	-	-	0.1	-	-	6.4	0.9

Notes												
~: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined							*: All major volume in platoon			

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	3:45	3:45	3:45	3:45	3:45	3:45	3:45
End Time	5:15	5:15	5:15	5:15	5:15	5:15	5:15
Total Time (min)	90	90	90	90	90	90	90
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4	4
Vehs Entered	17141	17129	17138	17116	17283	17091	17250
Vehs Exited	17180	17121	17147	17073	17204	17139	17318
Starting Vehs	476	477	461	461	427	530	584
Ending Vehs	437	485	452	504	506	482	516
Travel Distance (km)	12113	12085	11987	11983	12099	12106	12284
Travel Time (hr)	1088.2	1177.7	1075.7	1080.8	1134.5	1163.3	1278.5
Total Delay (hr)	870.9	961.2	860.9	865.8	917.6	945.9	1058.1
Total Stops	14005	14048	13279	13507	13722	15446	16604
Fuel Used (l)	1754.4	1830.0	1739.5	1737.2	1789.2	1811.5	1925.9

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	3:45	3:45	3:45	3:45
End Time	5:15	5:15	5:15	5:15
Total Time (min)	90	90	90	90
Time Recorded (min)	60	60	60	60
# of Intervals	5	5	5	5
# of Recorded Intervals	4	4	4	4
Vehs Entered	17171	17341	17105	17174
Vehs Exited	17172	17397	17088	17183
Starting Vehs	517	500	431	484
Ending Vehs	516	444	448	474
Travel Distance (km)	12056	12223	11975	12091
Travel Time (hr)	1235.0	1115.5	1230.5	1158.0
Total Delay (hr)	1018.8	896.3	1015.3	941.1
Total Stops	14282	15188	14720	14481
Fuel Used (l)	1879.2	1788.4	1872.9	1812.8

Interval #0 Information Seeding

Start Time	3:45
End Time	4:15
Total Time (min)	30
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	4:15
End Time	4:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	4690	4778	4716	4639	4667	4644	4600
Vehs Exited	4571	4695	4635	4537	4512	4560	4590
Starting Vehs	476	477	461	461	427	530	584
Ending Vehs	595	560	542	563	582	614	594
Travel Distance (km)	3198	3281	3266	3178	3168	3210	3263
Travel Time (hr)	238.6	254.6	235.2	225.1	246.3	238.5	274.6
Total Delay (hr)	181.0	195.9	176.5	168.0	189.3	180.8	216.0
Total Stops	4055	3944	3697	3592	3694	4431	4372
Fuel Used (l)	420.7	441.9	422.9	409.5	424.8	419.6	457.4

Interval #1 Information Recording

Start Time	4:15
End Time	4:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	4697	4827	4699	4695
Vehs Exited	4639	4708	4520	4599
Starting Vehs	517	500	431	484
Ending Vehs	575	619	610	582
Travel Distance (km)	3226	3278	3173	3224
Travel Time (hr)	268.8	248.2	250.3	248.0
Total Delay (hr)	210.9	189.3	193.2	190.1
Total Stops	4209	4535	4274	4078
Fuel Used (l)	452.7	436.9	432.9	431.9

Interval #2 Information Recording

Start Time	4:30
End Time	4:45
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	10	2	3	4	5	6
Vehs Entered	4162	4109	4121	4164	4203	4178	4197
Vehs Exited	4292	4187	4171	4190	4321	4261	4232
Starting Vehs	595	560	542	563	582	614	594
Ending Vehs	465	482	492	537	464	531	559
Travel Distance (km)	3037	2943	2899	2980	3040	3023	2990
Travel Time (hr)	274.3	290.4	264.2	277.3	277.9	290.2	313.0
Total Delay (hr)	219.8	237.6	212.2	224.0	223.5	236.1	259.4
Total Stops	3771	3483	3269	3432	3314	4061	3853
Fuel Used (l)	443.9	450.2	424.1	437.5	443.5	451.2	469.1

Interval #2 Information Recording

Start Time	4:30
End Time	4:45
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	7	8	9	Avg
Vehs Entered	4082	4175	4069	4146
Vehs Exited	4131	4250	4158	4220
Starting Vehs	575	619	610	582
Ending Vehs	526	544	521	510
Travel Distance (km)	2907	3006	2935	2976
Travel Time (hr)	309.8	291.6	303.8	289.3
Total Delay (hr)	257.6	237.9	251.0	235.9
Total Stops	3640	3852	3669	3631
Fuel Used (l)	465.3	458.0	460.9	450.4

Interval #3 Information Recording

Start Time	4:45
End Time	5:00
Total Time (min)	15
Volumes adjusted by Growth Factors, Anti PHF.	

Run Number	1	10	2	3	4	5	6
Vehs Entered	4260	4101	4154	4135	4201	4136	4282
Vehs Exited	4252	4109	4185	4228	4161	4153	4279
Starting Vehs	465	482	492	537	464	531	559
Ending Vehs	473	474	461	444	504	514	562
Travel Distance (km)	3014	2915	2869	2933	2927	2958	3029
Travel Time (hr)	269.9	304.9	277.7	280.7	290.6	309.4	338.8
Total Delay (hr)	215.9	252.9	226.4	228.1	238.1	256.3	284.5
Total Stops	3199	3376	3110	3423	3449	3666	4392
Fuel Used (l)	434.6	458.3	434.0	440.2	446.9	464.6	494.0

Interval #3 Information Recording

Start Time	4:45
End Time	5:00
Total Time (min)	15
Volumes adjusted by Growth Factors, Anti PHF.	

Run Number	7	8	9	Avg
Vehs Entered	4191	4209	4150	4185
Vehs Exited	4242	4276	4193	4205
Starting Vehs	526	544	521	510
Ending Vehs	475	477	478	477
Travel Distance (km)	2996	3048	2941	2963
Travel Time (hr)	322.8	291.4	329.6	301.6
Total Delay (hr)	269.0	237.0	276.7	248.5
Total Stops	3188	3783	3450	3499
Fuel Used (l)	477.4	455.1	480.9	458.6

Interval #4 Information Recording

Start Time	5:00
End Time	5:15
Total Time (min)	15
Volumes adjusted by Growth Factors, Anti PHF.	

Run Number	1	10	2	3	4	5	6
Vehs Entered	4029	4141	4147	4178	4212	4133	4171
Vehs Exited	4065	4130	4156	4118	4210	4165	4217
Starting Vehs	473	474	461	444	504	514	562
Ending Vehs	437	485	452	504	506	482	516
Travel Distance (km)	2864	2946	2953	2892	2964	2915	3001
Travel Time (hr)	305.4	327.7	298.6	297.7	319.6	325.2	352.1
Total Delay (hr)	254.1	274.9	245.8	245.8	266.7	272.7	298.2
Total Stops	2980	3245	3203	3060	3265	3288	3987
Fuel Used (l)	455.2	479.6	458.5	449.9	474.1	476.1	505.3

Interval #4 Information Recording

Start Time	5:00
End Time	5:15
Total Time (min)	15
Volumes adjusted by Growth Factors, Anti PHF.	

Run Number	7	8	9	Avg
Vehs Entered	4201	4130	4187	4150
Vehs Exited	4160	4163	4217	4161
Starting Vehs	475	477	478	477
Ending Vehs	516	444	448	474
Travel Distance (km)	2927	2891	2925	2928
Travel Time (hr)	333.6	284.3	346.9	319.1
Total Delay (hr)	281.2	232.1	294.4	266.6
Total Stops	3245	3018	3327	3261
Fuel Used (l)	483.7	438.4	498.2	471.9

2: Marlin Drive/Hemmer Jane Drive & Topsail Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.4	26.0	6.8	33.4
Denied Del/Veh (s)	0.3	0.0	0.0	2.4	0.3	0.4	0.1	22.6	1266.7	1232.5	42.9
Total Delay (hr)	0.1	0.4	0.0	0.1	0.4	0.0	0.1	0.8	12.2	1.2	15.3
Total Del/Veh (s)	12.0	1.2	0.6	8.9	1.3	0.9	221.2	48.2	843.1	352.1	19.8
Stop Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.8	12.3	1.2	14.5
Stop Del/Veh (s)	9.9	0.0	0.0	7.3	0.0	0.0	219.7	48.4	848.7	353.5	18.8

6: Humber Drive/Moffatt Road & Topsail Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	88.5	3.2	41.7
Denied Del/Veh (s)	2.3	0.3	0.3	0.1	0.0	0.0	0.1	0.1	0.1	1941.6	1906.0	1924.2
Total Delay (hr)	0.2	0.3	0.0	0.1	0.4	0.1	0.0	0.1	0.0	13.4	0.3	3.4
Total Del/Veh (s)	9.5	0.8	0.3	9.1	1.5	1.5	128.4	93.3	12.6	829.1	552.5	491.3
Stop Delay (hr)	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	13.5	0.3	3.4
Stop Del/Veh (s)	7.5	0.0	0.0	7.0	0.0	0.0	125.7	89.9	12.3	835.4	553.1	494.4

6: Humber Drive/Moffatt Road & Topsail Road Performance by movement

Movement	All
Denied Delay (hr)	133.5
Denied Del/Veh (s)	176.4
Total Delay (hr)	18.2
Total Del/Veh (s)	25.5
Stop Delay (hr)	17.6
Stop Del/Veh (s)	24.6

11: Mount Carson Avenue & Lasalle Drive/Brodie Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.0	0.4	6.6	1.2
Denied Del/Veh (s)	4.0	0.3	0.2	4.2	0.2	0.1	3.1	1.2	1.2	27.6	27.4	26.9
Total Delay (hr)	0.5	0.0	0.2	0.2	0.0	0.1	0.7	2.2	0.1	0.4	4.6	0.7
Total Del/Veh (s)	35.7	42.6	20.4	38.5	31.0	13.9	27.8	9.9	7.2	22.6	19.0	15.5
Stop Delay (hr)	0.5	0.0	0.2	0.2	0.0	0.1	0.6	1.0	0.1	0.3	2.6	0.4
Stop Del/Veh (s)	33.7	39.6	19.9	36.5	27.6	13.4	24.0	4.4	3.6	16.5	10.6	9.6

11: Mount Carson Avenue & Lasalle Drive/Brodie Street Performance by movement

Movement	All
Denied Delay (hr)	8.7
Denied Del/Veh (s)	14.5
Total Delay (hr)	9.7
Total Del/Veh (s)	16.1
Stop Delay (hr)	5.9
Stop Del/Veh (s)	9.7

14: Allston Street/Brougham Drive & Kenmount Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.1	0.1	0.0	0.1	0.3	0.1	3.6	11.0	8.5	0.1	0.0	0.0
Denied Del/Veh (s)	2.1	0.2	0.3	1.2	0.7	1.0	245.3	248.0	249.9	3.8	0.5	0.5
Total Delay (hr)	1.4	5.0	0.1	2.3	13.3	3.0	2.7	9.2	4.7	2.8	0.7	0.4
Total Del/Veh (s)	43.1	19.7	14.1	42.9	36.8	37.8	195.2	207.8	139.9	77.0	50.2	23.5
Stop Delay (hr)	1.2	3.3	0.1	1.7	8.3	2.0	2.6	8.7	4.4	2.7	0.6	0.3
Stop Del/Veh (s)	36.8	13.1	10.7	31.5	23.0	25.6	186.0	197.4	132.3	72.9	45.2	21.3

14: Allston Street/Brougham Drive & Kenmount Road Performance by movement

Movement	All
Denied Delay (hr)	23.8
Denied Del/Veh (s)	25.5
Total Delay (hr)	45.5
Total Del/Veh (s)	48.2
Stop Delay (hr)	35.9
Stop Del/Veh (s)	38.1

28: Kenmount Road & Great Eastern Avenue Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.3	0.7	0.0	1.6	337.5	5.3	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	3.3	1.6	1.7	494.6	519.6	514.3	0.5	0.1	0.2	3.5	0.4	0.4
Total Delay (hr)	4.2	4.6	0.0	0.2	47.0	0.7	0.6	0.0	0.1	0.3	0.0	0.8
Total Del/Veh (s)	53.6	11.4	5.3	82.1	87.9	76.6	44.3	36.8	16.4	45.5	69.4	9.7
Stop Delay (hr)	3.7	2.2	0.0	0.2	32.3	0.5	0.5	0.0	0.1	0.3	0.0	0.5
Stop Del/Veh (s)	46.5	5.4	2.9	58.8	60.4	53.9	42.7	34.3	16.2	41.5	61.4	5.8

28: Kenmount Road & Great Eastern Avenue Performance by movement

Movement	All
Denied Delay (hr)	345.4
Denied Del/Veh (s)	275.1
Total Delay (hr)	58.6
Total Del/Veh (s)	51.3
Stop Delay (hr)	40.3
Stop Del/Veh (s)	35.2

36: Brant Drive/H3 Access #1 & Kenmount Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	5.0	3.6	3.7
Denied Del/Veh (s)	0.3	0.0	0.0	0.0	0.0	0.0	5.3	1.5	1.2	88.4	87.7	90.3
Total Delay (hr)	1.9	4.0	0.1	1.2	27.2	1.5	0.7	2.7	0.2	9.3	5.4	3.6
Total Del/Veh (s)	53.9	13.7	10.0	61.3	61.5	54.9	50.7	61.9	23.3	163.3	130.6	88.8
Stop Delay (hr)	1.6	1.6	0.0	0.8	16.1	0.8	0.6	2.5	0.2	8.8	5.0	3.2
Stop Del/Veh (s)	46.5	5.5	1.8	39.0	36.5	31.3	46.4	56.3	20.1	155.7	119.2	80.0

36: Brant Drive/H3 Access #1 & Kenmount Road Performance by movement

Movement	All
Denied Delay (hr)	12.4
Denied Del/Veh (s)	12.2
Total Delay (hr)	57.7
Total Del/Veh (s)	55.8
Stop Delay (hr)	41.2
Stop Del/Veh (s)	39.9

42: Penney Access/H3 Access #2 & Kenmount Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.2	2.1	0.1	34.1	30.0	12.3	2.6	0.9	1.4
Denied Del/Veh (s)	0.2	0.0	0.0	7.2	5.4	4.8	498.3	502.7	498.0	45.4	38.4	39.0
Total Delay (hr)	1.6	6.7	2.0	1.6	21.2	1.2	6.0	5.4	1.4	7.8	1.8	0.9
Total Del/Veh (s)	49.5	27.8	23.2	64.4	54.1	40.3	106.1	109.5	68.8	130.0	70.2	24.8
Stop Delay (hr)	1.4	4.2	1.1	1.2	14.2	0.8	5.7	5.0	1.3	7.6	1.6	0.8
Stop Del/Veh (s)	41.7	17.4	12.3	48.0	36.3	26.3	100.7	102.4	64.3	127.3	64.5	21.4

42: Penney Access/H3 Access #2 & Kenmount Road Performance by movement

Movement	All
Denied Delay (hr)	83.8
Denied Del/Veh (s)	78.3
Total Delay (hr)	57.5
Total Del/Veh (s)	54.5
Stop Delay (hr)	44.8
Stop Del/Veh (s)	42.5

48: Topsail Road & Farrell Drive Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.1	0.1	0.1	0.0	0.2	0.0	0.5
Denied Del/Veh (s)	2.5	0.2	0.4	0.5	3.8	0.6	0.6
Total Delay (hr)	0.8	2.1	8.2	1.6	1.8	0.3	14.6
Total Del/Veh (s)	30.0	6.7	20.3	18.7	36.1	12.4	16.3
Stop Delay (hr)	0.7	0.9	3.9	0.8	1.6	0.2	8.1
Stop Del/Veh (s)	25.9	2.9	9.7	9.5	32.5	11.1	9.0

Total Network Performance

Denied Delay (hr)	641.4
Denied Del/Veh (s)	128.1
Total Delay (hr)	299.6
Total Del/Veh (s)	61.1
Stop Delay (hr)	212.4
Stop Del/Veh (s)	43.3

Intersection: 2: Marlin Drive/Hemmer Jane Drive & Topsail Road

Movement	EB	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LTR	L	TR
Maximum Queue (m)	11.6	0.5	0.9	12.6	4.2	2.6	47.6	42.4	90.2
Average Queue (m)	3.2	0.0	0.0	4.3	0.2	0.1	14.3	41.4	86.3
95th Queue (m)	9.7	0.5	0.5	9.6	2.6	1.9	40.7	44.4	91.7
Link Distance (m)		278.5	278.5		109.0	109.0	63.7		83.3
Upstream Blk Time (%)							4		99
Queuing Penalty (veh)							0		0
Storage Bay Dist (m)	15.0			25.0				35.0	
Storage Blk Time (%)	0							100	0
Queuing Penalty (veh)	2							15	0

Intersection: 6: Humber Drive/Moffatt Road & Topsail Road

Movement	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	T	L	TR	LTR	L	TR
Maximum Queue (m)	21.2	0.9	14.9	2.9	12.9	37.4	119.7
Average Queue (m)	6.6	0.0	4.0	0.2	4.0	36.4	112.3
95th Queue (m)	15.3	0.9	10.8	1.6	11.2	38.9	117.5
Link Distance (m)		175.9		278.5	185.8		108.6
Upstream Blk Time (%)							100
Queuing Penalty (veh)							0
Storage Bay Dist (m)	30.0		35.0			30.0	
Storage Blk Time (%)	0					100	1
Queuing Penalty (veh)	0					60	1

Intersection: 11: Mount Carson Avenue & Lasalle Drive/Brodie Street

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (m)	28.1	28.4	18.8	20.6	59.5	126.6	57.3	102.6
Average Queue (m)	11.1	7.2	5.0	5.1	16.1	51.0	18.1	84.2
95th Queue (m)	24.1	19.7	14.7	15.5	34.8	98.9	50.7	121.2
Link Distance (m)		43.4		56.6		149.3		91.4
Upstream Blk Time (%)		0				0		21
Queuing Penalty (veh)		0				0		0
Storage Bay Dist (m)	25.0		25.0		85.0		50.0	
Storage Blk Time (%)	1	1	0	0		1	0	23
Queuing Penalty (veh)	1	0	0	0		1	0	13

Intersection: 14: Allston Street/Brougham Drive & Kenmount Road

Movement	EB	EB	EB	WB	WB	WB	B17	B17	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	T	T	L	TR	L	TR
Maximum Queue (m)	57.3	110.1	108.4	42.4	172.1	175.8	109.2	326.3	32.3	150.7	56.2	78.6
Average Queue (m)	27.0	58.6	50.0	30.2	105.2	111.2	4.1	14.7	19.2	130.6	33.6	24.0
95th Queue (m)	53.9	95.2	88.8	51.0	177.6	182.8	35.2	156.1	39.6	177.3	56.3	57.3
Link Distance (m)		452.6	452.6		163.2	163.2	696.5	696.5		136.1		156.0
Upstream Blk Time (%)					3	4		0		73		
Queuing Penalty (veh)					26	37		2		0		
Storage Bay Dist (m)	50.0			35.0					25.0		50.0	
Storage Blk Time (%)	0	9		6	37				6	48	8	0
Queuing Penalty (veh)	2	12		38	73				17	26	8	0

Intersection: 28: Kenmount Road & Great Eastern Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (m)	52.4	156.4	148.1	33.3	256.8	257.6	32.0	17.5	46.0	93.3
Average Queue (m)	43.6	71.6	55.2	3.8	247.2	247.6	11.5	5.2	8.2	27.3
95th Queue (m)	61.4	157.7	130.8	19.8	252.5	253.4	25.4	14.1	25.9	78.8
Link Distance (m)		149.3	149.3		241.2	241.2	34.6	34.6		141.4
Upstream Blk Time (%)		6	1		58	56	1			
Queuing Penalty (veh)		0	0		0	0	0			
Storage Bay Dist (m)	45.0			40.0					45.0	
Storage Blk Time (%)	22	4			43				0	8
Queuing Penalty (veh)	165	11			5				0	3

Intersection: 36: Brant Drive/H3 Access #1 & Kenmount Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (m)	52.1	75.5	78.2	52.3	274.0	312.4	47.3	86.4	57.4	169.5
Average Queue (m)	27.7	34.1	39.0	19.3	149.5	158.3	16.2	42.5	54.5	133.1
95th Queue (m)	48.6	64.6	69.6	49.9	257.7	280.5	38.4	76.1	66.6	205.3
Link Distance (m)		696.5	696.5		417.4	417.4		82.8		156.1
Upstream Blk Time (%)						0		3		47
Queuing Penalty (veh)						1		0		0
Storage Bay Dist (m)	45.0			45.0			40.0		50.0	
Storage Blk Time (%)	2	2		0	41		0	18	49	31
Queuing Penalty (veh)	9	2		1	30		0	8	142	63

Intersection: 42: Penney Access/H3 Access #2 & Kenmount Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (m)	52.3	104.3	119.4	52.4	239.2	232.5	47.4	89.0	97.6	90.4
Average Queue (m)	27.6	57.2	66.2	25.5	156.8	147.0	45.8	82.2	72.1	45.2
95th Queue (m)	52.7	96.9	107.8	58.1	254.4	246.0	55.4	85.4	112.6	91.6
Link Distance (m)		417.4	417.4		242.5	242.5		77.0	89.0	89.0
Upstream Blk Time (%)					7	6		79	28	4
Queuing Penalty (veh)					0	0		0	0	0
Storage Bay Dist (m)	45.0			45.0			40.0			
Storage Blk Time (%)	1	17		0	40		41	56		
Queuing Penalty (veh)	6	20		1	36		116	130		

Intersection: 48: Topsail Road & Farrell Drive

Movement	EB	EB	EB	WB	WB	SB	SB
Directions Served	L	T	T	T	TR	L	R
Maximum Queue (m)	46.5	67.2	60.2	165.4	162.6	52.0	29.9
Average Queue (m)	17.2	32.3	25.6	75.0	75.7	30.0	11.1
95th Queue (m)	33.9	54.6	48.8	142.8	145.4	49.4	24.0
Link Distance (m)		331.8	331.8	354.8	354.8		142.8
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (m)	45.0					50.0	
Storage Blk Time (%)	0	1				1	
Queuing Penalty (veh)	1	1				1	

Network Summary

Network wide Queuing Penalty: 1087

Intersection: 11: Mount Carson Avenue & Lasalle Drive/Brodie Street

Phase	1	2	4	5	6	8
Movement(s) Served	SBL	NBTL	EBTL	NBL	SBTL	WBTL
Maximum Green (s)	7.0	57.0	18.0	7.0	57.0	18.0
Minimum Green (s)	7.0	25.0	10.0	7.0	25.0	10.0
Recall	None	Max	None	None	Max	None
Avg. Green (s)	7.1	72.5	11.7	7.2	61.2	11.7
g/C Ratio	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Cycles Skipped (%)	68	11	15	39	3	15
Cycles @ Minimum (%)	32	0	49	61	0	49
Cycles Maxed Out (%)	32	89	3	61	97	3
Cycles with Peds (%)	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
Number of Complete Cycles : 0

Intersection: 14: Allston Street/Brougham Drive & Kenmount Road

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Maximum Green (s)	14.0	45.0	7.0	28.0	7.0	52.0	7.0	28.0
Minimum Green (s)	7.0	25.0	7.0	10.0	7.0	25.0	7.0	10.0
Recall	None	C-Max	None	None	None	C-Max	None	None
Avg. Green (s)	9.8	64.3	13.7	21.4	10.0	64.2	7.2	15.2
g/C Ratio	-0.01	NA	-0.01	-0.01	-0.01	NA	NA	NA
Cycles Skipped (%)	7	0	38	14	14	0	0	0
Cycles @ Minimum (%)	29	0	42	4	21	0	100	10
Cycles Maxed Out (%)	0	100	62	0	7	100	100	0
Cycles with Peds (%)	0	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
Number of Complete Cycles : 0

Intersection: 28: Kenmount Road & Great Eastern Avenue

Phase	1	2	3	4	5	6	8
Movement(s) Served	WBL	EBTL	SBL	NBTL	EBL	WBTL	SBTL
Maximum Green (s)	7.0	59.0	7.0	23.0	11.0	55.0	36.0
Minimum Green (s)	7.0	25.0	7.0	10.0	7.0	25.0	10.0
Recall	None	Max	None	None	None	Max	None
Avg. Green (s)	9.8	92.3	8.2	11.2	10.5	56.9	16.3
g/C Ratio	-0.01	-0.01	-0.01	-0.01	NA	NA	-0.01
Cycles Skipped (%)	94	24	60	31	0	0	22
Cycles @ Minimum (%)	6	0	31	44	5	0	31
Cycles Maxed Out (%)	6	76	40	0	76	100	0
Cycles with Peds (%)	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

Intersection: 36: Brant Drive/H3 Access #1 & Kenmount Road

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Maximum Green (s)	7.0	58.0	8.0	23.0	7.0	58.0	8.0	23.0
Minimum Green (s)	7.0	25.0	7.0	10.0	7.0	25.0	7.0	10.0
Recall	None	C-Max	None	None	None	C-Max	None	None
Avg. Green (s)	7.7	69.0	8.7	22.0	9.0	64.8	8.7	17.8
g/C Ratio	-0.01	NA	-0.01	NA	-0.01	NA	NA	NA
Cycles Skipped (%)	41	0	25	0	18	0	0	0
Cycles @ Minimum (%)	44	0	11	3	36	0	0	3
Cycles Maxed Out (%)	15	100	46	21	36	100	100	21
Cycles with Peds (%)	0	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

Intersection: 42: Penney Access/H3 Access #2 & Kenmount Road

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Maximum Green (s)	7.0	55.0	11.0	23.0	7.0	55.0	11.0	23.0
Minimum Green (s)	7.0	25.0	7.0	10.0	7.0	25.0	7.0	10.0
Recall	None	C-Max	None	None	None	C-Max	None	None
Avg. Green (s)	7.9	64.3	13.7	19.1	9.1	60.3	11.3	18.5
g/C Ratio	-0.01	NA	NA	-0.01	-0.01	NA	NA	NA
Cycles Skipped (%)	32	0	0	10	11	0	0	0
Cycles @ Minimum (%)	39	0	0	3	43	0	0	3
Cycles Maxed Out (%)	29	100	89	31	46	100	96	34
Cycles with Peds (%)	0	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
Number of Complete Cycles : 0

Intersection: 48: Topsail Road & Farrell Drive

Phase	2	4	5	6
Movement(s) Served	EBTL	SBL	EBL	WBT
Maximum Green (s)	64.0	24.0	7.0	51.0
Minimum Green (s)	25.0	10.0	7.0	25.0
Recall	Max	None	None	Max
Avg. Green (s)	67.0	15.2	7.0	57.8
g/C Ratio	NA	NA	-0.01	NA
Cycles Skipped (%)	0	0	47	0
Cycles @ Minimum (%)	0	18	53	0
Cycles Maxed Out (%)	100	5	53	100
Cycles with Peds (%)	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
Number of Complete Cycles : 0

172093 Kenmount Hill CDS TIS
Kenmount Road & Brougham Drive/Allston Street

S2B 10-year with Development PM

01/26/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	891	30	195	1278	285	54	156	121	127	51	48
Future Volume (veh/h)	115	891	30	195	1278	285	54	156	121	127	51	48
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1870	1870	1870	1870	1870	1752	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	146	1128	38	205	1345	300	68	195	0	151	61	57
Peak Hour Factor	0.79	0.79	0.79	0.95	0.95	0.95	0.80	0.80	0.80	0.84	0.84	0.84
Percent Heavy Veh, %	3	2	2	2	2	2	10	2	2	2	2	2
Cap, veh/h	202	1848	62	335	1570	344	228	235		192	117	109
Arrive On Green	0.06	0.53	0.53	0.07	0.54	0.54	0.05	0.13	0.00	0.06	0.13	0.13
Sat Flow, veh/h	1767	3508	118	1781	2898	635	1668	1870	0	1781	890	831
Grp Volume(v), veh/h	146	571	595	205	815	830	68	195	0	151	0	118
Grp Sat Flow(s),veh/h/ln	1767	1777	1849	1781	1777	1756	1668	1870	0	1781	0	1721
Q Serve(g_s), s	4.5	26.9	26.9	6.2	46.6	49.3	4.2	12.2	0.0	7.0	0.0	7.7
Cycle Q Clear(g_c), s	4.5	26.9	26.9	6.2	46.6	49.3	4.2	12.2	0.0	7.0	0.0	7.7
Prop In Lane	1.00		0.06	1.00		0.36	1.00		0.00	1.00		0.48
Lane Grp Cap(c), veh/h	202	936	974	335	962	951	228	235		192	0	226
V/C Ratio(X)	0.72	0.61	0.61	0.61	0.85	0.87	0.30	0.83		0.79	0.00	0.52
Avail Cap(c_a), veh/h	203	936	974	413	962	951	238	436		192	0	402
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.8	19.8	19.8	16.1	23.3	23.9	42.5	51.2	0.0	47.0	0.0	48.6
Incr Delay (d2), s/veh	11.9	3.0	2.9	1.8	9.1	10.9	0.7	7.4	0.0	19.1	0.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	12.7	13.2	2.9	23.1	24.4	1.9	6.6	0.0	2.4	0.0	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.8	22.8	22.7	17.9	32.4	34.8	43.2	58.7	0.0	66.1	0.0	50.4
LnGrp LOS	D	C	C	B	C	C	D	E		E	A	D
Approach Vol, veh/h	1312		1850				263		A		269	
Approach Delay, s/veh	24.4		31.9				54.7				59.2	
Approach LOS	C		C				D				E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.7	70.2	12.3	21.8	13.9	72.0	13.0	21.1				
Change Period (Y+Rc), s	7.0	7.0	6.0	6.0	7.0	7.0	6.0	6.0				
Max Green Setting (Gmax), s	14.0	45.0	7.0	28.0	7.0	52.0	7.0	28.0				
Max Q Clear Time (g_c+I1), s	8.2	0.0	6.2	9.7	6.5	0.0	9.0	14.2				
Green Ext Time (p_c), s	0.5	0.0	0.0	0.5	0.0	0.0	0.0	0.8				
Intersection Summary												
HCM 6th Ctrl Delay			32.8									
HCM 6th LOS			C									
Notes												

