TRAFFIC IMPACT STUDY

66 THOMAS STREET

CITY OF MISSISSAUGA
REGION OF PEEL

PREPARED FOR:

DE ZEN REALTY COMPANY LTD.

PREPARED BY:

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CROZIER
CONSULTING ENGINEERS

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Rev.1	June, 2019	Issued for Submission

1.0 Executive Summary

C.F Crozier and Associates Inc. (Crozier) was retained by De Zen Realty Company Ltd. to undertake a Traffic Impact Study in support of a Zoning By-Law Amendment (ZBA) and Official Plan Amendment (OPA) for a residential development located at 65 - 95 Joymar Drive, in the City of Mississauga.

The proposed development, as illustrated by the Site Plan prepared by 4 Architecture Inc., is for 239 stacked townhouse units, underground and above-ground parking, an internal road network, and landscaped and re-naturalized areas.

Under 2018 existing conditions, the existing boundary road network is currently operating at Level of Service (LOS) "D" or better with the exception of the intersection of Thomas Street and Joymar Drive during the weekday p.m. period, which experiences high delays for the southbound movement due to the high through traffic volumes along Thomas Street. No individual movement operates over capacity.

Under 2024 and 2031 future background conditions, the southbound movement at Joymar Drive and Thomas Street continues to experience high delays during the weekday p.m. peak period. The eastbound through and right movement at the intersection of Thomas Street at Streetsville GO Station Parking Lot continues to operate close to capacity with a volume to capacity ratio of 0.94 during the weekday a.m. peak period during both horizon years.

The proposed development is expected to generate 77 two-way (20 inbound and 57 outbound) trips during the weekday a.m. peak hour and 94 two-way (57 inbound and 37 outbound) trips during the weekday p.m. peak hour.

Under 2024 and 2031 future total conditions, the southbound movement at the intersection of Thomas street and Joymar Drive continues to experience high delays during the weekday p.m. peak period. The eastbound through and right movement at the intersection of Thomas Street at Streetsville GO Station Parking Lot continues to operate close to capacity with a volume to capacity ratio of 0.94 during the weekday a.m. peak period during both horizon years;

During off-peak hours, the intersections of Thomas street at Joymar Drive and Thomas Street at Streetsville GO Station Parking Lot are projected to operate with acceptable delays and well under capacity under 2031 future total horizon. No geometric improvements are recommended at the study intersections; however, it is recommended that the city monitor the intersection of Thomas Street at Streetsville GO Station Parking Lot for possible signal optimizations during peak hours to improve intersection operations.

Based on the AutoTURN analysis, fire trucks and garbage trucks are able to maneuver through the site with no constraints. The available sightlines at the proposed site locations are sufficient and do not warrant any improvements.

A number of Transportation Demand Management opportunities and strategies are to be introduced to discourage single occupant vehicle usage within the study area.

The analysis undertaken herein was prepared using the most recent Site Plan prepared by 4 Architecture Inc., dated May 2019. Any minor changes to the data will not materially affect the conclusions contained within this report.

The Zoning By-Law Amendment (ZBA) and Official Plan Amendment (OPA) can be supported from a traffic operations perspective as the boundary road system can accommodate the increase in traffic volumes attributable to the proposed development.

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2.0 Introduction

De Zen Realty Company Ltd. retained C.F. Crozier & Associates ("Crozier") to complete a Traffic Impact Study for the site located at municipal addresses 65 to 95 Joymar Drive (herein referred to as 66 Thomas Street) in the City of Mississauga. This report supports the Official Plan Amendment (OPA) and Zoning By-Law Amendment (ZBA) application for the proposed residential development.

The study has been completed in accordance with the procedures set out in the City of Mississauga's Traffic Impact Study Guidelines with the associated analysis and findings outlined herein. A scope of work was sent to City of Mississauga Staff on January 24, 2019 and comments were received on January 25, 2019. City correspondence is provided in Appendix A.

3.0 Site Description

The subject property is approximately 2.77 ha in area and is located in an area of existing residential developments. The site currently features commercial structures, a paved parking lot and storage areas. At this time the commercial businesses are active. The property is bound by:

- Commercial developments and Mullet Creek to the east
- Thomas Street to the south
- Joymar Drive and residential developments to the west
- Tannery Street to the north

The proposed development includes 239 stacked townhouse units, underground and above-ground parking, an internal road network, and landscaped and re-naturalized areas. Refer to Figure 1 for the site location and Figure 2 for the Site Plan prepared by 4 Architecture Inc., dated May 2019.

4.0 Existing Conditions

4.1 Development Lands

The subject lands, previously supported industrial uses and is located in a mixed-use area. The site is zoned by the City of Mississauga Zoning By-Law 0225-2007, Map 39E. 66 Thomas Street is currently zoned "Development D" and "Greenlands G1". Relevant zoning map excerpts have been included in Appendix B.

4.2 Boundary Road Network

Joymar Drive and Broadway Street have been given a north-south alignment and Thomas Street and Tannery Street have been given an east-west alignment, in order to facilitate comprehension within the report.

Joymar Drive is a north-south roadway with a two-lane cross-section at the site frontage, consisting of one lane in each direction. Joymar Drive is under the jurisdiction of the City of Mississauga and is defined as a Local Minor Collector, with a posted speed limit of 40 km/h. A concrete sidewalk is located on the west side of the roadway.

Broadway Street is a north-south roadway with a two-lane cross-section at the site frontage, consisting of one lane in each direction. Broadway Street is under the jurisdiction of the City of Mississauga and is defined as a Local Minor Collector, with an assumed speed limit of 50 km/h. Sidewalks are located on the east side of the roadway.

Thomas Street is an east-west roadway with a four-lane cross-section, two lanes in each direction. Thomas Street is under the jurisdiction of the City of Mississauga and is defined as a Local Major Collector Road per the City of Mississauga, with a posted speed limit of 50 km/h. Concrete sidewalks are located on both sides of the roadway.

Tannery Street is an east-west roadway with a two-lane cross-section, one lane in each direction. Tannery Street is under the jurisdiction of the City of Mississauga and is defined as a Local Minor Collector Road, with an assumed speed limit of 50 km/h. Concrete sidewalks are located on both sides of the roadway.

4.3 Traffic Data

Turning movement counts at the study intersections were conducted by Spectrum Traffic Inc. on Tuesday, February 5th, 2019, between the weekday a.m. peak hours of 7:00 p.m. and 9:00 p.m. and weekday p.m. peak hours of 4:00 p.m. and 6:00 p.m. Traffic data contained in Appendix B provides a summary of the turning movement counts. Refer to Figure 3 for the existing traffic volumes. Peak hour factors used for analysis were calculated based on existing traffic.

4.4 Public Transit

Three (3) transit stops are located in the vicinity of the site. One (1) bus stop is located on the near side of the intersection of Joymar Drive and Tannery Street in the northbound direction. Two (2) bus stops are located at the intersection of Joymar Drive and Thomas Street, one in each direction. Mississauga Transit (MiWay) Route 9 "Rathburn-Thomas", Route 49A "McDowell Streetsville GO", Route 67 "Streetsville GO" operate on daily schedules. Additionally, Route 306 "Streetsville Secondary-Terry Fox", Route 305 "Streetsville-Falconer", Route 313 "Streetsville Secondary-Meadowvale TC" operate during school hours from Monday to-Friday. Refer to Appendix B for existing routes. Moreover, Streetsville GO Station is located in close proximity to the development.

The available transit routes provide direct connections to the Islington and Kipling subway stations, Kipling GO Station, City Centre Transit Terminal, Living Arts Centre, City Hall and many other employment and service nodes within Mississauga.

4.5 Traffic Modelling

The assessment of intersections is based on the method outlined in the "Highway Capacity Manual, 2010" using Synchro 10 modeling software. Intersections are assessed using a Level of Service metric, with ranges of delay assigned a letter from "A" to "F". For stop-controlled intersections, a Level of Service "A" or "B" would typically be measured during off-peak hours when lesser traffic volumes are on the roadways. Levels of Service "C" through "F" would typically be measured in the commuter peak hours when greater vehicle volumes cause longer travel times. The Level of Service (LOS) definitions for signalized and stop control intersections is included in Appendix B.

4.6 Intersection Operations

The traffic operations at the study intersections were analyzed on the basis of the traffic volumes recorded. Detailed capacity analyses are included in Appendix D.

The signal timings for the intersection of Thomas Street at the Streetsville GO Station Parking Lot were provided by the City of Mississauga and can be found in Appendix B. The intersection operations were analyzed on the basis of the traffic volumes illustrated in Figure 3. Table 1 outlines the existing traffic Levels of Service.

Table 1: 2018 Existing Levels of Service

Intersection	Peak Hour	Level of Service	Average Delay per Vehicles	Max V/C Ratio (Approach)	V/C Ratio(s) > 0.85 (Approach)
Thomas Street and Joymar Drive (Stop Controlled)	Weekday A.M.	B	10.8 s	0.23 (EBL)	None
	Weekday P.M.	F	58.9 s	0.40 (SB)	None
Thomas Street at Streetsville GO Station Parking Lot (Signalized)	Weekday A.M.	C	23.5 s	0.94 (EBTR)	0.94 (EBTR) 0.87 (NBTL)
	Weekday P.M.	C	27.2 s	0.84 (NBTL)	None
Thomas Street at Broadway Street (Stop Controlled)	Weekday A.M.	B	12.3 s	0.13 (EBL)	None
	Weekday P.M.	B	14.6 s	0.25 (SB)	None
Broadway Street at Tannery Street (Stop Controlled)	Weekday A.M.	C	17.0 s	0.27 (NB)	None
	Weekday P.M.	B	11.8 s	0.18 (NB)	None
Joymar Drive at Tannery Street (Stop Controlled)	Weekday A.M.	D	29.6 s	0.81 (NB)	None
	Weekday P.M.	A	9.1 s	0.26 (WB)	None

Note 1: The Level of Service of a Stop-Controlled intersection is based on the delay associated with the critical approach. The Level of Service of a signalized intersection is based on the average control delay per vehicle. Exiting Signal Timing provided by City of Mississauga were used.
Note 2: All v/c ratios greater than 0.85 are highlighted.

The boundary road network is currently operating at a Level of Service (LOS) "D" or better, with the exception of the intersection of Thomas Street and Joymar Drive during the weekday p.m. period. The southbound left turning movement at the aforementioned intersection operates at a LOS "F" with 58.9 seconds of delay under the weekday p.m. period. This delay can be attributed to the heavy traffic volumes on Thomas Street during the afternoon peak hours which reflect the traffic flows from the Streetsville GO station.

It should be noted that high delays are typical for unsignalized intersections in an urban setting. Drivers will have to wait for gaps created by the upstream and downstream traffic on Thomas Street, which is reasonable for any unsignalized intersections in the Greater Toronto Area. During off peak hours it is expected the operations of the intersection of Thomas Street and Joymar Drive will return to acceptable delays.

The signalized intersection of Thomas Street at Streetsville GO Station Parking Lot is currently operating at a Level of Service "C" during the weekday peak hours. The eastbound through/right turning movement is operating near capacity a.m. and p.m. peak hours. The volume to capacity ratios for the eastbound approach and the northbound approach reflect the traffic flows from the Streetsville GO station and are reflective of commuter travel patterns during the respective peak hours.

The analysis also indicated that under the existing conditions, the unsignalized intersections of Thomas Street at Broadway Street, Tannery Street at Broadway Street and Joymar Drive at Tannery Street operate at acceptable levels of service.

5.0 Future Background Conditions

Future background traffic volumes for the 2024 and 2031 horizon years consist of the following components:

- Background traffic growth from outside the study area
- Traffic generated within the study area from other proposed developments

5.1 Study Horizons

Per Section 3.3 of the City of Mississauga Traffic Impact Study Guidelines, a horizon year corresponding to five years from the date of the TIS is appropriate for analysis. A study horizon year of 2024 was selected to assess the full operations of the development on the boundary road network. Per direction from the City Staff, traffic operations under horizon year 2031 were also analyzed to account for the recently funded Hurontario-Main Light Rain Transit.

5.2 Traffic Growth Rates

City of Mississauga Staff have provided growth rates for the eastbound and westbound direction for Thomas Street. These rates are presented in Table 2 and were applied all through traffic volumes during the weekday peak periods on Thomas Street.

Table 2: Growth Rates

	Eastbound	Westbound
AM Peak Hour	0.5%	1.0%
PM Peak Hour	1.0%	1.0%

5.3 Background Developments

After reviewing the study area and the City development application database, the following developments were identified adjacent to the study area:

1. OZ/OPA 10 5 →56 Tannery Street
2. 21CDM-M 00 15012→170, 180 and 190 Rutledge Road
3. OZ/OPA 18 12→51 & 57 Tannery Street and 208 Emby Drive

4. OZ/OPA 18 15→473 and 505 Hensall Circle

5. 21CDM-M 18 1→215 Broadway Street

6. SP 17 186→272, 274, and 278 Victoria Street

However, per discussions with the City Staff, with the exception of the development at 51 & 57 Tannery Street & 208 Emby Drive, the other development's site statistics did not warrant a Traffic Impact Study. Therefore, only the traffic generated from 51 & 57 Tannery Street & 208 Emby Drive is included in the analysis. Information provided by the City is provided in Appendix B.

5.4 Intersection Operations

Traffic operations at the study intersections were analyzed with the growth rates and traffic from background developments. The future background volumes in horizon year 2024 and 2031 are presented in Figure 4 and Figure 5, respectively. Table 3 outlines the future background Levels of Service. Detailed capacity analysis worksheets are included in Appendix D.

Table 2: 2024 and 2031 Future Background Levels of Service

Intersection	Peak Hour	Level of Service (Average Delay per Vehicles)		Max V/C Ratio (Approach)		V/C Ratio(s) > 0.85 (Approach)	
		Horizon Year 2024	Horizon Year 2031	Horizon Year 2024	Horizon Year 2031	Horizon Year 2024	Horizon Year 2031
Thomas Street and Joymar Drive (Stop Controlled)	Weekday A.M.	B (11.1 s)	B (11.3 s)	0.24 (EB)	0.25 (EB)	None	None
	Weekday P.M.	F (76.8 s)	F (98.2 s)	0.42 (SBR)	0.45 (SBR)	None	None
Thomas Street at Streetsville GO Station Parking Lot (Signalized)	Weekday A.M.	C (23.6 s)	C (23.7 s)	0.94 (EBTR)	0.94 (EBTR)	0.94 (EBTR) 0.87 (NBTL)	0.94 (EBTR) 0.87 (NBTL)
	Weekday P.M.	C (28.2 s)	C (31.0 s)	0.84 (NBT)	0.89 (WBT)	None	0.89 (WBT)
Thomas Street at Broadway Street (Stop Controlled)	Weekday A.M.	B (12.7 s)	B (12.8 s)	0.14 (EB)	0.14 (EB)	None	None
	Weekday P.M.	C (15.4 s)	C (16.2 s)	0.26 (SB)	0.27 (SB)	None	None
Broadway Street at Tannery Street (Stop Controlled)	Weekday A.M.	C (17.0 s)	C (17.0 s)	0.27 (NB)	0.27 (NB)	None	None
	Weekday P.M.	B (11.8 s)	B (11.8 s)	0.18 (NB)	0.18 (NB)	None	None
Joymar Drive at Tannery Street (Stop Controlled)	Weekday A.M.	D (29.6 s)	D (29.6 s)	0.80 (NB)	0.80 (NB)	None	None
	Weekday P.M.	A (9.1 s)	A (9.1 s)	0.26 (WB)	0.26 (WB)	None	None

Note 1: The Level of Service of a Stop-Controlled intersection is based on the delay associated with the critical approach. The Level of Service of a signalized intersection is based on the average control delay per vehicle. Exiting Signal Timing provided by City of Mississauga were used.
Note 2: All v/c ratios greater than 0.85 are highlighted.

Under the 2024 and 2031 future background conditions, the boundary road network is expected to operate similarly to the existing conditions. The intersection of Thomas Street and Joymar Drive is projected to operate with a level of service "F" with 76.8 seconds and 98.2 seconds of delay under the weekday p.m. period during horizon year 2024 and 2031, respectively. As mentioned in the existing conditions, the high delays can be attributed to the heavy traffic volumes on Thomas Street during the afternoon peak hours which reflect the traffic flows from the Streetsville GO station.

It should be noted that the high delay is typical for an unsignalized intersection in an urban setting. Drivers will have to wait for gaps created by the upstream and downstream traffic on Thomas Street, which is reasonable for any unsignalized intersections in the Greater Toronto Area. During off peak hours it is expected the operations of the intersection of Thomas Street and Joymar Drive will return to acceptable delays.

The intersection of Thomas Street at Streetsville GO Station Parking Lot is projected to operate at a Level of Service "C" during the weekday peak hours, similar to existing conditions. The eastbound through/right turning movement is projected to operate near capacity during the weekday a.m. and p.m. peak hours. The volume to capacity ratios for the eastbound approach and the northbound approach reflect the traffic flows from the Streetsville GO station and are reflective of commuter travel patterns during the respective peak hours. It is recommended that the City monitor this intersection for possible signal timing optimizations during peak hours.

The analysis also indicates that under the future background conditions, the unsignalized intersections of Thomas Street at Broadway Street, Tannery Street at Broadway Street and Joymar Drive at Tannery Street are expected to operate similarly to existing conditions.

6.0 Development Proposal

The subject property is located in a mixed-use area within Mississauga. The property is bounded by Joymar Street to the west, Thomas Street to the south, Tannery Street to the north and Mullet Creek to the east. A portion of the property is located within the floodplain of Mullet Creek.

Per the Site Plan prepared by 4 Architecture Inc., dated May 2019, the elements envisioned for this development include 239 stacked townhouse units, underground parking garage (360 resident parking spaces, 50 visitor parking spaces), and 12 above-ground visitor parking spaces, landscaped areas and restoration areas. One (1) full movement access onto Joymar Road and one (1) full movement access onto Tannery Street are proposed

7.0 Site Generated Traffic

The proposed development will result in additional vehicles on the boundary road network that would otherwise not exist. The development will also result in additional turning movements at the intersections.

7.1 ITE Trip Generation

Site generated traffic for the proposed commercial development was calculated using the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition, using Land Use Category (LUC) 221 "Multifamily Housing-Mid Rise". The average rate was used for the peak period calculations for a conservative analysis. A modal split of 10% was applied to the gross trips generated. The modal split value was calculated from 2016 TTS data and is presented in Appendix E. No adjustments for internal capture or pass-by trips were made. The site generated trips from the proposed residential development are tabulated in Table 3.

Table 3: Site Generated Trips

		Weekday a.m. Peak Hour			Weekday p.m. Peak Hour		
Land Use	**Parameter**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Multifamily Housing-Mid Rise-239 Units (LUC 221)	Gross Rate	0.09	0.27	0.36	0.27	0.17	0.44
	ITE Generated Trips	22	64	86	64	41	105
	Non-Auto Trips (Per TTS)	2	7	9	7	4	11
	Net Generated Trips	**20**	**57**	**77**	**57**	**37**	**94**

The proposed development is expected to generate 77 two-way (20 inbound and 57 outbound) trips during the weekday a.m. peak hour and 94 two-way (57 inbound and 37 outbound) trips during the weekday p.m. peak hour.

7.2 Trip Distribution and Assignment

The trip distribution for the proposed development is based on traffic patterns extracted from the 2016 Transportation Tomorrow Survey (TTS). The trip distribution calculations based on the TTS data are summarized in Table 4 and Figure 6. Detailed calculations are provided in Appendix E. The primary trip assignment is illustrated in Figure 7.

Table 4: Trip Distribution

	A.M. Peak Hour	P.M. Peak Hour
Direction	**In (Out)**	**In (Out)**
North	10% (15%)	20% (10%)
South	30% (15%)	25% (25%)
East	20% (30%)	10% (20%)
West	40% (40%)	45% (45%)

8.0 Total Traffic Conditions

The future total traffic volumes for the two (2) horizon years consist of the following components:

- Future Background traffic volumes from the corresponding year
- Proposed development site generated traffic volumes

The resulting future total volumes in horizon year 2024 and 2031 are presented in Figure 8 and Figure 9, respectively.

8.1 Intersection Operations

The results of the 2024 and 2031 future total traffic conditions are summarized in Table 5. Detailed capacity analysis worksheets are included in Appendix D.

Table 5: 2024 and 2031 Total Traffic Level of Service

Intersection	Peak Hour	Level of Service (Average Delay per Vehicles)		Max V/C Ratio (Approach)		V/C Ratio(s) > 0.85 (Approach)	
		Horizon Year 2024	Horizon Year 2031	Horizon Year 2024	Horizon Year 2031	Horizon Year 2024	Horizon Year 2031
Thomas Street and Joymar Drive (Stop Controlled)	Weekday A.M.	B (11.5 s)	B (11.7 s)	0.22 (SB)	0.23 (SB)	None	None
	Weekday P.M.	F (123.6 s)	F (175.7 s)	0.51 (SB)	0.64 (SB)	None	None
Thomas Street at Streetsville GO Station Parking Lot (Signalized)	Weekday A.M.	C (23.7 s)	C (23.8 s)	0.94 (EBTR)	0.94 (EBTR)	0.94 (EBTR) 0.87 (NBTL)	0.94 (EBTR) 0.87 (NBLT)
	Weekday P.M.	C (28.9 s)	C (32.2)	0.85 (WBT)	0.91 (WBT)	None	0.91 (WBT)
Thomas Street at Broadway Street (Stop Controlled)	Weekday A.M.	C (16.3 s)	C (16.9 s)	0.25 (SB)	0.26 (SB)	None	None
	Weekday P.M.	C (15.8 s)	C (16.6 s)	0.32 (SB)	0.34 (SB)	None	None
Broadway Street at Tannery Street (Stop Controlled)	Weekday A.M.	C (18.1 s)	C (18.1 s)	0.30 (NB)	0.30 (NB)	None	None
	Weekday P.M.	B (12.6 s)	B (12.6 s)	0.22 (NB)	0.22 (NB)	None	None
Joymar Drive at Tannery Street (Stop Controlled)	Weekday A.M.	E (36.1 s)	E (36.1 s)	0.85 (NB)	0.85 (NB)	None	None
	Weekday P.M.	A (9.3 s)	A (9.3 s)	0.28 (WB)	0.28 (WB)	None	None
Tannery Street at Site Access (Stop Controlled)	Weekday A.M.	B (11.6 s)	B (11.6 s)	0.07 (NB)	0.07 (NB)	None	None
	Weekday P.M.	B (10.1 s)	B (10.1s)	0.03 (NB)	0.03 (NB)	None	None
Joymar Drive at Site Access (Stop Controlled)	Weekday A.M.	B (11.9 s)	B (11.9 s)	0.04 (NB)	0.04 (NB)	None	None
	Weekday P.M.	B (11.1 s)	B (11.1 s)	0.02 (NB)	0.02 (NB)	None	None

Note 1: The Level of Service of a Stop-Controlled intersection is based on the delay associated with the critical approach. The Level of Service of a signalized intersection is based on the average control delay per vehicle. Exiting Signal Timing provided by City of Mississauga were used.
Note 2: All v/c ratios greater than 0.85 are highlighted.

Under the 2024 and 2031 future total conditions, the boundary road network is expected to operate similarly to the future background conditions. The intersection of Thomas Street and Joymar Drive is projected to operate with a Level of Service "F" with 123.6 seconds and 175.7 seconds of delay under the weekday p.m. period during horizon year 2024 and 2031, respectively. As mentioned in the existing conditions, the high delays can be attributed to the heavy traffic volumes on Thomas Street during the afternoon peak hours which reflect the traffic flows from the Streetsville GO station.