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	281	1444	6	12	2216	34	42	3	19	28	2	311
Future Volume (veh/h)	281	1444	6	12	2216	34	42	3	19	28	2	311
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1841	1870	1870
Adj Flow Rate, veh/h	323	1660	7	13	2435	0	81	6	37	37	3	0
Peak Hour Factor	0.87	0.87	0.87	0.91	0.91	0.91	0.52	0.52	0.52	0.75	0.75	0.75
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	4	2	2
Cap, veh/h	257	2219	9	191	1873		201	21	130	239	365	
Arrive On Green	0.11	0.61	0.61	0.02	0.53	0.00	0.09	0.09	0.09	0.04	0.20	0.00
Sat Flow, veh/h	1781	3629	15	1781	3647	0	1414	226	1394	1753	1870	0
Grp Volume(v), veh/h	323	812	855	13	2435	0	81	0	43	37	3	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1868	1781	1777	0	1414	0	1620	1753	1870	0
Q Serve(g_s), s	11.0	34.2	34.2	0.3	55.0	0.0	5.7	0.0	2.6	1.9	0.1	0.0
Cycle Q Clear(g_c), s	11.0	34.2	34.2	0.3	55.0	0.0	5.7	0.0	2.6	1.9	0.1	0.0
Prop In Lane	1.00		0.01	1.00		0.00	1.00		0.86	1.00		0.00
Lane Grp Cap(c), veh/h	257	1086	1142	191	1873		201	0	151	239	365	
V/C Ratio(X)	1.26	0.75	0.75	0.07	1.30		0.40	0.00	0.28	0.16	0.01	
Avail Cap(c_a), veh/h	257	1086	1142	273	1873		381	0	357	279	645	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	35.4	14.5	14.5	14.0	24.7	0.0	45.5	0.0	44.1	38.0	33.9	0.0
Incr Delay (d2), s/veh	143.7	4.7	4.5	0.1	139.1	0.0	1.3	0.0	1.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.9	16.0	16.7	0.2	60.3	0.0	2.2	0.0	1.2	0.9	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	179.1	19.2	19.0	14.1	163.7	0.0	46.8	0.0	45.1	38.3	33.9	0.0
LnGrp LOS	F	B	B	B	F		D	A	D	D	C	
Approach Vol, veh/h		1990			2448	A		124			40	A
Approach Delay, s/veh		45.1			163.0			46.2			38.0	
Approach LOS		D			F			D			D	
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	8.2	69.8	10.6	15.7	17.0	61.0		26.4				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	7.0	59.0	7.0	23.0	11.0	55.0		36.0				
Max Q Clear Time (g_c+I1), s	2.3	36.2	3.9	7.7	13.0	57.0		2.1				
Green Ext Time (p_c), s	0.0	15.1	0.0	0.4	0.0	0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			107.8									
HCM 6th LOS			F									
Notes												
Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

172093 Kenmount Hill CDS TIS
Kenmount Road & H3 Access #2/Penney Access

S2B 10-year with Development PM

01/26/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	118	868	320	90	1381	101	231	198	83	208	86	130
Future Volume (veh/h)	118	868	320	90	1381	101	231	198	83	208	86	130
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	128	943	0	98	1501	0	251	215	0	226	93	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	219	1837		364	1832		341	253		250	253	
Arrive On Green	0.06	0.52	0.00	0.06	0.52	0.00	0.09	0.14	0.00	0.09	0.14	0.00
Sat Flow, veh/h	1781	3647	0	1781	3647	0	1781	1870	0	1781	1870	0
Grp Volume(v), veh/h	128	943	0	98	1501	0	251	215	0	226	93	0
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	0	1781	1870	0	1781	1870	0
Q Serve(g_s), s	4.0	20.9	0.0	3.0	42.5	0.0	11.0	13.5	0.0	11.0	5.4	0.0
Cycle Q Clear(g_c), s	4.0	20.9	0.0	3.0	42.5	0.0	11.0	13.5	0.0	11.0	5.4	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	219	1837		364	1832		341	253		250	253	
V/C Ratio(X)	0.58	0.51		0.27	0.82		0.74	0.85		0.90	0.37	
Avail Cap(c_a), veh/h	220	1837		368	1832		341	358		250	358	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	23.5	19.1	0.0	13.8	24.4	0.0	43.5	50.7	0.0	44.1	47.2	0.0
Incr Delay (d2), s/veh	3.9	1.0	0.0	0.4	4.2	0.0	8.1	12.6	0.0	32.7	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	9.6	0.0	1.4	20.0	0.0	3.1	7.6	0.0	4.1	2.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.4	20.1	0.0	14.2	28.6	0.0	51.7	63.3	0.0	76.9	48.1	0.0
LnGrp LOS	C	C		B	C		D	E		E	D	
Approach Vol, veh/h	1071		A	1599		A	466		A	319		A
Approach Delay, s/veh	21.0			27.7			57.1			68.5		
Approach LOS	C			C			E			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.7	68.0	17.0	22.2	12.9	67.9	17.0	22.2				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	7.0	55.0	11.0	23.0	7.0	55.0	11.0	23.0				
Max Q Clear Time (g_c+I1), s	5.0	0.0	13.0	7.4	6.0	0.0	13.0	15.5				
Green Ext Time (p_c), s	0.1	0.0	0.0	0.4	0.0	0.0	0.0	0.8				
Intersection Summary												
HCM 6th Ctrl Delay	33.3											
HCM 6th LOS	C											
Notes												

172093 Kenmount Hill CDS TIS
Kenmount Road & H3 Access #1/Brant Drive

S2B 10-year with Development PM

01/26/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	123	1015	41	71	1553	96	43	161	27	207	145	143
Future Volume (veh/h)	123	1015	41	71	1553	96	43	161	27	207	145	143
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	134	1103	0	77	1688	0	47	175	0	225	158	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	211	2010		345	1996		209	213		206	251	
Arrive On Green	0.06	0.57	0.00	0.05	0.56	0.00	0.05	0.11	0.00	0.07	0.13	0.00
Sat Flow, veh/h	1781	3647	0	1781	3647	0	1781	1870	0	1781	1870	0
Grp Volume(v), veh/h	134	1103	0	77	1688	0	47	175	0	225	158	0
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	0	1781	1870	0	1781	1870	0
Q Serve(g_s), s	3.7	23.5	0.0	2.1	47.6	0.0	2.7	11.0	0.0	8.0	9.6	0.0
Cycle Q Clear(g_c), s	3.7	23.5	0.0	2.1	47.6	0.0	2.7	11.0	0.0	8.0	9.6	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	211	2010		345	1996		209	213		206	251	
V/C Ratio(X)	0.64	0.55		0.22	0.85		0.22	0.82		1.09	0.63	
Avail Cap(c_a), veh/h	212	2010		353	1996		246	358		206	358	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	24.8	16.4	0.0	11.9	22.0	0.0	43.7	52.0	0.0	49.6	49.1	0.0
Incr Delay (d2), s/veh	6.1	1.1	0.0	0.3	4.6	0.0	0.5	7.6	0.0	89.6	2.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	10.6	0.0	0.9	22.3	0.0	1.3	5.9	0.0	7.8	5.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.8	17.5	0.0	12.2	26.6	0.0	44.2	59.6	0.0	139.2	51.7	0.0
LnGrp LOS	C	B		B	C		D	E		F	D	
Approach Vol, veh/h		1237	A		1765	A		222	A		383	A
Approach Delay, s/veh		18.9			26.0			56.4			103.1	
Approach LOS		B			C			E			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.5	73.9	11.5	22.1	12.9	73.4	14.0	19.7				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	7.0	58.0	8.0	23.0	7.0	58.0	8.0	23.0				
Max Q Clear Time (g_c+I1), s	4.1	0.0	4.7	11.6	5.7	0.0	10.0	13.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.7	0.1	0.0	0.0	0.7				
Intersection Summary												
HCM 6th Ctrl Delay			33.6									
HCM 6th LOS			C									
Notes												
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	2	30	18	3	19	89	795	54	57	881	157
Future Volume (veh/h)	55	2	30	18	3	19	89	795	54	57	881	157
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1159	1159	1796	1870	1870	1870	1856	1856	1870	1870	1870
Adj Flow Rate, veh/h	82	3	45	29	5	30	94	837	57	61	947	169
Peak Hour Factor	0.67	0.67	0.67	0.63	0.63	0.63	0.95	0.95	0.95	0.93	0.93	0.93
Percent Heavy Veh, %	2	50	50	7	2	2	2	3	3	2	2	2
Cap, veh/h	201	7	101	162	25	151	218	1088	74	364	965	172
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	0.07	0.63	0.63	0.06	0.62	0.62
Sat Flow, veh/h	1373	62	930	1304	231	1389	1781	1718	117	1781	1545	276
Grp Volume(v), veh/h	82	0	48	29	0	35	94	0	894	61	0	1116
Grp Sat Flow(s),veh/h/ln	1373	0	992	1304	0	1620	1781	0	1834	1781	0	1821
Q Serve(g_s), s	5.3	0.0	4.1	1.9	0.0	1.8	1.6	0.0	31.8	1.0	0.0	54.3
Cycle Q Clear(g_c), s	7.1	0.0	4.1	6.1	0.0	1.8	1.6	0.0	31.8	1.0	0.0	54.3
Prop In Lane	1.00		0.94	1.00		0.86	1.00		0.06	1.00		0.15
Lane Grp Cap(c), veh/h	201	0	108	162	0	176	218	0	1163	364	0	1137
V/C Ratio(X)	0.41	0.00	0.45	0.18	0.00	0.20	0.43	0.00	0.77	0.17	0.00	0.98
Avail Cap(c_a), veh/h	323	0	196	277	0	320	230	0	1163	393	0	1137
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.3	0.0	38.1	40.9	0.0	37.1	22.1	0.0	11.9	10.5	0.0	16.6
Incr Delay (d2), s/veh	1.3	0.0	2.9	0.5	0.0	0.5	1.3	0.0	4.9	0.2	0.0	22.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	1.2	0.7	0.0	0.8	1.5	0.0	15.8	0.5	0.0	31.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.6	0.0	41.0	41.5	0.0	37.6	23.4	0.0	16.9	10.7	0.0	39.3
LnGrp LOS	D	A	D	D	A	D	C	A	B	B	A	D
Approach Vol, veh/h	130			64			988			1177		
Approach Delay, s/veh	41.4			39.4			17.5			37.8		
Approach LOS	D			D			B			D		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.5	63.8		15.9	12.4	63.0		15.9				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	7.0	57.0		18.0	7.0	57.0		18.0				
Max Q Clear Time (g_c+I1), s	3.0	0.0		9.1	3.6	0.0		8.1				
Green Ext Time (p_c), s	0.1	0.0		0.4	0.1	0.0		0.2				
Intersection Summary												
HCM 6th Ctrl Delay	29.5											
HCM 6th LOS	C											

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	94	1132	1424	301	169	75
Future Volume (veh/h)	94	1132	1424	301	169	75
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1796	1870	1870	1870	1949	1949
Adj Flow Rate, veh/h	108	1301	1548	327	214	95
Peak Hour Factor	0.87	0.87	0.92	0.92	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	224	2556	1700	348	271	241
Arrive On Green	0.07	0.72	0.58	0.58	0.15	0.15
Sat Flow, veh/h	1710	3647	3031	602	1856	1651
Grp Volume(v), veh/h	108	1301	917	958	214	95
Grp Sat Flow(s),veh/h/ln	1710	1777	1777	1762	1856	1651
Q Serve(g_s), s	2.0	14.4	40.0	44.6	9.9	4.6
Cycle Q Clear(g_c), s	2.0	14.4	40.0	44.6	9.9	4.6
Prop In Lane	1.00			0.34	1.00	1.00
Lane Grp Cap(c), veh/h	224	2556	1028	1020	271	241
V/C Ratio(X)	0.48	0.51	0.89	0.94	0.79	0.39
Avail Cap(c_a), veh/h	233	2556	1028	1020	501	445
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.5	5.5	16.3	17.3	36.7	34.4
Incr Delay (d2), s/veh	1.6	0.7	11.7	16.9	5.1	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	5.8	20.1	23.3	5.2	4.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	22.1	6.3	28.0	34.2	41.8	35.5
LnGrp LOS	C	A	C	C	D	D
Approach Vol, veh/h		1409	1875		309	
Approach Delay, s/veh		7.5	31.2		39.9	
Approach LOS		A	C		D	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		70.0		19.0	12.5	57.5
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		64.0		24.0	7.0	51.0
Max Q Clear Time (g_c+I1), s		16.4		11.9	4.0	46.6
Green Ext Time (p_c), s		16.3		1.1	0.1	4.0
Intersection Summary						
HCM 6th Ctrl Delay			22.6			
HCM 6th LOS			C			

Intersection												
Int Delay, s/veh	93.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	1393	9	55	1126	134	3	0	57	70	0	15
Future Vol, veh/h	18	1393	9	55	1126	134	3	0	57	70	0	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	250	-	-	-	-	-	350	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	90	90	90	50	50	50	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	1678	11	61	1251	149	6	0	114	83	0	18
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1400	0	0	1689	0	0	2476	3250	845	2331	3181	700
Stage 1	-	-	-	-	-	-	1728	1728	-	1448	1448	-
Stage 2	-	-	-	-	-	-	748	1522	-	883	1733	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	484	-	-	374	-	-	15	9	306	~ 20	10	382
Stage 1	-	-	-	-	-	-	92	142	-	138	195	-
Stage 2	-	-	-	-	-	-	371	179	-	307	141	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	484	-	-	374	-	-	12	7	306	~ 11	8	382
Mov Cap-2 Maneuver	-	-	-	-	-	-	12	7	-	~ 11	8	-
Stage 1	-	-	-	-	-	-	88	136	-	132	163	-
Stage 2	-	-	-	-	-	-	296	150	-	184	135	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.7			107			\$ 2991.8		
HCM LOS							F			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2			
Capacity (veh/h)	138	484	-	-	374	-	-	11	382			
HCM Lane V/C Ratio	0.87	0.045	-	-	0.163	-	-	7.576	0.047			
HCM Control Delay (s)	107	12.8	-	-	16.5	-	-	\$ 3629.7	14.9			
HCM Lane LOS	F	B	-	-	C	-	-	F	B			
HCM 95th %tile Q(veh)	5.7	0.1	-	-	0.6	-	-	11.7	0.1			
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s			+: Computation Not Defined				*: All major volume in platoon			

Intersection												
Int Delay, s/veh	281.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	76	1244	2	32	962	151	2	1	11	134	5	55
Future Vol, veh/h	76	1244	2	32	962	151	2	1	11	134	5	55
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	-	350	-	-	-	-	-	300	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	96	96	96	65	65	65	69	69	69
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	97	1595	3	33	1002	157	3	2	17	194	7	80
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1159	0	0	1598	0	0	2362	3016	799	2140	2939	580
Stage 1	-	-	-	-	-	-	1791	1791	-	1147	1147	-
Stage 2	-	-	-	-	-	-	571	1225	-	993	1792	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	599	-	-	406	-	-	19	13	328	~ 28	15	458
Stage 1	-	-	-	-	-	-	84	132	-	212	272	-
Stage 2	-	-	-	-	-	-	473	249	-	263	131	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	599	-	-	406	-	-	7	10	328	~ 19	12	458
Mov Cap-2 Maneuver	-	-	-	-	-	-	7	10	-	~ 19	12	-
Stage 1	-	-	-	-	-	-	70	111	-	~ 178	250	-
Stage 2	-	-	-	-	-	-	349	229	-	206	110	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.7			0.4			231.3			\$ 3171.1		
HCM LOS							F			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2			
Capacity (veh/h)	33	599	-	-	406	-	-	19	112			
HCM Lane V/C Ratio	0.653	0.163	-	-	0.082	-	-	10.221	0.776			
HCM Control Delay (s)	231.3	12.2	-	-	14.7	-	-	\$ 4544.4	104.1			
HCM Lane LOS	F	B	-	-	B	-	-	F	F			
HCM 95th %tile Q(veh)	2.2	0.6	-	-	0.3	-	-	24.8	4.4			
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s			+: Computation Not Defined				*: All major volume in platoon			

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	7:15	7:15	7:15	7:15	7:15	7:15	7:15
End Time	8:45	8:45	8:45	8:45	8:45	8:45	8:45
Total Time (min)	90	90	90	90	90	90	90
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4	4
Vehs Entered	13541	13491	13429	13504	13495	13657	13527
Vehs Exited	13614	13526	13448	13530	13556	13649	13591
Starting Vehs	269	256	238	230	256	204	264
Ending Vehs	196	221	219	204	195	212	200
Travel Distance (km)	8755	8714	8704	8827	8763	8860	8774
Travel Time (hr)	288.1	330.5	317.7	281.7	303.7	267.7	282.2
Total Delay (hr)	132.4	175.3	163.2	125.2	147.9	110.3	126.4
Total Stops	7477	6400	6829	7028	6764	6925	6587
Fuel Used (l)	821.0	839.7	836.8	812.9	825.3	800.3	809.0

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	7:15	7:15	7:15	7:15
End Time	8:45	8:45	8:45	8:45
Total Time (min)	90	90	90	90
Time Recorded (min)	60	60	60	60
# of Intervals	5	5	5	5
# of Recorded Intervals	4	4	4	4
Vehs Entered	13447	13269	13580	13487
Vehs Exited	13433	13309	13619	13528
Starting Vehs	216	223	251	233
Ending Vehs	230	183	212	202
Travel Distance (km)	8758	8609	8844	8761
Travel Time (hr)	318.7	290.2	280.0	296.1
Total Delay (hr)	163.4	137.4	122.9	140.4
Total Stops	7140	6561	6913	6857
Fuel Used (l)	841.3	804.2	810.5	820.1

Interval #0 Information Seeding

Start Time	7:15
End Time	7:45
Total Time (min)	30
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	3758	3931	3919	3816	3915	3982	3869
Vehs Exited	3729	3833	3840	3719	3805	3843	3818
Starting Vehs	269	256	238	230	256	204	264
Ending Vehs	298	354	317	327	366	343	315
Travel Distance (km)	2419	2466	2477	2446	2471	2466	2459
Travel Time (hr)	83.0	90.1	94.8	87.3	90.6	83.6	75.7
Total Delay (hr)	40.1	46.3	50.9	43.8	46.6	39.6	32.0
Total Stops	2264	2028	2352	2437	2316	2237	2180
Fuel Used (l)	232.2	238.5	248.2	239.1	241.4	232.5	228.2

Interval #1 Information Recording

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	3825	3888	3925	3884
Vehs Exited	3711	3796	3838	3794
Starting Vehs	216	223	251	233
Ending Vehs	330	315	338	324
Travel Distance (km)	2443	2452	2496	2459
Travel Time (hr)	95.3	86.7	85.5	87.2
Total Delay (hr)	51.8	43.2	41.2	43.5
Total Stops	2318	2269	2269	2268
Fuel Used (l)	243.2	236.6	236.5	237.6

Interval #2 Information Recording

Start Time	8:00
End Time	8:15
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	10	2	3	4	5	6
Vehs Entered	3317	3167	3166	3309	3188	3238	3240
Vehs Exited	3364	3295	3246	3418	3321	3334	3332
Starting Vehs	298	354	317	327	366	343	315
Ending Vehs	251	226	237	218	233	247	223
Travel Distance (km)	2154	2108	2093	2199	2129	2189	2129
Travel Time (hr)	79.7	78.5	78.9	71.2	73.5	67.9	68.3
Total Delay (hr)	41.4	40.9	41.7	32.2	35.7	28.9	30.6
Total Stops	1907	1382	1466	1636	1640	1635	1693
Fuel Used (l)	210.1	200.0	201.7	203.6	201.3	199.8	198.1

Interval #2 Information Recording

Start Time	8:00
End Time	8:15
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	7	8	9	Avg
Vehs Entered	3328	3138	3225	3231
Vehs Exited	3404	3234	3318	3329
Starting Vehs	330	315	338	324
Ending Vehs	254	219	245	228
Travel Distance (km)	2254	2068	2151	2147
Travel Time (hr)	92.3	75.4	69.7	75.5
Total Delay (hr)	52.5	38.7	31.3	37.4
Total Stops	1937	1594	1729	1656
Fuel Used (l)	227.3	199.1	200.3	204.1

Interval #3 Information Recording

Start Time	8:15
End Time	8:30
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	10	2	3	4	5	6
Vehs Entered	3188	3165	3170	3173	3202	3258	3256
Vehs Exited	3198	3135	3204	3199	3228	3315	3195
Starting Vehs	251	226	237	218	233	247	223
Ending Vehs	241	256	203	192	207	190	284
Travel Distance (km)	2051	2051	2040	2110	2083	2132	2105
Travel Time (hr)	66.8	82.9	71.0	59.8	67.7	62.1	69.4
Total Delay (hr)	30.4	46.5	34.8	22.5	30.7	24.4	32.1
Total Stops	1724	1523	1455	1504	1416	1709	1432
Fuel Used (l)	191.0	201.4	191.4	184.6	189.0	192.3	192.0

Interval #3 Information Recording

Start Time	8:15
End Time	8:30
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	7	8	9	Avg
Vehs Entered	3144	3064	3203	3178
Vehs Exited	3184	3081	3246	3199
Starting Vehs	254	219	245	228
Ending Vehs	214	202	202	216
Travel Distance (km)	2056	2047	2135	2081
Travel Time (hr)	63.4	63.3	62.6	66.9
Total Delay (hr)	27.0	27.1	24.8	30.0
Total Stops	1436	1305	1539	1506
Fuel Used (l)	185.5	182.6	189.0	189.9

Interval #4 Information Recording

Start Time	8:30
End Time	8:45
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	10	2	3	4	5	6
Vehs Entered	3278	3228	3174	3206	3190	3179	3162
Vehs Exited	3323	3263	3158	3194	3202	3157	3246
Starting Vehs	241	256	203	192	207	190	284
Ending Vehs	196	221	219	204	195	212	200
Travel Distance (km)	2132	2090	2095	2071	2080	2072	2081
Travel Time (hr)	58.6	79.0	73.1	63.5	72.0	54.2	68.8
Total Delay (hr)	20.6	41.7	35.9	26.7	34.9	17.4	31.7
Total Stops	1582	1467	1556	1451	1392	1344	1282
Fuel Used (l)	187.6	199.8	195.5	185.5	193.6	175.7	190.7

Interval #4 Information Recording

Start Time	8:30
End Time	8:45
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	7	8	9	Avg
Vehs Entered	3150	3179	3227	3197
Vehs Exited	3134	3198	3217	3209
Starting Vehs	214	202	202	216
Ending Vehs	230	183	212	202
Travel Distance (km)	2006	2043	2062	2073
Travel Time (hr)	67.7	64.9	62.2	66.4
Total Delay (hr)	32.1	28.5	25.6	29.5
Total Stops	1449	1393	1376	1425
Fuel Used (l)	185.3	185.9	184.6	188.4

2: Marlin Drive/Hemmer Jane Drive & Topsail Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	5.0	0.7	5.8
Denied Del/Veh (s)	0.1	0.0	0.0	2.6	0.2	0.2	0.1	0.1	215.0	194.7	9.2
Total Delay (hr)	0.0	0.3	0.0	0.1	0.1	0.0	0.0	0.2	9.6	0.5	10.7
Total Del/Veh (s)	7.9	1.0	0.6	7.1	0.5	0.2	32.2	9.5	390.9	137.4	16.9
Stop Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	9.7	0.5	10.4
Stop Del/Veh (s)	5.9	0.1	0.1	5.7	0.0	0.0	30.2	9.0	395.5	138.1	16.4

6: Humber Drive/Moffatt Road & Topsail Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.7
Denied Del/Veh (s)	2.6	0.2	0.2	0.0	0.0	0.0	0.1	0.1	16.3	17.8	1.2
Total Delay (hr)	0.0	0.1	0.0	0.0	0.2	0.0	0.1	0.3	2.3	0.8	3.9
Total Del/Veh (s)	6.1	0.5	0.2	6.4	1.0	0.7	77.8	29.1	165.7	34.5	6.5
Stop Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	2.3	0.8	3.5
Stop Del/Veh (s)	4.6	0.0	0.0	4.6	0.0	0.0	75.5	28.6	164.8	33.7	5.7

11: Mount Carson Avenue & Lasalle Drive/Brodie Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.0
Denied Del/Veh (s)	3.8	0.8	0.5	4.0	0.4	0.3	3.4	0.9	1.0	3.5	0.5	0.5
Total Delay (hr)	0.9	0.0	0.3	0.4	0.0	0.3	0.0	2.5	0.0	0.0	1.1	0.1
Total Del/Veh (s)	24.7	33.7	8.3	23.4	26.9	12.1	11.2	11.9	10.9	17.5	8.9	6.0
Stop Delay (hr)	0.8	0.0	0.2	0.3	0.0	0.2	0.0	1.3	0.0	0.0	0.7	0.0
Stop Del/Veh (s)	22.6	28.9	7.8	21.1	23.1	11.4	7.6	6.2	6.4	13.8	5.2	4.0

11: Mount Carson Avenue & Lasalle Drive/Brodie Street Performance by movement

Movement	All
Denied Delay (hr)	0.5
Denied Del/Veh (s)	1.1
Total Delay (hr)	5.6
Total Del/Veh (s)	12.2
Stop Delay (hr)	3.7
Stop Del/Veh (s)	8.1

14: Allston Street/Brougham Drive & Kenmount Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.4	7.5	3.5
Denied Del/Veh (s)	2.0	0.2	0.3	0.3	0.0	0.1	3.7	0.2	0.3	132.9	132.4	131.3
Total Delay (hr)	0.3	8.5	0.3	1.1	1.8	0.2	0.2	0.6	0.1	11.7	5.6	2.4
Total Del/Veh (s)	22.9	27.7	21.4	29.1	10.8	9.0	43.5	62.2	4.0	121.2	104.4	92.1
Stop Delay (hr)	0.2	5.7	0.2	1.0	1.1	0.1	0.2	0.6	0.0	10.6	4.9	2.1
Stop Del/Veh (s)	15.5	18.7	15.5	25.1	6.7	6.1	40.3	57.3	0.9	109.2	91.4	81.6

14: Allston Street/Brougham Drive & Kenmount Road Performance by movement

Movement	All
Denied Delay (hr)	24.5
Denied Del/Veh (s)	31.4
Total Delay (hr)	32.8
Total Del/Veh (s)	42.0
Stop Delay (hr)	26.7
Stop Del/Veh (s)	34.2

28: Kenmount Road & Great Eastern Avenue Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.6	8.4	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Denied Del/Veh (s)	14.3	13.8	14.2	2.5	0.2	0.3	0.1	0.1	0.1	3.6	0.6	0.4
Total Delay (hr)	1.2	12.1	0.0	0.2	2.9	0.0	0.1	0.0	0.1	0.5	0.0	0.2
Total Del/Veh (s)	28.6	19.9	15.2	32.0	10.0	4.2	46.5	45.2	25.6	36.6	29.9	3.0
Stop Delay (hr)	0.7	5.3	0.0	0.2	1.5	0.0	0.1	0.0	0.1	0.5	0.0	0.0
Stop Del/Veh (s)	17.8	8.7	7.1	27.7	5.2	0.2	45.3	42.9	25.6	33.6	24.8	0.1

28: Kenmount Road & Great Eastern Avenue Performance by movement

Movement	All
Denied Delay (hr)	9.1
Denied Del/Veh (s)	8.8
Total Delay (hr)	17.5
Total Del/Veh (s)	16.7
Stop Delay (hr)	8.5
Stop Del/Veh (s)	8.1

36: Brant Drive/H3 Access #1 & Kenmount Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	3.0	0.2	0.2	3.9	0.3	0.3	4.1	0.2	0.2
Total Delay (hr)	0.3	4.0	0.1	0.0	1.6	0.1	0.5	1.2	0.2	0.3	0.4	0.0
Total Del/Veh (s)	13.3	9.9	9.7	14.3	8.1	3.1	45.4	52.5	9.5	51.5	55.5	3.1
Stop Delay (hr)	0.2	1.4	0.0	0.0	0.9	0.0	0.4	1.0	0.1	0.3	0.3	0.0
Stop Del/Veh (s)	7.4	3.5	2.2	11.5	4.7	0.1	42.2	47.7	6.8	48.4	51.6	1.0

36: Brant Drive/H3 Access #1 & Kenmount Road Performance by movement

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.2
Total Delay (hr)	8.5
Total Del/Veh (s)	11.8
Stop Delay (hr)	4.8
Stop Del/Veh (s)	6.7

48: Topsail Road & Farrell Drive Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.1	0.0	0.0	0.3	0.0	0.5
Denied Del/Veh (s)	2.4	0.2	0.2	0.3	3.6	0.8	0.6
Total Delay (hr)	0.2	3.5	2.9	0.3	1.7	0.2	8.8
Total Del/Veh (s)	14.7	10.0	11.8	7.6	23.0	7.2	11.8
Stop Delay (hr)	0.1	1.6	1.6	0.2	1.5	0.1	5.1
Stop Del/Veh (s)	9.8	4.6	6.4	4.4	19.3	5.7	6.8

Total Network Performance

Movement	All
Denied Delay (hr)	41.2
Denied Del/Veh (s)	11.0
Total Delay (hr)	99.2
Total Del/Veh (s)	26.0
Stop Delay (hr)	64.0
Stop Del/Veh (s)	16.8

Intersection: 2: Marlin Drive/Hemmer Jane Drive & Topsail Road

Movement	EB	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	TR	LTR	L	TR
Maximum Queue (m)	8.3	0.5	3.2	10.8	1.0	23.0	42.4	93.0
Average Queue (m)	1.0	0.0	0.1	2.8	0.0	9.9	38.9	67.0
95th Queue (m)	5.4	0.5	1.8	8.0	0.8	18.3	51.2	123.0
Link Distance (m)		278.5	278.5		110.4	63.7		83.3
Upstream Blk Time (%)								61
Queuing Penalty (veh)								0
Storage Bay Dist (m)	15.0			25.0			35.0	
Storage Blk Time (%)	0						83	0
Queuing Penalty (veh)	0						12	0

Intersection: 6: Humber Drive/Moffatt Road & Topsail Road

Movement	EB	WB	WB	NB	SB	SB
Directions Served	L	L	TR	LTR	L	TR
Maximum Queue (m)	8.9	6.8	0.5	31.8	35.0	75.0
Average Queue (m)	2.5	0.7	0.0	8.7	16.6	23.3
95th Queue (m)	7.5	3.8	0.3	28.0	36.6	77.4
Link Distance (m)			278.5	185.8		108.6
Upstream Blk Time (%)						7
Queuing Penalty (veh)						0
Storage Bay Dist (m)	30.0	35.0			30.0	
Storage Blk Time (%)					19	0
Queuing Penalty (veh)					18	0

Intersection: 11: Mount Carson Avenue & Lasalle Drive/Brodie Street

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (m)	31.6	44.5	25.1	29.9	20.9	107.5	10.6	80.8
Average Queue (m)	18.7	14.7	10.7	11.4	2.7	52.8	0.9	32.7
95th Queue (m)	31.0	30.4	21.3	23.0	13.8	96.6	6.3	64.0
Link Distance (m)		43.4		56.6		149.3		91.4
Upstream Blk Time (%)		0		0		0		0
Queuing Penalty (veh)		0		0		0		0
Storage Bay Dist (m)	25.0		25.0		85.0		50.0	
Storage Blk Time (%)	4	1	0	1	0	2		2
Queuing Penalty (veh)	5	1	0	0	0	0		0

Intersection: 14: Allston Street/Brougham Drive & Kenmount Road

Movement	EB	EB	EB	WB	WB	WB	B17	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	T	L	TR	L	TR
Maximum Queue (m)	67.2	155.9	148.0	60.4	70.2	73.0	71.6	15.8	45.2	57.4	168.4
Average Queue (m)	14.4	76.3	71.5	22.4	27.2	32.2	2.6	4.8	11.3	56.6	151.7
95th Queue (m)	48.2	133.7	130.1	45.3	59.8	65.5	73.0	13.2	27.9	61.3	195.8
Link Distance (m)		452.6	452.6		155.1	155.1	705.8		136.1		156.0
Upstream Blk Time (%)							0				56
Queuing Penalty (veh)							0				0
Storage Bay Dist (m)	60.0			60.0				50.0		50.0	
Storage Blk Time (%)	0	17		1	1				0	58	17
Queuing Penalty (veh)	0	8		2	1				0	168	59

Intersection: 28: Kenmount Road & Great Eastern Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (m)	52.3	185.2	183.9	38.9	90.1	78.9	11.9	18.3	35.2	21.2
Average Queue (m)	26.1	101.5	93.1	7.5	42.4	29.0	2.7	4.0	12.6	1.5
95th Queue (m)	54.5	209.0	200.6	23.4	74.4	60.1	9.7	12.9	26.6	11.8
Link Distance (m)		179.6	179.6		241.2	241.2	34.3	34.3		141.5
Upstream Blk Time (%)		9	7							
Queuing Penalty (veh)		0	0							
Storage Bay Dist (m)	45.0			40.0					45.0	
Storage Blk Time (%)	0	14			8				0	0
Queuing Penalty (veh)	2	21			2				0	0

Intersection: 36: Brant Drive/H3 Access #1 & Kenmount Road

Movement	EB	EB	EB	B17	B17	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	T	T	L	T	TR	L	TR	L	TR
Maximum Queue (m)	31.3	77.3	80.6	78.0	85.1	9.8	63.0	54.2	30.1	55.8	20.0	26.9
Average Queue (m)	10.3	34.4	37.6	3.9	4.1	2.4	30.3	17.5	9.9	24.6	6.8	7.2
95th Queue (m)	21.4	64.3	69.6	43.7	46.0	8.7	55.5	43.1	22.9	48.3	16.8	18.8
Link Distance (m)		705.8	705.8	155.1	155.1		209.0	209.0		82.9		156.1
Upstream Blk Time (%)				0	0							
Queuing Penalty (veh)				0	2							
Storage Bay Dist (m)	60.0					80.0			60.0		140.0	
Storage Blk Time (%)		1								0		
Queuing Penalty (veh)		1								0		

Intersection: 48: Topsail Road & Farrell Drive

Movement	EB	EB	EB	WB	WB	SB	SB
Directions Served	L	T	T	T	TR	L	R
Maximum Queue (m)	32.7	78.9	73.9	79.0	75.8	56.1	57.6
Average Queue (m)	9.0	41.6	34.9	39.2	33.7	33.9	11.3
95th Queue (m)	22.7	65.7	61.1	64.4	60.0	52.2	28.6
Link Distance (m)		331.8	331.8	354.8	354.8		142.8
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (m)	45.0					50.0	
Storage Blk Time (%)		4				2	
Queuing Penalty (veh)		2				1	

Network Summary

Network wide Queuing Penalty: 307

Intersection: 11: Mount Carson Avenue & Lasalle Drive/Brodie Street

Phase	1	2	4	5	6	8
Movement(s) Served	SBL NBTL	EBTL	NBL	SBTL	WBTL	
Maximum Green (s)	7.0	37.0	18.0	7.0	37.0	18.0
Minimum Green (s)	7.0	25.0	10.0	7.0	25.0	10.0
Recall	None	Max	None	None	Max	None
Avg. Green (s)	9.1	39.1	13.4	7.1	37.6	13.4
g/C Ratio	-0.01	NA	NA	-0.01	NA	NA
Cycles Skipped (%)	98	0	0	90	0	0
Cycles @ Minimum (%)	2	0	27	10	0	27
Cycles Maxed Out (%)	2	100	15	10	100	15
Cycles with Peds (%)	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
Number of Complete Cycles : 0

Intersection: 14: Allston Street/Brougham Drive & Kenmount Road

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Maximum Green (s)	8.0	45.0	7.0	34.0	7.0	46.0	13.0	28.0
Minimum Green (s)	7.0	25.0	7.0	10.0	7.0	25.0	7.0	10.0
Recall	None	C-Max	None	None	None	C-Max	None	None
Avg. Green (s)	10.1	62.7	7.8	28.8	7.8	71.0	17.5	16.6
g/C Ratio	-0.01	NA	-0.01	NA	-0.01	NA	NA	-0.01
Cycles Skipped (%)	26	0	62	0	58	0	0	29
Cycles @ Minimum (%)	15	0	38	0	31	0	0	14
Cycles Maxed Out (%)	19	100	38	14	8	100	97	11
Cycles with Peds (%)	0	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
Number of Complete Cycles : 0

Intersection: 28: Kenmount Road & Great Eastern Avenue

Phase	1	2	3	4	5	6	8
Movement(s) Served	WBL	EBTL	SBL	NBTL	EBL	WBTL	SBTL
Maximum Green (s)	7.0	59.0	7.0	23.0	12.0	54.0	36.0
Minimum Green (s)	7.0	25.0	7.0	10.0	7.0	25.0	10.0
Recall	None	Max	None	None	None	Max	None
Avg. Green (s)	7.4	76.8	9.3	10.7	8.4	61.9	13.1
g/C Ratio	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Cycles Skipped (%)	81	11	29	70	32	3	18
Cycles @ Minimum (%)	19	0	16	27	37	0	63
Cycles Maxed Out (%)	19	89	71	0	5	97	0
Cycles with Peds (%)	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
Number of Complete Cycles : 0

Intersection: 36: Brant Drive/H3 Access #1 & Kenmount Road

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Maximum Green (s)	7.0	59.0	7.0	23.0	7.0	59.0	7.0	23.0
Minimum Green (s)	7.0	25.0	7.0	10.0	7.0	25.0	7.0	10.0
Recall	None	C-Max	None	None	None	C-Max	None	None
Avg. Green (s)	8.1	92.1	12.7	13.7	8.3	86.9	7.7	13.5
g/C Ratio	-0.01	NA	-0.01	-0.01	-0.01	NA	-0.01	-0.01
Cycles Skipped (%)	92	0	36	29	56	0	52	3
Cycles @ Minimum (%)	8	0	32	39	26	0	48	52
Cycles Maxed Out (%)	0	100	64	0	0	100	48	0
Cycles with Peds (%)	0	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
Number of Complete Cycles : 0

Intersection: 48: Topsail Road & Farrell Drive

Phase	2	4	5	6
Movement(s) Served	EBTL	SBL	EBL	WBT
Maximum Green (s)	39.0	24.0	7.0	26.0
Minimum Green (s)	25.0	10.0	7.0	25.0
Recall	Max	None	None	Max
Avg. Green (s)	40.4	16.0	7.1	36.7
g/C Ratio	NA	NA	-0.01	NA
Cycles Skipped (%)	0	0	76	0
Cycles @ Minimum (%)	0	17	24	0
Cycles Maxed Out (%)	100	12	24	100
Cycles with Peds (%)	0	0	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

172093 Kenmount Hill CDS TIS
Kenmount Road & Brougham Drive/Allston Street

S2C 10-year with Improvements AM

01/26/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	1083	40	135	516	88	18	37	111	353	201	91
Future Volume (veh/h)	46	1083	40	135	516	88	18	37	111	353	201	91
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1856	1856	1841	1826	1826	1811	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	53	1245	46	175	670	114	23	48	0	380	216	98
Peak Hour Factor	0.87	0.87	0.87	0.77	0.77	0.77	0.77	0.77	0.77	0.93	0.93	0.93
Percent Heavy Veh, %	5	3	3	4	5	5	6	2	2	2	2	2
Cap, veh/h	385	1682	62	259	1491	253	143	231		390	245	111
Arrive On Green	0.05	0.49	0.49	0.07	0.50	0.50	0.03	0.12	0.00	0.11	0.20	0.20
Sat Flow, veh/h	1739	3467	128	1753	2966	504	1725	1870	0	1781	1218	553
Grp Volume(v), veh/h	53	633	658	175	392	392	23	48	0	380	0	314
Grp Sat Flow(s),veh/h/ln	1739	1763	1832	1753	1735	1735	1725	1870	0	1781	0	1771
Q Serve(g_s), s	1.8	34.6	34.7	6.0	17.4	17.4	1.4	2.8	0.0	13.0	0.0	20.7
Cycle Q Clear(g_c), s	1.8	34.6	34.7	6.0	17.4	17.4	1.4	2.8	0.0	13.0	0.0	20.7
Prop In Lane	1.00		0.07	1.00		0.29	1.00		0.00	1.00		0.31
Lane Grp Cap(c), veh/h	385	855	889	259	872	873	143	231		390	0	356
V/C Ratio(X)	0.14	0.74	0.74	0.68	0.45	0.45	0.16	0.21		0.98	0.00	0.88
Avail Cap(c_a), veh/h	402	855	889	259	872	873	190	436		390	0	502
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.5	24.8	24.8	22.0	19.1	19.2	44.0	47.3	0.0	46.0	0.0	46.6
Incr Delay (d2), s/veh	0.2	5.7	5.5	6.8	1.7	1.7	0.5	0.4	0.0	39.0	0.0	12.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	16.7	17.4	3.1	8.0	8.0	0.6	1.4	0.0	10.0	0.0	11.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.7	30.5	30.4	28.8	20.8	20.8	44.5	47.7	0.0	84.9	0.0	59.3
LnGrp LOS	B	C	C	C	C	C	D	D		F	A	E
Approach Vol, veh/h		1344			959			71	A		694	
Approach Delay, s/veh		29.8			22.3			46.7			73.3	
Approach LOS		C			C			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.0	65.2	9.7	30.1	12.8	67.3	19.0	20.8				
Change Period (Y+Rc), s	7.0	7.0	6.0	6.0	7.0	7.0	6.0	6.0				
Max Green Setting (Gmax), s	8.0	45.0	7.0	34.0	7.0	46.0	13.0	28.0				
Max Q Clear Time (g_c+I1), s	8.0	0.0	3.4	22.7	3.8	0.0	15.0	4.8				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.2				
Intersection Summary												
HCM 6th Ctrl Delay			37.7									
HCM 6th LOS			D									
Notes												
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.												

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	143	2180	8	24	1031	28	9	1	13	56	3	237	
Future Volume (veh/h)	143	2180	8	24	1031	28	9	1	13	56	3	237	
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach	No			No			No			No			
Adj Sat Flow, veh/h/ln	1856	1870	1870	1826	1841	1841	1870	1870	1870	1781	1870	1870	
Adj Flow Rate, veh/h	159	2422	9	27	1146	0	14	2	20	77	4	0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.66	0.66	0.66	0.73	0.73	0.73	
Percent Heavy Veh, %	3	2	2	5	4	4	2	2	2	8	2	2	
Cap, veh/h	363	2152	8	137	1959		167	10	98	249	354		
Arrive On Green	0.07	0.59	0.59	0.04	0.56	0.00	0.07	0.07	0.07	0.06	0.19	0.00	
Sat Flow, veh/h	1767	3631	13	1739	3589	0	1412	146	1461	1697	1870	0	
Grp Volume(v), veh/h	159	1184	1247	27	1146	0	14	0	22	77	4	0	
Grp Sat Flow(s),veh/h/ln	1767	1777	1868	1739	1749	0	1412	0	1607	1697	1870	0	
Q Serve(g_s), s	3.6	59.0	59.0	0.6	21.3	0.0	0.9	0.0	1.3	4.0	0.2	0.0	
Cycle Q Clear(g_c), s	3.6	59.0	59.0	0.6	21.3	0.0	0.9	0.0	1.3	4.0	0.2	0.0	
Prop In Lane	1.00		0.01	1.00		0.00	1.00		0.91	1.00		0.00	
Lane Grp Cap(c), veh/h	363	1053	1107	137	1959		167	0	108	249	354		
V/C Ratio(X)	0.44	1.12	1.13	0.20	0.58		0.08	0.00	0.20	0.31	0.01		
Avail Cap(c_a), veh/h	454	1053	1107	195	1959		399	0	371	263	676		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	
Uniform Delay (d), s/veh	10.9	20.3	20.3	23.8	14.3	0.0	43.7	0.0	43.9	37.8	32.8	0.0	
Incr Delay (d2), s/veh	0.8	68.6	68.7	0.7	1.3	0.0	0.2	0.0	0.9	0.7	0.0	0.0	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	1.6	45.2	47.5	0.4	9.4	0.0	0.4	0.0	0.6	1.8	0.1	0.0	
Unsig. Movement Delay, s/veh													
LnGrp Delay(d),s/veh	11.7	88.9	89.0	24.5	15.6	0.0	43.9	0.0	44.8	38.5	32.8	0.0	
LnGrp LOS	B	F	F	C	B		D	A	D	D	C		
Approach Vol, veh/h	2590				1173		A		36		81		A
Approach Delay, s/veh	84.2				15.8				44.5		38.2		
Approach LOS	F				B				D		D		
Timer - Assigned Phs	1	2	3	4	5	6	8						
Phs Duration (G+Y+Rc), s	9.7	65.0	12.2	12.7	12.9	61.8	24.9						
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0						
Max Green Setting (Gmax), s	7.0	59.0	7.0	23.0	12.0	54.0	36.0						
Max Q Clear Time (g_c+I1), s	2.6	0.0	6.0	3.3	5.6	0.0	2.2						
Green Ext Time (p_c), s	0.0	0.0	0.0	0.1	0.4	0.0	0.0						
Intersection Summary													
HCM 6th Ctrl Delay	62.2												
HCM 6th LOS	E												
Notes													

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	1372	22	11	686	66	34	78	65	20	21	25
Future Volume (veh/h)	82	1372	22	11	686	66	34	78	65	20	21	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	89	1491	0	12	746	0	37	85	0	22	23	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	531	2335		239	2207		232	174		180	154	
Arrive On Green	0.06	0.66	0.00	0.02	0.62	0.00	0.04	0.09	0.00	0.03	0.08	0.00
Sat Flow, veh/h	1781	3647	0	1781	3647	0	1781	1870	0	1781	1870	0
Grp Volume(v), veh/h	89	1491	0	12	746	0	37	85	0	22	23	0
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	0	1781	1870	0	1781	1870	0
Q Serve(g_s), s	2.0	29.7	0.0	0.3	12.1	0.0	2.2	5.2	0.0	1.3	1.4	0.0
Cycle Q Clear(g_c), s	2.0	29.7	0.0	0.3	12.1	0.0	2.2	5.2	0.0	1.3	1.4	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	531	2335		239	2207		232	174		180	154	
V/C Ratio(X)	0.17	0.64		0.05	0.34		0.16	0.49		0.12	0.15	
Avail Cap(c_a), veh/h	536	2335		308	2207		262	358		230	358	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	7.2	12.1	0.0	10.6	10.9	0.0	47.1	51.7	0.0	47.9	51.2	0.0
Incr Delay (d2), s/veh	0.1	1.3	0.0	0.1	0.4	0.0	0.3	2.1	0.0	0.3	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	13.1	0.0	0.1	5.4	0.0	1.1	2.7	0.0	0.6	0.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.4	13.5	0.0	10.7	11.3	0.0	47.4	53.8	0.0	48.2	51.6	0.0
LnGrp LOS	A	B		B	B		D	D		D	D	
Approach Vol, veh/h		1580	A		758	A		122	A		45	A
Approach Delay, s/veh		13.2			11.3			51.8			49.9	
Approach LOS		B			B			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.3	84.9	11.0	15.9	12.6	80.5	9.6	17.2				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	7.0	59.0	7.0	23.0	7.0	59.0	7.0	23.0				
Max Q Clear Time (g_c+I1), s	2.3	0.0	4.2	3.4	4.0	0.0	3.3	7.2				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.3				
Intersection Summary												
HCM 6th Ctrl Delay			15.1									
HCM 6th LOS			B									
Notes												
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	127	1	111	54	3	77	13	749	15	4	473	29
Future Volume (veh/h)	127	1	111	54	3	77	13	749	15	4	473	29
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1411	1411	1781	1870	1870	1530	1870	1870
Adj Flow Rate, veh/h	146	1	128	62	3	89	14	823	16	5	648	40
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.91	0.91	0.91	0.73	0.73	0.73
Percent Heavy Veh, %	2	2	2	2	33	33	8	2	2	25	2	2
Cap, veh/h	287	3	329	276	8	243	306	970	19	193	900	56
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.02	0.53	0.53	0.01	0.52	0.52
Sat Flow, veh/h	1304	12	1575	1261	39	1163	1697	1828	36	1457	1743	108
Grp Volume(v), veh/h	146	0	129	62	0	92	14	0	839	5	0	688
Grp Sat Flow(s),veh/h/ln	1304	0	1587	1261	0	1202	1697	0	1864	1457	0	1851
Q Serve(g_s), s	7.7	0.0	5.0	3.2	0.0	4.7	0.3	0.0	27.5	0.1	0.0	20.5
Cycle Q Clear(g_c), s	12.4	0.0	5.0	8.2	0.0	4.7	0.3	0.0	27.5	0.1	0.0	20.5
Prop In Lane	1.00		0.99	1.00		0.97	1.00		0.02	1.00		0.06
Lane Grp Cap(c), veh/h	287	0	331	276	0	251	306	0	989	193	0	956
V/C Ratio(X)	0.51	0.00	0.39	0.23	0.00	0.37	0.05	0.00	0.85	0.03	0.00	0.72
Avail Cap(c_a), veh/h	343	0	399	329	0	302	432	0	989	321	0	956
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.6	0.0	24.4	28.0	0.0	24.3	10.6	0.0	14.3	13.0	0.0	13.3
Incr Delay (d2), s/veh	1.4	0.0	0.7	0.4	0.0	0.9	0.1	0.0	9.0	0.1	0.0	4.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	2.1	1.1	0.0	1.5	0.1	0.0	15.0	0.0	0.0	10.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.0	0.0	25.2	28.4	0.0	25.2	10.7	0.0	23.3	13.1	0.0	18.0
LnGrp LOS	C	A	C	C	A	C	B	A	C	B	A	B
Approach Vol, veh/h	275			154			853			693		
Approach Delay, s/veh	28.3			26.5			23.1			18.0		
Approach LOS	C			C			C			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.7	44.0		21.0	7.7	43.0		21.0				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	7.0	37.0		18.0	7.0	37.0		18.0				
Max Q Clear Time (g_c+I1), s	2.1	0.0		14.4	2.3	0.0		10.2				
Green Ext Time (p_c), s	0.0	0.0		0.5	0.0	0.0		0.4				
Intersection Summary												
HCM 6th Ctrl Delay	22.3											
HCM 6th LOS	C											

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	42	1262	877	145	276	86
Future Volume (veh/h)	42	1262	877	145	276	86
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1710	1856	1841	1841	1934	1949
Adj Flow Rate, veh/h	47	1402	997	165	310	97
Peak Hour Factor	0.90	0.90	0.88	0.88	0.89	0.89
Percent Heavy Veh, %	8	3	4	4	3	2
Cap, veh/h	284	2107	1334	221	403	361
Arrive On Green	0.06	0.60	0.44	0.44	0.22	0.22
Sat Flow, veh/h	1629	3618	3096	497	1842	1651
Grp Volume(v), veh/h	47	1402	580	582	310	97
Grp Sat Flow(s),veh/h/ln	1629	1763	1749	1751	1842	1651
Q Serve(g_s), s	0.9	17.3	18.0	18.1	10.3	3.2
Cycle Q Clear(g_c), s	0.9	17.3	18.0	18.1	10.3	3.2
Prop In Lane	1.00			0.28	1.00	1.00
Lane Grp Cap(c), veh/h	284	2107	777	778	403	361
V/C Ratio(X)	0.17	0.67	0.75	0.75	0.77	0.27
Avail Cap(c_a), veh/h	359	2107	777	778	677	607
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.7	8.8	15.1	15.1	24.0	21.2
Incr Delay (d2), s/veh	0.3	1.7	6.5	6.5	3.1	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	7.2	8.8	8.8	5.2	3.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	10.9	10.5	21.6	21.6	27.1	21.6
LnGrp LOS	B	B	C	C	C	C
Approach Vol, veh/h		1449	1162		407	
Approach Delay, s/veh		10.5	21.6		25.8	
Approach LOS		B	C		C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		45.0		20.3	10.0	35.0
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		39.0		24.0	7.0	26.0
Max Q Clear Time (g_c+I1), s		0.0		12.3	2.9	0.0
Green Ext Time (p_c), s		0.0		2.0	0.0	0.0
Intersection Summary						
HCM 6th Ctrl Delay			16.8			
HCM 6th LOS			B			

Intersection												
Int Delay, s/veh	42.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	1043	8	30	970	22	3	0	64	82	0	14
Future Vol, veh/h	8	1043	8	30	970	22	3	0	64	82	0	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	250	-	-	-	-	-	350	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	86	86	86	85	85	85	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	1320	10	35	1128	26	4	0	75	99	0	17
Major/Minor	Major1		Major2			Minor1			Minor2			
Conflicting Flow All	1154	0	0	1330	0	0	1979	2569	665	1891	2561	577
Stage 1	-	-	-	-	-	-	1345	1345	-	1211	1211	-
Stage 2	-	-	-	-	-	-	634	1224	-	680	1350	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	601	-	-	515	-	-	37	26	403	~ 43	26	460
Stage 1	-	-	-	-	-	-	160	218	-	193	253	-
Stage 2	-	-	-	-	-	-	434	250	-	407	217	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	601	-	-	515	-	-	33	24	403	~ 33	24	460
Mov Cap-2 Maneuver	-	-	-	-	-	-	33	24	-	~ 33	24	-
Stage 1	-	-	-	-	-	-	157	214	-	190	236	-
Stage 2	-	-	-	-	-	-	390	233	-	325	213	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	0.1		0.4			23.9			\$ 986.6			
HCM LOS						C			F			
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2			
Capacity (veh/h)	268	601	-	-	515	-	-	33	460			
HCM Lane V/C Ratio	0.294	0.017	-	-	0.068	-	-	2.994	0.037			
HCM Control Delay (s)	23.9	11.1	-	-	12.5	-		\$ 1152.8	13.1			
HCM Lane LOS	C	B	-	-	B	-	-	F	B			
HCM 95th %tile Q(veh)	1.2	0.1	-	-	0.2	-	-	11.5	0.1			
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s			+: Computation Not Defined				*: All major volume in platoon			

Intersection												
Int Delay, s/veh	12.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	973	6	9	862	88	6	0	34	52	0	85
Future Vol, veh/h	25	973	6	9	862	88	6	0	34	52	0	85
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	-	350	-	-	-	-	-	300	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	82	82	82	65	65	65	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	29	1145	7	11	1051	107	9	0	52	66	0	108
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1158	0	0	1152	0	0	1755	2387	576	1758	2337	579
Stage 1	-	-	-	-	-	-	1207	1207	-	1127	1127	-
Stage 2	-	-	-	-	-	-	548	1180	-	631	1210	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	599	-	-	602	-	-	54	34	460	~ 54	36	458
Stage 1	-	-	-	-	-	-	194	254	-	218	278	-
Stage 2	-	-	-	-	-	-	488	262	-	436	254	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	599	-	-	602	-	-	39	32	460	~ 45	34	458
Mov Cap-2 Maneuver	-	-	-	-	-	-	39	32	-	~ 45	34	-
Stage 1	-	-	-	-	-	-	185	242	-	208	273	-
Stage 2	-	-	-	-	-	-	367	257	-	368	242	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0.1			36.1			176.9		
HCM LOS							E			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2			
Capacity (veh/h)	176	599	-	-	602	-	-	45	458			
HCM Lane V/C Ratio	0.35	0.049	-	-	0.018	-	-	1.463	0.235			
HCM Control Delay (s)	36.1	11.3	-	-	11.1	-	-	\$ 441.1	15.3			
HCM Lane LOS	E	B	-	-	B	-	-	F	C			
HCM 95th %tile Q(veh)	1.5	0.2	-	-	0.1	-	-	6.4	0.9			
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s				+: Computation Not Defined				*: All major volume in platoon		

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	3:45	3:45	3:45	3:45	3:45	3:45	3:45
End Time	5:15	5:15	5:15	5:15	5:15	5:15	5:15
Total Time (min)	90	90	90	90	90	90	90
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4	4
Vehs Entered	16487	16567	16334	16557	16381	16239	16606
Vehs Exited	16435	16539	16338	16570	16397	16269	16555
Starting Vehs	365	389	421	397	375	409	378
Ending Vehs	417	417	417	384	359	379	429
Travel Distance (km)	10628	10667	10595	10691	10566	10511	10764
Travel Time (hr)	1044.7	933.6	1070.2	959.2	992.8	1062.4	1066.6
Total Delay (hr)	854.9	743.2	881.2	768.6	804.0	874.9	874.7
Total Stops	11662	11689	11566	11076	11254	11031	11637
Fuel Used (l)	1624.7	1526.6	1639.4	1548.8	1572.3	1623.2	1646.4

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	3:45	3:45	3:45	3:45
End Time	5:15	5:15	5:15	5:15
Total Time (min)	90	90	90	90
Time Recorded (min)	60	60	60	60
# of Intervals	5	5	5	5
# of Recorded Intervals	4	4	4	4
Vehs Entered	16471	16196	16399	16425
Vehs Exited	16485	16145	16404	16413
Starting Vehs	404	375	399	386
Ending Vehs	390	426	394	396
Travel Distance (km)	10598	10428	10556	10600
Travel Time (hr)	1002.2	1029.7	1010.8	1017.2
Total Delay (hr)	812.8	843.2	822.2	828.0
Total Stops	11578	10945	10544	11298
Fuel Used (l)	1579.4	1591.0	1582.8	1593.5

Interval #0 Information Seeding

Start Time	3:45
End Time	4:15
Total Time (min)	30
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	4:15
End Time	4:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	4469	4586	4434	4514	4494	4381	4628
Vehs Exited	4343	4482	4396	4420	4371	4260	4501
Starting Vehs	365	389	421	397	375	409	378
Ending Vehs	491	493	459	491	498	530	505
Travel Distance (km)	2850	2912	2844	2839	2868	2814	2920
Travel Time (hr)	210.8	213.0	238.8	223.8	207.4	216.6	219.2
Total Delay (hr)	159.9	161.1	188.1	173.3	156.2	166.3	167.1
Total Stops	3173	3306	3081	3211	3295	3418	3228
Fuel Used (l)	378.4	380.7	400.5	385.6	375.2	376.1	387.8

Interval #1 Information Recording

Start Time	4:15
End Time	4:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	4581	4440	4395	4489
Vehs Exited	4476	4353	4344	4397
Starting Vehs	404	375	399	386
Ending Vehs	509	462	450	486
Travel Distance (km)	2867	2814	2825	2855
Travel Time (hr)	210.4	208.6	213.3	216.2
Total Delay (hr)	159.2	158.3	162.7	165.2
Total Stops	3605	2904	3068	3224
Fuel Used (l)	377.7	370.9	375.3	380.8

Interval #2 Information Recording

Start Time	4:30
End Time	4:45
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	10	2	3	4	5	6
Vehs Entered	3974	4020	4029	4010	3997	3996	4057
Vehs Exited	4026	4114	4040	4039	4127	4149	4109
Starting Vehs	491	493	459	491	498	530	505
Ending Vehs	439	399	448	462	368	377	453
Travel Distance (km)	2575	2609	2601	2616	2641	2627	2651
Travel Time (hr)	255.1	227.1	269.7	246.2	251.1	266.9	269.7
Total Delay (hr)	209.0	180.5	223.2	199.6	203.8	220.0	222.5
Total Stops	2785	2823	2929	2769	3069	2804	2877
Fuel Used (l)	393.0	373.0	406.9	390.5	396.6	408.9	410.6

Interval #2 Information Recording

Start Time	4:30
End Time	4:45
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	7	8	9	Avg
Vehs Entered	3894	3937	3981	3992
Vehs Exited	4025	3979	4060	4063
Starting Vehs	509	462	450	486
Ending Vehs	378	420	371	409
Travel Distance (km)	2537	2541	2601	2600
Travel Time (hr)	233.6	247.1	256.2	252.3
Total Delay (hr)	188.2	201.8	209.9	205.8
Total Stops	2614	2634	2470	2774
Fuel Used (l)	374.2	384.2	395.3	393.3

Interval #3 Information Recording

Start Time	4:45
End Time	5:00
Total Time (min)	15
Volumes adjusted by Growth Factors, Anti PHF.	

Run Number	1	10	2	3	4	5	6
Vehs Entered	3964	3930	3997	4013	3873	3914	3920
Vehs Exited	3994	3921	4004	4095	3877	3922	3947
Starting Vehs	439	399	448	462	368	377	453
Ending Vehs	409	408	441	380	364	369	426
Travel Distance (km)	2580	2531	2608	2643	2482	2526	2581
Travel Time (hr)	281.9	233.2	269.8	238.6	258.7	273.4	274.9
Total Delay (hr)	235.8	187.9	223.2	191.5	214.2	228.5	228.9
Total Stops	2770	2728	2805	2596	2424	2350	2830
Fuel Used (l)	418.3	370.7	408.3	382.9	389.1	404.6	410.5

Interval #3 Information Recording

Start Time	4:45
End Time	5:00
Total Time (min)	15
Volumes adjusted by Growth Factors, Anti PHF.	