It should be noted that the high delay is typical for an unsignalized intersection in an urban setting. Drivers will have to wait for gaps created by the upstream and downstream traffic on Thomas Street, which is reasonable for any unsignalized intersections in the Greater Toronto Area. During off peak hours it is expected the operations of the intersection of Thomas Street and Joymar Drive will return to acceptable delays.

The intersection of Thomas Street at Streetsville GO Station Parking Lot is projected to operate at Level of Service "C" during the weekday peak hours, similar to existing conditions. The eastbound through/right turning movement is projected to operate near capacity a.m. and p.m. peak hours. The volume to capacity ratios for the eastbound approach and the northbound approach reflect the traffic flows from the Streetsville GO station and are reflective of commuter travel patterns during the respective peak hours. It is recommended that the City monitor this intersection for possible signal timing optimizations during peak hours.

The analysis also indicated that under the future total conditions, the unsignalized intersections of Thomas Street at Broadway Street, Tannery Street at Broadway Street and Joymar Drive at Tannery Street are expected to operate similarly to the existing conditions.

8.2 Average Hour Intersection Operations

The intersections of Thomas Street at Joymar Drive and Thomas Street at Streetsville GO Station Parking Lot were analyzed during the off-peak hours using average hour volumes under the ultimate 2031 horizon year. According to the 'Ontario Traffic Manual-Book 12 for Traffic Signals' the average hourly volume for a typical day can be calculated using the sum of the weekday a.m. and p.m. peak hour volumes and dividing the sum by four. Average Hourly Traffic volumes for the two intersections were calculated using this methodology and are shown in Figure 10.

The results for the 2031 future total traffic conditions with average hourly volumes are summarized in Table 6. Detailed capacity analysis worksheets are included in Appendix D.

Table 6: 2031 Total Traffic Average Hour Level of Service

Intersection	Level of Service (Average Delay per Vehicles)	Max V/C Ratio (Approach)	V/C Ratio(s) > 0.85 (Approach)
Thomas Street and Joymar Drive (Stop Controlled)	C (23.7)	0.13 (SBR)	None
Thomas Street at Streetsville GO Station Parking Lot (Signalized)	A (8.3 s)	0.34 (NBTL)	None

Note 1: The Level of Service of a Stop-Controlled intersection is based on the delay associated with the critical approach. The Level of Service of a signalized intersection is based on the average control delay per vehicle. Exiting Signal Timing provided by City of Mississauga were used.
Note 2: All v/c ratios greater than 0.85 are highlighted.

As shown in Table 6, the stop-controlled intersection of Thomas Street and Joymar Drive is projected to operate with a LOS "C" with 23.7 of delay during off-peak hours in 2031 horizon year. No individual movement is expected to operate with a volume to capacity ratio of greater than 0.85. The signalized intersection of Thomas Street at Streetsville GO Station Parking Lot is projected to operate with a LOS "A" with 8.3 seconds of delay during off-peak hours. No individual movement is expected to operate with a volume to capacity ratio of greater than 0.85.

Since the subject intersections are projected to operate with acceptable delays during off-peak periods, no geometric improvements are recommended. Additionally, the intersection of Thomas Street at Streetsville GO Station Parking Lot is projected to operate with minimal delays during off peak hours with the existing signal timing plan.

9.0 Site Access Review

9.1 Access Spacing

Per the Geometric Design Guide for Canadian Roads, published by the Transportation Association of Canada (TAC), dated June 2017, the recommended minimum spacing downstream and upstream of an access from a stop-controlled intersection on local road is 15 metres (Figure 8.8.2). The proposed access on Joymar Drive expected to be situated approximately 80 metres north of the intersection of Joymar Drive at Thomas Street. The proposed access on Tannery Street is expected to be situated approximately 40 metres east of the intersection of Tannery Street at Joymar Drive. Accordingly, both proposed accesses are sufficiently spaced from a stop-controlled intersection.

9.2 Sight Distance Criteria

Sight distance is a linear metric associated with vehicular speed. It represents the distance travelled by a vehicle during the time it takes a driver to recognize, and then stop or maneuver around a roadway obstacle. The obstacle can be wildlife, debris, another vehicle, or any object that would impede travel. The main sight distance measures of concern are Stopping Sight Distance and Intersection Sight Distance.

Stopping Sight Distance refers to the sum of the distance travelled during the perception and reaction time and braking distance.

Intersection Sight Distance is defined as the sight distance available from a point where vehicles are required to stop on the intersection road, while drivers are looking left and right along the major roadway, before entering the intersection.

9.3 Sight Distance Requirements

Sightlines and available sight distances were reviewed based on the TAC Guidelines, and dated June 2017. Chapter 9, Section 9.9 was reviewed to identify the appropriate cases applicable for the proposed site. Case 'B', which refers to intersections with stop control on the minor road was reviewed. Table 9.9.4 along with Table 9.9.6, which cover stopping and intersection sight distances for left and right turns were also reviewed.

9.3.1 Sight Distance Requirements on Joymar Drive

Based on a design speed of 50km/hr along Joymar Drive at the proposed site access (40km/h posted speed limit), the minimum required stopping sight distance for left and right turns is 65 metres. Similarly, the intersection sight distance for left and right turning movements is 105 metres and 95 metres respectively.

9.3.2 Sight Distance Requirements on Tannery Street

Based on a design speed of 60km/hr along Tannery Street at the proposed site access (50km/h posted speed limit), the minimum required stopping sight distance for left and right turns is 85 metres. Similarly, the intersection sight distance for left and right turning movements is 130 metres and 110 metres respectively.

9.4 Sight Distance Analysis

The proposed plans provided by 4 Architecture Inc. were used to determine if sufficient sightlines are available. Passenger vehicles designed to TAC manual (2 metres wide and 5.6 metres long) were then placed within the roadway and sightlines were created from a driver's perspective.

9.4.1 Sight Distance Analysis on Joymar Drive

It was determined that a sight distance measurement of greater than 200 metres is available north of the access on Joymar Drive, thus satisfying the minimum requirement of 105 metres.

With a sight distance measurement to the south of 60 metres, the sight distance requirement of 95 metres is not met. However, the northbound Joymar Drive vehicles will be travelling at speeds much lower than the 50km/h design speed having made an eastbound left and a westbound right turn from Thomas Street. Therefore, it is concluded that the sight distance to the south on Joymar Drive is sufficient. Figure 11 shows the available sight distances from the site access on Joymar Drive.

9.4.2 Sight Distance Analysis on Tannery Street

It was determined that a sight distance measurement of greater than 135 metres is available east of the access on Tannery Street, thus satisfying the minimum requirement of 130 metres.

With a sight distance measurement to the west of 30 metres, the sight distance requirement of 110 metres is not met. However, the eastbound Tannery Street vehicles will be travelling at speeds much lower than the 60km/h design speed having made a southbound left and a northbound right turn from Joymar Drive. Therefore, it is concluded that the sight distance to the west on Tannery Street is also sufficient. Figure 12 shows the available sight distances from the site access on Tannery Street.

10.0 On-Site Circulation Review

An AutoTURN analysis was undertaken to confirm the turning radii that garbage trucks and fire trucks can manoeuvre throughout the site. Figure 13 and Figure 14 illustrate the manoeuvres of a 12.19-meter fire truck and a 10.67-meter garbage truck, respectively through the site.

11.0 Transportation Demand Management (TDM)

Transportation Demand Management (TDM) refers to a variety of strategies to reduce traffic congestion, minimize the number of single-occupant vehicles, encourage non-auto modes of travel, and reduce vehicle dependency to create a sustainable transportation system.

TDM strategies have multiple benefits including the following:

- Reduced auto-related emissions to improve air quality
- Decreased traffic congestion to reduce travel time
- Increased travel options for residents and commuters
- Reduced personal transportation costs and energy consumption
- Support Provincial Smart Growth Objectives

The above combined benefits will assist in creating a more active and livable community.

11.1 TDM Strategies Identification

11.1.1 Walking / Cycling

The City of Mississauga is a pedestrian and cycling supportive community that embraces the "complete streets" concept by encouraging both commuter and recreational travel by walking, cycling and using public transit through a safe and desirable Municipality-wide network of on-road and off-road pedestrian and cycling facilities.

Currently, there are sidewalks available on all roads in the vicinity of the site. Near the site, there is a small trail through Streetsville Memorial Park.

11.2 TDM Strategies Implementation

11.2.1 Transit Incentive

An increase in transit use is fundamental to the overall reduction of automobile use. In general, people associate utilities with each mode of transportation (such as safety, reliability, comfort, accessibility, speed, cost and travel time), their mode choice is based on the relative costs associated with one versus another mode. The two (2) characteristics that will most likely influence mode choice are monetary cost and travel time.

Transit productivity is a measure of return on investment in the transit system. It measures how much travelers use the transit service provided in a region. Local buses with few passengers, suggests that transit systems are not providing transportation benefits consistent with their capital and operating costs. Having more passengers on each bus generates more revenue for transit agencies and can result in better air quality and less congestion. Moreover, transit service level (i.e. network coverage and frequency) have strong positive correlation with transit demand (i.e. ridership).

As an incentive to encourage residents to use the MiWay transit service, the City would provide and distribute (one time) prepaid and fee-waived complimentary PRESTO cards. This subsidized transit card will provide a financial incentive to encourage the use of public transit, especially for 'first time' users to try local transit services as a primary mode of transportation, which is in keeping with a recent incentive (offering free preloaded PRESTO cards) initiated by the City. Each PRESTO card is to be pre-loaded with $50 - $100. The total cost of the PRESTO cards is estimated to be ($50 - $100 PRESTO card x 239 units) $11,950 - $23,900 to be borne by the City. Note that the amount and provision of PRESTO cards is subject to the City's discretion.

11.2.2 Marketing

It is recommended that an information package be made available by the City to inform new / prospective residents with alternative traveling options. It is recommended that the Owner consult with the City to provide the following materials to promote active transportation:

- Peel Region Transit Map
- City of Mississauga Trails Map
- Peel Region Cycling Map
- Peel Region Bike-to-Work Practical Guide

In addition to the above noted materials, the information package will also include information on transit schedules (i.e. MiWay Transit, Go Transit) to assist residents in planning their trips (i.e. to / from work / school) utilizing the existing and growing transit network system. A location map will also be prepared to indicate the nearby facilities and points of interest (i.e. retail store, grocery store, school, community center and library) within convenience and comfortable walking distance to further discourage vehicle dependency.

The total approximate cost for the City to compile the above information into an information package will be approximately $500 in total to be borne by the City. The above information is subject to availability and to be provided at the City's discretion.

11.3 TDM Monitoring

Monitoring a TDM program can be accomplished by conducting a biennial commuter survey to determine the success of the TDM measures (individually or as a combination). It is recommended that the first survey be conducted at substantial occupancy (80%) and thereafter every two years.

A commuter survey typically gathers quantitative data (i.e. percentage use of the various modes of transportation) and qualitative data (i.e. respondents' perception of the alternative transportation programs). This survey will produce and collect essential information to understand the effectiveness of the proposed TDM strategies, which in turn will provide valuable indications (if any) in determination of adjustments to the TDM initiatives to be required in order to achieve or exceed the targeted outcomes. Moreover, the collected data can also be used to focus the marketing initiatives and efforts of the City.

The questionnaire is recommended to contain no more than five questions, as the length of the survey has a negative correlation with both respondent rate as well as accuracy. Keeping the survey short and simple to understand is the first principle in achieving substantial survey data. In general, the survey should gather the following information:

- Trip Rate — to obtain information on how many people travel during the morning and afternoon peak hours
- Modal Split —what is the primary transportation modes when traveling during peak hours
- Trip Purpose — this is to test whether the majority of trips are the journey-to-work trip or other trips, as the TDM strategies should be altered accordingly between work trips and non-work trips
- Traveler's preference — to understand aside from driving alone, which TDM measures have the greatest potential to further reduce vehicle dependency and,
- Comments — to give respondents an opportunity to express any comments that can assist in improving the proposed / implemented TDM strategies

The statistical reliability of a survey depends in part upon the response rate, which is the number of correctly completed surveys compared to the total number of distributed surveys. Therefore, it is important to maximize the survey response rate. Some of the methods that can be used to maximize the response rate are listed as follows:

- Place a notice on a bulletin board and other high pedestrian locations, and attach a cover memorandum to the questionnaire describing the purpose of the survey and requesting cooperation
- Inform recipients of the duration it takes to respond to the questionnaire, and note that their responses are strictly confidential
- Offer prizes to respondents, and it is preferably based on a drawing to ensure un-biases
- Offer a contact person and phone number to respond to any questions that survey recipients may have
- Facilitate access to the survey questionnaire by posting it on a web-page. As an alternative, deliver the questionnaire and pick-up responses of the different tenants
- Providing the survey in different languages to assist in non-English speaking residents to understand the survey
- Send one or more reminders (e-mail and flyers) requesting to complete the survey by the due date

As noted previously, allowing the completion of the survey on-line can help reduce the time and effort spent on circulating and administrating the survey.

It is recommended to conduct a baseline survey to residents before starting the TDM program. This can assist in evaluating the program's effectiveness (before and after comparative analysis). In addition, comparing results of the biennial survey to previous years can result in evaluating the program's progress and potential modifications. It is possible to add survey questions to assess the new improvements. Furthermore, MiWay can be consulted for ridership statistics. The estimated cost to conduct the survey is $500.

11.4 TDM Communications Strategy

To facilitate the implementation of TDM strategies, it is important that information and incentives be passed from the City to the public effectively.

The Owner is to contact the City, which will in turn provide information packages with site specific information on nearby pedestrian, bicycle and transit facilities. These information packages are to be provided by the City and would be distributed by the Owner at the time of house closing.

The Owner is to prepare a TDM event which is to take place when the units are at a minimum of 50% occupancy. This event would provide an opportunity for Region and MiWay Staff to attend and promote sustainable transportation through presentations and question / answer sessions, to encourage engagement and participation in creating and maintaining a sustainable community. Distribution of PRESTO cards would take place at this event by City and MiWay Staff. City and MiWay Staff are to be provided with details and notice of the TDM event at least two months prior to the date of the event. The estimated cost of the TDM event is $1,000 to be borne by the Owner.

11.5 Projected Program Cost

The estimated cost to implement the TDM program components are outlined in Table 7.

Table 7: Estimated Costs

TDM Measure	Unit Price	Quantity / Number of	Product Cost
PRESTO Cards	$50 - $100	239	$11,950 - $23,900
TDM Information Package	$500	1	$500
Travel Survey	$500	1	$500
TDM Event	$1,000	1	$1,000
Total Cost			$13,950 - $25,900

The estimated cost to administer the TDM plan would be $13,950 - $25,900.

12.0 Conclusion

The analysis contained within this report has resulted in the following key findings:

- The existing boundary road network is currently operating at a LOS "D" or better exception of the intersection of Thomas street and Joymar Drive during the weekday p.m. period, which experiences high delays for the southbound movement due to the high through traffic volumes along Thomas Street. The eastbound through and right movement at the intersection of Thomas Street at Streetsville GO Station Parking Lot operates close to capacity with a volume to capacity ratio of 0.94 during the weekday a.m. peak period.

- Growth rates were provided by the City and were applied to all through movements along Thomas Street.

- Background development located at 51 & 57 Tannery Street and 208 Emby Drive was included in the analysis.

- Under 2024 and 2031 future background conditions, the southbound movement at Joymar Drive and Thomas Street continues to experience high delays during the weekday p.m. peak period. The eastbound through and right movement at the intersection of Thomas Street at Streetsville GO Station Parking Lot continues to operate close to capacity with a volume to capacity ratio of 0.94 during the weekday a.m. peak period during both horizon years.

- The development proposal includes 239 stacked townhouse units, underground parking garage (360 resident parking spaces, 50 visitor parking spaces), and 12 above-ground visitor parking spaces, one (1) full movement access onto Joymar Road and one (1) full movement access onto Tannery Street and landscaped areas and restoration areas.

- The proposed development is expected to generate 77 two-way (20 inbound and 57 outbound) trips during the Weekday a.m. peak hour and 94 two-way (57 inbound and 37 outbound) trips during the Weekday p.m. peak hour.

- Under 2024 and 2031 future total conditions, the southbound movement at the intersection of Thomas street and Joymar Drive continues to experience high delays during the weekday p.m. peak period. The eastbound through and right movement at the intersection of Thomas Street at Streetsville GO Station Parking Lot continues to operate close to capacity with a volume to capacity ratio of 0.94 during the weekday a.m. peak period during both horizon years.

- During off-peak hours, the intersections of Thomas street at Joymar Drive and Thomas Street at Streetsville GO Station Parking Lot are projected to operate with acceptable delays and well under capacity under 2031 future total horizon.

- No geometric improvements are recommended at the study intersections; however, it is recommended that the city monitor the intersection of Thomas Street at Streetsville GO Station Parking Lot for possible signal optimizations during peak hours to improve intersection operations.

- Based on the AutoTURN Analysis, fire trucks and garbage trucks are able to maneuver through the site with no constraints.

- The available sightlines at the proposed site locations are sufficient and do not warrant any improvements.

- A number of Transportation Demand Management opportunities and strategies are to be introduced to discourage single occupant vehicle usage within the study area.

Respectfully submitted by,

C.F. CROZIER & ASSOCIATES INC.

Kavleen Sachdeva, E.I.T.
Transportation

C.F. CROZIER & ASSOCIATES INC.

Aaron Wignall
Associate, Transportation

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APPENDIX A

City Correspondence

Kavleen Sachdeva

From: Greg Borys <Gregory.Borys@mississauga.ca>
Sent: Friday, January 25, 2019 10:20 AM
To: Kavleen Sachdeva
Cc: Lin Rogers
Subject: RE: Joymar-Thomas_Traffic Terms of Reference

Good afternoon Kavleen,

Thank you for providing the terms of reference for Joymar development, please find comments below:

- The historical AADT data and Turning Movement Count can be obtained from William Wright (William.Wright@mississauga.ca, Ext. 3221). If the data is older than 2 years, than consultant is responsible to conduct the latest counts;
- Please contact Norbert Orzel (Norbert.Orzel@mississauga.ca, Ext. 3636) to confirm growth rates;
- Please use the following link to gather information of any development proposed in the neighbouring lands for background traffic: http://www.mississauga.ca/portal/residents/developmentinformation;
- The signal timing plan for signalized intersections can be obtained from Jim Kartsomaniz (Jim.Kartsomanis@mississauga.ca, Ext. 3964)
- Internal Road System Driveway Locations - Please include the truck turning templates;
- A comprehensive Transportation Demand Management Plan is to be part of the report.
- The Hurontario-Main LRT (LRT) has been funded; therefore, 5 year and 2031 horizons with LRT scenario are to be analyzed and the LRT Infrastructure Design is to be referenced for future lane and intersection conditions (http://lrt-mississauga.brampton.ca/EN/EPR/Pages/Welcome.aspx);
- Sight line analysis at the proposed accesses;

Please note it will take some time to retrieve the requested Traffic Impact Studies, if you have any questions or concerns please feel free to contact me.

Regards,

From: Lin Rogers
Sent: 2019/01/24 11:31 AM
To: Kavleen Sachdeva
Cc: Greg Borys
Subject: RE: Joymar-Thomas_Traffic Terms of Reference

Hi Kavleen,

Thanks for your message. Greg Borys from my team will be reviewing your proposed TOR and provide comments.

I should note that gathering previous TIS studies does take a considerable amount of time for staff and will be provided after the TOR comments.

Feel free to contact me if you have any further questions.

Best, Lin

MISSISSAUGA

Lin Rogers, P.Eng. | Manager, Transportation Projects | Transportation & Works
✆ 905-615-3200 ext. 4197 | ✆ 416-995-7179 | lin.rogers@mississauga.ca

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From: Kavleen Sachdeva [mailto:ksachdeva@cfcrozier.ca]
Sent: 2019/01/24 8:50 AM
To: Lin Rogers
Subject: FW: Joymar-Thomas_Traffic Terms of Reference

Hi Lin,

We have been retained to complete a Transportation Impact Study to support of a proposed residential development located at 65-95 Joymar Drive in Mississauga. It is proposed that the development have 240 townhouses, 62 visitor parking spaces, 360 resident parking spaces and two full movement accesses, one at Joymar Road and one at Tannery Avenue.

We request your feedback regarding our study assumptions. I have attached the Draft Site Plan for your reference.

Study Methodology for the Transportation Impact Study

Study Area and Intersections to Assess

The following intersections will be analyzed:

- Thomas Street at Joymar Drive
- Thomas Street at Streetsville GO Station Parking lot Entrance
- Thomas Street at Broadway Street
- Joymar Drive at Tannery Street
- Tannery Street at Broadway Street
- Joymar Drive and Site Access
- Tannery Street and Site Access

We will collect the traffic counts at existing intersections on a typical weekday during the morning (7:00 AM to 9:00 AM) and evening (4:00 PM to 6:00 PM) peak periods.
Please provide the existing signal timings plans for the intersection of Thomas Street at Streetsville GO Station Parking lot Entrance

Analysis Periods and Scenarios

The weekday AM and PM peak hours for 2019 existing conditions, considering an opening year of 2020, a 5-year horizon year after full build-out (2025) will be considered for background and total traffic conditions.

Background Developments

We will include the following development as part of our background development:

1. OZ/OPA 10 5 → 56 Tannery Street
2. 21CDM-M 00 15012→ 170, 180 and 190 Rutledge Road
3. OZ/OPA 18 12→ 51 & 57 Tannery St. & 208 Emby Dr
4. OZ/OPA 18 15→ 473 and 505 Hensall Circle
5. 21CDM-M 18 1→ 215 Broadway Street

6. SP 17 186→ 272, 274, and 278 Victoria Street

Kindly confirm that the above developments are sufficient. If not, please provide developments that should be included in our analysis.
Also, please provide the associated traffic impact studies for the developments.

Future Background Traffic Growth Rate

Please provide the growth rate that can be used for Thomas Street, Joymar Drive, Broadway Street, and Tannery Street. Should this information not be available, an industry standard of two percent will be applied to through movements along the study intersections.

Future background traffic volume will be estimated for the study area to ensure that the analysis includes background traffic growth and growth from other developments in the area.

Trip Generation

Trip generation for the proposed development will be based on Trip Generation Manual, 10th Edition prepared by the Institute of Transportation Engineers (ITE) for Multifamily Housing (Low-Rise) (land use code 220). To be more conservative the fitted curve equation will be used.

The information contained in the 2016 Transportation Tomorrow Survey (TTS) for zone 3715 and 3836 has been reviewed. As per the TTS information, a 13% modal split is applicable (See attached) , however to be on the conservative side, a 10% modal split will be applied to the road network.

- Trip distribution, assignments, and the modal splits will be based on the latest 2016 Transportation Tomorrow Survey (TTS)

Roadway/Transit Improvements

- Please provide details of any planned roadway/transit improvement in the study area.

Analysis Procedures

- Weekday AM and PM peak hours will be analyzed using the Synchro 10.0 analysis package and Highway Capacity Manual (HCM) procedures.

Could you please provide any comments you may have on the above ToR and provide the following information for inclusion in the study:

- **Please provide details of any planned roadway/transit improvement in the study area within the horizon years**
- **Please provide the growth rate to be used for Thomas Street, Joymar Drive, Broadway Street, and Tannery Street.**
- **Please provide the signal timing plan for the signalized intersection of Thomas Street at Streetsville GO Station Parking lot Entrance**
- **Please provide us with any further background developments, and the associated traffic impact studies, that are to be included in the analysis**

I hope the above is acceptable. Should you have any questions or concerns, please feel free to contact me.