Run Number	7	8	9	Avg
Vehs Entered	4046	3937	3974	3958
Vehs Exited	4006	3940	3979	3969
Starting Vehs	378	420	371	409
Ending Vehs	418	417	366	395
Travel Distance (km)	2612	2550	2564	2568
Travel Time (hr)	265.6	273.0	258.0	262.7
Total Delay (hr)	218.9	227.3	212.2	216.8
Total Stops	2732	2696	2378	2626
Fuel Used (l)	403.1	406.5	394.3	398.8

Interval #4 Information Recording

Start Time	5:00
End Time	5:15
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	10	2	3	4	5	6
Vehs Entered	4080	4031	3874	4020	4017	3948	4001
Vehs Exited	4072	4022	3898	4016	4022	3938	3998
Starting Vehs	409	408	441	380	364	369	426
Ending Vehs	417	417	417	384	359	379	429
Travel Distance (km)	2622	2615	2540	2592	2576	2544	2612
Travel Time (hr)	296.9	260.3	291.9	250.6	275.7	305.4	302.8
Total Delay (hr)	250.1	213.6	246.7	204.3	229.9	260.0	256.2
Total Stops	2934	2832	2751	2500	2466	2459	2702
Fuel Used (l)	435.0	402.1	423.7	389.9	411.4	433.5	437.5

Interval #4 Information Recording

Start Time	5:00
End Time	5:15
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	7	8	9	Avg
Vehs Entered	3950	3882	4049	3982
Vehs Exited	3978	3873	4021	3984
Starting Vehs	418	417	366	395
Ending Vehs	390	426	394	396
Travel Distance (km)	2581	2522	2565	2577
Travel Time (hr)	292.5	301.0	283.3	286.0
Total Delay (hr)	246.5	255.8	237.5	240.1
Total Stops	2627	2711	2628	2660
Fuel Used (l)	424.3	429.4	418.0	420.5

2: Marlin Drive/Hemmer Jane Drive & Topsail Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.5	32.4	6.3	39.4
Denied Del/Veh (s)	0.2	0.0	0.0	2.4	0.3	0.4	45.1	29.9	1424.1	1344.0	50.6
Total Delay (hr)	0.1	0.4	0.0	0.1	0.4	0.0	0.2	1.1	12.2	0.9	15.5
Total Del/Veh (s)	10.5	1.2	0.7	9.3	1.2	0.9	227.6	69.5	841.9	423.2	20.0
Stop Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.2	1.1	12.2	0.9	14.7
Stop Del/Veh (s)	8.2	0.0	0.0	7.7	0.0	0.0	226.8	70.0	847.3	424.9	19.0

6: Humber Drive/Moffatt Road & Topsail Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	82.7	2.1	37.8
Denied Del/Veh (s)	2.4	0.3	0.2	0.0	0.0	0.0	0.1	0.1	0.1	1872.8	1909.2	1887.8
Total Delay (hr)	0.2	0.3	0.0	0.1	0.4	0.1	0.1	0.1	0.1	13.4	0.2	3.4
Total Del/Veh (s)	8.8	0.8	0.2	8.6	1.5	1.5	178.9	219.2	41.3	863.7	763.2	535.6
Stop Delay (hr)	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	13.5	0.2	3.4
Stop Del/Veh (s)	6.9	0.0	0.1	6.5	0.0	0.0	177.0	217.1	40.9	869.8	765.0	538.4

6: Humber Drive/Moffatt Road & Topsail Road Performance by movement

Movement	All
Denied Delay (hr)	122.7
Denied Del/Veh (s)	163.5
Total Delay (hr)	18.4
Total Del/Veh (s)	25.9
Stop Delay (hr)	17.7
Stop Del/Veh (s)	24.9

11: Mount Carson Avenue & Lasalle Drive/Brodie Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.0	0.6	8.5	1.6
Denied Del/Veh (s)	4.0	0.3	0.3	4.1	0.1	0.2	2.9	1.3	1.2	38.4	34.6	35.1
Total Delay (hr)	0.6	0.0	0.2	0.2	0.0	0.1	0.7	2.2	0.1	0.3	5.0	0.8
Total Del/Veh (s)	39.9	34.4	22.0	38.3	28.3	13.0	28.7	10.1	8.1	21.0	20.3	17.4
Stop Delay (hr)	0.6	0.0	0.2	0.2	0.0	0.1	0.6	1.0	0.1	0.2	2.9	0.5
Stop Del/Veh (s)	38.0	31.0	21.5	36.3	26.3	12.6	24.9	4.6	4.4	14.8	11.7	11.0

11: Mount Carson Avenue & Lasalle Drive/Brodie Street Performance by movement

Movement	All
Denied Delay (hr)	11.1
Denied Del/Veh (s)	18.5
Total Delay (hr)	10.2
Total Del/Veh (s)	17.0
Stop Delay (hr)	6.3
Stop Del/Veh (s)	10.5

14: Allston Street/Brougham Drive & Kenmount Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.1	0.1	0.0	0.0	0.1	0.0	2.3	7.3	5.3	0.1	0.0	0.0
Denied Del/Veh (s)	2.1	0.2	0.2	0.1	0.2	0.1	156.8	162.7	157.1	3.9	0.5	0.6
Total Delay (hr)	1.5	5.2	0.1	1.7	11.0	2.5	2.2	8.5	4.2	2.3	0.7	0.4
Total Del/Veh (s)	43.2	20.4	15.9	30.9	30.4	31.1	149.7	190.1	126.9	69.1	52.1	24.7
Stop Delay (hr)	1.2	3.4	0.1	1.2	7.0	1.7	2.0	8.0	3.9	2.2	0.6	0.3
Stop Del/Veh (s)	37.2	13.6	12.1	22.0	19.4	21.1	141.2	179.7	119.6	65.2	47.3	22.4

14: Allston Street/Brougham Drive & Kenmount Road Performance by movement

Movement	All
Denied Delay (hr)	15.2
Denied Del/Veh (s)	16.2
Total Delay (hr)	40.2
Total Del/Veh (s)	42.5
Stop Delay (hr)	31.9
Stop Del/Veh (s)	33.7

28: Kenmount Road & Great Eastern Avenue Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.4	1.3	0.0	1.8	380.9	5.8	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	5.1	3.2	1.7	538.2	577.4	584.1	0.1	0.1	0.1	3.4	0.3	0.4
Total Delay (hr)	4.3	4.8	0.0	0.3	47.3	0.6	0.6	0.0	0.1	0.3	0.0	0.8
Total Del/Veh (s)	54.5	11.8	8.0	94.4	88.8	75.1	47.9	41.2	20.6	43.2	49.1	8.6
Stop Delay (hr)	3.8	2.3	0.0	0.2	32.8	0.4	0.6	0.0	0.1	0.3	0.0	0.4
Stop Del/Veh (s)	47.5	5.6	4.5	68.1	61.5	52.2	46.1	39.0	20.4	39.0	43.5	4.7

28: Kenmount Road & Great Eastern Avenue Performance by movement

Movement	All
Denied Delay (hr)	390.3
Denied Del/Veh (s)	307.1
Total Delay (hr)	59.2
Total Del/Veh (s)	51.7
Stop Delay (hr)	40.9
Stop Del/Veh (s)	35.7

36: Brant Drive/H3 Access #1 & Kenmount Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.5	9.9	0.6	0.1	0.1	0.0	0.9	0.5	0.5
Denied Del/Veh (s)	0.2	0.0	0.1	25.5	22.8	24.0	7.0	2.9	4.0	14.9	12.2	11.8
Total Delay (hr)	2.1	4.0	0.1	1.1	27.9	1.3	0.5	3.0	0.2	11.2	2.7	1.3
Total Del/Veh (s)	57.8	13.7	8.7	55.8	63.9	50.5	44.2	64.8	26.9	183.4	66.7	33.5
Stop Delay (hr)	1.8	1.7	0.0	0.8	19.2	0.9	0.5	2.8	0.2	11.0	2.4	1.1
Stop Del/Veh (s)	50.5	5.7	1.3	40.4	43.9	34.9	40.2	59.1	23.6	181.5	58.7	28.1

36: Brant Drive/H3 Access #1 & Kenmount Road Performance by movement

Movement	All
Denied Delay (hr)	13.0
Denied Del/Veh (s)	12.8
Total Delay (hr)	55.3
Total Del/Veh (s)	53.8
Stop Delay (hr)	42.2
Stop Del/Veh (s)	41.1

48: Topsail Road & Farrell Drive Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.1	0.1	0.1	0.0	0.2	0.0	0.5
Denied Del/Veh (s)	2.4	0.3	0.4	0.5	3.8	0.5	0.6
Total Delay (hr)	0.8	2.1	9.2	1.7	1.7	0.3	15.7
Total Del/Veh (s)	29.4	6.7	22.6	20.4	35.9	11.6	17.4
Stop Delay (hr)	0.6	0.9	4.4	0.9	1.5	0.2	8.6
Stop Del/Veh (s)	25.2	2.9	10.9	10.4	32.4	10.3	9.5

Total Network Performance

Movement	All
Denied Delay (hr)	592.3
Denied Del/Veh (s)	123.9
Total Delay (hr)	235.7
Total Del/Veh (s)	50.5
Stop Delay (hr)	165.8
Stop Del/Veh (s)	35.5

Intersection: 2: Marlin Drive/Hemmer Jane Drive & Topsail Road

Movement	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	TR	L	TR	LTR	L	TR
Maximum Queue (m)	9.6	2.1	16.0	3.1	54.3	42.4	91.5
Average Queue (m)	3.1	0.1	5.0	0.1	16.8	41.4	86.9
95th Queue (m)	9.4	1.0	11.8	1.9	47.5	44.4	91.0
Link Distance (m)	278.5		109.0		63.7	83.3	
Upstream Blk Time (%)					6	100	
Queuing Penalty (veh)					0	0	
Storage Bay Dist (m)	15.0	25.0		35.0			
Storage Blk Time (%)	0	0		100			1
Queuing Penalty (veh)	1	0		15			1

Intersection: 6: Humber Drive/Moffatt Road & Topsail Road

Movement	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	TR	L	T	TR	LTR	L	TR
Maximum Queue (m)	20.3	0.5	13.0	1.2	2.2	20.7	37.4	118.5
Average Queue (m)	6.9	0.0	3.3	0.0	0.2	5.1	36.4	112.3
95th Queue (m)	15.0	0.3	9.6	1.2	1.2	16.5	38.8	117.4
Link Distance (m)	175.9		278.5		278.5	185.8	108.6	
Upstream Blk Time (%)								100
Queuing Penalty (veh)								0
Storage Bay Dist (m)	30.0	35.0					30.0	
Storage Blk Time (%)	0						99	2
Queuing Penalty (veh)	0						60	2

Intersection: 11: Mount Carson Avenue & Lasalle Drive/Brodie Street

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (m)	27.0	27.2	18.5	17.4	56.8	126.2	57.0	103.0
Average Queue (m)	12.3	7.1	4.7	4.6	16.5	51.6	15.3	86.1
95th Queue (m)	24.2	19.3	14.2	13.2	36.3	101.1	44.5	123.7
Link Distance (m)	43.4		56.6		149.3		91.4	
Upstream Blk Time (%)	0				0		24	
Queuing Penalty (veh)	0				0		0	
Storage Bay Dist (m)	25.0	25.0		85.0		50.0		
Storage Blk Time (%)	1	0	0	0	2		0	25
Queuing Penalty (veh)	0	0	0	0	1		0	15

Intersection: 14: Allston Street/Brougham Drive & Kenmount Road

Movement	EB	EB	EB	WB	WB	WB	B17	B17	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	T	T	L	TR	L	TR
Maximum Queue (m)	67.3	107.3	98.6	67.4	163.6	165.5	17.2	361.4	57.4	147.4	52.8	61.6
Average Queue (m)	28.4	58.8	53.4	36.1	87.0	93.0	1.5	22.2	31.1	120.5	29.6	23.5
95th Queue (m)	60.3	93.8	89.5	71.5	146.9	151.6	19.7	216.4	68.8	177.8	51.1	59.2
Link Distance (m)		452.6	452.6		163.2	163.2	696.5	696.5		136.1		156.0
Upstream Blk Time (%)					1	2		0		51		0
Queuing Penalty (veh)					10	15		3		0		0
Storage Bay Dist (m)	60.0			60.0					50.0		50.0	
Storage Blk Time (%)	0	6		0	24				0	70	4	0
Queuing Penalty (veh)	1	8		1	46				1	38	5	0

Intersection: 28: Kenmount Road & Great Eastern Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (m)	52.4	159.1	143.0	35.5	256.0	257.8	31.0	20.1	39.1	81.1
Average Queue (m)	43.4	72.9	58.0	5.0	247.2	247.7	10.8	5.5	8.1	25.3
95th Queue (m)	61.3	158.3	134.8	24.1	252.3	253.6	25.0	15.9	23.2	71.6
Link Distance (m)		149.3	149.3		241.2	241.2	34.6	34.6		141.4
Upstream Blk Time (%)		9	1		59	57	0	0		
Queuing Penalty (veh)		0	0		0	0	0	0		
Storage Bay Dist (m)	45.0			40.0					45.0	
Storage Blk Time (%)	21	4			44					7
Queuing Penalty (veh)	163	11			5					2

Intersection: 36: Brant Drive/H3 Access #1 & Kenmount Road

Movement	EB	EB	EB	B17	B17	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	T	T	L	T	TR	L	TR	L	TR
Maximum Queue (m)	63.4	78.1	83.2	16.3	17.2	87.4	220.1	217.6	55.7	81.0	139.2	144.1
Average Queue (m)	28.0	32.9	38.1	0.6	0.6	33.5	178.6	170.7	13.4	45.5	95.0	79.2
95th Queue (m)	49.6	61.6	67.9	16.6	17.0	92.5	256.0	256.1	35.1	78.5	159.0	159.6
Link Distance (m)		696.5	696.5	163.2	163.2		208.9	208.9		82.9		156.1
Upstream Blk Time (%)				0	0		26	24		3		11
Queuing Penalty (veh)				0	0		0	0		0		0
Storage Bay Dist (m)	60.0					80.0			60.0		140.0	
Storage Blk Time (%)	0	1				0	39			8	17	0
Queuing Penalty (veh)	2	1				0	28			4	48	1

Intersection: 48: Topsail Road & Farrell Drive

Movement	EB	EB	EB	WB	WB	SB	SB
Directions Served	L	T	T	T	TR	L	R
Maximum Queue (m)	40.8	60.4	56.9	165.0	168.1	54.2	40.2
Average Queue (m)	16.7	32.6	25.0	82.3	81.4	28.8	11.3
95th Queue (m)	31.6	53.9	47.6	159.1	158.9	48.8	26.1
Link Distance (m)		331.8	331.8	354.8	354.8		142.8
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (m)	45.0					50.0	
Storage Blk Time (%)	0	1				1	
Queuing Penalty (veh)	0	1				1	

Network Summary

Network wide Queuing Penalty: 491

Intersection: 11: Mount Carson Avenue & Lasalle Drive/Brodie Street

Phase	1	2	4	5	6	8
Movement(s) Served	SBL NBTL	EBTL	NBL	SBTL	WBTL	
Maximum Green (s)	7.0	57.0	18.0	7.0	57.0	18.0
Minimum Green (s)	7.0	25.0	10.0	7.0	25.0	10.0
Recall	None	Max	None	None	Max	None
Avg. Green (s)	7.3	68.7	11.2	7.1	61.4	11.2
g/C Ratio	-0.01	-0.01	-0.01	-0.01	NA	-0.01
Cycles Skipped (%)	65	6	10	38	0	10
Cycles @ Minimum (%)	35	0	54	62	0	54
Cycles Maxed Out (%)	35	94	3	62	100	3
Cycles with Peds (%)	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
Number of Complete Cycles : 0

Intersection: 14: Allston Street/Brougham Drive & Kenmount Road

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Maximum Green (s)	14.0	45.0	7.0	28.0	7.0	52.0	7.0	28.0
Minimum Green (s)	7.0	25.0	7.0	10.0	7.0	25.0	7.0	10.0
Recall	None	C-Max	None	None	None	C-Max	None	None
Avg. Green (s)	10.8	62.8	12.7	20.2	10.7	64.9	7.1	15.6
g/C Ratio	-0.01	NA	-0.01	-0.01	-0.01	NA	NA	NA
Cycles Skipped (%)	7	0	27	18	14	0	0	0
Cycles @ Minimum (%)	14	0	54	4	18	0	100	7
Cycles Maxed Out (%)	0	100	73	0	7	100	100	0
Cycles with Peds (%)	0	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
Number of Complete Cycles : 0

Intersection: 28: Kenmount Road & Great Eastern Avenue

Phase	1	2	3	4	5	6	8
Movement(s) Served	WBL	EBTL	SBL	NBTL	EBL	WBTL	SBTL
Maximum Green (s)	11.0	55.0	7.0	23.0	11.0	55.0	36.0
Minimum Green (s)	7.0	25.0	7.0	10.0	7.0	25.0	10.0
Recall	None	Max	None	None	None	Max	None
Avg. Green (s)	9.1	89.5	8.5	11.2	10.7	55.8	15.5
g/C Ratio	-0.01	-0.01	-0.01	-0.01	NA	NA	-0.01
Cycles Skipped (%)	94	21	54	36	0	0	19
Cycles @ Minimum (%)	6	0	29	39	6	0	39
Cycles Maxed Out (%)	0	79	46	0	81	100	0
Cycles with Peds (%)	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

Intersection: 36: Brant Drive/H3 Access #1 & Kenmount Road

Phase	1	2	3	4	5	6	7	8
Movement(s) Served	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Maximum Green (s)	7.0	58.0	8.0	23.0	7.0	58.0	8.0	23.0
Minimum Green (s)	7.0	25.0	7.0	10.0	7.0	25.0	7.0	10.0
Recall	None	C-Max	None	None	None	C-Max	None	None
Avg. Green (s)	7.9	67.0	8.9	24.5	8.8	63.1	8.4	19.2
g/C Ratio	-0.01	NA	-0.01	NA	-0.01	NA	NA	NA
Cycles Skipped (%)	33	0	33	0	11	0	0	0
Cycles @ Minimum (%)	44	0	7	0	39	0	0	0
Cycles Maxed Out (%)	22	100	48	31	46	100	100	31
Cycles with Peds (%)	0	0	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

Intersection: 48: Topsail Road & Farrell Drive

Phase	2	4	5	6
Movement(s) Served	EBTL	SBL	EBL	WBT
Maximum Green (s)	64.0	24.0	7.0	51.0
Minimum Green (s)	25.0	10.0	7.0	25.0
Recall	Max	None	None	Max
Avg. Green (s)	66.2	15.5	7.3	58.5
g/C Ratio	-0.01	-0.01	-0.01	NA
Cycles Skipped (%)	3	3	47	0
Cycles @ Minimum (%)	0	18	53	0
Cycles Maxed Out (%)	97	8	53	100
Cycles with Peds (%)	0	0	0	0

Controller Summary

Average Cycle Length (s): NA

Number of Complete Cycles : 0

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	891	30	195	1278	285	54	156	121	127	51	48
Future Volume (veh/h)	115	891	30	195	1278	285	54	156	121	127	51	48
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1870	1870	1870	1870	1870	1752	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	146	1128	38	205	1345	300	68	195	0	151	61	57
Peak Hour Factor	0.79	0.79	0.79	0.95	0.95	0.95	0.80	0.80	0.80	0.84	0.84	0.84
Percent Heavy Veh, %	3	2	2	2	2	2	10	2	2	2	2	2
Cap, veh/h	202	1848	62	335	1570	344	228	235		192	117	109
Arrive On Green	0.06	0.53	0.53	0.07	0.54	0.54	0.05	0.13	0.00	0.06	0.13	0.13
Sat Flow, veh/h	1767	3508	118	1781	2898	635	1668	1870	0	1781	890	831
Grp Volume(v), veh/h	146	571	595	205	815	830	68	195	0	151	0	118
Grp Sat Flow(s),veh/h/ln	1767	1777	1849	1781	1777	1756	1668	1870	0	1781	0	1721
Q Serve(g_s), s	4.5	26.9	26.9	6.2	46.6	49.3	4.2	12.2	0.0	7.0	0.0	7.7
Cycle Q Clear(g_c), s	4.5	26.9	26.9	6.2	46.6	49.3	4.2	12.2	0.0	7.0	0.0	7.7
Prop In Lane	1.00		0.06	1.00		0.36	1.00		0.00	1.00		0.48
Lane Grp Cap(c), veh/h	202	936	974	335	962	951	228	235		192	0	226
V/C Ratio(X)	0.72	0.61	0.61	0.61	0.85	0.87	0.30	0.83		0.79	0.00	0.52
Avail Cap(c_a), veh/h	203	936	974	413	962	951	238	436		192	0	402
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.8	19.8	19.8	16.1	23.3	23.9	42.5	51.2	0.0	47.0	0.0	48.6
Incr Delay (d2), s/veh	11.9	3.0	2.9	1.8	9.1	10.9	0.7	7.4	0.0	19.1	0.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	12.7	13.2	2.9	23.1	24.4	1.9	6.6	0.0	2.4	0.0	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.8	22.8	22.7	17.9	32.4	34.8	43.2	58.7	0.0	66.1	0.0	50.4
LnGrp LOS	D	C	C	B	C	C	D	E		E	A	D
Approach Vol, veh/h		1312			1850			263	A		269	
Approach Delay, s/veh		24.4			31.9			54.7			59.2	
Approach LOS		C			C			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.7	70.2	12.3	21.8	13.9	72.0	13.0	21.1				
Change Period (Y+Rc), s	7.0	7.0	6.0	6.0	7.0	7.0	6.0	6.0				
Max Green Setting (Gmax), s	14.0	45.0	7.0	28.0	7.0	52.0	7.0	28.0				
Max Q Clear Time (g_c+I1), s	8.2	0.0	6.2	9.7	6.5	0.0	9.0	14.2				
Green Ext Time (p_c), s	0.5	0.0	0.0	0.5	0.0	0.0	0.0	0.8				
Intersection Summary												
HCM 6th Ctrl Delay			32.8									
HCM 6th LOS			C									
Notes												
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.												

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	281	1444	6	12	2216	34	42	3	19	28	2	311	
Future Volume (veh/h)	281	1444	6	12	2216	34	42	3	19	28	2	311	
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach	No			No			No			No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1841	1870	1870	
Adj Flow Rate, veh/h	323	1660	7	13	2435	0	81	6	37	37	3	0	
Peak Hour Factor	0.87	0.87	0.87	0.91	0.91	0.91	0.52	0.52	0.52	0.75	0.75	0.75	
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	4	2	2	
Cap, veh/h	257	2219	9	191	1873		201	21	130	239	365		
Arrive On Green	0.11	0.61	0.61	0.02	0.53	0.00	0.09	0.09	0.09	0.04	0.20	0.00	
Sat Flow, veh/h	1781	3629	15	1781	3647	0	1414	226	1394	1753	1870	0	
Grp Volume(v), veh/h	323	812	855	13	2435	0	81	0	43	37	3	0	
Grp Sat Flow(s),veh/h/ln	1781	1777	1868	1781	1777	0	1414	0	1620	1753	1870	0	
Q Serve(g_s), s	11.0	34.2	34.2	0.3	55.0	0.0	5.7	0.0	2.6	1.9	0.1	0.0	
Cycle Q Clear(g_c), s	11.0	34.2	34.2	0.3	55.0	0.0	5.7	0.0	2.6	1.9	0.1	0.0	
Prop In Lane	1.00		0.01	1.00		0.00	1.00		0.86	1.00		0.00	
Lane Grp Cap(c), veh/h	257	1086	1142	191	1873		201	0	151	239	365		
V/C Ratio(X)	1.26	0.75	0.75	0.07	1.30		0.40	0.00	0.28	0.16	0.01		
Avail Cap(c_a), veh/h	257	1086	1142	341	1873		381	0	357	279	645		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	
Uniform Delay (d), s/veh	35.4	14.5	14.5	14.0	24.7	0.0	45.5	0.0	44.1	38.0	33.9	0.0	
Incr Delay (d2), s/veh	143.7	4.7	4.5	0.1	139.1	0.0	1.3	0.0	1.0	0.3	0.0	0.0	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	13.9	16.0	16.7	0.2	60.3	0.0	2.2	0.0	1.2	0.9	0.1	0.0	
Unsig. Movement Delay, s/veh													
LnGrp Delay(d),s/veh	179.1	19.2	19.0	14.1	163.7	0.0	46.8	0.0	45.1	38.3	33.9	0.0	
LnGrp LOS	F	B	B	B	F		D	A	D	D	C		
Approach Vol, veh/h	1990			2448		A		124		40			A
Approach Delay, s/veh	45.1			163.0				46.2		38.0			
Approach LOS	D			F				D		D			
Timer - Assigned Phs	1	2	3	4	5	6	8						
Phs Duration (G+Y+Rc), s	8.2	69.8	10.6	15.7	17.0	61.0	26.4						
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0						
Max Green Setting (Gmax), s	11.0	55.0	7.0	23.0	11.0	55.0	36.0						
Max Q Clear Time (g_c+I1), s	2.3	36.2	3.9	7.7	13.0	57.0	2.1						
Green Ext Time (p_c), s	0.0	13.1	0.0	0.4	0.0	0.0	0.0						
Intersection Summary													
HCM 6th Ctrl Delay			107.8										
HCM 6th LOS			F										
Notes													

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	123	1015	41	71	1553	96	43	161	27	207	145	143
Future Volume (veh/h)	123	1015	41	71	1553	96	43	161	27	207	145	143
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	134	1103	0	77	1688	0	47	175	0	225	158	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	211	2010		345	1996		209	213		206	251	
Arrive On Green	0.06	0.57	0.00	0.05	0.56	0.00	0.05	0.11	0.00	0.07	0.13	0.00
Sat Flow, veh/h	1781	3647	0	1781	3647	0	1781	1870	0	1781	1870	0
Grp Volume(v), veh/h	134	1103	0	77	1688	0	47	175	0	225	158	0
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	0	1781	1870	0	1781	1870	0
Q Serve(g_s), s	3.7	23.5	0.0	2.1	47.6	0.0	2.7	11.0	0.0	8.0	9.6	0.0
Cycle Q Clear(g_c), s	3.7	23.5	0.0	2.1	47.6	0.0	2.7	11.0	0.0	8.0	9.6	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	211	2010		345	1996		209	213		206	251	
V/C Ratio(X)	0.64	0.55		0.22	0.85		0.22	0.82		1.09	0.63	
Avail Cap(c_a), veh/h	212	2010		353	1996		246	358		206	358	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	24.8	16.4	0.0	11.9	22.0	0.0	43.7	52.0	0.0	49.6	49.1	0.0
Incr Delay (d2), s/veh	6.1	1.1	0.0	0.3	4.6	0.0	0.5	7.6	0.0	89.6	2.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	10.6	0.0	0.9	22.3	0.0	1.3	5.9	0.0	7.8	5.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.8	17.5	0.0	12.2	26.6	0.0	44.2	59.6	0.0	139.2	51.7	0.0
LnGrp LOS	C	B		B	C		D	E		F	D	
Approach Vol, veh/h		1237	A		1765	A		222	A		383	A
Approach Delay, s/veh		18.9			26.0			56.4			103.1	
Approach LOS		B			C			E			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.5	73.9	11.5	22.1	12.9	73.4	14.0	19.7				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	7.0	58.0	8.0	23.0	7.0	58.0	8.0	23.0				
Max Q Clear Time (g_c+I1), s	4.1	0.0	4.7	11.6	5.7	0.0	10.0	13.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.7	0.1	0.0	0.0	0.7				
Intersection Summary												
HCM 6th Ctrl Delay			33.6									
HCM 6th LOS			C									
Notes												
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	2	30	18	3	19	89	795	54	57	881	157
Future Volume (veh/h)	55	2	30	18	3	19	89	795	54	57	881	157
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1159	1159	1796	1870	1870	1870	1856	1856	1870	1870	1870
Adj Flow Rate, veh/h	82	3	45	29	5	30	94	837	57	61	947	169
Peak Hour Factor	0.67	0.67	0.67	0.63	0.63	0.63	0.95	0.95	0.95	0.93	0.93	0.93
Percent Heavy Veh, %	2	50	50	7	2	2	2	3	3	2	2	2
Cap, veh/h	201	7	101	162	25	151	218	1088	74	364	965	172
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	0.07	0.63	0.63	0.06	0.62	0.62
Sat Flow, veh/h	1373	62	930	1304	231	1389	1781	1718	117	1781	1545	276
Grp Volume(v), veh/h	82	0	48	29	0	35	94	0	894	61	0	1116
Grp Sat Flow(s),veh/h/ln	1373	0	992	1304	0	1620	1781	0	1834	1781	0	1821
Q Serve(g_s), s	5.3	0.0	4.1	1.9	0.0	1.8	1.6	0.0	31.8	1.0	0.0	54.3
Cycle Q Clear(g_c), s	7.1	0.0	4.1	6.1	0.0	1.8	1.6	0.0	31.8	1.0	0.0	54.3
Prop In Lane	1.00		0.94	1.00		0.86	1.00		0.06	1.00		0.15
Lane Grp Cap(c), veh/h	201	0	108	162	0	176	218	0	1163	364	0	1137
V/C Ratio(X)	0.41	0.00	0.45	0.18	0.00	0.20	0.43	0.00	0.77	0.17	0.00	0.98
Avail Cap(c_a), veh/h	323	0	196	277	0	320	230	0	1163	393	0	1137
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.3	0.0	38.1	40.9	0.0	37.1	22.1	0.0	11.9	10.5	0.0	16.6
Incr Delay (d2), s/veh	1.3	0.0	2.9	0.5	0.0	0.5	1.3	0.0	4.9	0.2	0.0	22.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	1.2	0.7	0.0	0.8	1.5	0.0	15.8	0.5	0.0	31.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.6	0.0	41.0	41.5	0.0	37.6	23.4	0.0	16.9	10.7	0.0	39.3
LnGrp LOS	D	A	D	D	A	D	C	A	B	B	A	D
Approach Vol, veh/h	130			64			988			1177		
Approach Delay, s/veh	41.4			39.4			17.5			37.8		
Approach LOS	D			D			B			D		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.5	63.8		15.9	12.4	63.0		15.9				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	7.0	57.0		18.0	7.0	57.0		18.0				
Max Q Clear Time (g_c+I1), s	3.0	0.0		9.1	3.6	0.0		8.1				
Green Ext Time (p_c), s	0.1	0.0		0.4	0.1	0.0		0.2				
Intersection Summary												
HCM 6th Ctrl Delay	29.5											
HCM 6th LOS	C											

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	94	1132	1424	301	169	75
Future Volume (veh/h)	94	1132	1424	301	169	75
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1796	1870	1870	1870	1949	1949
Adj Flow Rate, veh/h	108	1301	1548	327	214	95
Peak Hour Factor	0.87	0.87	0.92	0.92	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	224	2556	1700	348	271	241
Arrive On Green	0.07	0.72	0.58	0.58	0.15	0.15
Sat Flow, veh/h	1710	3647	3031	602	1856	1651
Grp Volume(v), veh/h	108	1301	917	958	214	95
Grp Sat Flow(s),veh/h/ln	1710	1777	1777	1762	1856	1651
Q Serve(g_s), s	2.0	14.4	40.0	44.6	9.9	4.6
Cycle Q Clear(g_c), s	2.0	14.4	40.0	44.6	9.9	4.6
Prop In Lane	1.00			0.34	1.00	1.00
Lane Grp Cap(c), veh/h	224	2556	1028	1020	271	241
V/C Ratio(X)	0.48	0.51	0.89	0.94	0.79	0.39
Avail Cap(c_a), veh/h	233	2556	1028	1020	501	445
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.5	5.5	16.3	17.3	36.7	34.4
Incr Delay (d2), s/veh	1.6	0.7	11.7	16.9	5.1	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	5.8	20.1	23.3	5.2	4.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	22.1	6.3	28.0	34.2	41.8	35.5
LnGrp LOS	C	A	C	C	D	D
Approach Vol, veh/h		1409	1875		309	
Approach Delay, s/veh		7.5	31.2		39.9	
Approach LOS		A	C		D	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		70.0		19.0	12.5	57.5
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		64.0		24.0	7.0	51.0
Max Q Clear Time (g_c+I1), s		16.4		11.9	4.0	46.6
Green Ext Time (p_c), s		16.3		1.1	0.1	4.0
Intersection Summary						
HCM 6th Ctrl Delay			22.6			
HCM 6th LOS			C			

Intersection												
Int Delay, s/veh	93.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	1393	9	55	1126	134	3	0	57	70	0	15
Future Vol, veh/h	18	1393	9	55	1126	134	3	0	57	70	0	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	250	-	-	-	-	-	350	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	90	90	90	50	50	50	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	1678	11	61	1251	149	6	0	114	83	0	18
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1400	0	0	1689	0	0	2476	3250	845	2331	3181	700
Stage 1	-	-	-	-	-	-	1728	1728	-	1448	1448	-
Stage 2	-	-	-	-	-	-	748	1522	-	883	1733	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	484	-	-	374	-	-	15	9	306	~ 20	10	382
Stage 1	-	-	-	-	-	-	92	142	-	138	195	-
Stage 2	-	-	-	-	-	-	371	179	-	307	141	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	484	-	-	374	-	-	12	7	306	~ 11	8	382
Mov Cap-2 Maneuver	-	-	-	-	-	-	12	7	-	~ 11	8	-
Stage 1	-	-	-	-	-	-	88	136	-	132	163	-
Stage 2	-	-	-	-	-	-	296	150	-	184	135	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.7			107			\$ 2991.8		
HCM LOS							F			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2			
Capacity (veh/h)	138	484	-	-	374	-	-	11	382			
HCM Lane V/C Ratio	0.87	0.045	-	-	0.163	-	-	7.576	0.047			
HCM Control Delay (s)	107	12.8	-	-	16.5	-	-	\$ 3629.7	14.9			
HCM Lane LOS	F	B	-	-	C	-	-	F	B			
HCM 95th %tile Q(veh)	5.7	0.1	-	-	0.6	-	-	11.7	0.1			
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s			+: Computation Not Defined				*: All major volume in platoon			

Intersection												
Int Delay, s/veh	281.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	76	1244	2	32	962	151	2	1	11	134	5	55
Future Vol, veh/h	76	1244	2	32	962	151	2	1	11	134	5	55
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	-	350	-	-	-	-	-	300	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	96	96	96	65	65	65	69	69	69
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	97	1595	3	33	1002	157	3	2	17	194	7	80
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1159	0	0	1598	0	0	2362	3016	799	2140	2939	580
Stage 1	-	-	-	-	-	-	1791	1791	-	1147	1147	-
Stage 2	-	-	-	-	-	-	571	1225	-	993	1792	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	599	-	-	406	-	-	19	13	328	~ 28	15	458
Stage 1	-	-	-	-	-	-	84	132	-	212	272	-
Stage 2	-	-	-	-	-	-	473	249	-	263	131	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	599	-	-	406	-	-	7	10	328	~ 19	12	458
Mov Cap-2 Maneuver	-	-	-	-	-	-	7	10	-	~ 19	12	-
Stage 1	-	-	-	-	-	-	70	111	-	~ 178	250	-
Stage 2	-	-	-	-	-	-	349	229	-	206	110	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.7			0.4			231.3			\$ 3171.1		
HCM LOS							F			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2			
Capacity (veh/h)	33	599	-	-	406	-	-	19	112			
HCM Lane V/C Ratio	0.653	0.163	-	-	0.082	-	-	10.221	0.776			
HCM Control Delay (s)	231.3	12.2	-	-	14.7	-	-	\$ 4544.4	104.1			
HCM Lane LOS	F	B	-	-	B	-	-	F	F			
HCM 95th %tile Q(veh)	2.2	0.6	-	-	0.3	-	-	24.8	4.4			
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s			+: Computation Not Defined				*: All major volume in platoon			



Appendix D

Traffic Signal Warrants Analyses

2005 Canadian Matrix Traffic Signal Warrant Analysis

Main Street (name)	Mount Carson Avenue	Direction (EW or NS)	NS
Side Street (name)	Lasalle Drive	Direction (EW or NS)	EW
Quadrant (if appl)			

Date:	Dec 06, 2017
City:	Mount Pearl, NL

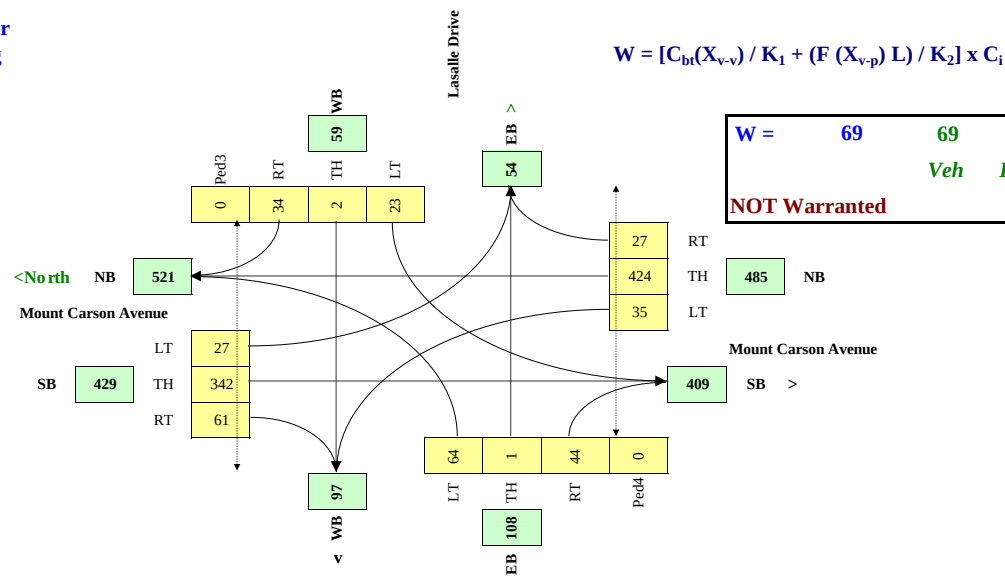
Lane Configuration		Excl LT	Th & LT	Through or Th+RT+LT	Th & RT	Excl RT	UpStream Signal (m)	# of Thru Lanes	
Mount Carson Avenue	NB	1			1			1	
Mount Carson Avenue	SB	1			1			1	
Lasalle Drive	WB	1				1			
Lasalle Drive	EB	1				1			

Demographics		
Elementary School	(y/n)	n
Senior's Complex	(y/n)	n
Pathway to School	(y/n)	n
Metro Area Population	(#)	205955
Central Business District	(y/n)	n

Other input		Speed (Km/h)	Trucks %	Bus Rt (y/n)	Median (m)
Mount Carson Avenue	NS	50	2.0%	y	0.0
Lasalle Drive	EW		2.0%	n	

Traffic Input	NB			SB			WB			EB			Ped1 NS	Ped2 NS	Ped3 EW	Ped4 EW
	LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT	W Side	E Side	N Side	S side
7:00 - 8:00	14	428	8	5	175	24	31	1	47	114	0	67	0	0	0	0
8:00 - 9:00	13	515	16	4	314	22	37	2	67	99	1	85	0	2	0	0
11:00 - 12:00	21	378	16	23	357	41	17	1	22	37	2	18	1	2	0	1
12:00 - 13:00	33	432	25	22	371	36	18	1	24	33	0	33	1	1	0	0
16:00 - 17:00	66	398	48	46	454	120	20	4	19	46	3	24	0	1	0	0
17:00 - 18:00	62	392	46	59	380	120	16	0	25	52	2	34	0	0	0	0
Total (6-hour peak)	209	2,543	159	159	2,051	363	139	9	204	381	8	261	2	6	0	1
Average (6-hour peak)	35	424	27	27	342	61	23	2	34	64	1	44	0	1	0	0

Average 6-hour Peak Turning Movements



$$W = [C_{bt}(X_{v-v}) / K_1 + (F(X_{v-p}) L) / K_2] \times C_i$$

2005 Canadian Matrix Traffic Signal Warrant Analysis

Main Street (name)	Mount Carson Avenue	Direction (EW or NS)	NS
Side Street (name)	Wyatt Boulevard	Direction (EW or NS)	EW
Quadrant (if appl)			

Date:	Dec 05, 2017
City:	Mount Pearl, NL

Lane Configuration		Exd LT	Th & LT	Through or Th+RT+LT	Th & RT	Exd RT	UpStream Signal (m)	# of Thru Lanes	
Mount Carson Avenue	NB				1			1	
Mount Carson Avenue	SB	1		1				1	
Wyatt Boulevard	WB	1				1			
Wyatt Boulevard	EB								

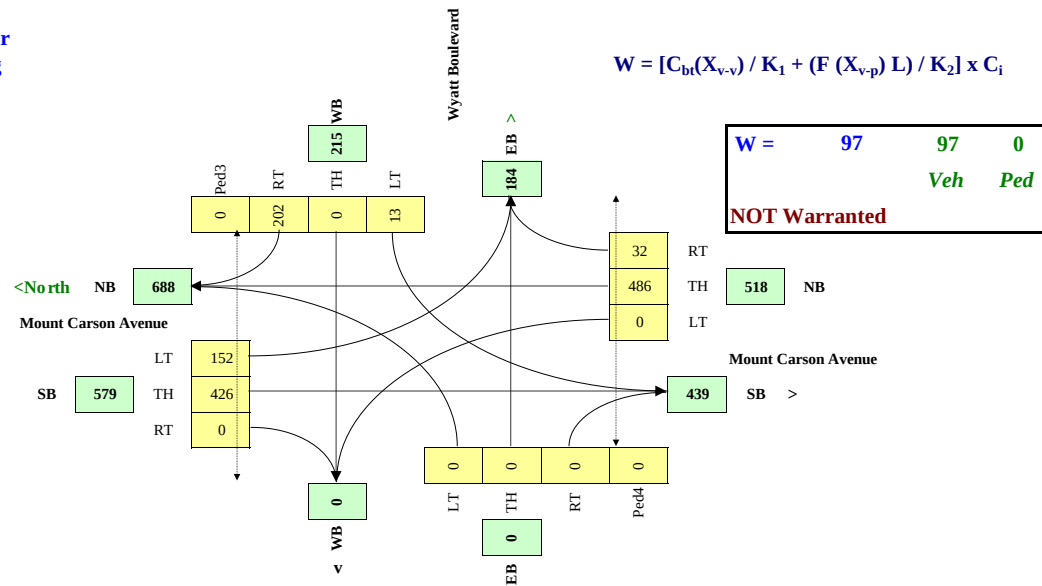
Demographics		
Elementary School	(y/n)	n
Senior's Complex	(y/n)	n
Pathway to School	(y/n)	n
Metro Area Population	(#)	205955
Central Business District	(y/n)	n

Other input		Speed (Km/h)	Trucks %	Bus Rt (y/n)	Median (m)
Mount Carson Avenue	NS	50	2.0%	y	0.0
Wyatt Boulevard	EW		2.0%	y	

Traffic Input	NB			SB			WB			EB			Ped1 NS	Ped2 NS	Ped3 EW	Ped4 EW
	LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT	W Side	E Side	N Side	S side
7:00 - 8:00	0	601	10	73	197	0	10	0	206	0	0	0	0	1	0	0
8:00 - 9:00	0	602	21	159	318	0	14	0	254	0	0	0	0	0	0	0
11:00 - 12:00	0	391	24	90	383	0	11	0	143	0	0	0	0	0	0	0
12:00 - 13:00	0	509	24	146	469	0	19	0	171	0	0	0	0	0	0	0
16:00 - 17:00	0	400	55	240	627	0	7	0	232	0	0	0	0	0	0	0
17:00 - 18:00	0	410	58	205	564	0	15	0	206	0	0	0	0	0	0	0
Total (6-hour peak)	0	2,913	192	913	2,558	0	76	0	1,212	0	0	0	0	1	0	0
Average (6-hour peak)	0	486	32	152	426	0	13	0	202	0	0	0	0	0	0	0

Average 6-hour
Peak Turning
Movements

$$W = [C_{bt}(X_{v-v}) / K_1 + (F(X_{v-p}) L) / K_2] \times C_i$$



2005 Canadian Matrix Traffic Signal Warrant Analysis

Main Street (name)	Topsail Road	Direction (EW or NS)	EW
Side Street (name)	Hemmer Jane Drive	Direction (EW or NS)	NS
Quadrant (if appl)			

Date:	Growth to 2017
City:	Mount Pearl, NL

Lane Configuration		Excl LT	Th & LT	Through or Th+RT+LT	Th & RT	Excl RT	UpStream Signal (m)	# of Thru Lanes	
Topsail Road	WB	1			2		240	2	
Topsail Road	EB	1			2			2	
Hemmer Jane Drive	SB	1			1				
Marlin Drive	NB			1					

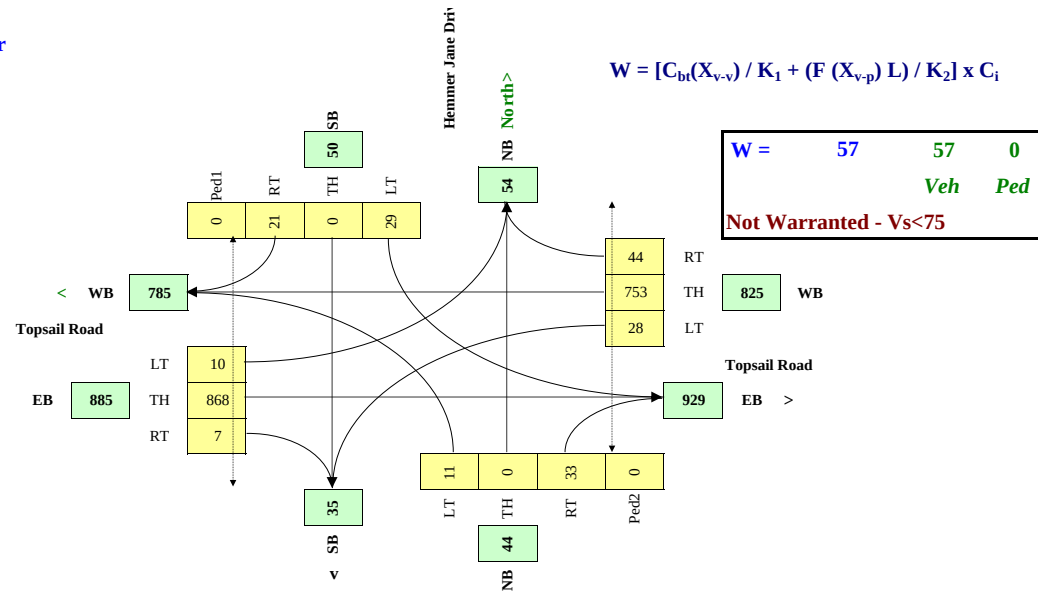
Demographics		
Elementary School	(y/n)	n
Senior's Complex	(y/n)	n
Pathway to School	(y/n)	n
Metro Area Population	(#)	205955
Central Business District	(y/n)	n

Other input		Speed (Km/h)	Trucks %	Bus Rt (y/n)	Median (m)
Topsail Road	EW	60	2.0%	y	0.0
Hemmer Jane Drive	NS	40	0	y	

Traffic Input	NB			SB			WB			EB			Ped1 NS	Ped2 NS	Ped3 EW	Ped4 EW
	LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT	W Side	E Side	N Side	S side
7:00 - 8:00	5	0	40	60	0	11	16	630	17	4	676	5	0	0	0	0
8:00 - 9:00	3	0	58	50	0	12	25	719	24	9	904	8	0	0	0	0
12:00 - 1:00	3	0	30	22	0	14	27	727	39	13	888	8	0	0	0	0
1:00 - 2:00	3	0	40	35	0	10	20	844	36	5	716	6	0	0	0	0
16:00 - 17:00	25	0	13	2	0	34	47	908	69	16	1028	7	0	0	0	0
17:00 - 18:00	26	2	16	3	0	46	30	690	79	12	994	9	0	0	0	0
Total (6-hour peak)	65	2	197	172	0	127	165	4,518	264	59	5,206	43	0	0	0	0
Average (6-hour peak)	11	0	33	29	0	21	28	753	44	10	868	7	0	0	0	0

**Average 6-hour
Peak Turning
Movements**

$$W = [C_{bt}(X_{v-v}) / K_1 + (F(X_{v-p}) L) / K_2] \times C_i$$



2005 Canadian Matrix Traffic Signal Warrant Analysis

Main Street (name)	Topsail Road	Direction (EW or NS)	EW
Side Street (name)	Moffat Road	Direction (EW or NS)	NS
Quadrant (if appl)			

Date:	Mar 23, 2015
City:	Mount Pearl, NL

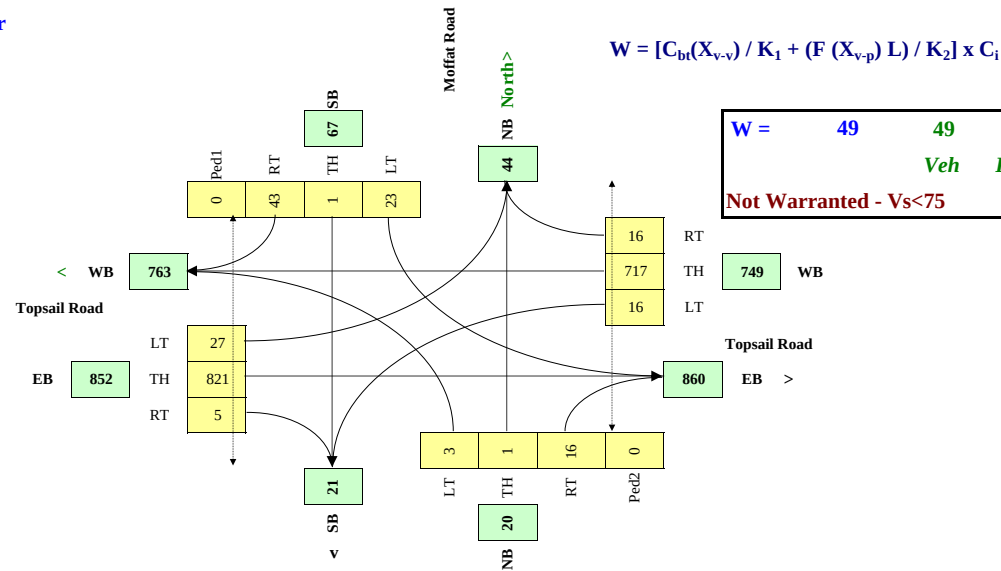
Lane Configuration		Excl LT	Th & LT	Through or Th+RT+LT	Th & RT	Excl RT	UpStream Signal (m)	# of Thru Lanes	
Topsail Road	WB	1			2		540	2	
Topsail Road	EB	1			2			2	
Moffat Road	SB	1			1				
Marlin Drive	NB			1					

Demographics		
Elementary School	(y/n)	n
Senior's Complex	(y/n)	n
Pathway to School	(y/n)	n
Metro Area Population	(#)	205955
Central Business District	(y/n)	n

Other input		Speed (Km/h)	Trucks %	Bus Rt (y/n)	Median (m)
Topsail Road	EW	60	2.0%	y	0.0
Moffat Road	NS	40	0	y	

Traffic Input	NB			SB			WB			EB			Ped1 NS	Ped2 NS	Ped3 EW	Ped4 EW
	LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT	W Side	E Side	N Side	S side
7:00 - 8:00	4	2	12	17	0	61	6	631	6	19	663	3	0	0	0	0
8:00 - 9:00	6	0	35	27	0	50	10	674	14	15	877	5	0	0	0	0
12:00 - 1:00	2	0	14	17	0	24	16	681	19	27	857	6	0	0	0	0
1:00 - 2:00	4	0	14	19	3	41	14	781	15	15	690	3	0	0	0	0
16:00 - 17:00	3	0	10	28	0	40	22	871	20	38	940	4	0	0	0	0
17:00 - 18:00	0	2	12	32	0	42	27	664	24	46	897	7	0	0	0	0
Total (6-hour peak)	19	4	97	140	3	258	95	4,302	98	160	4,924	28	0	0	0	0
Average (6-hour peak)	3	1	16	23	1	43	16	717	16	27	821	5	0	0	0	0

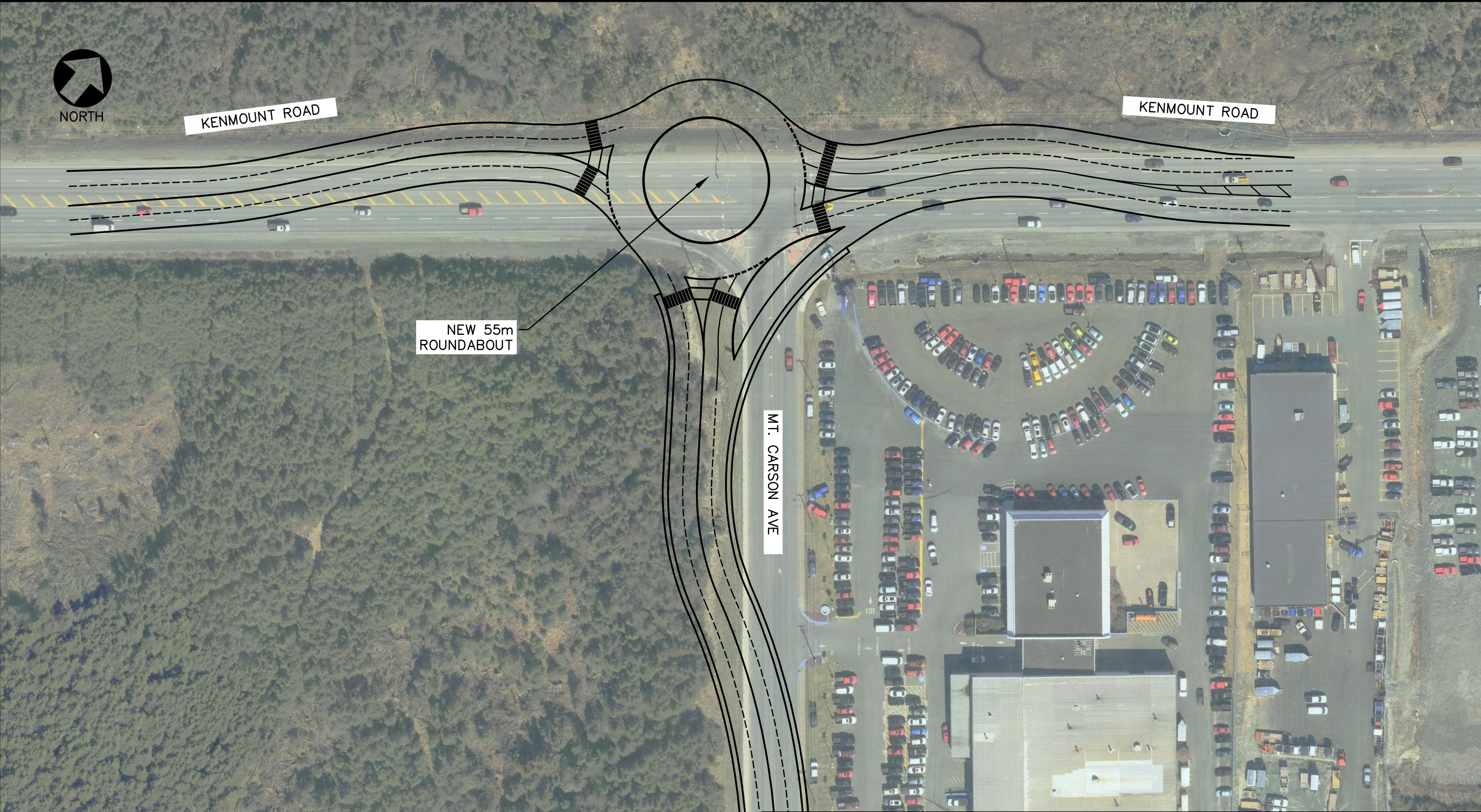
Average 6-hour Peak Turning Movements



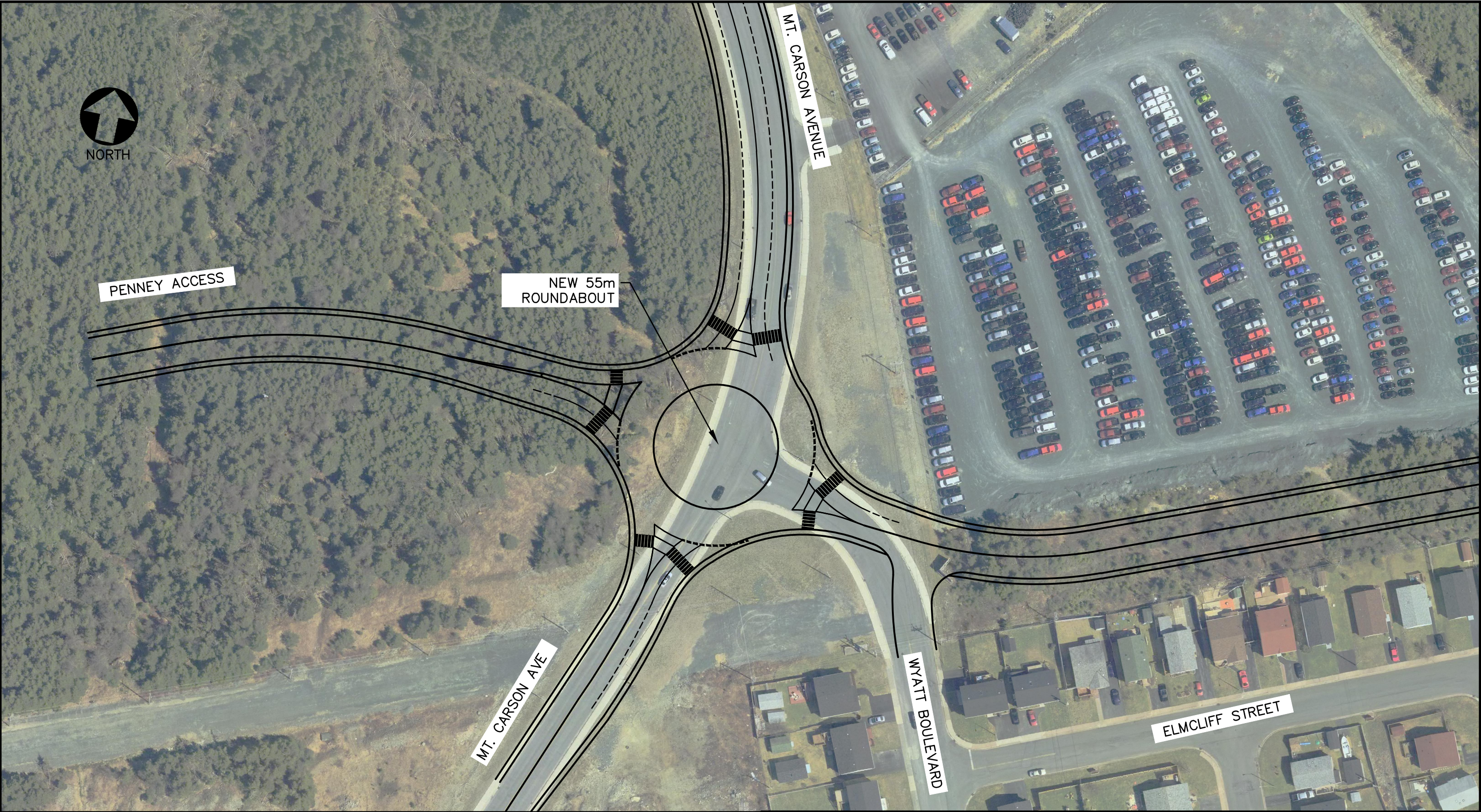


Appendix E

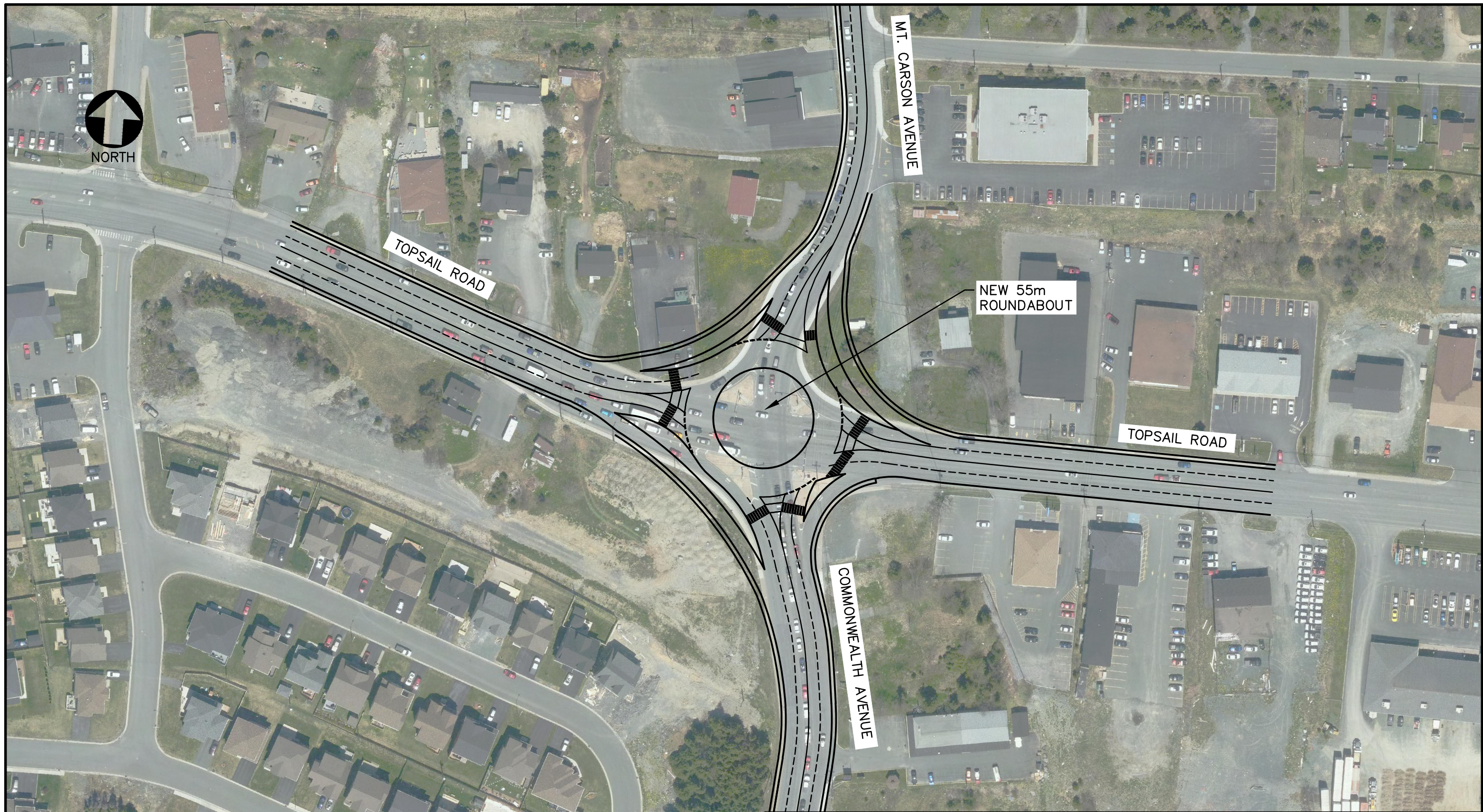
Drawings



Scale 1:1000		Date JANUARY 2017	Drawn B. FORBES	Designed M. MacDONALD	Checked M. MacDONALD	Approved R. KING	Contract 172093
			KENMOUNT HILL CDS TIS KENMOUNT ROAD – MT. CARSON AVENEUE ROUNDAABOUT			SKETCH No. CSK - 01	



Scale 1:1000		Date JANUARY 2017	Drawn B. FORBES	Designed M. MacDONALD	Checked M. MacDONALD	Approved R. KING	Contract 172093
			KENMOUNT HILL CDS TIS MT. CARSON AVENUE – WYATT BOULEVARD/PENNEY ACCESS ROUNDBOUT			SKETCH No. CSK - 02	