Regards,

Kavleen Sachdeva | Engineering Intern
C.F. Crozier & Associates Consulting Engineers
2800 High Point Drive, Suite 100 | Milton, ON L9T 6P4
cfcrozier.ca | ksachdeva@cfcrozier.ca
tel: 905.875.0026 ext: 359

Kavleen Sachdeva

From: Norbert Orzel <Norbert.Orzel@mississauga.ca>
Sent: Tuesday, January 29, 2019 11:23 AM
To: Kavleen Sachdeva
Cc: Greg Borys
Subject: RE: Joymar-Thomas_Traffic Terms of Reference

Hello Kavleen:

Using the City's Travel Demand model and supporting traffic count data, the City's Transportation Planning section has determined the recommend compounded annual growth rates for Thomas Street to be used as part of your traffic study. As mentioned in my email below our standard practice is to only provide background traffic growth rates on Arterials and Major Collectors, any traffic growth on the other Minor Collectors/ Local streets located in your study area should be captured through the background developments you are including and the proposed development site.

The recommended compounded annual growth rates for both the 2024 and 2031 horizon years are shown in the table below.

	Thomas Street	
	EB	WB
AM Peak Hour	0.5%	1.0%
PM Peak Hour	1.0%	1.0%

Please let me know if you have any questions. Thanks,

MISSISSAUGA

Norbert Orzel, C.E.T.
Transportation Modelling Specialist
T 905-615-3200 ext.3636
norbert.orzel@mississauga.ca

City of Mississauga | Transportation and Works Department,
Transportation and Infrastructure Planning Division

From: Norbert Orzel
Sent: 2019/01/28 8:07 AM
To: 'Kavleen Sachdeva'
Cc: Greg Borys
Subject: RE: Joymar-Thomas_Traffic Terms of Reference

Hello Kavleen:

Thank you for your email.

Please note that our standard practice is to provide traffic growth rates on only roads classified as either Arterial or Major Collector, in this case we will only be recommending growth rates for Thomas Street.

I will provide the recommended growth rates by the end of this week.

Thanks,

Norbert Orzel, C.E.T.
Transportation Modelling Specialist
T 905-615-3200 ext.3636
norbert.orzel@mississauga.ca

City of Mississauga | Transportation and Works Department,
Transportation and Infrastructure Planning Division

From: Kavleen Sachdeva [mailto:ksachdeva@cfcrozier.ca]
Sent: 2019/01/25 11:47 AM
To: Norbert Orzel
Cc: Greg Borys
Subject: FW: Joymar-Thomas_Traffic Terms of Reference

Hi Norbert,

We have been retained to complete a Transportation Impact Study to support of a proposed residential development located at 65-95 Joymar Drive in Mississauga. As part of the analysis we require growth rates for the surrounding road network. Would you be able to provide us a growth rate that can be used for Thomas Street, Joymar Drive, Broadway Street, and Tannery Street for horizon year 2024 and 2031?

Regards,

Kavleen Sachdeva | Engineering Intern
C.F. Crozier & Associates Consulting Engineers
2800 High Point Drive, Suite 100 | Milton, ON L9T 6P4
cfcrozier.ca | ksachdeva@cfcrozier.ca
tel: 905.875.0026 ext: 359

From: Greg Borys <Gregory.Borys@mississauga.ca>
Sent: Friday, January 25, 2019 10:20 AM
To: Kavleen Sachdeva <ksachdeva@cfcrozier.ca>
Cc: Lin Rogers <Lin.Rogers@mississauga.ca>
Subject: RE: Joymar-Thomas_Traffic Terms of Reference

Good afternoon Kavleen,

Thank you for providing the terms of reference for Joymar development, please find comments below:

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- Sight line analysis at the proposed accesses;

Please note it will take some time to retrieve the requested Traffic Impact Studies, if you have any questions or concerns please feel free to contact me.

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From: Lin Rogers
Sent: 2019/01/24 11:31 AM
To: Kavleen Sachdeva
Cc: Greg Borys
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Best, Lin

MISSISSAUGA

Lin Rogers, P.Eng. | Manager, Transportation Projects | Transportation & Works
905-615-3200 ext. 4197 | 416-995-7179 | lin.rogers@mississauga.ca

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From: Kavleen Sachdeva [mailto:ksachdeva@cfcrozier.ca]
Sent: 2019/01/24 8:50 AM
To: Lin Rogers
Subject: FW: Joymar-Thomas_Traffic Terms of Reference

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4. OZ/OPA 18 15→ 473 and 505 Hensall Circle
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Also, please provide the associated traffic impact studies for the developments.

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Please provide the growth rate that can be used for Thomas Street, Joymar Drive, Broadway Street, and Tannery Street. Should this information not be available, an industry standard of two percent will be applied to through movements along the study intersections.

Future background traffic volume will be estimated for the study area to ensure that the analysis includes background traffic growth and growth from other developments in the area.

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Trip generation for the proposed development will be based on Trip Generation Manual, 10th Edition prepared by the Institute of Transportation Engineers (ITE) for Multifamily Housing (Low-Rise) (land use code 220). To be more conservative the fitted curve equation will be used.

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- Please provide details of any planned roadway/transit improvement in the study area.

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- Weekday AM and PM peak hours will be analyzed using the Synchro 10.0 analysis package and Highway Capacity Manual (HCM) procedures.

Could you please provide any comments you may have on the above ToR and provide the following information for inclusion in the study:

- **Please provide details of any planned roadway/transit improvement in the study area within the horizon years**
- **Please provide the growth rate to be used for Thomas Street, Joymar Drive, Broadway Street, and Tannery Street.**
- **Please provide the signal timing plan for the signalized intersection of Thomas Street at Streetsville GO Station Parking lot Entrance**
- **Please provide us with any further background developments, and the associated traffic impact studies, that are to be included in the analysis**

I hope the above is acceptable. Should you have any questions or concerns, please feel free to contact me.

Regards,

Kavleen Sachdeva | Engineering Intern
C.F. Crozier & Associates Consulting Engineers
2800 High Point Drive, Suite 100 | Milton, ON L9T 6P4
cfcrozier.ca | ksachdeva@cfcrozier.ca
tel: 905.875.0026 ext: 359

APPENDIX B

Existing Information

Turning Movement Count (1 . THOMAS ST & JOYMAR DR)

Start Time	N Approach JOYMAR DR					E Approach THOMAS ST					W Approach THOMAS ST					Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Left N:E	U-Turn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	U-Turn E:E	Peds E:	Approach Total	Thru W:E	Left W:N	U-Turn W:W	Peds W:	Approach Total		
07:00:00	6	7	0	3	13	1	60	0	0	61	186	16	0	0	202	276	
07:15:00	9	9	0	4	18	7	67	0	0	74	277	24	0	0	301	393	
07:30:00	15	4	0	2	19	9	92	0	0	101	322	45	0	0	367	487	
07:45:00	30	5	0	3	35	13	85	0	0	98	372	78	0	0	450	583	1739
08:00:00	58	2	0	0	60	12	96	0	0	108	380	63	0	0	443	611	2074
08:15:00	22	7	0	0	29	4	71	0	0	75	182	68	0	0	250	354	2035
08:30:00	23	5	0	0	28	9	79	0	0	88	281	67	0	0	348	464	2012
08:45:00	24	3	0	3	27	7	73	0	0	80	123	49	0	1	172	279	1708
BREAK																	
16:00:00	32	2	0	0	34	6	87	0	0	93	86	14	0	0	100	227	
16:15:00	29	5	0	2	34	6	179	0	0	185	77	26	0	0	103	322	
16:30:00	35	5	0	3	40	8	117	0	0	125	80	23	0	0	103	268	
16:45:00	39	2	0	3	41	7	192	0	0	199	101	19	0	0	120	360	1177
17:00:00	50	9	0	4	59	4	205	0	0	209	77	20	0	0	97	365	1315
17:15:00	43	4	0	4	47	12	198	0	1	210	103	23	0	0	126	383	1376
17:30:00	28	1	0	1	29	11	304	0	0	315	87	25	0	0	112	456	1564
17:45:00	47	5	0	0	52	9	199	0	0	208	100	28	0	0	128	388	1592
Grand Total	490	75	0	32	565	125	2104	0	1	2229	2834	588	0	1	3422	**6216**	-
Approach%	86.7%	13.3%	0%		-	5.6%	94.4%	0%		-	82.8%	17.2%	0%		-	-	-
Totals %	7.9%	1.2%	0%		9.1%	2%	33.8%	0%		35.9%	45.6%	9.5%	0%		55.1%	-	-
Heavy	10	3	0		-	1	60	0		-	73	12	0		-	-	-
Heavy %	2%	4%	0%		-	0.8%	2.9%	0%		-	2.6%	2%	0%		-	-	-
Bicycles	0	0	0		-	0	0	0		-	2	0	0		-	-	-
Bicycle %	0%	0%	0%		-	0%	0%	0%		-	0.1%	0%	0%		-	-	-

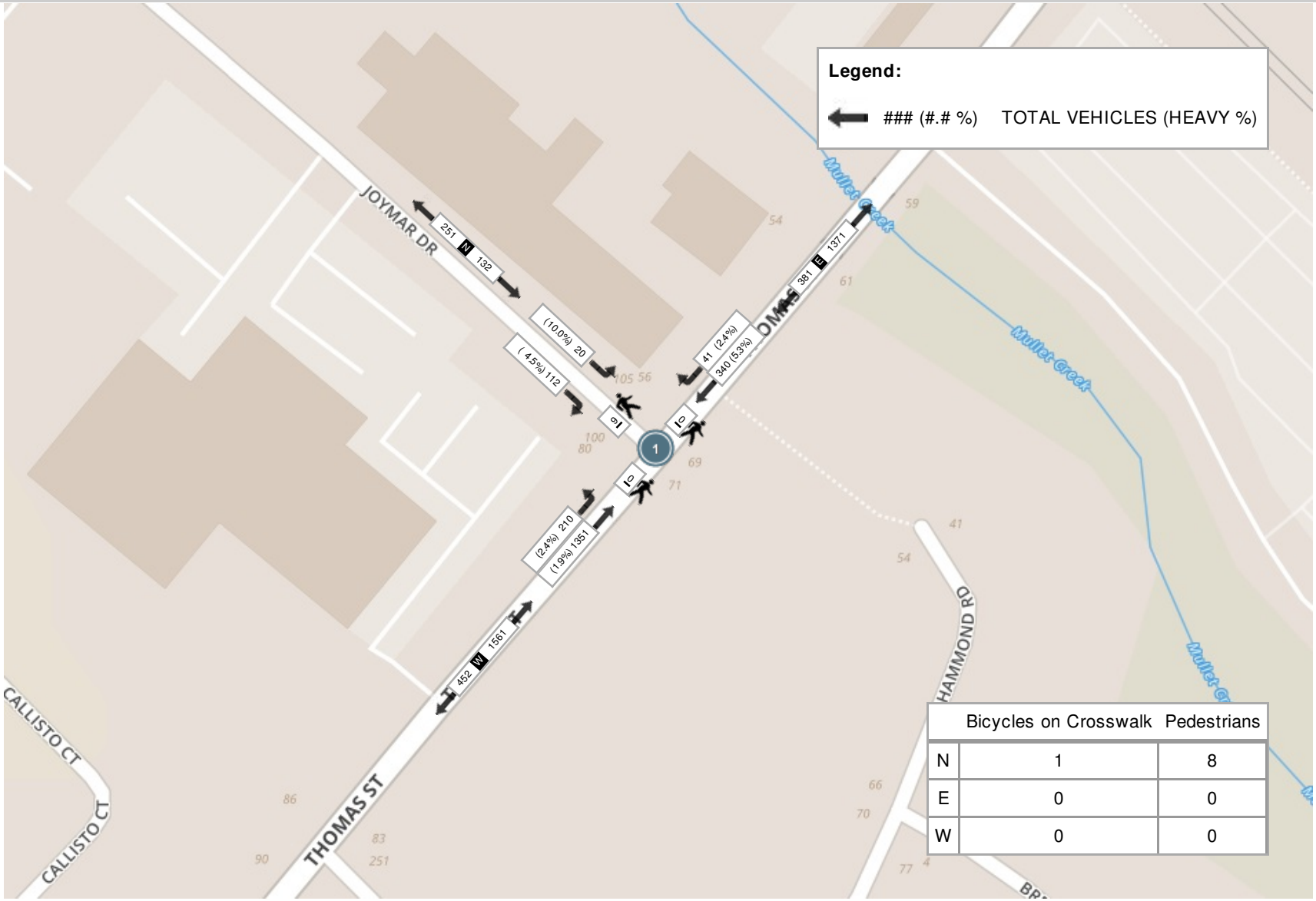
Peak Hour: 07:15 AM - 08:15 AM Weather: Overcast Clouds (4.7 °C)

Start Time	N Approach JOYMAR DR					E Approach THOMAS ST					W Approach THOMAS ST					Int. Total (15 min)
	Right	Left	U-Turn	Peds	Approach Total	Right	Thru	U-Turn	Peds	Approach Total	Thru	Left	U-Turn	Peds	Approach Total	
07:15:00	9	9	0	4	18	7	67	0	0	74	277	24	0	0	301	393
07:30:00	15	4	0	2	19	9	92	0	0	101	322	45	0	0	367	487
07:45:00	30	5	0	3	35	13	85	0	0	98	372	78	0	0	450	583
08:00:00	58	2	0	0	60	12	96	0	0	108	380	63	0	0	443	611
Grand Total	112	20	0	9	132	41	340	0	0	381	1351	210	0	0	1561	**2074**
Approach%	84.8%	15.2%	0%		-	10.8%	89.2%	0%		-	86.5%	13.5%	0%		-	-
Totals %	5.4%	1%	0%		6.4%	2%	16.4%	0%		18.4%	65.1%	10.1%	0%		75.3%	-
PHF	0.48	0.56	0		0.55	0.79	0.89	0		0.88	0.89	0.67	0		0.87	-
Heavy	5	2	0		7	1	18	0		19	25	5	0		30	-
Heavy %	4.5%	10%	0%		5.3%	2.4%	5.3%	0%		5%	1.9%	2.4%	0%		1.9%	-
Lights	107	18	0		125	40	322	0		362	1326	205	0		1531	-
Lights %	95.5%	90%	0%		94.7%	97.6%	94.7%	0%		95%	98.1%	97.6%	0%		98.1%	-
Single-Unit Trucks	0	0	0		0	1	2	0		3	0	1	0		1	-
Single-Unit Trucks %	0%	0%	0%		0%	2.4%	0.6%	0%		0.8%	0%	0.5%	0%		0.1%	-
Buses	5	2	0		7	0	16	0		16	25	4	0		29	-
Buses %	4.5%	10%	0%		5.3%	0%	4.7%	0%		4.2%	1.9%	1.9%	0%		1.9%	-
Pedestrians	-	-	-	8	-	-	-	-	0	-	-	-	-	0	-	-
Pedestrians%	-	-	-	88.9%		-	-	-	0%		-	-	-	0%		-
Bicycles on Crosswalk	-	-	-	1	-	-	-	-	0	-	-	-	-	0	-	-
Bicycles on Crosswalk%	-	-	-	11.1%		-	-	-	0%		-	-	-	0%		-
Bicycles on Road	0	0	0	0	-	0	0	0	0	-	1	0	0	0	-	-
Bicycles on Road%	-	-	-	0%		-	-	-	0%		-	-	-	0%		-

Peak Hour: 05:00 PM - 06:00 PM Weather: Overcast Clouds (-0.78 °C)

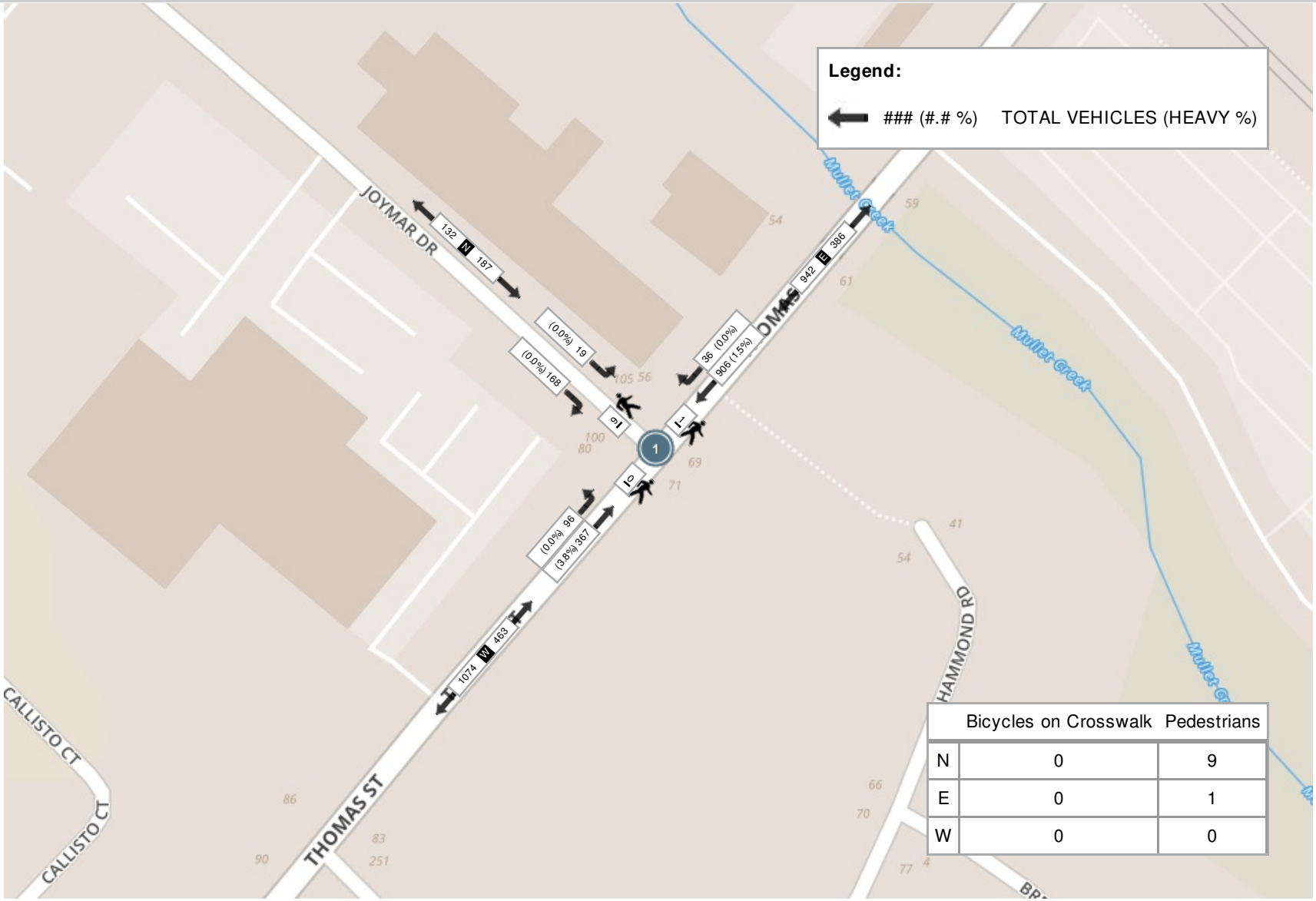
Start Time	N Approach JOYMAR DR					E Approach THOMAS ST					W Approach THOMAS ST					Int. Total (15 min)
	Right	Left	U-Turn	Peds	Approach Total	Right	Thru	U-Turn	Peds	Approach Total	Thru	Left	U-Turn	Peds	Approach Total	
17:00:00	50	9	0	4	59	4	205	0	0	209	77	20	0	0	97	365
17:15:00	43	4	0	4	47	12	198	0	1	210	103	23	0	0	126	383
17:30:00	28	1	0	1	29	11	304	0	0	315	87	25	0	0	112	456
17:45:00	47	5	0	0	52	9	199	0	0	208	100	28	0	0	128	388
Grand Total	168	19	0	9	187	36	906	0	1	942	367	96	0	0	463	**1592**
Approach%	89.8%	10.2%	0%		-	3.8%	96.2%	0%		-	79.3%	20.7%	0%		-	-
Totals %	10.6%	1.2%	0%		11.7%	2.3%	56.9%	0%		59.2%	23.1%	6%	0%		29.1%	-
PHF	0.84	0.53	0		0.79	0.75	0.75	0		0.75	0.89	0.86	0		0.9	-
Heavy	0	0	0		0	0	14	0		14	14	0	0		14	-
Heavy %	0%	0%	0%		0%	0%	1.5%	0%		1.5%	3.8%	0%	0%		3%	-
Lights	168	19	0		187	36	892	0		928	353	96	0		449	-
Lights %	100%	100%	0%		100%	100%	98.5%	0%		98.5%	96.2%	100%	0%		97%	-
Single-Unit Trucks	0	0	0		0	0	1	0		1	2	0	0		2	-
Single-Unit Trucks %	0%	0%	0%		0%	0%	0.1%	0%		0.1%	0.5%	0%	0%		0.4%	-
Buses	0	0	0		0	0	13	0		13	12	0	0		12	-
Buses %	0%	0%	0%		0%	0%	1.4%	0%		1.4%	3.3%	0%	0%		2.6%	-
Pedestrians	-	-	-	9	-	-	-	-	1	-	-	-	-	0	-	-
Pedestrians%	-	-	-	90%		-	-	-	10%		-	-	-	0%		-
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
Bicycles on Crosswalk%	-	-	-	0%		-	-	-	0%		-	-	-	0%		-
Bicycles on Road	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	-
Bicycles on Road%	-	-	-	0%		-	-	-	0%		-	-	-	0%		-

Peak Hour: 07:15 AM - 08:15 AM Weather: Overcast Clouds (4.7 °C)



	Bicycles on Crosswalk	Pedestrians
N	1	8
E	0	0
W	0	0

Peak Hour: 05:00 PM - 06:00 PM Weather: Overcast Clouds (-0.78 °C)



	Bicycles on Crosswalk	Pedestrians
N	0	9
E	0	1
W	0	0

Turning Movement Count (2 . THOMAS ST & STREETSVILLE GO STATION PARKING LOT ENTRANCE)