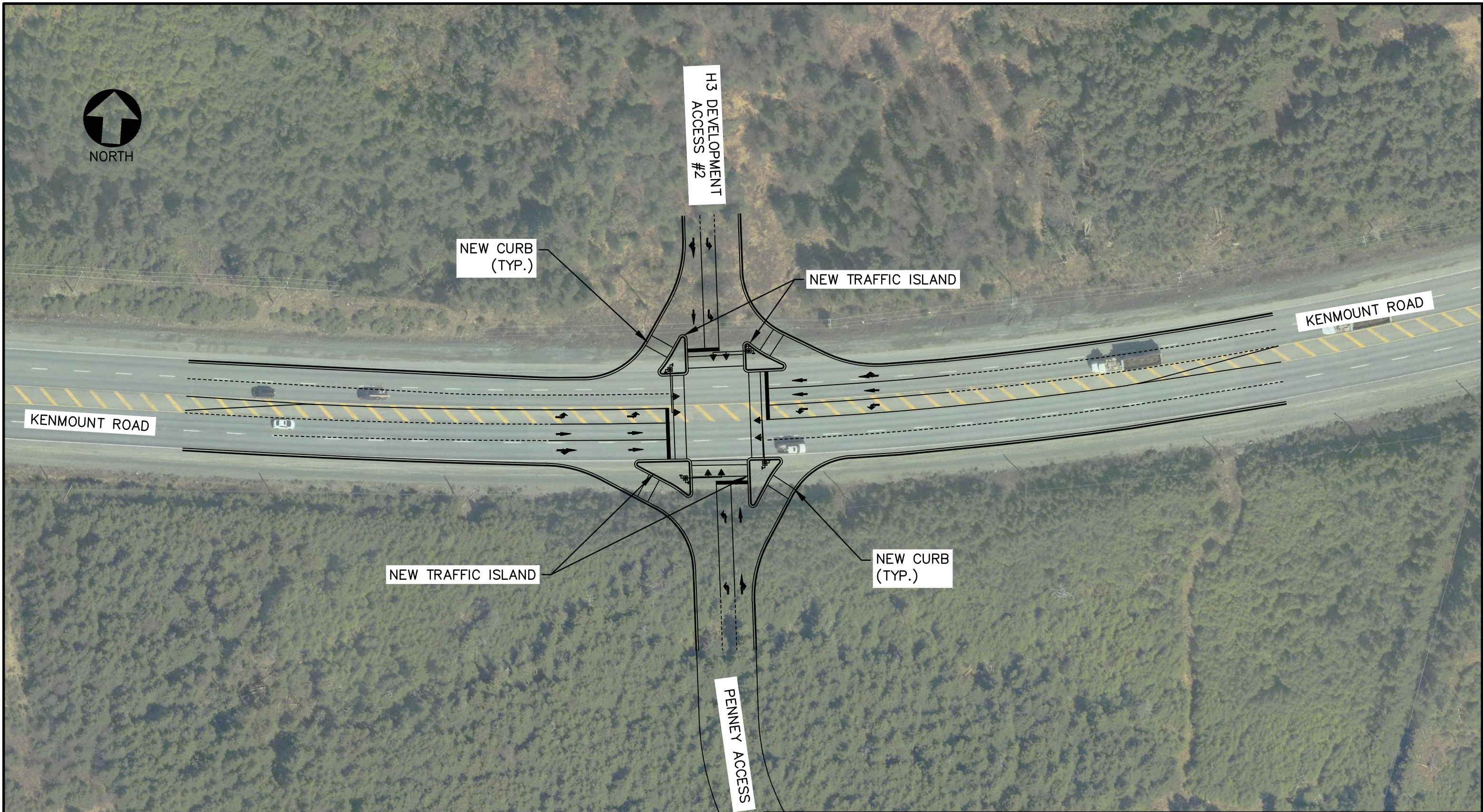


Scale 1:1250	Date JANUARY 2017	Drawn B. FORBES	Designed M. MacDONALD	Checked M. MacDONALD	Approved R. KING	Contract 172093
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KENMOUNT HILL CDS TIS
TOPSAIL ROAD-MT. CARSON
AVENUE/COMMONWEALTH
AVENUE ROUNDABOUT

SKETCH No.
CSK - 03



Scale 1:750	Date JANUARY 2017	Drawn B. FORBES	Designed M. MacDONALD	Checked M. MacDONALD	Approved R. KING	Contract 172093
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KENMOUNT HILL CDS TIS
KENMOUNT ROAD – H3 DEVELOPMENT
ACCESS/PENNEY ACCESS
SIGNALIZED INTERSECTION

SKETCH No.
CSK - 04

Appendix F

ARCADY Reports

		S1C 5-year with Improvements							
Intersection		AM Peak Hour				PM Peak Hour			
		Delay/ Veh (s)	APP LOS	V/C	Queue (PCE)	Delay/ Veh (s)	APP LOS	V/C	Queue (PCE)
Street	Movement								
Kenmount Road & Mount Carson Avenue		3.45	A			5.85	A		
Kenmount Road	EB Through	5.51	A	0.68	2.10	6.32	A	0.66	1.95
	EB Right - Turn								
	WB Left - Turn	1.93	A	0.39	0.64	7.03	A	0.83	4.86
	WB Through								
Mount Carson Avenue	NB Left - Turn	2.56	A	0.06	0.07	2.14	A	0.06	0.07
	NB Right - Turn								
Mount Carson Avenue & Wyatt Boulevard/Penney Access		3.36	A			4.25	A		
Wyatt Boulevard/Penney Access	EB Left - Turn	1.91	A	0.06	0.06	3.12	A	0.26	0.36
	EB Through								
	EB Right - Turn								
	WB Left - Turn	4.05	A	0.36	0.57	3.90	A	0.35	0.53
	WB Through								
	WB Right - Turn								
Mount Carson Avenue	NB Left - Turn	3.99	A	0.50	0.99	5.23	A	0.56	1.28
	NB Through								
	NB Right - Turn								
	SB Left - Turn	2.13	A	0.27	0.36	4.07	A	0.58	1.40
	SB Through								
	SB Right - Turn								
Topsail Road & Mount Carson Ave/Commonwealth Ave		4.22	A			7.90	A		
Topsail Road	EB Left - Turn	3.55	A	0.46	0.85	5.72	A	0.59	1.42
	EB Through								
	EB Right - Turn								
	WB Left - Turn	4.40	A	0.52	1.07	10.6	B	0.80	3.87
	WB Through								
	WB Right - Turn								
Mount Carson Avenue/Commonwealth Avenue	NB Left - Turn	5.00	A	0.58	1.35	4.89	A	0.57	1.30
	NB Through								
	NB Right - Turn								
	SB Left - Turn	3.59	A	0.36	0.56	11.16	B	0.73	2.64
	SB Through								
	SB Right - Turn								

		S2A 10-year with Background							
Intersection		AM Peak Hour				PM Peak Hour			
		Delay/ Veh (s)	APP LOS	V/C	Queue (PCE)	Delay/ Veh (s)	APP LOS	V/C	Queue (PCE)
Street	Movement								
Kenmount Road & Mount Carson Avenue		3.76	A			7.38	A		
Kenmount Road	EB Through	6.21	A	0.71	2.47	8.79	A	0.76	3.02
	EB Right - Turn								
	WB Left - Turn	2.06	A	0.43	0.75	8.61	A	0.86	6.12
	WB Through								
Mount Carson Avenue	NB Left - Turn	2.64	A	0.07	0.07	2.24	A	0.07	0.07
	NB Right - Turn								
Mount Carson Avenue & Wyatt Boulevard/Penney Access		3.66	A			4.57	A		
Wyatt Boulevard/Penney Access	EB Left - Turn	1.94	A	0.06	0.07	3.32	A	0.28	0.40
	EB Through								
	EB Right - Turn								
	WB Left - Turn	4.44	A	0.40	0.66	4.03	A	0.36	0.56
	WB Through								
	WB Right - Turn								
Mount Carson Avenue	NB Left - Turn	4.38	A	0.54	1.18	5.60	A	0.59	1.41
	NB Through								
	NB Right - Turn								
	SB Left - Turn	2.23	A	0.28	0.39	4.46	A	0.62	1.63
	SB Through								
SB Right - Turn									
Topsail Road & Mount Carson Ave/Commonwealth Ave		4.82	A			10.12	B		
Topsail Road	EB Left - Turn	3.76	A	0.48	0.94	6.69	A	0.64	1.73
	EB Through								
	EB Right - Turn								
	WB Left - Turn	5.11	A	0.57	1.31	13.75	B	0.84	5.15
	WB Through								
	WB Right - Turn								
Mount Carson Avenue/Commonwealth Avenue	NB Left - Turn	5.97	A	0.64	1.75	5.39	A	0.60	1.48
	NB Through								
	NB Right - Turn								
	SB Left - Turn	3.92	A	0.39	0.64	16.21	C	0.81	4.02
	SB Through								
SB Right - Turn									

		S2B 10-year with Development							
Intersection		AM Peak Hour				PM Peak Hour			
		Delay/ Veh (s)	APP LOS	V/C	Queue (PCE)	Delay/ Veh (s)	APP LOS	V/C	Queue (PCE)
Street	Movement								
Kenmount Road & Mount Carson Avenue		4.14	A			13.42	B		
Kenmount Road	EB Through	7.17	A	0.75	2.93	13.85	A	0.83	4.77
	EB Right - Turn								
	WB Left - Turn	2.17	A	0.45	0.83	17.51	C	0.94	13.02
	WB Through								
Mount Carson Avenue	NB Left - Turn	2.79	A	0.10	0.11	2.27	A	0.08	0.09
	NB Right - Turn								
Mount Carson Avenue & Wyatt Boulevard/Penney Access		4.44	A			7.00	A		
Wyatt Boulevard/Penney Access	EB Left - Turn	2.04	A	0.09	0.10	4.77	A	0.47	0.87
	EB Through								
	EB Right - Turn								
	WB Left - Turn	6.11	A	0.55	1.21	5.31	A	0.48	0.92
	WB Through								
	WB Right - Turn								
Mount Carson Avenue	NB Left - Turn	5.03	A	0.59	1.46	9.63	A	0.74	2.73
	NB Through								
	NB Right - Turn								
	SB Left - Turn	2.39	A	0.31	0.45	6.87	A	0.74	2.81
	SB Through								
	SB Right - Turn								
Topsail Road & Mount Carson Ave/Commonwealth Ave		5.15	A			14.63	B		
Topsail Road	EB Left - Turn	3.97	A	0.50	0.99	7.93	A	0.68	2.05
	EB Through								
	EB Right - Turn								
	WB Left - Turn	5.32	A	0.58	1.37	17.39	C	0.87	6.46
	WB Through								
	WB Right - Turn								
Mount Carson Avenue/Commonwealth Avenue	NB Left - Turn	6.51	A	0.67	1.97	6.27	A	0.65	1.84
	NB Through								
	NB Right - Turn								
	SB Left - Turn	4.24	A	0.43	0.76	31.22	D	0.91	8.47
	SB Through								
	SB Right - Turn								

			S2C 10-year with Improvements							
Intersection			AM Peak Hour				PM Peak Hour			
			Delay/ Veh (s)	APP LOS	V/C	Queue (PCE)	Delay/ Veh (s)	APP LOS	V/C	Queue (PCE)
Street	Movement									
Kenmount Road & H3 Access #2/Penney Access			3.99	A			9.23	A		
Kenmount Road	EB Left - Turn									
	EB Through	4.62	A	0.67	2.04	5.1	A	0.67	2.02	
	EB Right - Turn									
	WB Left - Turn									
	WB Through	2.60	A	0.39	0.64	12.62	B	0.86	5.85	
	WB Right - Turn									
H3 Access #2/Penney Access	NB Left - Turn									
	NB Through	5.10	A	0.30	0.42	6.60	A	0.51	1.02	
	NB Right - Turn									
	SB Left - Turn									
	SB Through	2.80	A	0.07	0.07	12.58	B	0.62	1.60	
	SB Right - Turn									
Kenmount Road & Mount Carson Avenue			4.14	A			13.42	B		
Kenmount Road	EB Through									
	EB Right - Turn	7.17	A	0.75	2.93	13.85	A	0.83	4.77	
	WB Left - Turn									
	WB Through	2.17	A	0.45	0.83	17.51	C	0.94	13.02	
Mount Carson Avenue	NB Left - Turn									
	NB Right - Turn	2.79	A	0.10	0.11	2.27	A	0.08	0.09	
Mount Carson Avenue & Wyatt Boulevard/Penney Access			4.44	A			7.00	A		
Wyatt Boulevard/Penney Access	EB Left - Turn									
	EB Through	2.04	A	0.09	0.10	4.77	A	0.47	0.87	
	EB Right - Turn									
	WB Left - Turn									
	WB Through	6.11	A	0.55	1.21	5.31	A	0.48	0.92	
	WB Right - Turn									
Mount Carson Avenue	NB Left - Turn									
	NB Through	5.03	A	0.59	1.46	9.63	A	0.74	2.73	
	NB Right - Turn									
	SB Left - Turn									
	SB Through	2.39	A	0.31	0.45	6.87	A	0.74	2.81	
	SB Right - Turn									
Topsail Road & Mount Carson Ave/Commonwealth Ave			5.15	A			14.63	B		
Topsail Road	EB Left - Turn									
	EB Through	3.97	A	0.50	0.99	7.93	A	0.68	2.05	
	EB Right - Turn									
	WB Left - Turn									
	WB Through	5.32	A	0.58	1.37	17.39	C	0.87	6.46	
	WB Right - Turn									
Mount Carson Avenue/Commonwealth Avenue	NB Left - Turn									
	NB Through	6.51	A	0.67	1.97	6.27	A	0.65	1.84	
	NB Right - Turn									
	SB Left - Turn									
	SB Through	4.24	A	0.43	0.76	31.22	D	0.91	8.47	
	SB Right - Turn									

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.4.487 [15039,24/03/2014]
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Filename: 172093-MountCarson-Kenmount-5yr with Improvements Analysis.arc8

Path: Z:\Harbourside Transportation Consultants\Projects\172093 Mount Pearl 190 TIS\Project Files\02 Analysis\06 Junctions 8 (Arcady)\2023 with Improvements

Report generation date: 24/01/2018 1:12:18 PM

Summary of intersection performance

	AM						PM					
	Queue (PCE)	Delay (s)	V/C Ratio	LOS	Intersection Delay (s)	Intersection LOS	Queue (PCE)	Delay (s)	V/C Ratio	LOS	Intersection Delay (s)	Intersection LOS
	A1 - 2022 with Improve											
Kenmount Rd. (Eastbound)	2.10	5.51	0.68	A	3.45	A	1.95	6.32	0.66	A	5.85	A
Mount Carson Ave. (Northbound)	0.07	2.56	0.06	A			0.07	2.14	0.06	A		
Kenmount Rd. (Westbound)	0.64	1.93	0.39	A			4.86	7.03	0.83	A		

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle. Intersection LOS and Intersection Delay are demand-weighted averages.

"D1 - 2023 with Improve, AM " model duration: 8:00 AM - 9:30 AM

"D2 - 2023 with Improve, PM" model duration: 5:00 PM - 6:30 PM

Run using Junctions 8.0.4.487 at 24/01/2018 1:12:18 PM

File summary

Title	(untitled)
Location	
Site Number	
Date	24/11/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Analyst	hec45
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	V/C Ratio Threshold	Average Delay Threshold (s)	Queue Threshold (PCE)
7.00	✓		N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCE	PCE	perHour	s	-Min	perMin

(Default Analysis Set) - 2022 with Improve, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2022 with Improve, AM	2022 with Improve	AM		ONE HOUR	08:00	09:30	90	15		

Intersection Network

Intersections

Intersection	Name	Intersection Type	Leg Order	Grade Separated	Large Roundabout	Intersection Delay (s)	Intersection LOS
1	Mount Carson Ave. -Kenmount Rd.	Roundabout	1,2,3			3.45	A

Intersection Network Options

Driving Side	Lighting
Right	Normal/unknown

Legs

Legs

Name	Leg	Name	Description
Kenmount Rd. (Eastbound)	1	Kenmount Rd. (Eastbound)	
Mount Carson Ave. (Northbound)	2	Mount Carson Ave. (Northbound)	
Kenmount Rd. (Westbound)	3	Kenmount Rd. (Westbound)	

Capacity Options

Name	Minimum Capacity (PCE/hr)	Maximum Capacity (PCE/hr)
Kenmount Rd. (Eastbound)	0.00	99999.00
Mount Carson Ave. (Northbound)	0.00	99999.00
Kenmount Rd. (Westbound)	0.00	99999.00

Roundabout Geometry

Name	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
Kenmount Rd. (Eastbound)	7.00	7.90	30.00	70.00	55.00	30.00	
Mount Carson Ave. (Northbound)	7.00	7.90	30.00	70.00	55.00	30.00	
Kenmount Rd. (Westbound)	7.00	11.50	30.00	70.00	55.00	30.00	

Bypass

Name	Leg Has Bypass	Bypass Utilisation (%)
Kenmount Rd. (Eastbound)		
Mount Carson Ave. (Northbound)	✓	100
Kenmount Rd. (Westbound)		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Name	Enter slope and intercept directly	Entered slope	Entered intercept (PCE/hr)	Final Slope	Final Intercept (PCE/hr)
Kenmount Rd. (Eastbound)		(calculated)	(calculated)	0.731	2452.588
Mount Carson Ave. (Northbound)		(calculated)	(calculated)	0.731	2452.588
Kenmount Rd. (Westbound)		(calculated)	(calculated)	0.857	3148.546

The slope and intercept shown above include any corrections and adjustments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCE Factor for a Truck (PCE)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	Truck Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCE/hr)	Flow Scaling Factor (%)
Kenmount Rd. (Eastbound)	ONE HOUR	✓	1259.00	100.000
Mount Carson Ave. (Northbound)	ONE HOUR	✓	1040.00	100.000
Kenmount Rd. (Westbound)	ONE HOUR	✓	1089.00	100.000

Results

Results Summary for whole modelled period

Name	Max V/C Ratio	Max Delay (s)	Max Queue (PCE)	Max 95th percentile Queue (PCE)	Max LOS
Kenmount Rd. (Eastbound)	0.68	5.51	2.10	3.00	A
Mount Carson Ave. (Northbound)	0.06	2.56	0.07	~1	A
Kenmount Rd. (Westbound)	0.39	1.93	0.64	1.00	A

(Default Analysis Set) - 2022 with Improve, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2022 with Improve, PM	2022 with Improve	PM		ONE HOUR	17:00	18:30	90	15		

Intersection Network

Intersections

Intersection	Name	Intersection Type	Leg Order	Grade Separated	Large Roundabout	Intersection Delay (s)	Intersection LOS
1	Mount Carson Ave. -Kenmount Rd.	Roundabout	1,2,3			5.85	A

Intersection Network Options

Driving Side	Lighting
Right	Normal/unknown

Legs

Legs

Name	Leg	Name	Description
Kenmount Rd. (Eastbound)	1	Kenmount Rd. (Eastbound)	
Mount Carson Ave. (Northbound)	2	Mount Carson Ave. (Northbound)	
Kenmount Rd. (Westbound)	3	Kenmount Rd. (Westbound)	

Capacity Options

Name	Minimum Capacity (PCE/hr)	Maximum Capacity (PCE/hr)
Kenmount Rd. (Eastbound)	0.00	99999.00
Mount Carson Ave. (Northbound)	0.00	99999.00
Kenmount Rd. (Westbound)	0.00	99999.00

Roundabout Geometry

Name	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
Kenmount Rd. (Eastbound)	7.00	7.90	30.00	70.00	55.00	30.00	
Mount Carson Ave. (Northbound)	7.00	7.90	30.00	70.00	55.00	30.00	
Kenmount Rd. (Westbound)	7.00	11.50	30.00	70.00	55.00	30.00	

Bypass

Name	Leg Has Bypass	Bypass Utilisation (%)
Kenmount Rd. (Eastbound)		
Mount Carson Ave. (Northbound)	✓	100
Kenmount Rd. (Westbound)		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Name	Enter slope and intercept directly	Entered slope	Entered intercept (PCE/hr)	Final Slope	Final Intercept (PCE/hr)
Kenmount Rd. (Eastbound)		(calculated)	(calculated)	0.731	2452.588
Mount Carson Ave. (Northbound)		(calculated)	(calculated)	0.731	2452.588
Kenmount Rd. (Westbound)		(calculated)	(calculated)	0.857	3148.546

The slope and intercept shown above include any corrections and adjustments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCE Factor for a Truck (PCE)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	Truck Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCE/hr)	Flow Scaling Factor (%)
Kenmount Rd. (Eastbound)	ONE HOUR	✓	1019.00	100.000
Mount Carson Ave. (Northbound)	ONE HOUR	✓	858.00	100.000
Kenmount Rd. (Westbound)	ONE HOUR	✓	2305.00	100.000

Results

Results Summary for whole modelled period

Name	Max V/C Ratio	Max Delay (s)	Max Queue (PCE)	Max 95th percentile Queue (PCE)	Max LOS
Kenmount Rd. (Eastbound)	0.66	6.32	1.95	2.00	A
Mount Carson Ave. (Northbound)	0.06	2.14	0.07	~1	A
Kenmount Rd. (Westbound)	0.83	7.03	4.86	10.00	A

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.4.487 [15039,24/03/2014]
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Filename: 172093-MountCarson-Penney-Wyatt-5yr with Improvements Analysis.arc8

Path: Z:\Harbourside Transportation Consultants\Projects\172093 Mount Pearl 190 TIS\Project Files\02 Analysis\06 Junctions 8 (Arcady)\2023 with Improvements

Report generation date: 24/01/2018 1:15:37 PM

Summary of intersection performance

	AM						PM					
	Queue (PCE)	Delay (s)	V/C Ratio	LOS	Intersection Delay (s)	Intersection LOS	Queue (PCE)	Delay (s)	V/C Ratio	LOS	Intersection Delay (s)	Intersection LOS
	A1 - 2023 with Improve											
Penney Group (Eastbound)	0.06	1.91	0.06	A	3.36	A	0.36	3.12	0.26	A	4.25	A
Mount Carson Ave. (Northbound)	0.99	3.99	0.50	A			1.28	5.23	0.56	A		
Wyatt Blvd. (Westbound)	0.57	4.05	0.36	A			0.53	3.90	0.35	A		
Mount Carson Ave. (Southbound)	0.36	2.13	0.27	A			1.40	4.07	0.58	A		

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle. Intersection LOS and Intersection Delay are demand-weighted averages."D1 - 2023 with Improve, AM " model duration: 8:00 AM - 9:30 AM
 "D2 - 2023 with Improve, PM" model duration: 5:00 PM - 6:30 PM
 Run using Junctions 8.0.4.487 at 24/01/2018 1:15:36 PM

File summary

Title	(untitled)
Location	
Site Number	
Date	24/11/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Analyst	hec45
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	V/C Ratio Threshold	Average Delay Threshold (s)	Queue Threshold (PCE)
7.00	✓		N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCE	PCE	perHour	s	-Min	perMin

(Default Analysis Set) - 2023 with Improve, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2023 with Improve, AM	2023 with Improve	AM		ONE HOUR	08:00	09:30	90	15		

Intersection Network

Intersections

Intersection	Name	Intersection Type	Leg Order	Grade Separated	Large Roundabout	Intersection Delay (s)	Intersection LOS
1	Mount Carson-Penney-Wyatt	Roundabout	1,2,3,4			3.36	A

Intersection Network Options

Driving Side	Lighting
Right	Normal/unknown

Legs

Legs

Name	Leg	Name	Description
Penney Group (Eastbound)	1	Penney Group (Eastbound)	
Mount Carson Ave. (Northbound)	2	Mount Carson Ave. (Northbound)	
Wyatt Blvd. (Westbound)	3	Wyatt Blvd. (Westbound)	
Mount Carson Ave. (Southbound)	4	Mount Carson Ave. (Southbound)	

Capacity Options

Name	Minimum Capacity (PCE/hr)	Maximum Capacity (PCE/hr)
Penney Group (Eastbound)	0.00	99999.00
Mount Carson Ave. (Northbound)	0.00	99999.00
Wyatt Blvd. (Westbound)	0.00	99999.00
Mount Carson Ave. (Southbound)	0.00	99999.00

Roundabout Geometry

Name	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
Penney Group (Eastbound)	7.00	7.90	30.00	70.00	55.00	30.00	
Mount Carson Ave. (Northbound)	3.00	7.90	30.00	70.00	55.00	30.00	
Wyatt Blvd. (Westbound)	3.00	7.90	30.00	70.00	55.00	30.00	
Mount Carson Ave. (Southbound)	7.00	7.90	30.00	70.00	55.00	30.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Name	Enter slope and intercept directly	Entered slope	Entered intercept (PCE/hr)	Final Slope	Final Intercept (PCE/hr)
Penney Group (Eastbound)		(calculated)	(calculated)	0.731	2452.588
Mount Carson Ave. (Northbound)		(calculated)	(calculated)	0.639	1949.873
Wyatt Blvd. (Westbound)		(calculated)	(calculated)	0.639	1949.873
Mount Carson Ave. (Southbound)		(calculated)	(calculated)	0.731	2452.588

The slope and intercept shown above include any corrections and adjustments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCE Factor for a Truck (PCE)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	Truck Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCE/hr)	Flow Scaling Factor (%)
Penney Group (Eastbound)	ONE HOUR	✓	107.00	100.000
Mount Carson Ave. (Northbound)	ONE HOUR	✓	816.00	100.000
Wyatt Blvd. (Westbound)	ONE HOUR	✓	462.00	100.000
Mount Carson Ave. (Southbound)	ONE HOUR	✓	554.00	100.000

Results

Results Summary for whole modelled period

Name	Max V/C Ratio	Max Delay (s)	Max Queue (PCE)	Max 95th percentile Queue (PCE)	Max LOS
Penney Group (Eastbound)	0.06	1.91	0.06	~1	A
Mount Carson Ave. (Northbound)	0.50	3.99	0.99	~1	A
Wyatt Blvd. (Westbound)	0.36	4.05	0.57	1.00	A
Mount Carson Ave. (Southbound)	0.27	2.13	0.36	~1	A

(Default Analysis Set) - 2023 with Improve, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2023 with Improve, PM	2023 with Improve	PM		ONE HOUR	17:00	18:30	90	15		

Intersection Network

Intersections

Intersection	Name	Intersection Type	Leg Order	Grade Separated	Large Roundabout	Intersection Delay (s)	Intersection LOS
1	Mount Carson-Penney-Wyatt	Roundabout	1,2,3,4			4.25	A

Intersection Network Options

Driving Side	Lighting
Right	Normal/unknown

Legs

Legs

Name	Leg	Name	Description
Penney Group (Eastbound)	1	Penney Group (Eastbound)	
Mount Carson Ave. (Northbound)	2	Mount Carson Ave. (Northbound)	
Wyatt Blvd. (Westbound)	3	Wyatt Blvd. (Westbound)	
Mount Carson Ave. (Southbound)	4	Mount Carson Ave. (Southbound)	

Capacity Options

Name	Minimum Capacity (PCE/hr)	Maximum Capacity (PCE/hr)
Penney Group (Eastbound)	0.00	99999.00
Mount Carson Ave. (Northbound)	0.00	99999.00
Wyatt Blvd. (Westbound)	0.00	99999.00
Mount Carson Ave. (Southbound)	0.00	99999.00

Roundabout Geometry

Name	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
Penney Group (Eastbound)	7.00	7.90	30.00	70.00	55.00	30.00	
Mount Carson Ave. (Northbound)	3.00	7.90	30.00	70.00	55.00	30.00	
Wyatt Blvd. (Westbound)	3.00	7.90	30.00	70.00	55.00	30.00	
Mount Carson Ave. (Southbound)	7.00	7.90	30.00	70.00	55.00	30.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Name	Enter slope and intercept directly	Entered slope	Entered intercept (PCE/hr)	Final Slope	Final Intercept (PCE/hr)
Penney Group (Eastbound)		(calculated)	(calculated)	0.731	2452.588
Mount Carson Ave. (Northbound)		(calculated)	(calculated)	0.639	1949.873
Wyatt Blvd. (Westbound)		(calculated)	(calculated)	0.639	1949.873
Mount Carson Ave. (Southbound)		(calculated)	(calculated)	0.731	2452.588

The slope and intercept shown above include any corrections and adjustments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCE Factor for a Truck (PCE)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	Truck Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCE/hr)	Flow Scaling Factor (%)
Penney Group (Eastbound)	ONE HOUR	✓	374.00	100.000
Mount Carson Ave. (Northbound)	ONE HOUR	✓	803.00	100.000
Wyatt Blvd. (Westbound)	ONE HOUR	✓	442.00	100.000
Mount Carson Ave. (Southbound)	ONE HOUR	✓	1132.00	100.000

Results

Results Summary for whole modelled period

Name	Max V/C Ratio	Max Delay (s)	Max Queue (PCE)	Max 95th percentile Queue (PCE)	Max LOS
Penney Group (Eastbound)	0.26	3.12	0.36	~1	A
Mount Carson Ave. (Northbound)	0.56	5.23	1.28	1.00	A
Wyatt Blvd. (Westbound)	0.35	3.90	0.53	1.00	A
Mount Carson Ave. (Southbound)	0.58	4.07	1.40	1.00	A

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.4.487 [15039,24/03/2014]
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Filename: 172093-MountCarson-Topsail-5yr with Improvements Analysis.arc8

Path: Z:\Harbourside Transportation Consultants\Projects\172093 Mount Pearl 190 TIS\Project Files\02 Analysis\06 Junctions 8 (Arcady)\2023 with Improvements

Report generation date: 24/01/2018 1:18:12 PM

Summary of intersection performance

	AM						PM					
	Queue (PCE)	Delay (s)	V/C Ratio	LOS	Intersection Delay (s)	Intersection LOS	Queue (PCE)	Delay (s)	V/C Ratio	LOS	Intersection Delay (s)	Intersection LOS
	A1 - 2023 with Improve											
Topsail Rd. (Eastbound)	0.85	3.55	0.46	A	4.22	A	1.42	5.72	0.59	A	7.90	A
Commonwealth Ave. (Northbound)	1.35	5.00	0.58	A			1.30	4.89	0.57	A		
Topsail Rd. (Westbound)	1.07	4.40	0.52	A			3.87	10.60	0.80	B		
Mount Carson Ave. (Southbound)	0.56	3.59	0.36	A			2.64	11.16	0.73	B		

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle. Intersection LOS and Intersection Delay are demand-weighted averages.