Start Time	N Approach NORTH DRIVEWAY						E Approach THOMAS ST						S Approach STREETSVILLE GO STATION PARKING LOT ENTRANCE						W Approach THOMAS ST						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	U-Turn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	U-Turn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	U-Turn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	U-Turn W:W	Peds W:	Approach Total		
07:00:00	1	0	0	0	3	1	0	16	32	0	3	48	16	0	47	0	2	63	143	53	0	0	0	196	308	
07:15:00	0	0	0	0	5	0	1	20	38	0	4	59	30	0	52	0	3	82	203	79	0	0	0	282	423	
07:30:00	1	0	0	0	3	1	0	28	41	0	2	69	27	0	72	0	1	99	227	89	0	0	1	316	485	
07:45:00	0	0	1	0	5	1	0	32	47	0	2	79	36	0	65	0	2	101	268	102	1	0	4	371	552	1768
08:00:00	0	0	0	0	3	0	0	42	38	0	2	80	42	0	66	0	0	108	261	134	0	0	2	395	583	2043
08:15:00	1	0	0	0	0	1	1	44	7	0	1	52	18	0	29	0	1	47	49	127	3	0	1	179	279	1899
08:30:00	2	0	2	0	1	4	0	46	15	0	1	61	16	0	42	0	2	58	128	166	2	0	0	296	419	1833
08:45:00	1	0	0	0	4	1	3	61	1	0	2	65	4	0	16	0	3	20	1	132	2	0	0	135	221	1502
BREAK																										
16:00:00	0	0	1	0	1	1	2	92	12	0	0	106	2	0	3	0	0	5	14	75	0	0	0	89	201	
16:15:00	4	0	0	0	5	4	2	119	5	0	1	126	40	0	70	0	2	110	17	63	4	0	1	84	324	
16:30:00	3	0	2	0	4	5	3	109	5	0	0	117	4	0	5	0	1	9	10	73	3	0	1	86	217	
16:45:00	2	0	3	0	4	5	0	138	8	0	0	146	21	1	56	0	4	78	11	86	2	0	1	99	328	1070
17:00:00	4	0	1	0	3	5	1	135	9	0	1	145	12	1	65	0	3	78	22	60	2	0	1	84	312	1181
17:15:00	4	0	0	0	4	4	3	117	10	0	3	130	23	0	91	0	0	114	41	67	0	0	0	108	356	1213
17:30:00	0	0	1	0	7	1	1	102	17	0	2	120	69	0	217	0	3	286	33	56	0	0	1	89	496	1492
17:45:00	1	0	0	0	3	1	0	128	15	0	0	143	22	0	79	0	2	101	40	67	0	0	0	107	352	1516
Grand Total	24	0	11	0	55	35	17	1229	300	0	24	1546	382	2	975	0	29	1359	1468	1429	19	0	13	2916	**5856**	-
Approach%	68.6%	0%	31.4%	0%		-	1.1%	79.5%	19.4%	0%		-	28.1%	0.1%	71.7%	0%		-	50.3%	49%	0.7%	0%		-	-	-
Totals %	0.4%	0%	0.2%	0%		0.6%	0.3%	21%	5.1%	0%		26.4%	6.5%	0%	16.6%	0%		23.2%	25.1%	24.4%	0.3%	0%		49.8%	-	-
Heavy	0	0	0	0		-	0	30	4	0		-	10	0	30	0		-	41	37	0	0		-	-	-
Heavy %	0%	0%	0%	0%		-	0%	2.4%	1.3%	0%		-	2.6%	0%	3.1%	0%		-	2.8%	2.6%	0%	0%		-	-	-
Bicycles	0	0	0	0		-	0	0	0	0		-	0	0	0	0		-	1	0	0	0		-	-	-
Bicycle %	0%	0%	0%	0%		-	0%	0%	0%	0%		-	0%	0%	0%	0%		-	0.1%	0%	0%	0%		-	-	-

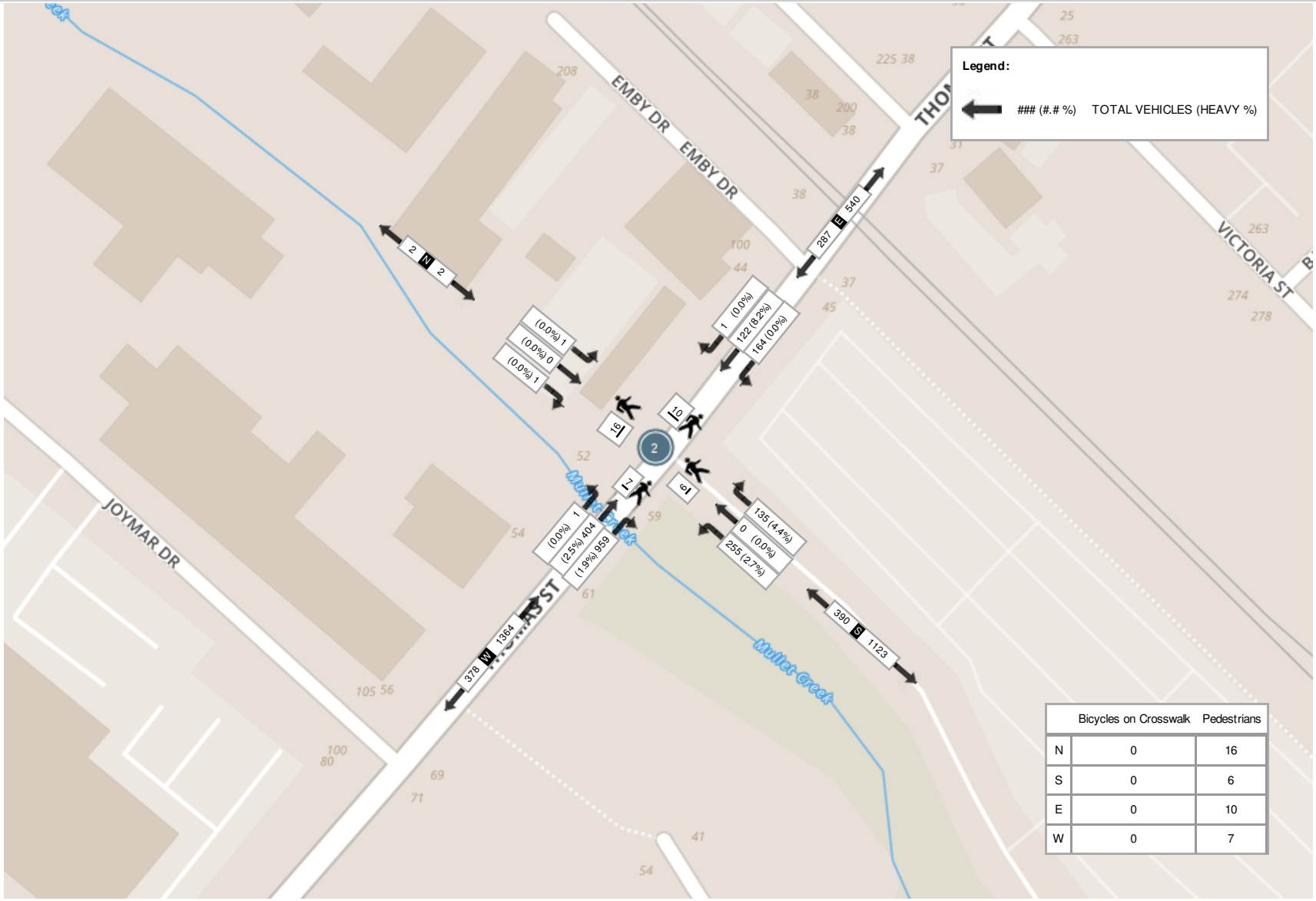
Peak Hour: 07:15 AM - 08:15 AM Weather: Overcast Clouds (4.7 °C)

Start Time	N Approach NORTH DRIVEWAY						E Approach THOMAS ST						S Approach STREETSVILLE GO STATION PARKING LOT ENTRANCE						W Approach THOMAS ST						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
07:15:00	0	0	0	0	5	0	1	20	38	0	4	59	30	0	52	0	3	82	203	79	0	0	0	282	423
07:30:00	1	0	0	0	3	1	0	28	41	0	2	69	27	0	72	0	1	99	227	89	0	0	1	316	485
07:45:00	0	0	1	0	5	1	0	32	47	0	2	79	36	0	65	0	2	101	268	102	1	0	4	371	552
08:00:00	0	0	0	0	3	0	0	42	38	0	2	80	42	0	66	0	0	108	261	134	0	0	2	395	583
Grand Total	1	0	1	0	16	2	1	122	164	0	10	287	135	0	255	0	6	390	959	404	1	0	7	1364	**2043**
Approach%	50%	0%	50%	0%		-	0.3%	42.5%	57.1%	0%		-	34.6%	0%	65.4%	0%		-	70.3%	29.6%	0.1%	0%		-	**-**
Totals %	0%	0%	0%	0%		0.1%	0%	6%	8%	0%		14%	6.6%	0%	12.5%	0%		19.1%	46.9%	19.8%	0%	0%		66.8%	**-**
PHF	0.25	0	0.25	0		0.5	0.25	0.73	0.87	0		0.9	0.8	0	0.89	0		0.9	0.89	0.75	0.25	0		0.86	**-**
Heavy	0	0	0	0		0	0	10	0	0		10	6	0	7	0		13	18	10	0	0		28	**-**
Heavy %	0%	0%	0%	0%		0%	0%	8.2%	0%	0%		3.5%	4.4%	0%	2.7%	0%		3.3%	1.9%	2.5%	0%	0%		2.1%	**-**
Lights	1	0	1	0		2	1	112	164	0		277	129	0	248	0		377	941	394	1	0		1336	**-**
Lights %	100%	0%	100%	0%		100%	100%	91.8%	100%	0%		96.5%	95.6%	0%	97.3%	0%		96.7%	98.1%	97.5%	100%	0%		97.9%	**-**
Single-Unit Trucks	0	0	0	0		0	0	3	0	0		3	0	0	0	0		0	0	0	0	0		0	**-**
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	2.5%	0%	0%		1%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	**-**
Buses	0	0	0	0		0	0	7	0	0		7	6	0	7	0		13	18	10	0	0		28	**-**
Buses %	0%	0%	0%	0%		0%	0%	5.7%	0%	0%		2.4%	4.4%	0%	2.7%	0%		3.3%	1.9%	2.5%	0%	0%		2.1%	**-**
Pedestrians	-	-	-	-	16	-	-	-	-	-	10	-	-	-	-	-	6	-	-	-	-	-	7	-	**-**
Pedestrians%	-	-	-	-	41%		-	-	-	-	25.6%		-	-	-	-	15.4%		-	-	-	-	17.9%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	1	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

Peak Hour: 05:00 PM - 06:00 PM Weather: Overcast Clouds (-0.78 °C)

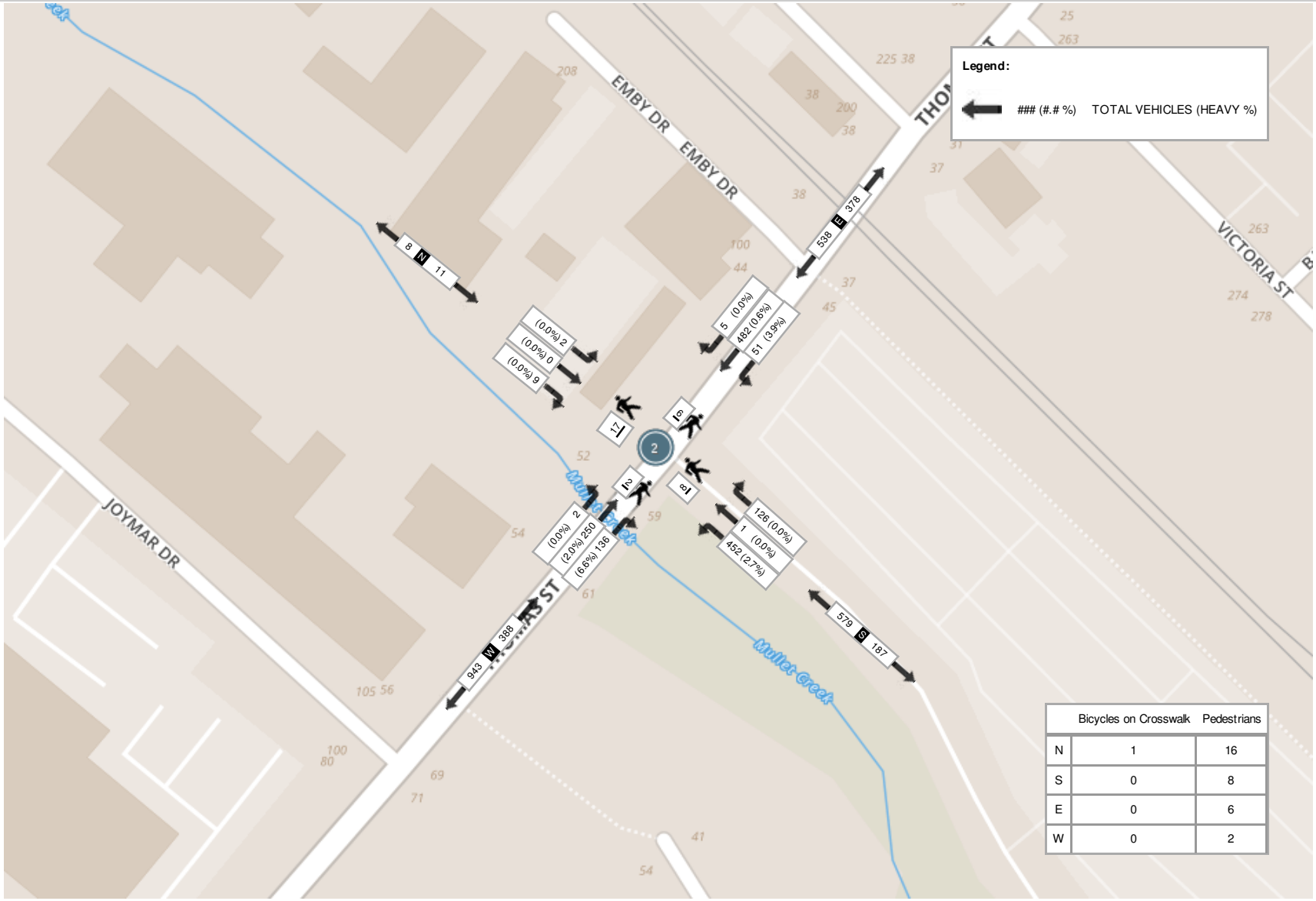
Start Time	N Approach NORTH DRIVEWAY						E Approach THOMAS ST						S Approach STREETSVILLE GO STATION PARKING LOT ENTRANCE						W Approach THOMAS ST						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
17:00:00	4	0	1	0	3	5	1	135	9	0	1	145	12	1	65	0	3	78	22	60	2	0	1	84	312
17:15:00	4	0	0	0	4	4	3	117	10	0	3	130	23	0	91	0	0	114	41	67	0	0	0	108	356
17:30:00	0	0	1	0	7	1	1	102	17	0	2	120	69	0	217	0	3	286	33	56	0	0	1	89	496
17:45:00	1	0	0	0	3	1	0	128	15	0	0	143	22	0	79	0	2	101	40	67	0	0	0	107	352
Grand Total	9	0	2	0	17	11	5	482	51	0	6	538	126	1	452	0	8	579	136	250	2	0	2	388	**1516**
Approach%	81.8%	0%	18.2%	0%		-	0.9%	89.6%	9.5%	0%		-	21.8%	0.2%	78.1%	0%		-	35.1%	64.4%	0.5%	0%		-	**-**
Totals %	0.6%	0%	0.1%	0%		0.7%	0.3%	31.8%	3.4%	0%		35.5%	8.3%	0.1%	29.8%	0%		38.2%	9%	16.5%	0.1%	0%		25.6%	**-**
PHF	0.56	0	0.5	0		0.55	0.42	0.89	0.75	0		0.93	0.46	0.25	0.52	0		0.51	0.83	0.93	0.25	0		0.9	**-**
Heavy	0	0	0	0		0	0	3	2	0		5	0	0	12	0		12	9	5	0	0		14	**-**
Heavy %	0%	0%	0%	0%		0%	0%	0.6%	3.9%	0%		0.9%	0%	0%	2.7%	0%		2.1%	6.6%	2%	0%	0%		3.6%	**-**
Lights	9	0	2	0		11	5	479	49	0		533	126	1	440	0		567	127	245	2	0		374	**-**
Lights %	100%	0%	100%	0%		100%	100%	99.4%	96.1%	0%		99.1%	100%	100%	97.3%	0%		97.9%	93.4%	98%	100%	0%		96.4%	**-**
Single-Unit Trucks	0	0	0	0		0	0	1	0	0		1	0	0	1	0		1	0	2	0	0		2	**-**
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	0.2%	0%	0%		0.2%	0%	0%	0.2%	0%		0.2%	0%	0.8%	0%	0%		0.5%	**-**
Buses	0	0	0	0		0	0	2	2	0		4	0	0	11	0		11	9	3	0	0		12	**-**
Buses %	0%	0%	0%	0%		0%	0%	0.4%	3.9%	0%		0.7%	0%	0%	2.4%	0%		1.9%	6.6%	1.2%	0%	0%		3.1%	**-**
Pedestrians	-	-	-	-	16	-	-	-	-	-	6	-	-	-	-	-	8	-	-	-	-	-	2	-	**-**
Pedestrians%	-	-	-	-	48.5%		-	-	-	-	18.2%		-	-	-	-	24.2%		-	-	-	-	6.1%		**-**
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	3%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

Peak Hour: 07:15 AM - 08:15 AM Weather: Overcast Clouds (4.7 °C)



	Bicycles on Crosswalk	Pedestrians
N	0	16
S	0	6
E	0	10
W	0	7

Peak Hour: 05:00 PM - 06:00 PM **Weather: Overcast Clouds (-0.78 °C)**



	Bicycles on Crosswalk	Pedestrians
N	1	16
S	0	8
E	0	6
W	0	2

Turning Movement Count (3 . THOMAS ST & BROADWAY ST)

Start Time	N Approach BROADWAY ST						E Approach THOMAS ST						S Approach SOUTH DRIVEWAY						W Approach THOMAS ST						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	U-Turn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	U-Turn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	U-Turn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	U-Turn W:W	Peds W:	Approach Total		
07:00:00	8	0	1	0	0	9	1	40	0	0	0	41	0	0	0	0	1	0	0	54	12	0	0	66	116	
07:15:00	8	0	0	0	1	8	0	53	0	0	1	53	0	0	0	0	1	0	0	88	15	0	0	103	164	
07:30:00	17	0	1	0	1	18	4	57	0	0	0	61	0	0	0	0	2	0	0	100	21	0	2	121	200	
07:45:00	18	0	0	0	1	18	1	56	1	0	0	58	0	0	0	0	3	0	1	101	33	0	0	135	211	691
08:00:00	28	0	0	0	0	28	5	51	1	0	0	57	1	0	0	0	0	1	0	135	44	0	0	179	265	840
08:15:00	14	0	1	0	2	15	5	38	0	0	0	43	0	0	0	0	0	0	0	106	36	0	0	142	200	876
08:30:00	12	0	1	0	0	13	1	50	0	0	0	51	0	0	0	0	3	0	2	125	34	0	0	161	225	901
08:45:00	14	0	1	0	3	15	5	51	1	0	1	57	0	0	0	0	5	0	2	113	39	0	0	154	226	916
BREAK																										
16:00:00	25	0	3	0	1	28	2	80	4	0	0	86	1	0	1	0	1	2	1	63	16	0	0	80	196	
16:15:00	30	0	2	0	4	32	3	95	1	0	0	99	2	0	0	0	3	2	0	77	19	0	0	96	229	
16:30:00	25	0	2	0	4	27	2	95	2	0	0	99	0	0	0	0	1	0	0	62	12	0	0	74	200	
16:45:00	28	0	2	0	4	30	1	121	0	0	1	122	1	0	1	0	3	2	1	80	34	0	0	115	269	894
17:00:00	42	0	6	0	3	48	5	104	2	0	1	111	1	0	0	0	3	1	1	59	15	0	0	75	235	933
17:15:00	32	0	0	0	2	32	3	96	1	0	1	100	1	0	2	0	7	3	0	67	21	0	0	88	223	927
17:30:00	23	0	4	0	4	27	7	95	0	0	0	102	2	0	0	0	3	2	1	90	32	0	0	123	254	981
17:45:00	25	0	4	0	0	29	7	103	0	0	0	110	1	0	0	0	2	1	1	59	25	0	0	85	225	937
Grand Total	349	0	28	0	30	377	52	1185	13	0	5	1250	10	0	4	0	38	14	10	1379	408	0	2	1797	**3438**	-
Approach%	92.6%	0%	7.4%	0%		-	4.2%	94.8%	1%	0%		-	71.4%	0%	28.6%	0%		-	0.6%	76.7%	22.7%	0%		-	-	-
Totals %	10.2%	0%	0.8%	0%		11%	1.5%	34.5%	0.4%	0%		36.4%	0.3%	0%	0.1%	0%		0.4%	0.3%	40.1%	11.9%	0%		52.3%	-	-
Heavy	5	0	1	0		-	2	27	1	0		-	2	0	0	0		-	1	48	2	0		-	-	-
Heavy %	1.4%	0%	3.6%	0%		-	3.8%	2.3%	7.7%	0%		-	20%	0%	0%	0%		-	10%	3.5%	0.5%	0%		-	-	-
Bicycles	1	0	0	0		-	0	0	0	0		-	0	0	0	0		-	0	0	1	0		-	-	-
Bicycle %	0.3%	0%	0%	0%		-	0%	0%	0%	0%		-	0%	0%	0%	0%		-	0%	0%	0.2%	0%		-	-	-

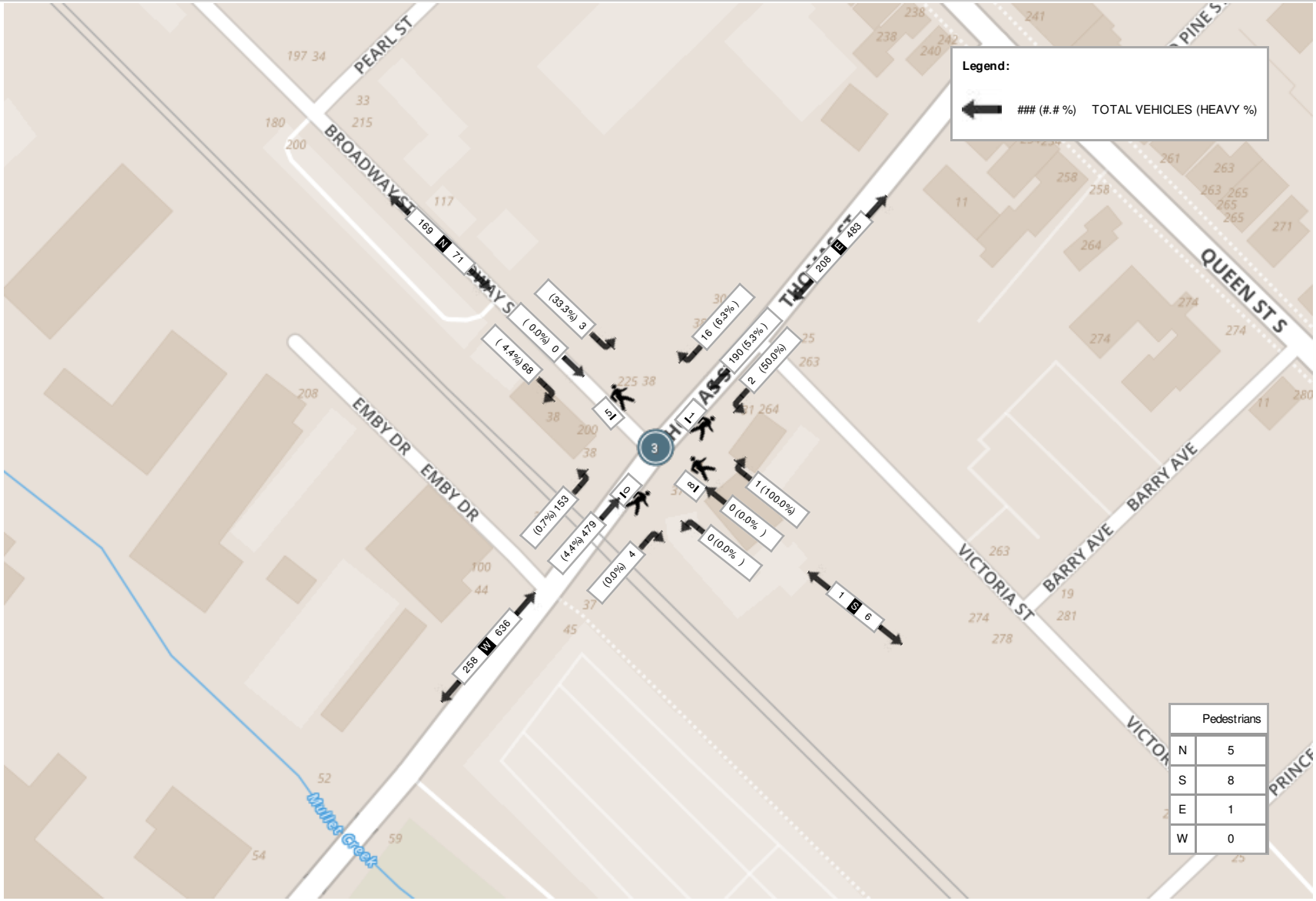
Peak Hour: 08:00 AM - 09:00 AM Weather: Overcast Clouds (4.7 °C)

Start Time	N Approach BROADWAY ST						E Approach THOMAS ST						S Approach SOUTH DRIVEWAY						W Approach THOMAS ST						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
08:00:00	28	0	0	0	0	28	5	51	1	0	0	57	1	0	0	0	0	1	0	135	44	0	0	179	265
08:15:00	14	0	1	0	2	15	5	38	0	0	0	43	0	0	0	0	0	0	0	106	36	0	0	142	200
08:30:00	12	0	1	0	0	13	1	50	0	0	0	51	0	0	0	0	3	0	2	125	34	0	0	161	225
08:45:00	14	0	1	0	3	15	5	51	1	0	1	57	0	0	0	0	5	0	2	113	39	0	0	154	226
Grand Total	68	0	3	0	5	71	16	190	2	0	1	208	1	0	0	0	8	1	4	479	153	0	0	636	**916**
Approach%	95.8%	0%	4.2%	0%		-	7.7%	91.3%	1%	0%		-	100%	0%	0%	0%		-	0.6%	75.3%	24.1%	0%		-	**-**
Totals %	7.4%	0%	0.3%	0%		7.8%	1.7%	20.7%	0.2%	0%		22.7%	0.1%	0%	0%	0%		0.1%	0.4%	52.3%	16.7%	0%		69.4%	**-**
PHF	0.61	0	0.75	0		0.63	0.8	0.93	0.5	0		0.91	0.25	0	0	0		0.25	0.5	0.89	0.87	0		0.89	**-**
Heavy	3	0	1	0		4	1	10	1	0		12	1	0	0	0		1	0	21	1	0		22	**-**
Heavy %	4.4%	0%	33.3%	0%		5.6%	6.3%	5.3%	50%	0%		5.8%	100%	0%	0%	0%		100%	0%	4.4%	0.7%	0%		3.5%	**-**
Lights	65	0	2	0		67	15	180	1	0		196	0	0	0	0		0	4	458	152	0		614	**-**
Lights %	95.6%	0%	66.7%	0%		94.4%	93.8%	94.7%	50%	0%		94.2%	0%	0%	0%	0%		0%	100%	95.6%	99.3%	0%		96.5%	**-**
Single-Unit Trucks	1	0	1	0		2	0	1	1	0		2	1	0	0	0		1	0	2	0	0		2	**-**
Single-Unit Trucks %	1.5%	0%	33.3%	0%		2.8%	0%	0.5%	50%	0%		1%	100%	0%	0%	0%		100%	0%	0.4%	0%	0%		0.3%	**-**
Buses	2	0	0	0		2	1	9	0	0		10	0	0	0	0		0	0	19	1	0		20	**-**
Buses %	2.9%	0%	0%	0%		2.8%	6.3%	4.7%	0%	0%		4.8%	0%	0%	0%	0%		0%	0%	4%	0.7%	0%		3.1%	**-**
Pedestrians	-	-	-	-	5	-	-	-	-	-	1	-	-	-	-	-	8	-	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	-	35.7%		-	-	-	-	7.1%		-	-	-	-	57.1%		-	-	-	-	0%		**-**
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

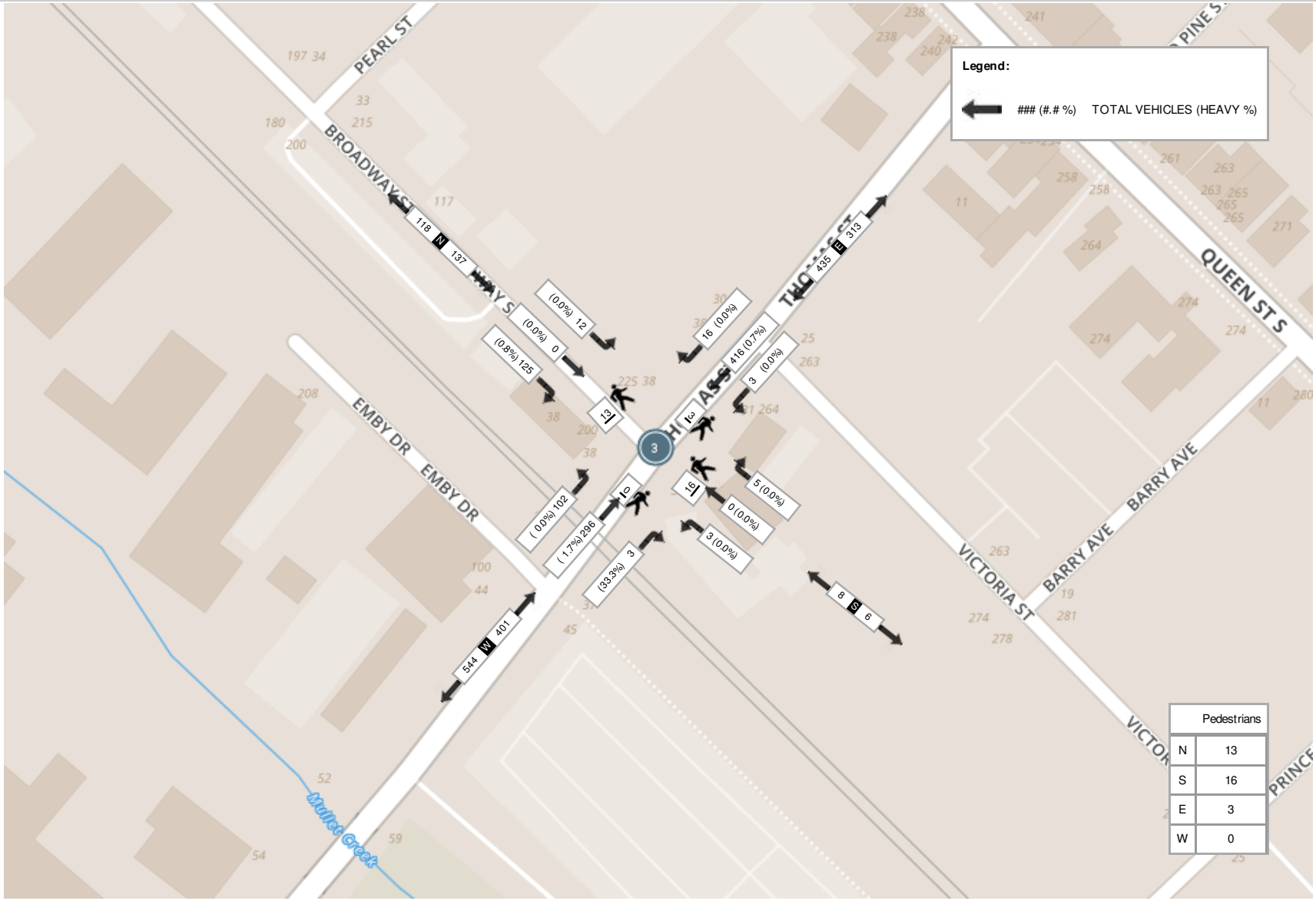
Peak Hour: 04:45 PM - 05:45 PM Weather: Overcast Clouds (-0.78 °C)

Start Time	N Approach BROADWAY ST						E Approach THOMAS ST						S Approach SOUTH DRIVEWAY						W Approach THOMAS ST						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
16:45:00	28	0	2	0	4	30	1	121	0	0	1	122	1	0	1	0	3	2	1	80	34	0	0	115	269
17:00:00	42	0	6	0	3	48	5	104	2	0	1	111	1	0	0	0	3	1	1	59	15	0	0	75	235
17:15:00	32	0	0	0	2	32	3	96	1	0	1	100	1	0	2	0	7	3	0	67	21	0	0	88	223
17:30:00	23	0	4	0	4	27	7	95	0	0	0	102	2	0	0	0	3	2	1	90	32	0	0	123	254
Grand Total	125	0	12	0	13	137	16	416	3	0	3	435	5	0	3	0	16	8	3	296	102	0	0	401	**981**
Approach%	91.2%	0%	8.8%	0%		-	3.7%	95.6%	0.7%	0%		-	62.5%	0%	37.5%	0%		-	0.7%	73.8%	25.4%	0%		-	**-**
Totals %	12.7%	0%	1.2%	0%		14%	1.6%	42.4%	0.3%	0%		44.3%	0.5%	0%	0.3%	0%		0.8%	0.3%	30.2%	10.4%	0%		40.9%	**-**
PHF	0.74	0	0.5	0		0.71	0.57	0.86	0.38	0		0.89	0.63	0	0.38	0		0.67	0.75	0.82	0.75	0		0.82	**-**
Heavy	1	0	0	0		1	0	3	0	0		3	0	0	0	0		0	1	5	0	0		6	**-**
Heavy %	0.8%	0%	0%	0%		0.7%	0%	0.7%	0%	0%		0.7%	0%	0%	0%	0%		0%	33.3%	1.7%	0%	0%		1.5%	**-**
Lights	124	0	12	0		136	16	413	3	0		432	5	0	3	0		8	2	291	102	0		395	**-**
Lights %	99.2%	0%	100%	0%		99.3%	100%	99.3%	100%	0%		99.3%	100%	0%	100%	0%		100%	66.7%	98.3%	100%	0%		98.5%	**-**
Single-Unit Trucks	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	1	1	0	0		2	**-**
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	33.3%	0.3%	0%	0%		0.5%	**-**
Buses	1	0	0	0		1	0	3	0	0		3	0	0	0	0		0	0	4	0	0		4	**-**
Buses %	0.8%	0%	0%	0%		0.7%	0%	0.7%	0%	0%		0.7%	0%	0%	0%	0%		0%	0%	1.4%	0%	0%		1%	**-**
Pedestrians	-	-	-	-	13	-	-	-	-	-	3	-	-	-	-	-	16	-	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	-	40.6%		-	-	-	-	9.4%		-	-	-	-	50%		-	-	-	-	0%		**-**
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

Peak Hour: 08:00 AM - 09:00 AM Weather: Overcast Clouds (4.7 °C)



Peak Hour: 04:45 PM - 05:45 PM **Weather: Overcast Clouds (-0.78 °C)**



Turning Movement Count (5 . TANNERY ST & BROADWAY ST)

Start Time	N Approach CRUMBIE ST						E Approach TANNERY ST						S Approach BROADWAY ST						W Approach TANNERY ST						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	U-Turn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	U-Turn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	U-Turn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	U-Turn W:W	Peds W:	Approach Total		
07:00:00	1	3	1	0	3	5	0	3	1	0	2	4	2	4	0	0	0	6	8	7	3	0	0	18	33	
07:15:00	3	2	3	0	3	8	1	6	6	0	0	13	7	2	4	0	0	13	6	7	4	0	0	17	51	
07:30:00	5	2	3	0	17	10	0	14	9	0	1	23	4	3	5	0	0	12	15	18	8	0	0	41	86	
07:45:00	2	2	1	0	9	5	2	50	11	0	0	63	8	4	10	0	5	22	27	41	8	0	0	76	166	336
08:00:00	6	0	3	0	6	9	0	42	11	0	2	53	13	5	8	0	2	26	38	67	11	0	0	116	204	507
08:15:00	5	4	0	0	4	9	0	13	2	0	1	15	4	8	3	0	1	15	22	30	7	0	1	59	98	554
08:30:00	6	3	1	0	2	10	0	16	4	0	0	20	10	3	4	0	1	17	25	47	9	0	0	81	128	596
08:45:00	6	1	1	0	3	8	1	14	7	0	1	22	7	7	5	0	1	19	4	37	10	0	0	51	100	530
BREAK																										
16:00:00	14	7	1	0	2	22	0	13	9	0	2	22	8	5	5	0	0	18	4	11	5	0	0	20	82	
16:15:00	11	6	0	0	6	17	1	18	6	0	0	25	9	6	8	0	0	23	5	11	5	0	0	21	86	
16:30:00	13	7	0	0	0	20	5	26	4	0	1	35	8	3	5	0	3	16	7	15	10	0	0	32	103	
16:45:00	9	5	1	0	1	15	2	18	5	0	2	25	9	11	5	0	3	25	3	14	14	0	0	31	96	367
17:00:00	14	10	1	0	5	25	2	25	15	0	1	42	11	6	8	0	0	25	11	13	10	0	0	34	126	411
17:15:00	10	4	0	0	1	14	3	33	9	0	0	45	12	5	8	0	0	25	5	19	6	0	0	30	114	439
17:30:00	10	5	2	0	1	17	3	19	8	0	3	30	11	10	7	0	1	28	5	18	4	0	1	27	102	438
17:45:00	15	4	0	0	0	19	0	32	5	0	2	37	15	5	8	0	1	28	3	17	10	0	0	30	114	456
Grand Total	130	65	18	0	63	213	20	342	112	0	18	474	138	87	93	0	18	318	188	372	124	0	2	684	**1689**	-
Approach%	61%	30.5%	8.5%	0%		-	4.2%	72.2%	23.6%	0%		-	43.4%	27.4%	29.2%	0%		-	27.5%	54.4%	18.1%	0%		-	-	-
Totals %	7.7%	3.8%	1.1%	0%		12.6%	1.2%	20.2%	6.6%	0%		28.1%	8.2%	5.2%	5.5%	0%		18.8%	11.1%	22%	7.3%	0%		40.5%	-	-
Heavy	0	2	0	0		-	0	8	5	0		-	5	1	3	0		-	3	9	3	0		-	-	-
Heavy %	0%	3.1%	0%	0%		-	0%	2.3%	4.5%	0%		-	3.6%	1.1%	3.2%	0%		-	1.6%	2.4%	2.4%	0%		-	-	-
Bicycles	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-
Bicycle %	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-

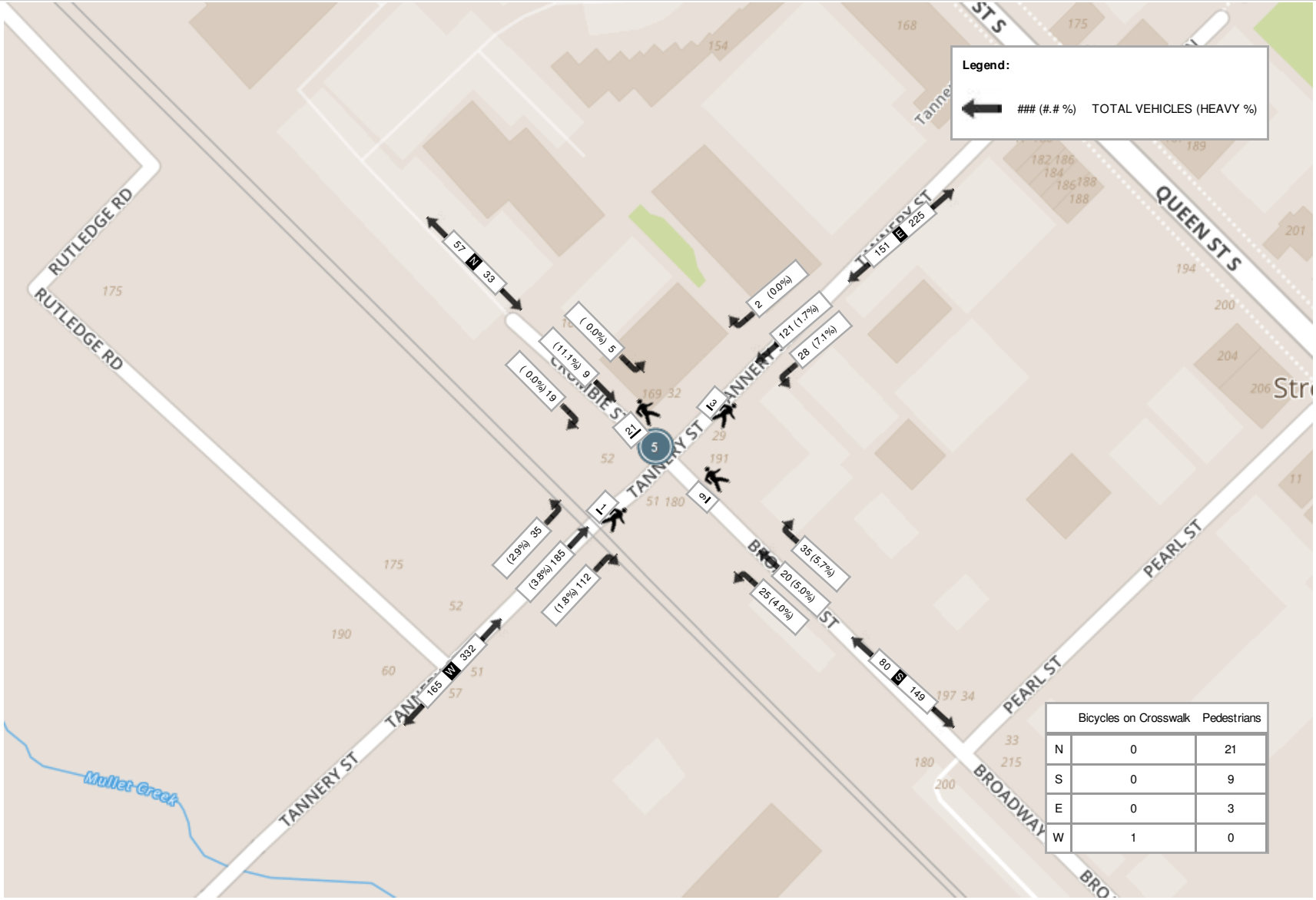
Peak Hour: 07:45 AM - 08:45 AM Weather: Overcast Clouds (4.7 °C)

Start Time	N Approach CRUMBIE ST						E Approach TANNERY ST						S Approach BROADWAY ST						W Approach TANNERY ST						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
07:45:00	2	2	1	0	9	5	2	50	11	0	0	63	8	4	10	0	5	22	27	41	8	0	0	76	166
08:00:00	6	0	3	0	6	9	0	42	11	0	2	53	13	5	8	0	2	26	38	67	11	0	0	116	204
08:15:00	5	4	0	0	4	9	0	13	2	0	1	15	4	8	3	0	1	15	22	30	7	0	1	59	98
08:30:00	6	3	1	0	2	10	0	16	4	0	0	20	10	3	4	0	1	17	25	47	9	0	0	81	128
Grand Total	19	9	5	0	21	33	2	121	28	0	3	151	35	20	25	0	9	80	112	185	35	0	1	332	**596**
Approach%	57.6%	27.3%	15.2%	0%		-	1.3%	80.1%	18.5%	0%		-	43.8%	25%	31.3%	0%		-	33.7%	55.7%	10.5%	0%		-	**-**
Totals %	3.2%	1.5%	0.8%	0%		5.5%	0.3%	20.3%	4.7%	0%		25.3%	5.9%	3.4%	4.2%	0%		13.4%	18.8%	31%	5.9%	0%		55.7%	**-**
PHF	0.79	0.56	0.42	0		0.83	0.25	0.61	0.64	0		0.6	0.67	0.63	0.63	0		0.77	0.74	0.69	0.8	0		0.72	**-**
Heavy	0	1	0	0		1	0	2	2	0		4	2	1	1	0		4	2	7	1	0		10	**-**
Heavy %	0%	11.1%	0%	0%		3%	0%	1.7%	7.1%	0%		2.6%	5.7%	5%	4%	0%		5%	1.8%	3.8%	2.9%	0%		3%	**-**
Lights	19	8	5	0		32	2	119	26	0		147	33	19	24	0		76	110	178	34	0		322	**-**
Lights %	100%	88.9%	100%	0%		97%	100%	98.3%	92.9%	0%		97.4%	94.3%	95%	96%	0%		95%	98.2%	96.2%	97.1%	0%		97%	**-**
Single-Unit Trucks	0	1	0	0		1	0	0	2	0		2	1	1	0	0		2	0	2	1	0		3	**-**
Single-Unit Trucks %	0%	11.1%	0%	0%		3%	0%	0%	7.1%	0%		1.3%	2.9%	5%	0%	0%		2.5%	0%	1.1%	2.9%	0%		0.9%	**-**
Buses	0	0	0	0		0	0	2	0	0		2	1	0	1	0		2	1	5	0	0		6	**-**
Buses %	0%	0%	0%	0%		0%	0%	1.7%	0%	0%		1.3%	2.9%	0%	4%	0%		2.5%	0.9%	2.7%	0%	0%		1.8%	**-**
Articulated Trucks	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	1	0	0	0		1	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0.9%	0%	0%	0%		0.3%	**-**
Pedestrians	-	-	-	-	21	-	-	-	-	-	3	-	-	-	-	-	9	-	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	-	61.8%		-	-	-	-	8.8%		-	-	-	-	26.5%		-	-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	2.9%		**-**

Peak Hour: 05:00 PM - 06:00 PM Weather: Overcast Clouds (-0.78 °C)