"D1 - 2023 with Improve, AM " model duration: 8:00 AM - 9:30 AM

"D2 - 2023 with Improve, PM" model duration: 5:00 PM - 6:30 PM

Run using Junctions 8.0.4.487 at 24/01/2018 1:18:12 PM

File summary

Title	(untitled)
Location	
Site Number	
Date	24/11/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Analyst	hec45
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	V/C Ratio Threshold	Average Delay Threshold (s)	Queue Threshold (PCE)
7.00	✓		N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCE	PCE	perHour	s	-Min	perMin

(Default Analysis Set) - 2023 with Improve, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2023 with Improve, AM	2023 with Improve	AM		ONE HOUR	08:00	09:30	90	15		

Intersection Network

Intersections

Intersection	Name	Intersection Type	Leg Order	Grade Separated	Large Roundabout	Intersection Delay (s)	Intersection LOS
1	Mount Carson-Penney-Wyatt	Roundabout	1,2,3,4			4.22	A

Intersection Network Options

Driving Side	Lighting
Right	Normal/unknown

Legs

Legs

Name	Leg	Name	Description
Topsail Rd. (Eastbound)	1	Topsail Rd. (Eastbound)	
Commonwealth Ave. (Northbound)	2	Commonwealth Ave. (Northbound)	
Topsail Rd. (Westbound)	3	Topsail Rd. (Westbound)	
Mount Carson Ave. (Southbound)	4	Mount Carson Ave. (Southbound)	

Capacity Options

Name	Minimum Capacity (PCE/hr)	Maximum Capacity (PCE/hr)
Topsail Rd. (Eastbound)	0.00	99999.00
Commonwealth Ave. (Northbound)	0.00	99999.00
Topsail Rd. (Westbound)	0.00	99999.00
Mount Carson Ave. (Southbound)	0.00	99999.00

Roundabout Geometry

Name	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
Topsail Rd. (Eastbound)	7.00	7.90	30.00	70.00	55.00	30.00	
Commonwealth Ave. (Northbound)	7.00	7.90	30.00	70.00	55.00	30.00	
Topsail Rd. (Westbound)	7.00	7.90	30.00	70.00	55.00	30.00	
Mount Carson Ave. (Southbound)	7.00	7.90	30.00	70.00	55.00	30.00	

Bypass

Name	Leg Has Bypass	Bypass Utilisation (%)
Topsail Rd. (Eastbound)	✓	100
Commonwealth Ave. (Northbound)	✓	100
Topsail Rd. (Westbound)	✓	100
Mount Carson Ave. (Southbound)	✓	100

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Name	Enter slope and intercept directly	Entered slope	Entered intercept (PCE/hr)	Final Slope	Final Intercept (PCE/hr)
Topsail Rd. (Eastbound)		(calculated)	(calculated)	0.731	2452.588
Commonwealth Ave. (Northbound)		(calculated)	(calculated)	0.731	2452.588
Topsail Rd. (Westbound)		(calculated)	(calculated)	0.731	2452.588
Mount Carson Ave. (Southbound)		(calculated)	(calculated)	0.731	2452.588

The slope and intercept shown above include any corrections and adjustments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCE Factor for a Truck (PCE)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	Truck Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCE/hr)	Flow Scaling Factor (%)
Topsail Rd. (Eastbound)	ONE HOUR	✓	1168.00	100.000
Commonwealth Ave. (Northbound)	ONE HOUR	✓	1266.00	100.000
Topsail Rd. (Westbound)	ONE HOUR	✓	903.00	100.000
Mount Carson Ave. (Southbound)	ONE HOUR	✓	587.00	100.000

Results

Results Summary for whole modelled period

Name	Max V/C Ratio	Max Delay (s)	Max Queue (PCE)	Max 95th percentile Queue (PCE)	Max LOS
Topsail Rd. (Eastbound)	0.46	3.55	0.85	1.00	A
Commonwealth Ave. (Northbound)	0.58	5.00	1.35	1.00	A
Topsail Rd. (Westbound)	0.52	4.40	1.07	?	A
Mount Carson Ave. (Southbound)	0.36	3.59	0.56	1.00	A

(Default Analysis Set) - 2023 with Improve, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2023 with Improve, PM	2023 with Improve	PM		ONE HOUR	17:00	18:30	90	15		

Intersection Network

Intersections

Intersection	Name	Intersection Type	Leg Order	Grade Separated	Large Roundabout	Intersection Delay (s)	Intersection LOS
1	Mount Carson-Penney-Wyatt	Roundabout	1,2,3,4			7.90	A

Intersection Network Options

Driving Side	Lighting
Right	Normal/unknown

Legs

Legs

Name	Leg	Name	Description
Topsail Rd. (Eastbound)	1	Topsail Rd. (Eastbound)	
Commonwealth Ave. (Northbound)	2	Commonwealth Ave. (Northbound)	
Topsail Rd. (Westbound)	3	Topsail Rd. (Westbound)	
Mount Carson Ave. (Southbound)	4	Mount Carson Ave. (Southbound)	

Capacity Options

Name	Minimum Capacity (PCE/hr)	Maximum Capacity (PCE/hr)
Topsail Rd. (Eastbound)	0.00	99999.00
Commonwealth Ave. (Northbound)	0.00	99999.00
Topsail Rd. (Westbound)	0.00	99999.00
Mount Carson Ave. (Southbound)	0.00	99999.00

Roundabout Geometry

Name	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
Topsail Rd. (Eastbound)	7.00	7.90	30.00	70.00	55.00	30.00	
Commonwealth Ave. (Northbound)	7.00	7.90	30.00	70.00	55.00	30.00	
Topsail Rd. (Westbound)	7.00	7.90	30.00	70.00	55.00	30.00	
Mount Carson Ave. (Southbound)	7.00	7.90	30.00	70.00	55.00	30.00	

Bypass

Name	Leg Has Bypass	Bypass Utilisation (%)
Topsail Rd. (Eastbound)	✓	100
Commonwealth Ave. (Northbound)	✓	100
Topsail Rd. (Westbound)	✓	100
Mount Carson Ave. (Southbound)	✓	100

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Name	Enter slope and intercept directly	Entered slope	Entered intercept (PCE/hr)	Final Slope	Final Intercept (PCE/hr)
Topsail Rd. (Eastbound)		(calculated)	(calculated)	0.731	2452.588
Commonwealth Ave. (Northbound)		(calculated)	(calculated)	0.731	2452.588
Topsail Rd. (Westbound)		(calculated)	(calculated)	0.731	2452.588
Mount Carson Ave. (Southbound)		(calculated)	(calculated)	0.731	2452.588

The slope and intercept shown above include any corrections and adjustments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCE Factor for a Truck (PCE)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	Truck Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCE/hr)	Flow Scaling Factor (%)
Topsail Rd. (Eastbound)	ONE HOUR	✓	1470.00	100.000
Commonwealth Ave. (Northbound)	ONE HOUR	✓	1131.00	100.000
Topsail Rd. (Westbound)	ONE HOUR	✓	1440.00	100.000
Mount Carson Ave. (Southbound)	ONE HOUR	✓	838.00	100.000

Results

Results Summary for whole modelled period

Name	Max V/C Ratio	Max Delay (s)	Max Queue (PCE)	Max 95th percentile Queue (PCE)	Max LOS
Topsail Rd. (Eastbound)	0.59	5.72	1.42	1.00	A
Commonwealth Ave. (Northbound)	0.57	4.89	1.30	1.00	A
Topsail Rd. (Westbound)	0.80	10.60	3.87	10.00	B
Mount Carson Ave. (Southbound)	0.73	11.16	2.64	5.00	B

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.4.487 [15039,24/03/2014]
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Filename: 172093-MountCarson-Kenmount-10yr with Background Analysis.arc8

Path: Z:\Harbourside Transportation Consultants\Projects\172093 Mount Pearl 190 TIS\Project Files\02 Analysis\06 Junctions 8 (Arcady)\2028 with Background

Report generation date: 24/01/2018 1:22:10 PM

Summary of intersection performance

	AM						PM					
	Queue (PCE)	Delay (s)	V/C Ratio	LOS	Intersection Delay (s)	Intersection LOS	Queue (PCE)	Delay (s)	V/C Ratio	LOS	Intersection Delay (s)	Intersection LOS
	A1 - 2028 with Dev											
Kenmount Rd. (Eastbound)	2.47	6.21	0.71	A	3.76	A	3.02	8.79	0.76	A	7.38	A
Mount Carson Ave. (Northbound)	0.07	2.64	0.07	A			0.07	2.24	0.07	A		
Kenmount Rd. (Westbound)	0.75	2.06	0.43	A			6.12	8.61	0.86	A		

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle. Intersection LOS and Intersection Delay are demand-weighted averages.

"D1 - 2028 with Dev, AM " model duration: 8:00 AM - 9:30 AM

"D2 - 2028 with Dev, PM" model duration: 5:00 PM - 6:30 PM

Run using Junctions 8.0.4.487 at 24/01/2018 1:22:09 PM

File summary

Title	(untitled)
Location	
Site Number	
Date	24/11/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Analyst	hec45
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	V/C Ratio Threshold	Average Delay Threshold (s)	Queue Threshold (PCE)
7.00	✓		N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCE	PCE	perHour	s	-Min	perMin

(Default Analysis Set) - 2028 with Dev, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2028 with Dev, AM	2028 with Dev	AM		ONE HOUR	08:00	09:30	90	15		

Intersection Network

Intersections

Intersection	Name	Intersection Type	Leg Order	Grade Separated	Large Roundabout	Intersection Delay (s)	Intersection LOS
1	Mount Carson Ave. -Kenmount Rd.	Roundabout	1,2,3			3.76	A

Intersection Network Options

Driving Side	Lighting
Right	Normal/unknown

Legs

Legs

Name	Leg	Name	Description
Kenmount Rd. (Eastbound)	1	Kenmount Rd. (Eastbound)	
Mount Carson Ave. (Northbound)	2	Mount Carson Ave. (Northbound)	
Kenmount Rd. (Westbound)	3	Kenmount Rd. (Westbound)	

Capacity Options

Name	Minimum Capacity (PCE/hr)	Maximum Capacity (PCE/hr)
Kenmount Rd. (Eastbound)	0.00	99999.00
Mount Carson Ave. (Northbound)	0.00	99999.00
Kenmount Rd. (Westbound)	0.00	99999.00

Roundabout Geometry

Name	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
Kenmount Rd. (Eastbound)	7.00	7.90	30.00	70.00	55.00	30.00	
Mount Carson Ave. (Northbound)	7.00	7.90	30.00	70.00	55.00	30.00	
Kenmount Rd. (Westbound)	7.00	11.50	30.00	70.00	55.00	30.00	

Bypass

Name	Leg Has Bypass	Bypass Utilisation (%)
Kenmount Rd. (Eastbound)		
Mount Carson Ave. (Northbound)	✓	100
Kenmount Rd. (Westbound)		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Name	Enter slope and intercept directly	Entered slope	Entered intercept (PCE/hr)	Final Slope	Final Intercept (PCE/hr)
Kenmount Rd. (Eastbound)		(calculated)	(calculated)	0.731	2452.588
Mount Carson Ave. (Northbound)		(calculated)	(calculated)	0.731	2452.588
Kenmount Rd. (Westbound)		(calculated)	(calculated)	0.857	3148.546

The slope and intercept shown above include any corrections and adjustments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCE Factor for a Truck (PCE)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	Truck Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCE/hr)	Flow Scaling Factor (%)
Kenmount Rd. (Eastbound)	ONE HOUR	✓	1313.00	100.000
Mount Carson Ave. (Northbound)	ONE HOUR	✓	1077.00	100.000
Kenmount Rd. (Westbound)	ONE HOUR	✓	1196.00	100.000

Results

Results Summary for whole modelled period

Name	Max V/C Ratio	Max Delay (s)	Max Queue (PCE)	Max 95th percentile Queue (PCE)	Max LOS
Kenmount Rd. (Eastbound)	0.71	6.21	2.47	3.00	A
Mount Carson Ave. (Northbound)	0.07	2.64	0.07	~1	A
Kenmount Rd. (Westbound)	0.43	2.06	0.75	1.00	A

(Default Analysis Set) - 2028 with Dev, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2028 with Dev, PM	2028 with Dev	PM		ONE HOUR	17:00	18:30	90	15		

Intersection Network

Intersections

Intersection	Name	Intersection Type	Leg Order	Grade Separated	Large Roundabout	Intersection Delay (s)	Intersection LOS
1	Mount Carson Ave. -Kenmount Rd.	Roundabout	1,2,3			7.38	A

Intersection Network Options

Driving Side	Lighting
Right	Normal/unknown

Legs

Legs

Name	Leg	Name	Description
Kenmount Rd. (Eastbound)	1	Kenmount Rd. (Eastbound)	
Mount Carson Ave. (Northbound)	2	Mount Carson Ave. (Northbound)	
Kenmount Rd. (Westbound)	3	Kenmount Rd. (Westbound)	

Capacity Options

Name	Minimum Capacity (PCE/hr)	Maximum Capacity (PCE/hr)
Kenmount Rd. (Eastbound)	0.00	99999.00
Mount Carson Ave. (Northbound)	0.00	99999.00
Kenmount Rd. (Westbound)	0.00	99999.00

Roundabout Geometry

Name	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
Kenmount Rd. (Eastbound)	7.00	7.90	30.00	70.00	55.00	30.00	
Mount Carson Ave. (Northbound)	7.00	7.90	30.00	70.00	55.00	30.00	
Kenmount Rd. (Westbound)	7.00	11.50	30.00	70.00	55.00	30.00	

Bypass

Name	Leg Has Bypass	Bypass Utilisation (%)
Kenmount Rd. (Eastbound)		
Mount Carson Ave. (Northbound)	✓	100
Kenmount Rd. (Westbound)		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Name	Enter slope and intercept directly	Entered slope	Entered intercept (PCE/hr)	Final Slope	Final Intercept (PCE/hr)
Kenmount Rd. (Eastbound)		(calculated)	(calculated)	0.731	2452.588
Mount Carson Ave. (Northbound)		(calculated)	(calculated)	0.731	2452.588
Kenmount Rd. (Westbound)		(calculated)	(calculated)	0.857	3148.546

The slope and intercept shown above include any corrections and adjustments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCE Factor for a Truck (PCE)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	Truck Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCE/hr)	Flow Scaling Factor (%)
Kenmount Rd. (Eastbound)	ONE HOUR	✓	1143.00	100.000
Mount Carson Ave. (Northbound)	ONE HOUR	✓	887.00	100.000
Kenmount Rd. (Westbound)	ONE HOUR	✓	2389.00	100.000

Results

Results Summary for whole modelled period

Name	Max V/C Ratio	Max Delay (s)	Max Queue (PCE)	Max 95th percentile Queue (PCE)	Max LOS
Kenmount Rd. (Eastbound)	0.76	8.79	3.02	5.00	A
Mount Carson Ave. (Northbound)	0.07	2.24	0.07	~1	A
Kenmount Rd. (Westbound)	0.86	8.61	6.12	18.00	A

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.4.487 [15039,24/03/2014]
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Filename: 172093-MountCarson-Penney-Wyatt-10yr with Background Analysis.arc8

Path: Z:\Harbourside Transportation Consultants\Projects\172093 Mount Pearl 190 TIS\Project Files\02 Analysis\06 Junctions 8 (Arcady)\2028 with Background

Report generation date: 24/01/2018 1:26:42 PM

Summary of intersection performance

	AM						PM					
	Queue (PCE)	Delay (s)	V/C Ratio	LOS	Intersection Delay (s)	Intersection LOS	Queue (PCE)	Delay (s)	V/C Ratio	LOS	Intersection Delay (s)	Intersection LOS
	A1 - 2028 with Back											
Penney Group (Eastbound)	0.07	1.94	0.06	A	3.66	A	0.40	3.32	0.28	A	4.57	A
Mount Carson Ave. (Northbound)	1.18	4.38	0.54	A			1.41	5.60	0.59	A		
Wyatt Blvd. (Westbound)	0.66	4.44	0.40	A			0.56	4.03	0.36	A		
Mount Carson Ave. (Southbound)	0.39	2.23	0.28	A			1.63	4.46	0.62	A		

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle. Intersection LOS and Intersection Delay are demand-weighted averages.
 "D1 - 2028 with Back, AM " model duration: 8:00 AM - 9:30 AM
 "D2 - 2028 with Back, PM" model duration: 5:00 PM - 6:30 PM

Run using Junctions 8.0.4.487 at 24/01/2018 1:26:41 PM

File summary

Title	(untitled)
Location	
Site Number	
Date	24/11/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Analyst	hec45
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	V/C Ratio Threshold	Average Delay Threshold (s)	Queue Threshold (PCE)
7.00	✓		N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCE	PCE	perHour	s	-Min	perMin

(Default Analysis Set) - 2028 with Back, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2028 with Back, AM	2028 with Back	AM		ONE HOUR	08:00	09:30	90	15		

Intersection Network

Intersections

Intersection	Name	Intersection Type	Leg Order	Grade Separated	Large Roundabout	Intersection Delay (s)	Intersection LOS
1	Mount Carson-Penney-Wyatt	Roundabout	1,2,3,4			3.66	A

Intersection Network Options

Driving Side	Lighting
Right	Normal/unknown

Legs

Legs

Name	Leg	Name	Description
Penney Group (Eastbound)	1	Penney Group (Eastbound)	
Mount Carson Ave. (Northbound)	2	Mount Carson Ave. (Northbound)	
Wyatt Blvd. (Westbound)	3	Wyatt Blvd. (Westbound)	
Mount Carson Ave. (Southbound)	4	Mount Carson Ave. (Southbound)	

Capacity Options

Name	Minimum Capacity (PCE/hr)	Maximum Capacity (PCE/hr)
Penney Group (Eastbound)	0.00	99999.00
Mount Carson Ave. (Northbound)	0.00	99999.00
Wyatt Blvd. (Westbound)	0.00	99999.00
Mount Carson Ave. (Southbound)	0.00	99999.00

Roundabout Geometry

Name	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
Penney Group (Eastbound)	7.00	7.90	30.00	70.00	55.00	30.00	
Mount Carson Ave. (Northbound)	3.00	7.90	30.00	70.00	55.00	30.00	
Wyatt Blvd. (Westbound)	3.00	7.90	30.00	70.00	55.00	30.00	
Mount Carson Ave. (Southbound)	7.00	7.90	30.00	70.00	55.00	30.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Name	Enter slope and intercept directly	Entered slope	Entered intercept (PCE/hr)	Final Slope	Final Intercept (PCE/hr)
Penney Group (Eastbound)		(calculated)	(calculated)	0.731	2452.588
Mount Carson Ave. (Northbound)		(calculated)	(calculated)	0.639	1949.873
Wyatt Blvd. (Westbound)		(calculated)	(calculated)	0.639	1949.873
Mount Carson Ave. (Southbound)		(calculated)	(calculated)	0.731	2452.588

The slope and intercept shown above include any corrections and adjustments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCE Factor for a Truck (PCE)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	Truck Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCE/hr)	Flow Scaling Factor (%)
Penney Group (Eastbound)	ONE HOUR	✓	114.00	100.000
Mount Carson Ave. (Northbound)	ONE HOUR	✓	885.00	100.000
Wyatt Blvd. (Westbound)	ONE HOUR	✓	490.00	100.000
Mount Carson Ave. (Southbound)	ONE HOUR	✓	573.00	100.000

Results

Results Summary for whole modelled period

Name	Max V/C Ratio	Max Delay (s)	Max Queue (PCE)	Max 95th percentile Queue (PCE)	Max LOS
Penney Group (Eastbound)	0.06	1.94	0.07	~1	A
Mount Carson Ave. (Northbound)	0.54	4.38	1.18	1.00	A
Wyatt Blvd. (Westbound)	0.40	4.44	0.66	1.00	A
Mount Carson Ave. (Southbound)	0.28	2.23	0.39	~1	A

(Default Analysis Set) - 2028 with Back, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2028 with Back, PM	2028 with Back	PM		ONE HOUR	17:00	18:30	90	15		

Intersection Network

Intersections

Intersection	Name	Intersection Type	Leg Order	Grade Separated	Large Roundabout	Intersection Delay (s)	Intersection LOS
1	Mount Carson-Penney-Wyatt	Roundabout	1,2,3,4			4.57	A

Intersection Network Options

Driving Side	Lighting
Right	Normal/unknown

Legs

Legs

Name	Leg	Name	Description
Penney Group (Eastbound)	1	Penney Group (Eastbound)	
Mount Carson Ave. (Northbound)	2	Mount Carson Ave. (Northbound)	
Wyatt Blvd. (Westbound)	3	Wyatt Blvd. (Westbound)	
Mount Carson Ave. (Southbound)	4	Mount Carson Ave. (Southbound)	

Capacity Options

Name	Minimum Capacity (PCE/hr)	Maximum Capacity (PCE/hr)
Penney Group (Eastbound)	0.00	99999.00
Mount Carson Ave. (Northbound)	0.00	99999.00
Wyatt Blvd. (Westbound)	0.00	99999.00
Mount Carson Ave. (Southbound)	0.00	99999.00

Roundabout Geometry

Name	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
Penney Group (Eastbound)	7.00	7.90	30.00	70.00	55.00	30.00	
Mount Carson Ave. (Northbound)	3.00	7.90	30.00	70.00	55.00	30.00	
Wyatt Blvd. (Westbound)	3.00	7.90	30.00	70.00	55.00	30.00	
Mount Carson Ave. (Southbound)	7.00	7.90	30.00	70.00	55.00	30.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Name	Enter slope and intercept directly	Entered slope	Entered intercept (PCE/hr)	Final Slope	Final Intercept (PCE/hr)
Penney Group (Eastbound)		(calculated)	(calculated)	0.731	2452.588
Mount Carson Ave. (Northbound)		(calculated)	(calculated)	0.639	1949.873
Wyatt Blvd. (Westbound)		(calculated)	(calculated)	0.639	1949.873
Mount Carson Ave. (Southbound)		(calculated)	(calculated)	0.731	2452.588

The slope and intercept shown above include any corrections and adjustments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCE Factor for a Truck (PCE)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	Truck Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCE/hr)	Flow Scaling Factor (%)
Penney Group (Eastbound)	ONE HOUR	✓	390.00	100.000
Mount Carson Ave. (Northbound)	ONE HOUR	✓	827.00	100.000
Wyatt Blvd. (Westbound)	ONE HOUR	✓	454.00	100.000
Mount Carson Ave. (Southbound)	ONE HOUR	✓	1199.00	100.000

Results

Results Summary for whole modelled period

Name	Max V/C Ratio	Max Delay (s)	Max Queue (PCE)	Max 95th percentile Queue (PCE)	Max LOS
Penney Group (Eastbound)	0.28	3.32	0.40	~1	A
Mount Carson Ave. (Northbound)	0.59	5.60	1.41	1.00	A
Wyatt Blvd. (Westbound)	0.36	4.03	0.56	1.00	A
Mount Carson Ave. (Southbound)	0.62	4.46	1.63	2.00	A

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.4.487 [15039,24/03/2014]
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Filename: 172093-MountCarson-Topsail-10yr with Background Analysis.arc8

Path: Z:\Harbourside Transportation Consultants\Projects\172093 Mount Pearl 190 TIS\Project Files\02 Analysis\06 Junctions 8 (Arcady)\2028 with Background

Report generation date: 24/01/2018 1:29:18 PM

Summary of intersection performance

	AM						PM					
	Queue (PCE)	Delay (s)	V/C Ratio	LOS	Intersection Delay (s)	Intersection LOS	Queue (PCE)	Delay (s)	V/C Ratio	LOS	Intersection Delay (s)	Intersection LOS
	A1 - 2028 with Back											
Topsail Rd. (Eastbound)	0.94	3.76	0.48	A	4.82	A	1.73	6.69	0.64	A	10.12	B
Commonwealth Ave. (Northbound)	1.75	5.97	0.64	A			1.48	5.39	0.60	A		
Topsail Rd. (Westbound)	1.31	5.11	0.57	A			5.15	13.75	0.84	B		
Mount Carson Ave. (Southbound)	0.64	3.92	0.39	A			4.02	16.21	0.81	C		

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle. Intersection LOS and Intersection Delay are demand-weighted averages.
 "D1 - 2028 with Back, AM " model duration: 8:00 AM - 9:30 AM
 "D2 - 2028 with Back, PM" model duration: 5:00 PM - 6:30 PM

Run using Junctions 8.0.4.487 at 24/01/2018 1:29:17 PM

File summary

Title	(untitled)
Location	
Site Number	
Date	24/11/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Analyst	hec45
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	V/C Ratio Threshold	Average Delay Threshold (s)	Queue Threshold (PCE)
7.00	✓		N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCE	PCE	perHour	s	-Min	perMin

(Default Analysis Set) - 2028 with Back, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2028 with Back, AM	2028 with Back	AM		ONE HOUR	08:00	09:30	90	15		

Intersection Network

Intersections

Intersection	Name	Intersection Type	Leg Order	Grade Separated	Large Roundabout	Intersection Delay (s)	Intersection LOS
1	Mount Carson-Penney-Wyatt	Roundabout	1,2,3,4			4.82	A

Intersection Network Options

Driving Side	Lighting
Right	Normal/unknown

Legs

Legs

Name	Leg	Name	Description
Topsail Rd. (Eastbound)	1	Topsail Rd. (Eastbound)	
Commonwealth Ave. (Northbound)	2	Commonwealth Ave. (Northbound)	
Topsail Rd. (Westbound)	3	Topsail Rd. (Westbound)	
Mount Carson Ave. (Southbound)	4	Mount Carson Ave. (Southbound)	

Capacity Options

Name	Minimum Capacity (PCE/hr)	Maximum Capacity (PCE/hr)
Topsail Rd. (Eastbound)	0.00	99999.00
Commonwealth Ave. (Northbound)	0.00	99999.00
Topsail Rd. (Westbound)	0.00	99999.00
Mount Carson Ave. (Southbound)	0.00	99999.00

Roundabout Geometry

Name	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
Topsail Rd. (Eastbound)	7.00	7.90	30.00	70.00	55.00	30.00	
Commonwealth Ave. (Northbound)	7.00	7.90	30.00	70.00	55.00	30.00	
Topsail Rd. (Westbound)	7.00	7.90	30.00	70.00	55.00	30.00	
Mount Carson Ave. (Southbound)	7.00	7.90	30.00	70.00	55.00	30.00	

Bypass

Name	Leg Has Bypass	Bypass Utilisation (%)
Topsail Rd. (Eastbound)	✓	100
Commonwealth Ave. (Northbound)	✓	100
Topsail Rd. (Westbound)	✓	100
Mount Carson Ave. (Southbound)	✓	100

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Name	Enter slope and intercept directly	Entered slope	Entered intercept (PCE/hr)	Final Slope	Final Intercept (PCE/hr)
Topsail Rd. (Eastbound)		(calculated)	(calculated)	0.731	2452.588
Commonwealth Ave. (Northbound)		(calculated)	(calculated)	0.731	2452.588
Topsail Rd. (Westbound)		(calculated)	(calculated)	0.731	2452.588
Mount Carson Ave. (Southbound)		(calculated)	(calculated)	0.731	2452.588

The slope and intercept shown above include any corrections and adjustments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCE Factor for a Truck (PCE)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	Truck Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCE/hr)	Flow Scaling Factor (%)
Topsail Rd. (Eastbound)	ONE HOUR	✓	1216.00	100.000
Commonwealth Ave. (Northbound)	ONE HOUR	✓	1361.00	100.000
Topsail Rd. (Westbound)	ONE HOUR	✓	959.00	100.000
Mount Carson Ave. (Southbound)	ONE HOUR	✓	611.00	100.000

Results

Results Summary for whole modelled period

Name	Max V/C Ratio	Max Delay (s)	Max Queue (PCE)	Max 95th percentile Queue (PCE)	Max LOS
Topsail Rd. (Eastbound)	0.48	3.76	0.94	~1	A
Commonwealth Ave. (Northbound)	0.64	5.97	1.75	2.00	A
Topsail Rd. (Westbound)	0.57	5.11	1.31	1.00	A
Mount Carson Ave. (Southbound)	0.39	3.92	0.64	1.00	A

(Default Analysis Set) - 2028 with Back, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2028 with Back, PM	2028 with Back	PM		ONE HOUR	17:00	18:30	90	15		

Intersection Network

Intersections

Intersection	Name	Intersection Type	Leg Order	Grade Separated	Large Roundabout	Intersection Delay (s)	Intersection LOS
1	Mount Carson-Penney-Wyatt	Roundabout	1,2,3,4			10.12	B

Intersection Network Options

Driving Side	Lighting
Right	Normal/unknown

Legs

Legs

Name	Leg	Name	Description
Topsail Rd. (Eastbound)	1	Topsail Rd. (Eastbound)	
Commonwealth Ave. (Northbound)	2	Commonwealth Ave. (Northbound)	
Topsail Rd. (Westbound)	3	Topsail Rd. (Westbound)	
Mount Carson Ave. (Southbound)	4	Mount Carson Ave. (Southbound)	

Capacity Options

Name	Minimum Capacity (PCE/hr)	Maximum Capacity (PCE/hr)
Topsail Rd. (Eastbound)	0.00	99999.00
Commonwealth Ave. (Northbound)	0.00	99999.00
Topsail Rd. (Westbound)	0.00	99999.00
Mount Carson Ave. (Southbound)	0.00	99999.00

Roundabout Geometry

Name	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
Topsail Rd. (Eastbound)	7.00	7.90	30.00	70.00	55.00	30.00	
Commonwealth Ave. (Northbound)	7.00	7.90	30.00	70.00	55.00	30.00	
Topsail Rd. (Westbound)	7.00	7.90	30.00	70.00	55.00	30.00	
Mount Carson Ave. (Southbound)	7.00	7.90	30.00	70.00	55.00	30.00	

Bypass

Name	Leg Has Bypass	Bypass Utilisation (%)
Topsail Rd. (Eastbound)	✓	100
Commonwealth Ave. (Northbound)	✓	100
Topsail Rd. (Westbound)	✓	100
Mount Carson Ave. (Southbound)	✓	100

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Name	Enter slope and intercept directly	Entered slope	Entered intercept (PCE/hr)	Final Slope	Final Intercept (PCE/hr)
Topsail Rd. (Eastbound)		(calculated)	(calculated)	0.731	2452.588
Commonwealth Ave. (Northbound)		(calculated)	(calculated)	0.731	2452.588
Topsail Rd. (Westbound)		(calculated)	(calculated)	0.731	2452.588
Mount Carson Ave. (Southbound)		(calculated)	(calculated)	0.731	2452.588

The slope and intercept shown above include any corrections and adjustments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCE Factor for a Truck (PCE)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	Truck Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCE/hr)	Flow Scaling Factor (%)
Topsail Rd. (Eastbound)	ONE HOUR	✓	1554.00	100.000
Commonwealth Ave. (Northbound)	ONE HOUR	✓	1171.00	100.000
Topsail Rd. (Westbound)	ONE HOUR	✓	1494.00	100.000
Mount Carson Ave. (Southbound)	ONE HOUR	✓	889.00	100.000

Results

Results Summary for whole modelled period

Name	Max V/C Ratio	Max Delay (s)	Max Queue (PCE)	Max 95th percentile Queue (PCE)	Max LOS
Topsail Rd. (Eastbound)	0.64	6.69	1.73	1.00	A
Commonwealth Ave. (Northbound)	0.60	5.39	1.48	1.00	A
Topsail Rd. (Westbound)	0.84	13.75	5.15	17.00	B
Mount Carson Ave. (Southbound)	0.81	16.21	4.02	12.00	C

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.4.487 [15039,24/03/2014]
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Filename: 172093-MountCarson-Kenmount-10yr with Development Analysis.arc8

Path: Z:\Harbourside Transportation Consultants\Projects\172093 Mount Pearl 190 TIS\Project Files\02 Analysis\06 Junctions 8 (Arcady)\2028 with Development

Report generation date: 24/01/2018 1:33:47 PM

Summary of intersection performance

	AM						PM					
	Queue (PCE)	Delay (s)	V/C Ratio	LOS	Intersection Delay (s)	Intersection LOS	Queue (PCE)	Delay (s)	V/C Ratio	LOS	Intersection Delay (s)	Intersection LOS
	A1 - 2028 with Dev											
Kenmount Rd. (Eastbound)	2.93	7.17	0.75	A	4.14	A	4.77	13.85	0.83	B	13.42	B
Mount Carson Ave. (Northbound)	0.11	2.79	0.10	A			0.09	2.27	0.08	A		
Kenmount Rd. (Westbound)	0.83	2.17	0.45	A			13.02	17.51	0.94	C		

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle. Intersection LOS and Intersection Delay are demand-weighted averages.