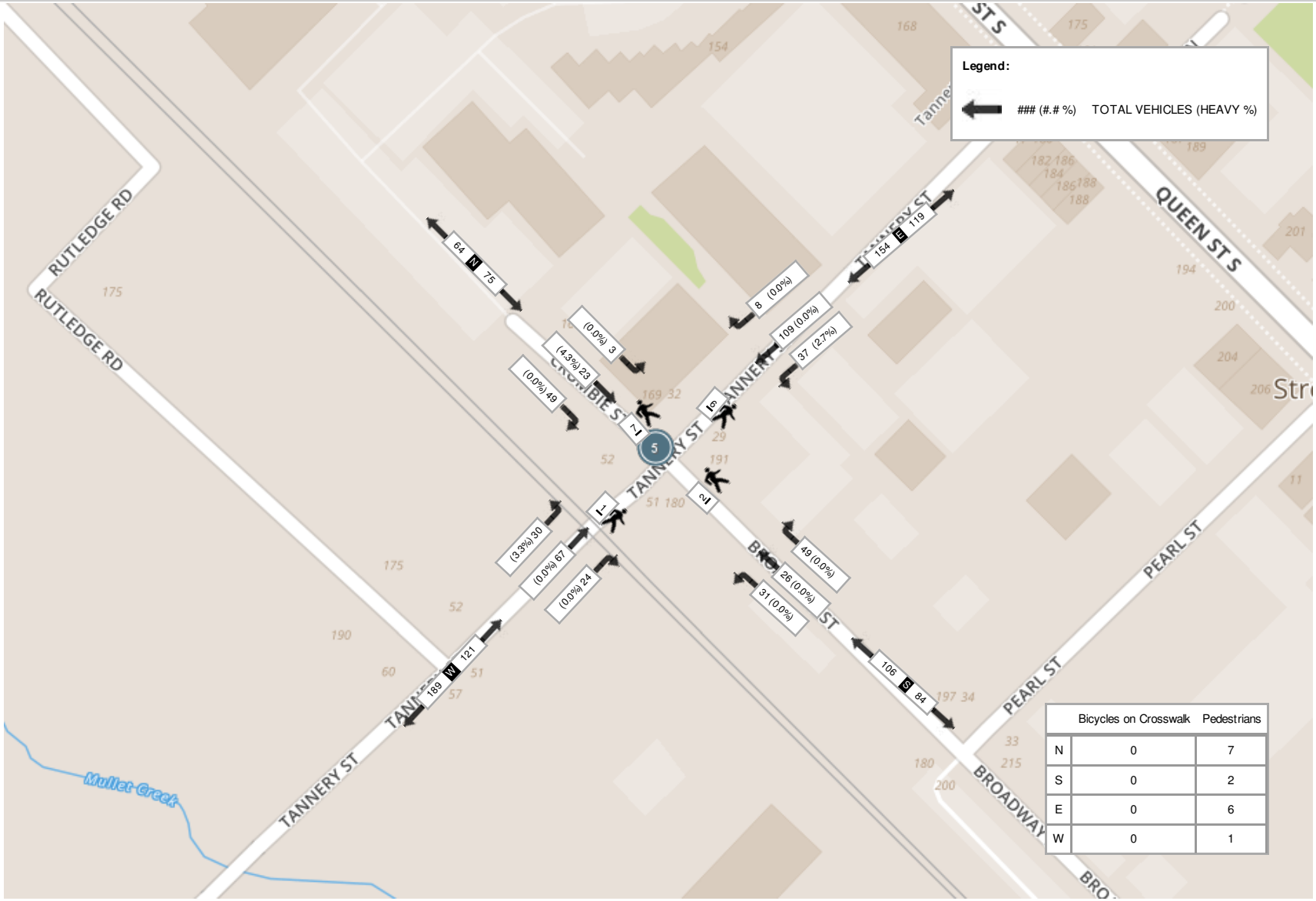
Start Time	N Approach CRUMBIE ST						E Approach TANNERY ST						S Approach BROADWAY ST						W Approach TANNERY ST						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
17:00:00	14	10	1	0	5	25	2	25	15	0	1	42	11	6	8	0	0	25	11	13	10	0	0	34	126
17:15:00	10	4	0	0	1	14	3	33	9	0	0	45	12	5	8	0	0	25	5	19	6	0	0	30	114
17:30:00	10	5	2	0	1	17	3	19	8	0	3	30	11	10	7	0	1	28	5	18	4	0	1	27	102
17:45:00	15	4	0	0	0	19	0	32	5	0	2	37	15	5	8	0	1	28	3	17	10	0	0	30	114
Grand Total	49	23	3	0	7	75	8	109	37	0	6	154	49	26	31	0	2	106	24	67	30	0	1	121	**456**
Approach%	65.3%	30.7%	4%	0%		-	5.2%	70.8%	24%	0%		-	46.2%	24.5%	29.2%	0%		-	19.8%	55.4%	24.8%	0%		-	**-**
Totals %	10.7%	5%	0.7%	0%		16.4%	1.8%	23.9%	8.1%	0%		33.8%	10.7%	5.7%	6.8%	0%		23.2%	5.3%	14.7%	6.6%	0%		26.5%	**-**
PHF	0.82	0.58	0.38	0		0.75	0.67	0.83	0.62	0		0.86	0.82	0.65	0.97	0		0.95	0.55	0.88	0.75	0		0.89	**-**
Heavy	0	1	0	0		1	0	0	1	0		1	0	0	0	0		0	0	0	1	0		1	**-**
Heavy %	0%	4.3%	0%	0%		1.3%	0%	0%	2.7%	0%		0.6%	0%	0%	0%	0%		0%	0%	0%	3.3%	0%		0.8%	**-**
Lights	49	22	3	0		74	8	109	36	0		153	49	26	31	0		106	24	67	29	0		120	**-**
Lights %	100%	95.7%	100%	0%		98.7%	100%	100%	97.3%	0%		99.4%	100%	100%	100%	0%		100%	100%	100%	96.7%	0%		99.2%	**-**
Single-Unit Trucks	0	0	0	0		0	0	0	1	0		1	0	0	0	0		0	0	0	1	0		1	**-**
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	0%	2.7%	0%		0.6%	0%	0%	0%	0%		0%	0%	0%	3.3%	0%		0.8%	**-**
Buses	0	1	0	0		1	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	**-**
Buses %	0%	4.3%	0%	0%		1.3%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	**-**
Articulated Trucks	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	7	-	-	-	-	-	6	-	-	-	-	-	2	-	-	-	-	-	1	-	**-**
Pedestrians%	-	-	-	-	43.8%		-	-	-	-	37.5%		-	-	-	-	12.5%		-	-	-	-	6.3%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

Peak Hour: 07:45 AM - 08:45 AM Weather: Overcast Clouds (4.7 °C)



	Bicycles on Crosswalk	Pedestrians
N	0	21
S	0	9
E	0	3
W	1	0

Peak Hour: 05:00 PM - 06:00 PM Weather: Overcast Clouds (-0.78 °C)



	Bicycles on Crosswalk	Pedestrians
N	0	7
S	0	2
E	0	6
W	0	1

Turning Movement Count (4 . JOYMAR DR & TANNERY ST)

Start Time	N Approach JOYMAR DR						E Approach TANNERY ST						S Approach JOYMAR DR						W Approach WEST DRIVEWAY						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	U-Turn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	U-Turn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	U-Turn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	U-Turn W:W	Peds W:	Approach Total		
07:00:00	2	16	9	0	0	27	3	0	1	0	1	4	6	11	1	0	0	18	0	0	1	0	3	1	50	
07:15:00	0	12	7	0	2	19	5	3	6	0	0	14	12	20	3	0	0	35	0	0	0	0	1	0	68	
07:30:00	8	15	19	0	10	42	9	5	6	0	2	20	14	32	7	0	0	53	1	4	1	0	1	6	121	
07:45:00	9	18	34	0	30	61	14	24	8	0	2	46	24	39	23	0	4	86	8	20	10	0	7	38	231	470
08:00:00	11	28	45	0	21	84	22	43	3	0	2	68	17	30	34	0	3	81	24	49	9	0	7	82	315	735
08:15:00	3	16	28	0	3	47	10	3	8	0	0	21	30	39	1	0	1	70	1	1	1	0	0	3	141	808
08:30:00	0	9	33	0	5	42	10	0	12	0	0	22	49	29	0	0	0	78	0	0	0	0	0	0	142	829
08:45:00	0	12	20	0	3	32	6	2	13	0	0	21	34	20	0	0	0	54	1	0	0	0	1	1	108	706
BREAK																										
16:00:00	0	17	2	0	4	19	15	0	12	0	0	27	13	12	0	0	0	25	2	1	0	0	3	3	74	
16:15:00	1	14	10	0	3	25	19	2	22	0	0	43	12	16	1	0	0	29	2	1	1	0	0	4	101	
16:30:00	1	16	16	0	0	33	18	1	23	0	0	42	14	17	1	0	2	32	3	0	1	0	1	4	111	
16:45:00	0	20	13	0	7	33	17	0	18	0	0	35	15	14	0	0	2	29	0	1	1	0	6	2	99	385
17:00:00	0	31	18	0	2	49	23	0	23	0	0	46	11	10	0	0	0	21	0	0	0	0	3	0	116	427
17:15:00	0	30	14	0	1	44	31	1	20	0	0	52	15	23	0	0	1	38	0	1	1	0	0	2	136	462
17:30:00	1	26	10	0	1	37	17	1	18	0	0	36	17	18	0	0	0	35	0	0	1	0	2	1	109	460
17:45:00	0	17	14	0	0	31	20	2	31	0	1	53	17	25	1	0	0	43	0	0	0	0	1	0	127	488
Grand Total	36	297	292	0	92	625	239	87	224	0	8	550	300	355	72	0	13	727	42	78	27	0	36	147	**2049**	-
Approach%	5.8%	47.5%	46.7%	0%		-	43.5%	15.8%	40.7%	0%		-	41.3%	48.8%	9.9%	0%		-	28.6%	53.1%	18.4%	0%		-	**-**	-
Totals %	1.8%	14.5%	14.3%	0%		30.5%	11.7%	4.2%	10.9%	0%		26.8%	14.6%	17.3%	3.5%	0%		35.5%	2%	3.8%	1.3%	0%		7.2%	**-**	-
Heavy	1	7	8	0		-	4	0	8	0		-	6	8	0	0		-	0	1	4	0		-	**-**	-
Heavy %	2.8%	2.4%	2.7%	0%		-	1.7%	0%	3.6%	0%		-	2%	2.3%	0%	0%		-	0%	1.3%	14.8%	0%		-	**-**	-
Bicycles	0	1	0	0		-	0	0	0	0		-	0	0	0	0		-	0	0	0	0		-	**-**	-
Bicycle %	0%	0.3%	0%	0%		-	0%	0%	0%	0%		-	0%	0%	0%	0%		-	0%	0%	0%	0%		-	**-**	-

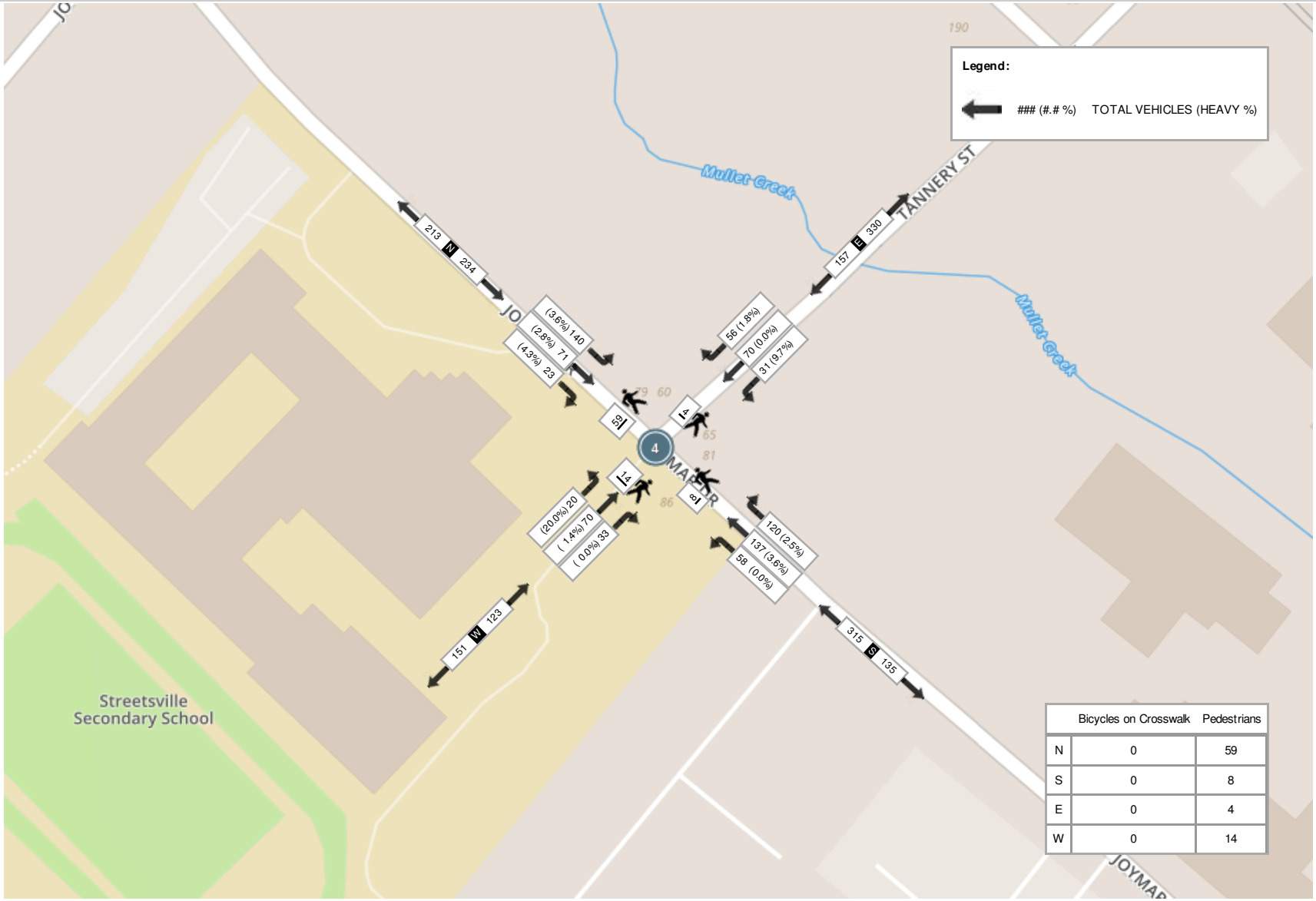
Peak Hour: 07:45 AM - 08:45 AM Weather: Overcast Clouds (4.7 °C)

Start Time	N Approach JOYMAR DR						E Approach TANNERY ST						S Approach JOYMAR DR						W Approach WEST DRIVEWAY						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
07:45:00	9	18	34	0	30	61	14	24	8	0	2	46	24	39	23	0	4	86	8	20	10	0	7	38	231
08:00:00	11	28	45	0	21	84	22	43	3	0	2	68	17	30	34	0	3	81	24	49	9	0	7	82	315
08:15:00	3	16	28	0	3	47	10	3	8	0	0	21	30	39	1	0	1	70	1	1	1	0	0	3	141
08:30:00	0	9	33	0	5	42	10	0	12	0	0	22	49	29	0	0	0	78	0	0	0	0	0	0	142
Grand Total	23	71	140	0	59	234	56	70	31	0	4	157	120	137	58	0	8	315	33	70	20	0	14	123	**829**
Approach%	9.8%	30.3%	59.8%	0%		-	35.7%	44.6%	19.7%	0%		-	38.1%	43.5%	18.4%	0%		-	26.8%	56.9%	16.3%	0%		-	**-**
Totals %	2.8%	8.6%	16.9%	0%		28.2%	6.8%	8.4%	3.7%	0%		18.9%	14.5%	16.5%	7%	0%		38%	4%	8.4%	2.4%	0%		14.8%	**-**
PHF	0.52	0.63	0.78	0		0.7	0.64	0.41	0.65	0		0.58	0.61	0.88	0.43	0		0.92	0.34	0.36	0.5	0		0.38	**-**
Heavy	1	2	5	0		8	1	0	3	0		4	3	5	0	0		8	0	1	4	0		5	**-**
Heavy %	4.3%	2.8%	3.6%	0%		3.4%	1.8%	0%	9.7%	0%		2.5%	2.5%	3.6%	0%	0%		2.5%	0%	1.4%	20%	0%		4.1%	**-**
Lights	22	69	135	0		226	55	70	28	0		153	117	132	58	0		307	33	69	16	0		118	**-**
Lights %	95.7%	97.2%	96.4%	0%		96.6%	98.2%	100%	90.3%	0%		97.5%	97.5%	96.4%	100%	0%		97.5%	100%	98.6%	80%	0%		95.9%	**-**
Single-Unit Trucks	1	0	1	0		2	0	0	0	0		0	2	1	0	0		3	0	0	1	0		1	**-**
Single-Unit Trucks %	4.3%	0%	0.7%	0%		0.9%	0%	0%	0%	0%		0%	1.7%	0.7%	0%	0%		1%	0%	0%	5%	0%		0.8%	**-**
Buses	0	2	4	0		6	1	0	3	0		4	1	4	0	0		5	0	1	3	0		4	**-**
Buses %	0%	2.8%	2.9%	0%		2.6%	1.8%	0%	9.7%	0%		2.5%	0.8%	2.9%	0%	0%		1.6%	0%	1.4%	15%	0%		3.3%	**-**
Pedestrians	-	-	-	-	59	-	-	-	-	-	4	-	-	-	-	-	8	-	-	-	-	-	14	-	**-**
Pedestrians%	-	-	-	-	69.4%		-	-	-	-	4.7%		-	-	-	-	9.4%		-	-	-	-	16.5%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Road	0	1	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

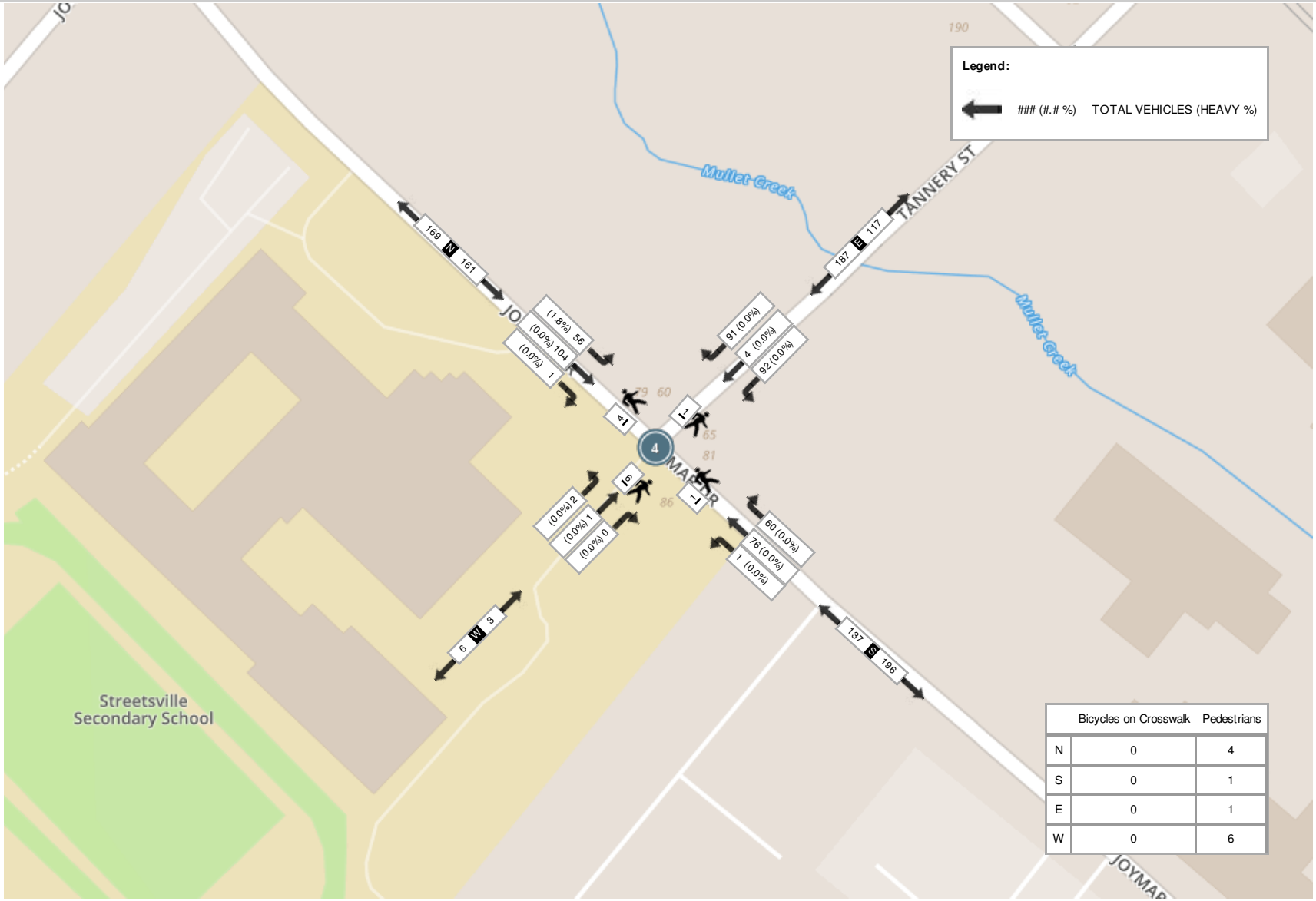
Peak Hour: 05:00 PM - 06:00 PM Weather: Overcast Clouds (-0.78 °C)

Start Time	N Approach JOYMAR DR						E Approach TANNERY ST						S Approach JOYMAR DR						W Approach WEST DRIVEWAY						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
17:00:00	0	31	18	0	2	49	23	0	23	0	0	46	11	10	0	0	0	21	0	0	0	0	3	0	116
17:15:00	0	30	14	0	1	44	31	1	20	0	0	52	15	23	0	0	1	38	0	1	1	0	0	2	136
17:30:00	1	26	10	0	1	37	17	1	18	0	0	36	17	18	0	0	0	35	0	0	1	0	2	1	109
17:45:00	0	17	14	0	0	31	20	2	31	0	1	53	17	25	1	0	0	43	0	0	0	0	1	0	127
Grand Total	1	104	56	0	4	161	91	4	92	0	1	187	60	76	1	0	1	137	0	1	2	0	6	3	**488**
Approach%	0.6%	64.6%	34.8%	0%		-	48.7%	2.1%	49.2%	0%		-	43.8%	55.5%	0.7%	0%		-	0%	33.3%	66.7%	0%		-	**-**
Totals %	0.2%	21.3%	11.5%	0%		33%	18.6%	0.8%	18.9%	0%		38.3%	12.3%	15.6%	0.2%	0%		28.1%	0%	0.2%	0.4%	0%		0.6%	**-**
PHF	0.25	0.84	0.78	0		0.82	0.73	0.5	0.74	0		0.88	0.88	0.76	0.25	0		0.8	0	0.25	0.5	0		0.38	**-**
Heavy	0	0	1	0		1	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	**-**
Heavy %	0%	0%	1.8%	0%		0.6%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	**-**
Lights	1	104	55	0		160	91	4	92	0		187	60	76	1	0		137	0	1	2	0		3	**-**
Lights %	100%	100%	98.2%	0%		99.4%	100%	100%	100%	0%		100%	100%	100%	100%	0%		100%	0%	100%	100%	0%		100%	**-**
Single-Unit Trucks	0	0	1	0		1	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	**-**
Single-Unit Trucks %	0%	0%	1.8%	0%		0.6%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	**-**
Buses	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	**-**
Buses %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	4	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	6	-	**-**
Pedestrians%	-	-	-	-	33.3%		-	-	-	-	8.3%		-	-	-	-	8.3%		-	-	-	-	50%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

Peak Hour: 07:45 AM - 08:45 AM Weather: Overcast Clouds (4.7 °C)



Peak Hour: 05:00 PM - 06:00 PM **Weather: Overcast Clouds (-0.78 °C)**



	Bicycles on Crosswalk	Pedestrians
N	0	4
S	0	1
E	0	1
W	0	6

Signal Timing Report

Runtime: 2019-01-31 07:43:31

Device: 3910

Region: Mississauga **Signal ID:** 3910 **Location:** THOMAS STREET E at GO Station

Phase	Units	1	2	3	4	5	6	7	8
Walk	Sec	0	8	0	8	0	0	0	0
Ped Clear	Sec	0	8	0	8	0	0	0	0
Min Green	Sec	5	8	0	8	0	0	0	0
Passage	Sec	2.0	3.0	0.0	4.0	0.0	0.0	0.0	0.0
Maximum 1	Sec	15	17	0	60	0	0	0	0
Maximum 2	Sec	15	17	0	60	0	0	0	0
Yellow Change	Sec	3.0	4.0	0.0	4.0	0.0	0.0	0.0	0.0
Red Clearance	Sec	0.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0
Red Revert	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Added Initial	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Initial	Sec	0	0	0	0	0	0	0	0
Time Before	Sec	0	0	0	0	0	0	0	0
Cars Before	Veh	0	0	0	0	0	0	0	0
Time To Reduce	Sec	0	0	0	0	0	0	0	0
Reduce By	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Min Gap	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Max Limit	Sec	0	0	0	0	0	0	0	0
Dynamic Max Step	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
[P2] Start Up	Enum	phaseNotOn	redClear	phaseNotOn	phaseNotOn	phaseNotOn	phaseNotOn	phaseNotOn	phaseNotOn
[P2] Options	Bit	Enabled Non Lock Det Sim Gap Disable	Enabled Non-Actuated 1 Non Lock Det Max Veh Recall Ped Recall Sim Gap Disable Act Rest In Walk	Non Lock Det Sim Gap Disable	Enabled Non Lock Det Sim Gap Disable	Non Lock Det Sim Gap Disable	Non Lock Det Sim Gap Disable	Non Lock Det Sim Gap Disable	Non Lock Det Sim Gap Disable

Unit Param	Units	Value
Start Up Flash	Sec	0
Auto Ped Clear	Enum	enable
Back Up Time	Sec	300
Red Revert	Sec	0.0