"D1 - 2028 with Dev, AM " model duration: 8:00 AM - 9:30 AM

"D2 - 2028 with Dev, PM" model duration: 5:00 PM - 6:30 PM

Run using Junctions 8.0.4.487 at 24/01/2018 1:33:47 PM

File summary

Title	(untitled)
Location	
Site Number	
Date	24/11/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Analyst	hec45
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	V/C Ratio Threshold	Average Delay Threshold (s)	Queue Threshold (PCE)
7.00	✓		N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCE	PCE	perHour	s	-Min	perMin

(Default Analysis Set) - 2028 with Dev, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2028 with Dev, AM	2028 with Dev	AM		ONE HOUR	08:00	09:30	90	15		

Intersection Network

Intersections

Intersection	Name	Intersection Type	Leg Order	Grade Separated	Large Roundabout	Intersection Delay (s)	Intersection LOS
1	Mount Carson Ave. -Kenmount Rd.	Roundabout	1,2,3			4.14	A

Intersection Network Options

Driving Side	Lighting
Right	Normal/unknown

Legs

Legs

Name	Leg	Name	Description
Kenmount Rd. (Eastbound)	1	Kenmount Rd. (Eastbound)	
Mount Carson Ave. (Northbound)	2	Mount Carson Ave. (Northbound)	
Kenmount Rd. (Westbound)	3	Kenmount Rd. (Westbound)	

Capacity Options

Name	Minimum Capacity (PCE/hr)	Maximum Capacity (PCE/hr)
Kenmount Rd. (Eastbound)	0.00	99999.00
Mount Carson Ave. (Northbound)	0.00	99999.00
Kenmount Rd. (Westbound)	0.00	99999.00

Roundabout Geometry

Name	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
Kenmount Rd. (Eastbound)	7.00	7.90	30.00	70.00	55.00	30.00	
Mount Carson Ave. (Northbound)	7.00	7.90	30.00	70.00	55.00	30.00	
Kenmount Rd. (Westbound)	7.00	11.50	30.00	70.00	55.00	30.00	

Bypass

Name	Leg Has Bypass	Bypass Utilisation (%)
Kenmount Rd. (Eastbound)		
Mount Carson Ave. (Northbound)	✓	100
Kenmount Rd. (Westbound)		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Name	Enter slope and intercept directly	Entered slope	Entered intercept (PCE/hr)	Final Slope	Final Intercept (PCE/hr)
Kenmount Rd. (Eastbound)		(calculated)	(calculated)	0.731	2452.588
Mount Carson Ave. (Northbound)		(calculated)	(calculated)	0.731	2452.588
Kenmount Rd. (Westbound)		(calculated)	(calculated)	0.857	3148.546

The slope and intercept shown above include any corrections and adjustments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCE Factor for a Truck (PCE)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	Truck Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCE/hr)	Flow Scaling Factor (%)
Kenmount Rd. (Eastbound)	ONE HOUR	✓	1354.00	100.000
Mount Carson Ave. (Northbound)	ONE HOUR	✓	1214.00	100.000
Kenmount Rd. (Westbound)	ONE HOUR	✓	1246.00	100.000

Results

Results Summary for whole modelled period

Name	Max V/C Ratio	Max Delay (s)	Max Queue (PCE)	Max 95th percentile Queue (PCE)	Max LOS
Kenmount Rd. (Eastbound)	0.75	7.17	2.93	4.00	A
Mount Carson Ave. (Northbound)	0.10	2.79	0.11	~1	A
Kenmount Rd. (Westbound)	0.45	2.17	0.83	~1	A

(Default Analysis Set) - 2028 with Dev, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2028 with Dev, PM	2028 with Dev	PM		ONE HOUR	17:00	18:30	90	15		

Intersection Network

Intersections

Intersection	Name	Intersection Type	Leg Order	Grade Separated	Large Roundabout	Intersection Delay (s)	Intersection LOS
1	Mount Carson Ave. -Kenmount Rd.	Roundabout	1,2,3			13.42	B

Intersection Network Options

Driving Side	Lighting
Right	Normal/unknown

Legs

Legs

Name	Leg	Name	Description
Kenmount Rd. (Eastbound)	1	Kenmount Rd. (Eastbound)	
Mount Carson Ave. (Northbound)	2	Mount Carson Ave. (Northbound)	
Kenmount Rd. (Westbound)	3	Kenmount Rd. (Westbound)	

Capacity Options

Name	Minimum Capacity (PCE/hr)	Maximum Capacity (PCE/hr)
Kenmount Rd. (Eastbound)	0.00	99999.00
Mount Carson Ave. (Northbound)	0.00	99999.00
Kenmount Rd. (Westbound)	0.00	99999.00

Roundabout Geometry

Name	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
Kenmount Rd. (Eastbound)	7.00	7.90	30.00	70.00	55.00	30.00	
Mount Carson Ave. (Northbound)	7.00	7.90	30.00	70.00	55.00	30.00	
Kenmount Rd. (Westbound)	7.00	11.50	30.00	70.00	55.00	30.00	

Bypass

Name	Leg Has Bypass	Bypass Utilisation (%)
Kenmount Rd. (Eastbound)		
Mount Carson Ave. (Northbound)	✓	100
Kenmount Rd. (Westbound)		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Name	Enter slope and intercept directly	Entered slope	Entered intercept (PCE/hr)	Final Slope	Final Intercept (PCE/hr)
Kenmount Rd. (Eastbound)		(calculated)	(calculated)	0.731	2452.588
Mount Carson Ave. (Northbound)		(calculated)	(calculated)	0.731	2452.588
Kenmount Rd. (Westbound)		(calculated)	(calculated)	0.857	3148.546

The slope and intercept shown above include any corrections and adjustments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCE Factor for a Truck (PCE)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	Truck Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCE/hr)	Flow Scaling Factor (%)
Kenmount Rd. (Eastbound)	ONE HOUR	✓	1169.00	100.000
Mount Carson Ave. (Northbound)	ONE HOUR	✓	989.00	100.000
Kenmount Rd. (Westbound)	ONE HOUR	✓	2578.00	100.000

Results

Results Summary for whole modelled period

Name	Max V/C Ratio	Max Delay (s)	Max Queue (PCE)	Max 95th percentile Queue (PCE)	Max LOS
Kenmount Rd. (Eastbound)	0.83	13.85	4.77	15.00	B
Mount Carson Ave. (Northbound)	0.08	2.27	0.09	~1	A
Kenmount Rd. (Westbound)	0.94	17.51	13.02	49.00	C

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.4.487 [15039,24/03/2014]
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Filename: 172093-MountCarson-Penney-Wyatt-10yr with Development Analysis.arc8

Path: Z:\Harbourside Transportation Consultants\Projects\172093 Mount Pearl 190 TIS\Project Files\02 Analysis\06 Junctions 8 (Arcady)\2028 with Development

Report generation date: 24/01/2018 1:37:05 PM

Summary of intersection performance

	AM						PM					
	Queue (PCE)	Delay (s)	V/C Ratio	LOS	Intersection Delay (s)	Intersection LOS	Queue (PCE)	Delay (s)	V/C Ratio	LOS	Intersection Delay (s)	Intersection LOS
	A1 - 2028 with Dev											
Penney Group (Eastbound)	0.10	2.04	0.09	A	4.44	A	0.87	4.77	0.47	A	7.00	A
Mount Carson Ave. (Northbound)	1.46	5.03	0.59	A			2.73	9.63	0.74	A		
Wyatt Blvd. (Westbound)	1.21	6.11	0.55	A			0.92	5.31	0.48	A		
Mount Carson Ave. (Southbound)	0.45	2.39	0.31	A			2.81	6.87	0.74	A		

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle. Intersection LOS and Intersection Delay are demand-weighted averages.

"D1 - 2028 with Dev, AM " model duration: 8:00 AM - 9:30 AM

"D2 - 2028 with Dev, PM" model duration: 5:00 PM - 6:30 PM

Run using Junctions 8.0.4.487 at 24/01/2018 1:37:04 PM

File summary

Title	(untitled)
Location	
Site Number	
Date	24/11/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Analyst	hec45
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	V/C Ratio Threshold	Average Delay Threshold (s)	Queue Threshold (PCE)
7.00	✓		N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCE	PCE	perHour	s	-Min	perMin

(Default Analysis Set) - 2028 with Dev, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2028 with Dev, AM	2028 with Dev	AM		ONE HOUR	08:00	09:30	90	15		

Intersection Network

Intersections

Intersection	Name	Intersection Type	Leg Order	Grade Separated	Large Roundabout	Intersection Delay (s)	Intersection LOS
1	Mount Carson-Penney-Wyatt	Roundabout	1,2,3,4			4.44	A

Intersection Network Options

Driving Side	Lighting
Right	Normal/unknown

Legs

Legs

Name	Leg	Name	Description
Penney Group (Eastbound)	1	Penney Group (Eastbound)	
Mount Carson Ave. (Northbound)	2	Mount Carson Ave. (Northbound)	
Wyatt Blvd. (Westbound)	3	Wyatt Blvd. (Westbound)	
Mount Carson Ave. (Southbound)	4	Mount Carson Ave. (Southbound)	

Capacity Options

Name	Minimum Capacity (PCE/hr)	Maximum Capacity (PCE/hr)
Penney Group (Eastbound)	0.00	99999.00
Mount Carson Ave. (Northbound)	0.00	99999.00
Wyatt Blvd. (Westbound)	0.00	99999.00
Mount Carson Ave. (Southbound)	0.00	99999.00

Roundabout Geometry

Name	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
Penney Group (Eastbound)	7.00	7.90	30.00	70.00	55.00	30.00	
Mount Carson Ave. (Northbound)	3.00	7.90	30.00	70.00	55.00	30.00	
Wyatt Blvd. (Westbound)	3.00	7.90	30.00	70.00	55.00	30.00	
Mount Carson Ave. (Southbound)	7.00	7.90	30.00	70.00	55.00	30.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Name	Enter slope and intercept directly	Entered slope	Entered intercept (PCE/hr)	Final Slope	Final Intercept (PCE/hr)
Penney Group (Eastbound)		(calculated)	(calculated)	0.731	2452.588
Mount Carson Ave. (Northbound)		(calculated)	(calculated)	0.639	1949.873
Wyatt Blvd. (Westbound)		(calculated)	(calculated)	0.639	1949.873
Mount Carson Ave. (Southbound)		(calculated)	(calculated)	0.731	2452.588

The slope and intercept shown above include any corrections and adjustments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCE Factor for a Truck (PCE)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	Truck Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCE/hr)	Flow Scaling Factor (%)
Penney Group (Eastbound)	ONE HOUR	✓	166.00	100.000
Mount Carson Ave. (Northbound)	ONE HOUR	✓	952.00	100.000
Wyatt Blvd. (Westbound)	ONE HOUR	✓	654.00	100.000
Mount Carson Ave. (Southbound)	ONE HOUR	✓	612.00	100.000

Results

Results Summary for whole modelled period

Name	Max V/C Ratio	Max Delay (s)	Max Queue (PCE)	Max 95th percentile Queue (PCE)	Max LOS
Penney Group (Eastbound)	0.09	2.04	0.10	~1	A
Mount Carson Ave. (Northbound)	0.59	5.03	1.46	1.00	A
Wyatt Blvd. (Westbound)	0.55	6.11	1.21	?	A
Mount Carson Ave. (Southbound)	0.31	2.39	0.45	1.00	A

(Default Analysis Set) - 2028 with Dev, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2028 with Dev, PM	2028 with Dev	PM		ONE HOUR	17:00	18:30	90	15		

Intersection Network

Intersections

Intersection	Name	Intersection Type	Leg Order	Grade Separated	Large Roundabout	Intersection Delay (s)	Intersection LOS
1	Mount Carson-Penney-Wyatt	Roundabout	1,2,3,4			7.00	A

Intersection Network Options

Driving Side	Lighting
Right	Normal/unknown

Legs

Legs

Name	Leg	Name	Description
Penney Group (Eastbound)	1	Penney Group (Eastbound)	
Mount Carson Ave. (Northbound)	2	Mount Carson Ave. (Northbound)	
Wyatt Blvd. (Westbound)	3	Wyatt Blvd. (Westbound)	
Mount Carson Ave. (Southbound)	4	Mount Carson Ave. (Southbound)	

Capacity Options

Name	Minimum Capacity (PCE/hr)	Maximum Capacity (PCE/hr)
Penney Group (Eastbound)	0.00	99999.00
Mount Carson Ave. (Northbound)	0.00	99999.00
Wyatt Blvd. (Westbound)	0.00	99999.00
Mount Carson Ave. (Southbound)	0.00	99999.00

Roundabout Geometry

Name	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
Penney Group (Eastbound)	7.00	7.90	30.00	70.00	55.00	30.00	
Mount Carson Ave. (Northbound)	3.00	7.90	30.00	70.00	55.00	30.00	
Wyatt Blvd. (Westbound)	3.00	7.90	30.00	70.00	55.00	30.00	
Mount Carson Ave. (Southbound)	7.00	7.90	30.00	70.00	55.00	30.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Name	Enter slope and intercept directly	Entered slope	Entered intercept (PCE/hr)	Final Slope	Final Intercept (PCE/hr)
Penney Group (Eastbound)		(calculated)	(calculated)	0.731	2452.588
Mount Carson Ave. (Northbound)		(calculated)	(calculated)	0.639	1949.873
Wyatt Blvd. (Westbound)		(calculated)	(calculated)	0.639	1949.873
Mount Carson Ave. (Southbound)		(calculated)	(calculated)	0.731	2452.588

The slope and intercept shown above include any corrections and adjustments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCE Factor for a Truck (PCE)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	Truck Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCE/hr)	Flow Scaling Factor (%)
Penney Group (Eastbound)	ONE HOUR	✓	597.00	100.000
Mount Carson Ave. (Northbound)	ONE HOUR	✓	945.00	100.000
Wyatt Blvd. (Westbound)	ONE HOUR	✓	571.00	100.000
Mount Carson Ave. (Southbound)	ONE HOUR	✓	1355.00	100.000

Results

Results Summary for whole modelled period

Name	Max V/C Ratio	Max Delay (s)	Max Queue (PCE)	Max 95th percentile Queue (PCE)	Max LOS
Penney Group (Eastbound)	0.47	4.77	0.87	1.00	A
Mount Carson Ave. (Northbound)	0.74	9.63	2.73	5.00	A
Wyatt Blvd. (Westbound)	0.48	5.31	0.92	1.00	A
Mount Carson Ave. (Southbound)	0.74	6.87	2.81	4.00	A

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.4.487 [15039,24/03/2014]
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Filename: 172093-MountCarson-Topsail-10yr with Development Analysis.arc8

Path: Z:\Harbourside Transportation Consultants\Projects\172093 Mount Pearl 190 TIS\Project Files\02 Analysis\06 Junctions 8 (Arcady)\2028 with Development

Report generation date: 24/01/2018 1:39:52 PM

Summary of intersection performance

	AM						PM					
	Queue (PCE)	Delay (s)	V/C Ratio	LOS	Intersection Delay (s)	Intersection LOS	Queue (PCE)	Delay (s)	V/C Ratio	LOS	Intersection Delay (s)	Intersection LOS
	A1 - 2028 with Dev											
Topsail Rd. (Eastbound)	0.99	3.97	0.50	A	5.15	A	2.05	7.93	0.68	A	14.63	B
Commonwealth Ave. (Northbound)	1.97	6.51	0.67	A			1.84	6.27	0.65	A		
Topsail Rd. (Westbound)	1.37	5.32	0.58	A			6.46	17.39	0.87	C		
Mount Carson Ave. (Southbound)	0.76	4.24	0.43	A			8.47	31.22	0.91	D		

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle. Intersection LOS and Intersection Delay are demand-weighted averages.

"D1 - 2028 with Dev, AM " model duration: 8:00 AM - 9:30 AM

"D2 - 2028 with Dev, PM" model duration: 5:00 PM - 6:30 PM

Run using Junctions 8.0.4.487 at 24/01/2018 1:39:51 PM

File summary

Title	(untitled)
Location	
Site Number	
Date	24/11/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Analyst	hec45
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	V/C Ratio Threshold	Average Delay Threshold (s)	Queue Threshold (PCE)
7.00	✓		N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCE	PCE	perHour	s	-Min	perMin

(Default Analysis Set) - 2028 with Dev, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2028 with Dev, AM	2028 with Dev	AM		ONE HOUR	08:00	09:30	90	15		

Intersection Network

Intersections

Intersection	Name	Intersection Type	Leg Order	Grade Separated	Large Roundabout	Intersection Delay (s)	Intersection LOS
1	Mount Carson-Penney-Wyatt	Roundabout	1,2,3,4			5.15	A

Intersection Network Options

Driving Side	Lighting
Right	Normal/unknown

Legs

Legs

Name	Leg	Name	Description
Topsail Rd. (Eastbound)	1	Topsail Rd. (Eastbound)	
Commonwealth Ave. (Northbound)	2	Commonwealth Ave. (Northbound)	
Topsail Rd. (Westbound)	3	Topsail Rd. (Westbound)	
Mount Carson Ave. (Southbound)	4	Mount Carson Ave. (Southbound)	

Capacity Options

Name	Minimum Capacity (PCE/hr)	Maximum Capacity (PCE/hr)
Topsail Rd. (Eastbound)	0.00	99999.00
Commonwealth Ave. (Northbound)	0.00	99999.00
Topsail Rd. (Westbound)	0.00	99999.00
Mount Carson Ave. (Southbound)	0.00	99999.00

Roundabout Geometry

Name	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
Topsail Rd. (Eastbound)	7.00	7.90	30.00	70.00	55.00	30.00	
Commonwealth Ave. (Northbound)	7.00	7.90	30.00	70.00	55.00	30.00	
Topsail Rd. (Westbound)	7.00	7.90	30.00	70.00	55.00	30.00	
Mount Carson Ave. (Southbound)	7.00	7.90	30.00	70.00	55.00	30.00	

Bypass

Name	Leg Has Bypass	Bypass Utilisation (%)
Topsail Rd. (Eastbound)	✓	100
Commonwealth Ave. (Northbound)	✓	100
Topsail Rd. (Westbound)	✓	100
Mount Carson Ave. (Southbound)	✓	100

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Name	Enter slope and intercept directly	Entered slope	Entered intercept (PCE/hr)	Final Slope	Final Intercept (PCE/hr)
Topsail Rd. (Eastbound)		(calculated)	(calculated)	0.731	2452.588
Commonwealth Ave. (Northbound)		(calculated)	(calculated)	0.731	2452.588
Topsail Rd. (Westbound)		(calculated)	(calculated)	0.731	2452.588
Mount Carson Ave. (Southbound)		(calculated)	(calculated)	0.731	2452.588

The slope and intercept shown above include any corrections and adjustments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCE Factor for a Truck (PCE)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	Truck Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCE/hr)	Flow Scaling Factor (%)
Topsail Rd. (Eastbound)	ONE HOUR	✓	1216.00	100.000
Commonwealth Ave. (Northbound)	ONE HOUR	✓	1392.00	100.000
Topsail Rd. (Westbound)	ONE HOUR	✓	982.00	100.000
Mount Carson Ave. (Southbound)	ONE HOUR	✓	673.00	100.000

Results

Results Summary for whole modelled period

Name	Max V/C Ratio	Max Delay (s)	Max Queue (PCE)	Max 95th percentile Queue (PCE)	Max LOS
Topsail Rd. (Eastbound)	0.50	3.97	0.99	~1	A
Commonwealth Ave. (Northbound)	0.67	6.51	1.97	2.00	A
Topsail Rd. (Westbound)	0.58	5.32	1.37	1.00	A
Mount Carson Ave. (Southbound)	0.43	4.24	0.76	1.00	A

(Default Analysis Set) - 2028 with Dev, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2028 with Dev, PM	2028 with Dev	PM		ONE HOUR	17:00	18:30	90	15		

Intersection Network

Intersections

Intersection	Name	Intersection Type	Leg Order	Grade Separated	Large Roundabout	Intersection Delay (s)	Intersection LOS
1	Mount Carson-Penney-Wyatt	Roundabout	1,2,3,4			14.63	B

Intersection Network Options

Driving Side	Lighting
Right	Normal/unknown

Legs

Legs

Name	Leg	Name	Description
Topsail Rd. (Eastbound)	1	Topsail Rd. (Eastbound)	
Commonwealth Ave. (Northbound)	2	Commonwealth Ave. (Northbound)	
Topsail Rd. (Westbound)	3	Topsail Rd. (Westbound)	
Mount Carson Ave. (Southbound)	4	Mount Carson Ave. (Southbound)	

Capacity Options

Name	Minimum Capacity (PCE/hr)	Maximum Capacity (PCE/hr)
Topsail Rd. (Eastbound)	0.00	99999.00
Commonwealth Ave. (Northbound)	0.00	99999.00
Topsail Rd. (Westbound)	0.00	99999.00
Mount Carson Ave. (Southbound)	0.00	99999.00

Roundabout Geometry

Name	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
Topsail Rd. (Eastbound)	7.00	7.90	30.00	70.00	55.00	30.00	
Commonwealth Ave. (Northbound)	7.00	7.90	30.00	70.00	55.00	30.00	
Topsail Rd. (Westbound)	7.00	7.90	30.00	70.00	55.00	30.00	
Mount Carson Ave. (Southbound)	7.00	7.90	30.00	70.00	55.00	30.00	

Bypass

Name	Leg Has Bypass	Bypass Utilisation (%)
Topsail Rd. (Eastbound)	✓	100
Commonwealth Ave. (Northbound)	✓	100
Topsail Rd. (Westbound)	✓	100
Mount Carson Ave. (Southbound)	✓	100

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Name	Enter slope and intercept directly	Entered slope	Entered intercept (PCE/hr)	Final Slope	Final Intercept (PCE/hr)
Topsail Rd. (Eastbound)		(calculated)	(calculated)	0.731	2452.588
Commonwealth Ave. (Northbound)		(calculated)	(calculated)	0.731	2452.588
Topsail Rd. (Westbound)		(calculated)	(calculated)	0.731	2452.588
Mount Carson Ave. (Southbound)		(calculated)	(calculated)	0.731	2452.588

The slope and intercept shown above include any corrections and adjustments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCE Factor for a Truck (PCE)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	Truck Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCE/hr)	Flow Scaling Factor (%)
Topsail Rd. (Eastbound)	ONE HOUR	✓	1555.00	100.000
Commonwealth Ave. (Northbound)	ONE HOUR	✓	1240.00	100.000
Topsail Rd. (Westbound)	ONE HOUR	✓	1542.00	100.000
Mount Carson Ave. (Southbound)	ONE HOUR	✓	997.00	100.000

Results

Results Summary for whole modelled period

Name	Max V/C Ratio	Max Delay (s)	Max Queue (PCE)	Max 95th percentile Queue (PCE)	Max LOS
Topsail Rd. (Eastbound)	0.68	7.93	2.05	2.00	A
Commonwealth Ave. (Northbound)	0.65	6.27	1.84	2.00	A
Topsail Rd. (Westbound)	0.87	17.39	6.46	23.00	C
Mount Carson Ave. (Southbound)	0.91	31.22	8.47	33.00	D

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.4.487 [15039,24/03/2014]
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Filename: 172093-Kenmount-H3-Penney Access.arc8

Path: Z:\Harbourside Transportation Consultants\Projects\172093 Mount Pearl 190 TIS\Project Files\02 Analysis\06 Junctions 8 (Arcady)

Report generation date: 26/01/2018 1:38:31 PM

Summary of intersection performance

	AM						PM					
	Queue (PCE)	Delay (s)	V/C Ratio	LOS	Intersection Delay (s)	Intersection LOS	Queue (PCE)	Delay (s)	V/C Ratio	LOS	Intersection Delay (s)	Intersection LOS
	A1 - 2027 with Development											
Kenmount Road (Eastbound)	2.04	4.62	0.67	A	3.99	A	2.02	5.10	0.67	A	9.23	A
Penney Access (Northbound)	0.42	5.10	0.30	A			1.02	6.60	0.51	A		
Kenmount Road (Westbound)	0.64	2.60	0.39	A			5.85	12.62	0.86	B		
H3 (Southbound)	0.07	2.80	0.07	A			1.60	12.58	0.62	B		

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle. Intersection LOS and Intersection Delay are demand-weighted averages.

"D1 - 2027 with Development, AM " model duration: 8:00 AM - 9:30 AM

"D2 - 2027 with Development, PM" model duration: 5:00 PM - 6:30 PM

Run using Junctions 8.0.4.487 at 26/01/2018 1:38:30 PM

File summary

Title	(untitled)
Location	
Site Number	
Date	24/11/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Analyst	hec45
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	V/C Ratio Threshold	Average Delay Threshold (s)	Queue Threshold (PCE)
7.00	✓		N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCE	PCE	perHour	s	-Min	perMin

(Default Analysis Set) - 2027 with Development, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2027 with Development, AM	2027 with Development	AM		ONE HOUR	08:00	09:30	90	15		

Intersection Network

Intersections

Intersection	Name	Intersection Type	Leg Order	Grade Separated	Large Roundabout	Intersection Delay (s)	Intersection LOS
1	Kenmount-H3-Penney	Roundabout	1,2,3,4			3.99	A

Intersection Network Options

Driving Side	Lighting
Right	Normal/unknown

Legs

Legs

Name	Leg	Name	Description
Kenmount Road (Eastbound)	1	Kenmount Road (Eastbound)	
Penney Access (Northbound)	2	Penney Access (Northbound)	
Kenmount Road (Westbound)	3	Kenmount Road (Westbound)	
H3 (Southbound)	4	H3 (Southbound)	

Capacity Options

Name	Minimum Capacity (PCE/hr)	Maximum Capacity (PCE/hr)
Kenmount Road (Eastbound)	0.00	99999.00
Penney Access (Northbound)	0.00	99999.00
Kenmount Road (Westbound)	0.00	99999.00
H3 (Southbound)	0.00	99999.00

Roundabout Geometry

Name	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
Kenmount Road (Eastbound)	7.00	7.90	30.00	70.00	55.00	30.00	
Penney Access (Northbound)	3.00	7.90	30.00	70.00	55.00	30.00	
Kenmount Road (Westbound)	7.00	7.90	30.00	70.00	55.00	30.00	
H3 (Southbound)	3.00	7.90	30.00	70.00	55.00	30.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Name	Enter slope and intercept directly	Entered slope	Entered intercept (PCE/hr)	Final Slope	Final Intercept (PCE/hr)
Kenmount Road (Eastbound)		(calculated)	(calculated)	0.731	2452.588
Penney Access (Northbound)		(calculated)	(calculated)	0.639	1949.873
Kenmount Road (Westbound)		(calculated)	(calculated)	0.731	2452.588
H3 (Southbound)		(calculated)	(calculated)	0.639	1949.873

The slope and intercept shown above include any corrections and adjustments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCE Factor for a Truck (PCE)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	Truck Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCE/hr)	Flow Scaling Factor (%)
Kenmount Road (Eastbound)	ONE HOUR	✓	1454.00	100.000
Penney Access (Northbound)	ONE HOUR	✓	270.00	100.000
Kenmount Road (Westbound)	ONE HOUR	✓	802.00	100.000
H3 (Southbound)	ONE HOUR	✓	82.00	100.000

Results

Results Summary for whole modelled period

Name	Max V/C Ratio	Max Delay (s)	Max Queue (PCE)	Max 95th percentile Queue (PCE)	Max LOS
Kenmount Road (Eastbound)	0.67	4.62	2.04	3.00	A
Penney Access (Northbound)	0.30	5.10	0.42	~1	A
Kenmount Road (Westbound)	0.39	2.60	0.64	1.00	A
H3 (Southbound)	0.07	2.80	0.07	~1	A

(Default Analysis Set) - 2027 with Development, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2027 with Development, PM	2027 with Development	PM		ONE HOUR	17:00	18:30	90	15		

Intersection Network

Intersections

Intersection	Name	Intersection Type	Leg Order	Grade Separated	Large Roundabout	Intersection Delay (s)	Intersection LOS
1	Kenmount-H3-Penney	Roundabout	1,2,3,4			9.23	A

Intersection Network Options

Driving Side	Lighting
Right	Normal/unknown

Legs

Legs

Name	Leg	Name	Description
Kenmount Road (Eastbound)	1	Kenmount Road (Eastbound)	
Penney Access (Northbound)	2	Penney Access (Northbound)	
Kenmount Road (Westbound)	3	Kenmount Road (Westbound)	
H3 (Southbound)	4	H3 (Southbound)	

Capacity Options

Name	Minimum Capacity (PCE/hr)	Maximum Capacity (PCE/hr)
Kenmount Road (Eastbound)	0.00	99999.00
Penney Access (Northbound)	0.00	99999.00
Kenmount Road (Westbound)	0.00	99999.00
H3 (Southbound)	0.00	99999.00

Roundabout Geometry

Name	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
Kenmount Road (Eastbound)	7.00	7.90	30.00	70.00	55.00	30.00	
Penney Access (Northbound)	3.00	7.90	30.00	70.00	55.00	30.00	
Kenmount Road (Westbound)	7.00	7.90	30.00	70.00	55.00	30.00	
H3 (Southbound)	3.00	7.90	30.00	70.00	55.00	30.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Name	Enter slope and intercept directly	Entered slope	Entered intercept (PCE/hr)	Final Slope	Final Intercept (PCE/hr)
Kenmount Road (Eastbound)		(calculated)	(calculated)	0.731	2452.588
Penney Access (Northbound)		(calculated)	(calculated)	0.639	1949.873
Kenmount Road (Westbound)		(calculated)	(calculated)	0.731	2452.588
H3 (Southbound)		(calculated)	(calculated)	0.639	1949.873

The slope and intercept shown above include any corrections and adjustments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCE Factor for a Truck (PCE)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	Truck Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Name	Profile Type	Use Turning Counts	Average Demand Flow (PCE/hr)	Flow Scaling Factor (%)
Kenmount Road (Eastbound)	ONE HOUR	✓	1306.00	100.000
Penney Access (Northbound)	ONE HOUR	✓	512.00	100.000
Kenmount Road (Westbound)	ONE HOUR	✓	1572.00	100.000
H3 (Southbound)	ONE HOUR	✓	424.00	100.000

Results

Results Summary for whole modelled period

Name	Max V/C Ratio	Max Delay (s)	Max Queue (PCE)	Max 95th percentile Queue (PCE)	Max LOS
Kenmount Road (Eastbound)	0.67	5.10	2.02	3.00	A
Penney Access (Northbound)	0.51	6.60	1.02	?	A
Kenmount Road (Westbound)	0.86	12.62	5.85	19.00	B
H3 (Southbound)	0.62	12.58	1.60	3.00	B