Coord Param	Units	Value
Operational Mode	Enum	Automatic
Correction Mode	Enum	shortway
Maximum Mode	Enum	maxInhibit
Force Mode	Enum	fixed

Coord Pattern	Units	1	2	3	4	5	6	7	8
Cycle Time	Sec	100	0	110	0	0	0	0	0
Offset	Sec	11	0	10	0	0	0	0	0
Split	Split	1	1	3	1	1	1	1	1
Sequence	Sequence	1	1	1	1	1	1	1	1

Coord Pattern	Units	9	10	11	12	13	14	15	16
Cycle Time	Sec	0	0	0	0	0	0	0	0
Offset	Sec	0	0	0	0	0	0	0	0
Split	Split	1	1	1	1	1	1	1	1
Sequence	Sequence	1	1	1	1	1	1	1	1

Coord Split	Units	1	2	3	4	5	6	7	8
Split 1 - Mode	Enum	none	none	none	none	none	none	none	none
Split 1 - Time	Sec	20	52	0	28	0	0	0	0
Split 1 - Coord	Enum	false	true	false	false	false	false	false	false
Split 2 - Mode	Enum	none	none	none	none	none	none	none	none
Split 2 - Time	Sec	0	0	0	0	0	0	0	0
Split 2 - Coord	Enum	false	true	false	false	false	false	false	false
Split 3 - Mode	Enum	phaseOmitted	none	none	none	none	none	none	none
Split 3 - Time	Sec	0	30	0	80	0	0	0	0
Split 3 - Coord	Enum	false	true	false	false	false	false	false	false

TB Param	Units	Value
Daylight Saving	Enum	enableDaylightSavingNode
Standard Time Zone	Sec	-18000
Pattern Sync	Sec	0

TB Schedule	Units	1	2	3	4	5	6	7	8
Month	Bit	JFMAMJJASOND	JFMAMJJASOND	JFMAMJJASOND	J----------	-F---------	---A-------	----M------	------J-----
Day of Week	Bit	-MTWTF-	------S	S------	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS

Day of Month	Bit	12345678901234567890123456789012	12345678901234567890123456789012	12345678901234567890123456789012	1---------- ----------	----------8----------	----------9----------	----------0----------	1---------- ----------
Day Plan	Number	1	2	3	3	3	3	3	3
TB Schedule	**Units**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Month	Bit	--------A----	--------S---	---------O--	----------D	----------D	----------D	0	0
Day of Week	Bit	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS
Day of Month	Bit	----5---------- ----------	-2---------- ----------	----------4---------- ----------	---------- 5----------	---------- 6----------	---------- 4----------	0	0
Day Plan	Number	3	3	3	3	3	3	0	0
TB Dayplan	**Units**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Plan 1 Hour	Hour	0	6	8	16	19	0	0	0
Plan 1 Minute	Min	0	45	30	45	0	0	0	0
Plan 1 Action	Number	8	1	8	3	8	0	0	0
Plan 2 Hour	Hour	0	0	0	0	0	0	0	0
Plan 2 Minute	Min	0	0	0	0	0	0	0	0
Plan 2 Action	Number	8	0	0	0	0	0	0	0
Plan 3 Hour	Hour	0	0	0	0	0	0	0	0
Plan 3 Minute	Min	0	0	0	0	0	0	0	0
Plan 3 Action	Number	8	0	0	0	0	0	0	0
Plan 4 Hour	Hour	0	0	0	0	0	0	0	0
Plan 4 Minute	Min	0	0	0	0	0	0	0	0
Plan 4 Action	Number	0	0	0	0	0	0	0	0
Plan 5 Hour	Hour	0	0	0	0	0	0	0	0
Plan 5 Minute	Min	0	0	0	0	0	0	0	0
Plan 5 Action	Number	0	0	0	0	0	0	0	0
Plan 6 Hour	Hour	0	0	0	0	0	0	0	0
Plan 6 Minute	Min	0	0	0	0	0	0	0	0
Plan 6 Action	Number	0	0	0	0	0	0	0	0
Plan 7 Hour	Hour	0	0	0	0	0	0	0	0
Plan 7 Minute	Min	0	0	0	0	0	0	0	0
Plan 7 Action	Number	0	0	0	0	0	0	0	0
Plan 8 Hour	Hour	0	0	0	0	0	0	0	0
Plan 8 Minute	Min	0	0	0	0	0	0	0	0
Plan 8 Action	Number	0	0	0	0	0	0	0	0
[S] State	Enum								
[P2] Track Overlap	Phase (,)	()	()	()	()	()	()		
[P2] Dwell Overlap	Phase (,)	(1)	()	(1)	(3)	()	()		
[P2] Cycling Phase	Phase (,)	()	()	()	()	()	()		
[P2] Cycling Ped	Phase (,)	()	()	()	()	()	()		
[P2] Cycling Overlap	Phase (,)	()	()	()	()	()	()		
Enter Yellow Change	Sec	4.0	25.5	25.5	25.5	25.5	25.5		
Enter Red Clear	Sec	2.0	25.5	25.5	25.5	25.5	25.5		
Track Yellow	Sec	25.5	25.5	25.5	25.5	25.5	25.5		
Track Red Clear	Sec	25.5	25.5	25.5	25.5	25.5	25.5		
Ring	**Units**	**1**		**2**		**3**		**4**	
[P2] Sequence 1	Phase (,)	(1,2,4)		()		()		()	
[P2] Sequence 2	Phase (,)	()		()		()		()	
[P2] Sequence 3	Phase (,)	()		()		()		()	
[P2] Sequence 4	Phase (,)	()		()		()		()	
Channel Param	**Units**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Control Source	Phase or Overlap	1	2	3	4	0	0	0	0
Control Type	Enum	phaseVehicle	phaseVehicle	phaseVehicle	phaseVehicle	phaseVehicle	phaseVehicle	phaseVehicle	phaseVehicle
Flash	Bit	Flash Red	Flash Red	Flash Red Half Hertz	Flash Red Half Hertz	0	0	0	0
Dimming	Bit	0	0	0	0	0	0	0	0
Channel Param	**Units**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Control Source	Phase or Overlap	2	4	0	0	1	0	3	0
Control Type	Enum	phasePedestrian	phasePedestrian	phasePedestrian	phasePedestrian	overlap	overlap	overlap	overlap
Flash	Bit	0	0	0	0	Flash Red	0	Flash Red	0
Dimming	Bit	0	0	0	0	0	0	0	0
Overlap	**Units**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
[P2] Type	Enum	normal	normal	normal	normal	normal	normal	normal	normal
[P2] Included	Phase (,)	(1,2)	()	(4)	()	()	()	()	()
[P2] Modifier Phases	Phase (,)	()	()	()	()	()	()	()	()
Trail Green	Sec	0	0	0	0	0	0	0	0
Trail Yellow	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Trail Red	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Overlap	**Units**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
[P2] Type	Enum	normal	normal	normal	normal	normal	normal	normal	normal
[P2] Included	Phase (,)	()	()	()	()	()	()	()	()
[P2] Modifier Phases	Phase (,)	()	()	()	()	()	()	()	()
Trail Green	Sec	0	0	0	0	0	0	0	0

Trail Yellow	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Trail Red	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

APPENDIX C

Level of Service

Level of Service Definitions

Two-Way Stop Controlled Intersections

Level of Service	Control Delay per Vehicle (seconds)	Interpretation
A	≤ 10	EXCELLENT. Large and frequent gaps in traffic on the main roadway. Queuing on the minor street is rare.
B	> 10 and ≤ 15	VERY GOOD. Many gaps exist in traffic on the main roadway. Queuing on the minor street is minimal.
C	> 15 and ≤ 25	GOOD. Fewer gaps exist in traffic on the main roadway. Delay on minor approach becomes more noticeable.
D	> 25 and ≤ 35	FAIR. Infrequent and shorter gaps in traffic on the main roadway. Queue lengths develop on the minor street.
E	> 35 and ≤ 50	POOR. Very infrequent gaps in traffic on the main roadway. Queue lengths become noticeable.
F	> 50	UNSATISFACTORY. Very few gaps in traffic on the main roadway. Excessive delay with significant queue lengths on the minor street.

Adapted from Highway Capacity Manual 2000, Transportation Research Board

Level of Service Definitions

Signalized Intersections

Level of Service	Control Delay per Vehicle (seconds)	Interpretation
A	≤ 10	EXCELLENT. Extremely favourable progression with most vehicles arriving during the green phase. Most vehicles do not stop and short cycle lengths may contribute to low delay.
B	> 10 and ≤ 20	VERY GOOD. Very good progression and/or short cycle lengths with slightly more vehicles stopping than LOS "A" causing slightly higher levels of average delay.
C	> 20 and ≤ 35	GOOD. Fair progression and longer cycle lengths lead to a greater number of vehicles stopping than LOS "B".
D	> 35 and ≤ 55	FAIR. Congestion becomes noticeable with higher average delays resulting from a combination of long cycle lengths, high volume-to-capacity ratios and unfavourable progression.
E	> 55 and ≤ 80	POOR. Lengthy delays values are indicative of poor progression, long cycle lengths and high volume-to-capacity ratios. Individual cycle failures are common with individual movement failures also common.
F	> 80	UNSATISFACTORY. Indicative of oversaturated conditions with vehicular demand greater than the capacity of the intersection.

Adapted from Highway Capacity Manual 2000, Transportation Research Board

APPENDIX D

Detailed Capacity Analysis

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↰	↱
Traffic Vol, veh/h	210	1351	340	41	20	112
Future Vol, veh/h	210	1351	340	41	20	112
Conflicting Peds, #/hr	9	0	0	9	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	5	2	10	4
Mvmt Flow	247	1589	400	48	24	132

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	457	0	-	0	1722	233
Stage 1	-	-	-	-	433	-
Stage 2	-	-	-	-	1289	-
Critical Hdwy	4.14	-	-	-	7	6.98
Critical Hdwy Stg 1	-	-	-	-	6	-
Critical Hdwy Stg 2	-	-	-	-	6	-
Follow-up Hdwy	2.22	-	-	-	3.6	3.34
Pot Cap-1 Maneuver	1100	-	-	-	74	763
Stage 1	-	-	-	-	599	-
Stage 2	-	-	-	-	208	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1090	-	-	-	0	756
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	206	-

Approach	EB	WB	SB
HCM Control Delay, s	4.3	0	
HCM LOS			-

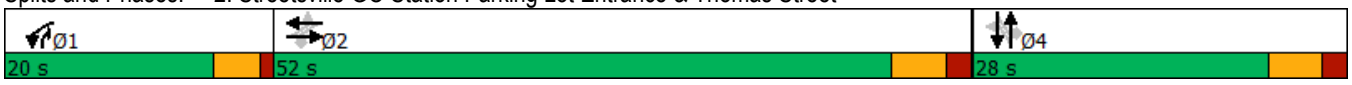
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1090	-	-	-	-	756
HCM Lane V/C Ratio	0.227	-	-	-	-	0.174
HCM Control Delay (s)	9.3	3.5	-	-	-	10.8
HCM Lane LOS	A	A	-	-	-	B
HCM 95th %tile Q(veh)	0.9	-	-	-	-	0.6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	404	959	164	122	1	255	0	135	1	0	1
Future Volume (vph)	1	404	959	164	122	1	255	0	135	1	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00	0.96	0.99	1.00			0.99	0.97		0.98	
Frt			0.850		0.999				0.850		0.932	
Flt Protected				0.950				0.950			0.976	
Satd. Flow (prot)	0	1884	1601	1825	1777	0	0	1772	1570	0	1726	0
Flt Permitted				0.368				0.757			0.891	
Satd. Flow (perm)	0	1883	1539	703	1777	0	0	1393	1522	0	1568	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			813						153		82	
Link Speed (k/h)		120			50			40			40	
Link Distance (m)		135.0			129.1			86.6			64.4	
Travel Time (s)		4.1			9.3			7.8			5.8	
Confl. Peds. (#/hr)	16		6	6		16	7		10	10		7
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	2%	2%	0%	8%	0%	3%	0%	4%	0%	0%	0%
Parking (#/hr)	0											
Adj. Flow (vph)	1	459	1090	186	139	1	290	0	153	1	0	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	460	1090	186	140	0	0	290	153	0	2	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5		6.1	30.5	6.1	6.1	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8		6.1	1.8	6.1	6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases		2		1	2			4	1		4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2		2	2			4		4	4		
Detector Phase	2	2	2	1	2		4	4	1	4	4	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	5.0	8.0		8.0	8.0	5.0	8.0	8.0	
Minimum Split (s)	22.0	22.0	22.0	9.5	22.0		22.0	22.0	9.5	22.0	22.0	
Total Split (s)	52.0	52.0	52.0	20.0	52.0		28.0	28.0	20.0	28.0	28.0	
Total Split (%)	52.0%	52.0%	52.0%	20.0%	52.0%		28.0%	28.0%	20.0%	28.0%	28.0%	
Maximum Green (s)	46.0	46.0	46.0	15.5	46.0		22.0	22.0	15.5	22.0	22.0	
Yellow Time (s)	4.0	4.0	4.0	3.5	4.0		4.0	4.0	3.5	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	1.0	2.0		2.0	2.0	1.0	2.0	2.0	
Lost Time Adjust (s)		-1.0	-1.0	0.0	-1.0			0.0	0.0		0.0	
Total Lost Time (s)		5.0	5.0	4.5	5.0			6.0	4.5		6.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lag				Lead			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None		None	None	None	None	None	
Walk Time (s)	8.0	8.0	8.0		8.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	8.0	8.0	8.0		8.0		8.0	8.0		8.0	8.0	
Pedestrian Calls (#/hr)	0	0	0		0		0	0		0	0	
Act Effct Green (s)		42.5	42.5	52.1	42.5			21.3	32.0		21.3	
Actuated g/C Ratio		0.48	0.48	0.59	0.48			0.24	0.36		0.24	
v/c Ratio		0.51	0.94	0.35	0.16			0.87	0.24		0.00	
Control Delay		18.3	22.3	8.4	13.7			61.2	4.1		0.0	
Queue Delay		0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Delay		18.3	22.3	8.4	13.7			61.2	4.1		0.0	
LOS		B	C	A	B			E	A		A	
Approach Delay		21.1			10.7			41.5				
Approach LOS		C			B			D				

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 88.7			
Natural Cycle: 80			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay: 23.5		Intersection LOS: C	
Intersection Capacity Utilization 92.2%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 2: Streetsville GO Station Parking Lot Entrance & Thomas Street



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	153	479	4	2	190	16	0	0	1	3	0	68
Future Vol, veh/h	153	479	4	2	190	16	0	0	1	3	0	68
Conflicting Peds, #/hr	5	0	0	0	0	5	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	1	4	0	50	5	6	0	0	100	33	0	4
Mvmt Flow	178	557	5	2	221	19	0	0	1	3	0	79

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	245	0	0	562	0	0	1031	1165	282	876	1158	125
Stage 1	-	-	-	-	-	-	916	916	-	240	240	-
Stage 2	-	-	-	-	-	-	115	249	-	636	918	-
Critical Hdwy	4.12	-	-	5.1	-	-	7.5	6.5	8.9	8.16	6.5	6.98
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	7.16	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	7.16	5.5	-
Follow-up Hdwy	2.21	-	-	2.7	-	-	3.5	4	4.3	3.83	4	3.34
Pot Cap-1 Maneuver	1326	-	-	737	-	-	190	196	491	198	198	896
Stage 1	-	-	-	-	-	-	297	354	-	661	711	-
Stage 2	-	-	-	-	-	-	883	704	-	365	353	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1320	-	-	737	-	-	147	156	491	166	158	892
Mov Cap-2 Maneuver	-	-	-	-	-	-	147	156	-	166	158	-
Stage 1	-	-	-	-	-	-	239	285	-	529	705	-
Stage 2	-	-	-	-	-	-	802	698	-	292	284	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.3	0.1	12.3	10.4
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	491	1320	-	-	737	-	-	753
HCM Lane V/C Ratio	0.002	0.135	-	-	0.003	-	-	0.11
HCM Control Delay (s)	12.3	8.2	0.5	-	9.9	0	-	10.4
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0.5	-	-	0	-	-	0.4

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	35	185	112	28	121	2	25	20	35	5	9	19
Future Vol, veh/h	35	185	112	28	121	2	25	20	35	5	9	19
Conflicting Peds, #/hr	21	0	9	9	0	21	1	0	3	3	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	73	73	73	73	73	73	73	73	73	73	73	73
Heavy Vehicles, %	3	4	2	7	2	0	4	5	6	0	11	0
Mvmt Flow	48	253	153	38	166	3	34	27	48	7	12	26

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	190	0	0	415	0	0	699	701	342	731	776	190
Stage 1	-	-	-	-	-	-	435	435	-	265	265	-
Stage 2	-	-	-	-	-	-	264	266	-	466	511	-
Critical Hdwy	4.13	-	-	4.17	-	-	7.14	6.55	6.26	7.1	6.61	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.55	-	6.1	5.61	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.55	-	6.1	5.61	-
Follow-up Hdwy	2.227	-	-	2.263	-	-	3.536	4.045	3.354	3.5	4.099	3.3
Pot Cap-1 Maneuver	1378	-	-	1118	-	-	352	359	692	340	318	857
Stage 1	-	-	-	-	-	-	596	575	-	745	673	-
Stage 2	-	-	-	-	-	-	737	683	-	581	522	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1350	-	-	1108	-	-	306	320	684	271	283	839
Mov Cap-2 Maneuver	-	-	-	-	-	-	306	320	-	271	283	-
Stage 1	-	-	-	-	-	-	563	543	-	696	635	-
Stage 2	-	-	-	-	-	-	673	644	-	487	493	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	1.6	17	13.8
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	409	1350	-	-	1108	-	-	453
HCM Lane V/C Ratio	0.268	0.036	-	-	0.035	-	-	0.1
HCM Control Delay (s)	17	7.8	0	-	8.4	0	-	13.8
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	1.1	0.1	-	-	0.1	-	-	0.3

Intersection	
Intersection Delay, s/veh	22.7
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	70	33	31	70	56	58	137	120	140	71	23
Future Vol, veh/h	20	70	33	31	70	56	58	137	120	140	71	23
Peak Hour Factor	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66
Heavy Vehicles, %	20	1	0	10	0	2	0	4	2	4	3	4
Mvmt Flow	30	106	50	47	106	85	88	208	182	212	108	35
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	15.3	16.4	29.6	21.7
HCM LOS	C	C	D	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	18%	16%	20%	60%
Vol Thru, %	43%	57%	45%	30%
Vol Right, %	38%	27%	36%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	315	123	157	234
LT Vol	58	20	31	140
Through Vol	137	70	70	71
RT Vol	120	33	56	23
Lane Flow Rate	477	186	238	355
Geometry Grp	1	1	1	1
Degree of Util (X)	0.803	0.389	0.472	0.659
Departure Headway (Hd)	6.177	7.516	7.144	6.688
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	592	479	507	542
Service Time	4.177	5.552	5.165	4.704
HCM Lane V/C Ratio	0.806	0.388	0.469	0.655
HCM Control Delay	29.6	15.3	16.4	21.7
HCM Lane LOS	D	C	C	C
HCM 95th-tile Q	7.9	1.8	2.5	4.8

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	96	367	906	36	19	168
Future Vol, veh/h	96	367	906	36	19	168
Conflicting Peds, #/hr	9	0	0	9	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	4	0	2	0	0
Mvmt Flow	110	422	1041	41	22	193

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1091	0	-	0	1502	550
Stage 1	-	-	-	-	1071	-
Stage 2	-	-	-	-	431	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	647	-	-	-	115	484
Stage 1	-	-	-	-	295	-
Stage 2	-	-	-	-	629	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	642	-	-	-	88	480
Mov Cap-2 Maneuver	-	-	-	-	88	-
Stage 1	-	-	-	-	227	-
Stage 2	-	-	-	-	624	-

Approach	EB	WB	SB
HCM Control Delay, s	3.2	0	21.7
HCM LOS			C

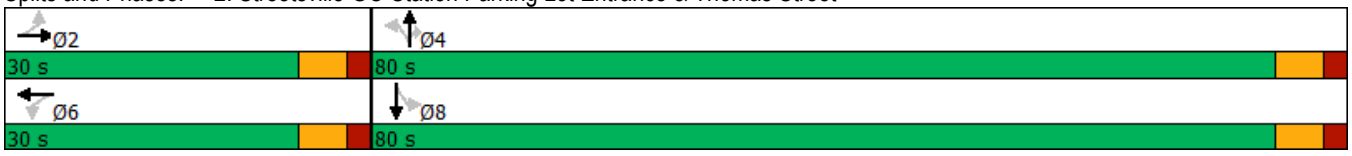
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	642	-	-	-	88	480
HCM Lane V/C Ratio	0.172	-	-	-	0.248	0.402
HCM Control Delay (s)	11.8	0.9	-	-	58.9	17.5
HCM Lane LOS	B	A	-	-	F	C
HCM 95th %tile Q(veh)	0.6	-	-	-	0.9	1.9

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	250	136	51	482	5	452	1	126	2	0	9
Future Volume (vph)	2	250	136	51	482	5	452	1	126	2	0	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98			1.00			1.00	0.98		0.99	
Frt		0.947			0.999				0.850		0.892	
Flt Protected					0.995			0.952			0.990	
Satd. Flow (prot)	0	3205	0	0	3501	0	0	1737	1597	0	1638	0
Flt Permitted		0.951			0.808			0.716			0.934	
Satd. Flow (perm)	0	3048	0	0	2841	0	0	1301	1559	0	1544	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		84			1				147		30	
Link Speed (k/h)		50			50			40			40	
Link Distance (m)		135.0			129.1			86.6			64.4	
Travel Time (s)		9.7			9.3			7.8			5.8	
Confl. Peds. (#/hr)	17		8	8		17	2		6	6		2
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles (%)	0%	2%	7%	4%	1%	0%	3%	0%	0%	0%	0%	0%
Adj. Flow (vph)	3	329	179	67	634	7	595	1	166	3	0	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	511	0	0	708	0	0	596	166	0	15	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4		4	8		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		6	6		4	4	4	8	8	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0	22.0	22.0	22.0	
Total Split (s)	30.0	30.0		30.0	30.0		80.0	80.0	80.0	80.0	80.0	
Total Split (%)	27.3%	27.3%		27.3%	27.3%		72.7%	72.7%	72.7%	72.7%	72.7%	
Maximum Green (s)	24.0	24.0		24.0	24.0		74.0	74.0	74.0	74.0	74.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		-1.0			-1.0			0.0	0.0		0.0	
Total Lost Time (s)		5.0			5.0			6.0	6.0		6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Recall Mode	Max	Max		Max	Max		None	None	None	None	None	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Flash Dont Walk (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effct Green (s)		26.0			26.0			44.5	44.5		44.5	
Actuated g/C Ratio		0.32			0.32			0.54	0.54		0.54	
v/c Ratio		0.50			0.79			0.84	0.18		0.02	
Control Delay		23.9			36.4			26.7	2.2		1.0	
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay		23.9			36.4			26.7	2.2		1.0	
LOS		C			D			C	A		A	
Approach Delay		23.9			36.4			21.3			1.0	
Approach LOS		C			D			C			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 81.9			
Natural Cycle: 60			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 27.2		Intersection LOS: C	
Intersection Capacity Utilization 73.4%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 2: Streetsville GO Station Parking Lot Entrance & Thomas Street



Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	102	296	3	3	416	16	3	0	5	12	0	125
Future Vol, veh/h	102	296	3	3	416	16	3	0	5	12	0	125
Conflicting Peds, #/hr	13	0	16	16	0	13	0	0	3	3	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	2	33	0	1	0	0	0	0	0	0	1
Mvmt Flow	112	325	3	3	457	18	3	0	5	13	0	137

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	488	0	0	344	0	0	802	1061	183	875	1053	251
Stage 1	-	-	-	-	-	-	567	567	-	485	485	-
Stage 2	-	-	-	-	-	-	235	494	-	390	568	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.31
Pot Cap-1 Maneuver	1086	-	-	1226	-	-	279	226	834	247	228	752
Stage 1	-	-	-	-	-	-	481	510	-	537	555	-
Stage 2	-	-	-	-	-	-	753	550	-	611	510	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1074	-	-	1209	-	-	202	192	821	218	193	744
Mov Cap-2 Maneuver	-	-	-	-	-	-	202	192	-	218	193	-
Stage 1	-	-	-	-	-	-	414	439	-	463	547	-
Stage 2	-	-	-	-	-	-	612	542	-	528	439	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.4	0.1	14.6	12.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	382	1074	-	-	1209	-	-	614
HCM Lane V/C Ratio	0.023	0.104	-	-	0.003	-	-	0.245
HCM Control Delay (s)	14.6	8.7	0.3	-	8	0	-	12.8
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0.3	-	-	0	-	-	1

Intersection	
Int Delay, s/veh	5.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	30	67	24	37	109	8	31	26	49	3	23	49
Future Vol, veh/h	30	67	24	37	109	8	31	26	49	3	23	49
Conflicting Peds, #/hr	7	0	2	2	0	7	1	0	6	6	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	0	0	3	0	0	0	0	0	0	4	0
Mvmt Flow	33	74	27	41	121	9	34	29	54	3	26	54

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	137	0	0	103	0	0	405	375	96	416	384	134
Stage 1	-	-	-	-	-	-	156	156	-	215	215	-
Stage 2	-	-	-	-	-	-	249	219	-	201	169	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.1	6.5	6.2	7.1	6.54	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.54	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.5	4	3.3	3.5	4.036	3.3
Pot Cap-1 Maneuver	1441	-	-	1483	-	-	560	559	966	551	546	920
Stage 1	-	-	-	-	-	-	851	772	-	792	721	-
Stage 2	-	-	-	-	-	-	759	726	-	805	755	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1432	-	-	1480	-	-	485	525	959	473	513	914
Mov Cap-2 Maneuver	-	-	-	-	-	-	485	525	-	473	513	-
Stage 1	-	-	-	-	-	-	829	752	-	768	695	-
Stage 2	-	-	-	-	-	-	666	700	-	709	735	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.9	1.8	11.8	10.7
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	644	1432	-	-	1480	-	-	716
HCM Lane V/C Ratio	0.183	0.023	-	-	0.028	-	-	0.116
HCM Control Delay (s)	11.8	7.6	0	-	7.5	0	-	10.7
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.7	0.1	-	-	0.1	-	-	0.4

Intersection	
Intersection Delay, s/veh	8.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	1	0	92	4	91	1	76	60	56	104	1
Future Vol, veh/h	2	1	0	92	4	91	1	76	60	56	104	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	2	0	0
Mvmt Flow	2	1	0	102	4	101	1	84	67	62	116	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.1	9	8.3	9.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	1%	67%	49%	35%
Vol Thru, %	55%	33%	2%	65%
Vol Right, %	44%	0%	49%	1%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	137	3	187	161
LT Vol	1	2	92	56
Through Vol	76	1	4	104
RT Vol	60	0	91	1
Lane Flow Rate	152	3	208	179
Geometry Grp	1	1	1	1
Degree of Util (X)	0.183	0.005	0.258	0.231
Departure Headway (Hd)	4.336	5.046	4.464	4.656
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	827	707	804	771
Service Time	2.371	3.089	2.493	2.689
HCM Lane V/C Ratio	0.184	0.004	0.259	0.232
HCM Control Delay	8.3	8.1	9	9.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	0	1	0.9

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↰	↱
Traffic Vol, veh/h	210	1399	394	41	20	112
Future Vol, veh/h	210	1399	394	41	20	112
Conflicting Peds, #/hr	9	0	0	9	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	5	2	10	4
Mvmt Flow	247	1646	464	48	24	132

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	521	0	-	0	1814	265
Stage 1	-	-	-	-	497	-
Stage 2	-	-	-	-	1317	-
Critical Hdwy	4.14	-	-	-	7	6.98
Critical Hdwy Stg 1	-	-	-	-	6	-
Critical Hdwy Stg 2	-	-	-	-	6	-
Follow-up Hdwy	2.22	-	-	-	3.6	3.34
Pot Cap-1 Maneuver	1041	-	-	-	64	727
Stage 1	-	-	-	-	554	-
Stage 2	-	-	-	-	200	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1032	-	-	-	0	721
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	198	-

Approach	EB	WB	SB
HCM Control Delay, s	4.5	0	
HCM LOS			-

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1032	-	-	-	-	721
HCM Lane V/C Ratio	0.239	-	-	-	-	0.183
HCM Control Delay (s)	9.6	3.7	-	-	-	11.1
HCM Lane LOS	A	A	-	-	-	B
HCM 95th %tile Q(veh)	0.9	-	-	-	-	0.7

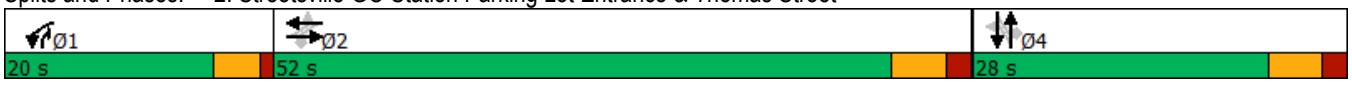
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	416	959	164	128	1	255	0	135	1	0	1
Future Volume (vph)	0	416	959	164	128	1	255	0	135	1	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.96	0.99	1.00			0.99	0.97		0.98	
Frt			0.850		0.999				0.850		0.932	
Flt Protected				0.950				0.950			0.976	
Satd. Flow (prot)	0	1883	1601	1825	1777	0	0	1772	1570	0	1726	0
Flt Permitted				0.358				0.757			0.891	
Satd. Flow (perm)	0	1883	1539	684	1777	0	0	1393	1522	0	1568	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			810						153		82	
Link Speed (k/h)		120			50			40			40	
Link Distance (m)		135.0			129.1			86.6			64.4	
Travel Time (s)		4.1			9.3			7.8			5.8	
Confl. Peds. (#/hr)	16		6	6		16	7		10	10		7
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	2%	2%	0%	8%	0%	3%	0%	4%	0%	0%	0%
Parking (#/hr)	0											
Adj. Flow (vph)	0	473	1090	186	145	1	290	0	153	1	0	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	473	1090	186	146	0	0	290	153	0	2	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5		6.1	30.5	6.1	6.1	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8		6.1	1.8	6.1	6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type		NA	Perm	pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases		2		1	2			4	1		4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2		2	2			4		4	4		
Detector Phase	2	2	2	1	2		4	4	1	4	4	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	5.0	8.0		8.0	8.0	5.0	8.0	8.0	
Minimum Split (s)	22.0	22.0	22.0	9.5	22.0		22.0	22.0	9.5	22.0	22.0	
Total Split (s)	52.0	52.0	52.0	20.0	52.0		28.0	28.0	20.0	28.0	28.0	
Total Split (%)	52.0%	52.0%	52.0%	20.0%	52.0%		28.0%	28.0%	20.0%	28.0%	28.0%	
Maximum Green (s)	46.0	46.0	46.0	15.5	46.0		22.0	22.0	15.5	22.0	22.0	
Yellow Time (s)	4.0	4.0	4.0	3.5	4.0		4.0	4.0	3.5	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	1.0	2.0		2.0	2.0	1.0	2.0	2.0	
Lost Time Adjust (s)		-1.0	-1.0	0.0	-1.0			0.0	0.0		0.0	
Total Lost Time (s)		5.0	5.0	4.5	5.0			6.0	4.5		6.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lag				Lead			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None		None	None	None	None	None	
Walk Time (s)	8.0	8.0	8.0		8.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	8.0	8.0	8.0		8.0		8.0	8.0		8.0	8.0	
Pedestrian Calls (#/hr)	0	0	0		0		0	0		0	0	
Act Effct Green (s)		42.8	42.8	52.5	42.8			21.3	32.0		21.3	
Actuated g/C Ratio		0.48	0.48	0.59	0.48			0.24	0.36		0.24	
v/c Ratio		0.52	0.94	0.36	0.17			0.87	0.24		0.00	
Control Delay		18.6	22.4	8.4	13.8			61.7	4.1		0.0	
Queue Delay		0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Delay		18.6	22.4	8.4	13.8			61.7	4.1		0.0	
LOS		B	C	A	B			E	A		A	
Approach Delay		21.2			10.8			41.8				
Approach LOS		C			B			D				

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 89
Natural Cycle: 80
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.94
Intersection Signal Delay: 23.6 Intersection LOS: C
Intersection Capacity Utilization 92.2% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 2: Streetsville GO Station Parking Lot Entrance & Thomas Street



Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	153	517	4	2	205	16	0	0	1	3	0	68
Future Vol, veh/h	153	517	4	2	205	16	0	0	1	3	0	68
Conflicting Peds, #/hr	5	0	0	0	0	5	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	1	4	0	50	5	6	0	0	100	33	0	4
Mvmt Flow	178	601	5	2	238	19	0	0	1	3	0	79

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	262	0	0	606	0	0	1083	1226	304	915	1219	134
Stage 1	-	-	-	-	-	-	960	960	-	257	257	-
Stage 2	-	-	-	-	-	-	123	266	-	658	962	-
Critical Hdwy	4.12	-	-	5.1	-	-	7.5	6.5	8.9	8.16	6.5	6.98
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	7.16	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	7.16	5.5	-
Follow-up Hdwy	2.21	-	-	2.7	-	-	3.5	4	4.3	3.83	4	3.34
Pot Cap-1 Maneuver	1307	-	-	703	-	-	174	180	471	185	182	884
Stage 1	-	-	-	-	-	-	280	338	-	644	699	-
Stage 2	-	-	-	-	-	-	874	692	-	353	337	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1301	-	-	703	-	-	133	142	471	154	143	880
Mov Cap-2 Maneuver	-	-	-	-	-	-	133	142	-	154	143	-
Stage 1	-	-	-	-	-	-	222	268	-	509	693	-
Stage 2	-	-	-	-	-	-	793	686	-	279	268	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.2	0.1	12.7	10.5
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	471	1301	-	-	703	-	-	734
HCM Lane V/C Ratio	0.002	0.137	-	-	0.003	-	-	0.112
HCM Control Delay (s)	12.7	8.2	0.5	-	10.1	0	-	10.5
HCM Lane LOS	B	A	A	-	B	A	-	B
HCM 95th %tile Q(veh)	0	0.5	-	-	0	-	-	0.4

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	35	185	112	28	121	2	25	20	35	5	9	19
Future Vol, veh/h	35	185	112	28	121	2	25	20	35	5	9	19
Conflicting Peds, #/hr	21	0	9	9	0	21	1	0	3	3	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	73	73	73	73	73	73	73	73	73	73	73	73
Heavy Vehicles, %	3	4	2	7	2	0	4	5	6	0	11	0
Mvmt Flow	48	253	153	38	166	3	34	27	48	7	12	26

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	190	0	0	415	0	0	699	701	342	731	776	190
Stage 1	-	-	-	-	-	-	435	435	-	265	265	-
Stage 2	-	-	-	-	-	-	264	266	-	466	511	-
Critical Hdwy	4.13	-	-	4.17	-	-	7.14	6.55	6.26	7.1	6.61	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.55	-	6.1	5.61	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.55	-	6.1	5.61	-
Follow-up Hdwy	2.227	-	-	2.263	-	-	3.536	4.045	3.354	3.5	4.099	3.3
Pot Cap-1 Maneuver	1378	-	-	1118	-	-	352	359	692	340	318	857
Stage 1	-	-	-	-	-	-	596	575	-	745	673	-
Stage 2	-	-	-	-	-	-	737	683	-	581	522	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1350	-	-	1108	-	-	306	320	684	271	283	839
Mov Cap-2 Maneuver	-	-	-	-	-	-	306	320	-	271	283	-
Stage 1	-	-	-	-	-	-	563	543	-	696	635	-
Stage 2	-	-	-	-	-	-	673	644	-	487	493	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	1.6	17	13.8
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	409	1350	-	-	1108	-	-	453
HCM Lane V/C Ratio	0.268	0.036	-	-	0.035	-	-	0.1
HCM Control Delay (s)	17	7.8	0	-	8.4	0	-	13.8
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	1.1	0.1	-	-	0.1	-	-	0.3

Intersection	
Intersection Delay, s/veh	22.7
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	20	70	33	31	70	56	58	137	120	140	71	23
Future Vol, veh/h	20	70	33	31	70	56	58	137	120	140	71	23
Peak Hour Factor	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66
Heavy Vehicles, %	20	1	0	10	0	2	0	4	2	4	3	4
Mvmt Flow	30	106	50	47	106	85	88	208	182	212	108	35
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	15.3	16.4	29.6	21.7
HCM LOS	C	C	D	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	18%	16%	20%	60%
Vol Thru, %	43%	57%	45%	30%
Vol Right, %	38%	27%	36%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	315	123	157	234
LT Vol	58	20	31	140
Through Vol	137	70	70	71
RT Vol	120	33	56	23
Lane Flow Rate	477	186	238	355
Geometry Grp	1	1	1	1
Degree of Util (X)	0.803	0.389	0.472	0.659
Departure Headway (Hd)	6.177	7.516	7.144	6.688
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	592	479	507	542
Service Time	4.177	5.552	5.165	4.704
HCM Lane V/C Ratio	0.806	0.388	0.469	0.655
HCM Control Delay	29.6	15.3	16.4	21.7
HCM Lane LOS	D	C	C	C
HCM 95th-tile Q	7.9	1.8	2.5	4.8

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↰	↱
Traffic Vol, veh/h	96	425	969	36	19	168
Future Vol, veh/h	96	425	969	36	19	168
Conflicting Peds, #/hr	9	0	0	9	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	4	0	2	0	0
Mvmt Flow	110	489	1114	41	22	193

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1164	0	-	0	1609	587
Stage 1	-	-	-	-	1144	-
Stage 2	-	-	-	-	465	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	607	-	-	-	97	458
Stage 1	-	-	-	-	270	-
Stage 2	-	-	-	-	604	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	602	-	-	-	71	455
Mov Cap-2 Maneuver	-	-	-	-	71	-
Stage 1	-	-	-	-	201	-
Stage 2	-	-	-	-	599	-

Approach	EB	WB	SB
HCM Control Delay, s	3.2	0	24.5
HCM LOS			C

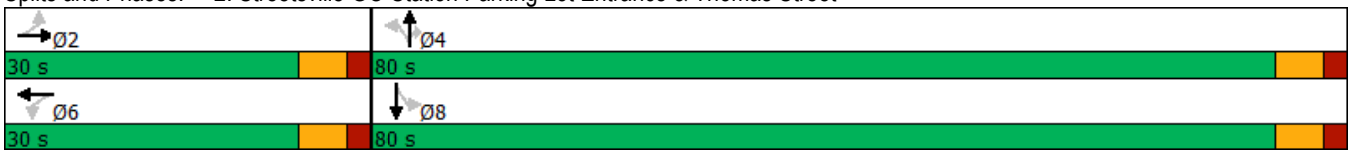
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	602	-	-	-	71	455
HCM Lane V/C Ratio	0.183	-	-	-	0.308	0.424
HCM Control Delay (s)	12.3	1.1	-	-	76.8	18.6
HCM Lane LOS	B	A	-	-	F	C
HCM 95th %tile Q(veh)	0.7	-	-	-	1.1	2.1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	263	136	51	506	5	452	1	126	2	0	9
Future Volume (vph)	0	263	136	51	506	5	452	1	126	2	0	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98			1.00			1.00	0.98		0.99	
Frt		0.949			0.999				0.850		0.892	
Flt Protected					0.995			0.952			0.990	
Satd. Flow (prot)	0	3215	0	0	3502	0	0	1737	1597	0	1638	0
Flt Permitted					0.804			0.716			0.934	
Satd. Flow (perm)	0	3215	0	0	2827	0	0	1301	1559	0	1544	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		78			1				133		30	
Link Speed (k/h)		50			50			40			40	
Link Distance (m)		135.0			129.1			86.6			64.4	
Travel Time (s)		9.7			9.3			7.8			5.8	
Confl. Peds. (#/hr)	17		8	8		17	2		6	6		2
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles (%)	0%	2%	7%	4%	1%	0%	3%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	346	179	67	666	7	595	1	166	3	0	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	525	0	0	740	0	0	596	166	0	15	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type		NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4		4	8		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		6	6		4	4	4	8	8	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0	22.0	22.0	22.0	
Total Split (s)	30.0	30.0		30.0	30.0		80.0	80.0	80.0	80.0	80.0	
Total Split (%)	27.3%	27.3%		27.3%	27.3%		72.7%	72.7%	72.7%	72.7%	72.7%	
Maximum Green (s)	24.0	24.0		24.0	24.0		74.0	74.0	74.0	74.0	74.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		-1.0			-1.0			0.0	0.0		0.0	
Total Lost Time (s)		5.0			5.0			6.0	6.0		6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Recall Mode	Max	Max		Max	Max		None	None	None	None	None	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Flash Dont Walk (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effct Green (s)		26.0			26.0			44.5	44.5		44.5	
Actuated g/C Ratio		0.32			0.32			0.54	0.54		0.54	
v/c Ratio		0.49			0.83			0.84	0.18		0.02	
Control Delay		24.0			38.7			26.7	2.6		1.0	
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay		24.0			38.7			26.7	2.6		1.0	
LOS		C			D			C	A		A	
Approach Delay		24.0			38.7			21.4			1.0	
Approach LOS		C			D			C			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 81.9			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 28.2		Intersection LOS: C	
Intersection Capacity Utilization 74.1%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 2: Streetsville GO Station Parking Lot Entrance & Thomas Street



Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	102	321	3	3	455	16	3	0	5	12	0	125
Future Vol, veh/h	102	321	3	3	455	16	3	0	5	12	0	125
Conflicting Peds, #/hr	13	0	16	16	0	13	0	0	3	3	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	2	33	0	1	0	0	0	0	0	0	1
Mvmt Flow	112	353	3	3	500	18	3	0	5	13	0	137

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	531	0	0	372	0	0	851	1132	197	932	1124	272
Stage 1	-	-	-	-	-	-	595	595	-	528	528	-
Stage 2	-	-	-	-	-	-	256	537	-	404	596	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.31
Pot Cap-1 Maneuver	1047	-	-	1198	-	-	257	205	817	224	207	729
Stage 1	-	-	-	-	-	-	463	496	-	507	531	-
Stage 2	-	-	-	-	-	-	732	526	-	600	495	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1035	-	-	1182	-	-	183	172	804	196	174	721
Mov Cap-2 Maneuver	-	-	-	-	-	-	183	172	-	196	174	-
Stage 1	-	-	-	-	-	-	395	423	-	433	523	-
Stage 2	-	-	-	-	-	-	590	518	-	514	422	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.4	0.1	15.4	13.3
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	354	1035	-	-	1182	-	-	584
HCM Lane V/C Ratio	0.025	0.108	-	-	0.003	-	-	0.258
HCM Control Delay (s)	15.4	8.9	0.4	-	8.1	0	-	13.3
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0.4	-	-	0	-	-	1

Intersection	
Int Delay, s/veh	5.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	30	67	24	37	109	8	31	26	49	3	23	49
Future Vol, veh/h	30	67	24	37	109	8	31	26	49	3	23	49
Conflicting Peds, #/hr	7	0	2	2	0	7	1	0	6	6	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	0	0	3	0	0	0	0	0	0	4	0
Mvmt Flow	33	74	27	41	121	9	34	29	54	3	26	54

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	137	0	0	103	0	0	405	375	96	416	384	134
Stage 1	-	-	-	-	-	-	156	156	-	215	215	-
Stage 2	-	-	-	-	-	-	249	219	-	201	169	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.1	6.5	6.2	7.1	6.54	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.54	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.5	4	3.3	3.5	4.036	3.3
Pot Cap-1 Maneuver	1441	-	-	1483	-	-	560	559	966	551	546	920
Stage 1	-	-	-	-	-	-	851	772	-	792	721	-
Stage 2	-	-	-	-	-	-	759	726	-	805	755	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1432	-	-	1480	-	-	485	525	959	473	513	914
Mov Cap-2 Maneuver	-	-	-	-	-	-	485	525	-	473	513	-
Stage 1	-	-	-	-	-	-	829	752	-	768	695	-
Stage 2	-	-	-	-	-	-	666	700	-	709	735	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.9	1.8	11.8	10.7
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	644	1432	-	-	1480	-	-	716
HCM Lane V/C Ratio	0.183	0.023	-	-	0.028	-	-	0.116
HCM Control Delay (s)	11.8	7.6	0	-	7.5	0	-	10.7
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.7	0.1	-	-	0.1	-	-	0.4

Intersection	
Intersection Delay, s/veh	8.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	1	0	92	4	91	1	76	60	56	104	1
Future Vol, veh/h	2	1	0	92	4	91	1	76	60	56	104	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	2	0	0
Mvmt Flow	2	1	0	102	4	101	1	84	67	62	116	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.1	9	8.3	9.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	1%	67%	49%	35%
Vol Thru, %	55%	33%	2%	65%
Vol Right, %	44%	0%	49%	1%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	137	3	187	161
LT Vol	1	2	92	56
Through Vol	76	1	4	104
RT Vol	60	0	91	1
Lane Flow Rate	152	3	208	179
Geometry Grp	1	1	1	1
Degree of Util (X)	0.183	0.005	0.258	0.231
Departure Headway (Hd)	4.336	5.046	4.464	4.656
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	827	707	804	771
Service Time	2.371	3.089	2.493	2.689
HCM Lane V/C Ratio	0.184	0.004	0.259	0.232
HCM Control Delay	8.3	8.1	9	9.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	0	1	0.9

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↰	↱
Traffic Vol, veh/h	210	1439	421	41	20	112
Future Vol, veh/h	210	1439	421	41	20	112
Conflicting Peds, #/hr	9	0	0	9	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	5	2	10	4
Mvmt Flow	247	1693	495	48	24	132

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	552	0	-	0	1869	281
Stage 1	-	-	-	-	528	-
Stage 2	-	-	-	-	1341	-
Critical Hdwy	4.14	-	-	-	7	6.98
Critical Hdwy Stg 1	-	-	-	-	6	-
Critical Hdwy Stg 2	-	-	-	-	6	-
Follow-up Hdwy	2.22	-	-	-	3.6	3.34
Pot Cap-1 Maneuver	1014	-	-	-	58	710
Stage 1	-	-	-	-	534	-
Stage 2	-	-	-	-	194	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1005	-	-	-	0	704
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	192	-

Approach	EB	WB	SB
HCM Control Delay, s	4.6	0	
HCM LOS			-

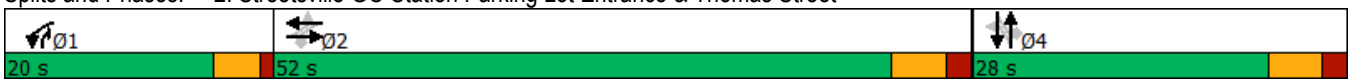
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1005	-	-	-	-	704
HCM Lane V/C Ratio	0.246	-	-	-	-	0.187
HCM Control Delay (s)	9.7	3.8	-	-	-	11.3
HCM Lane LOS	A	A	-	-	-	B
HCM 95th %tile Q(veh)	1	-	-	-	-	0.7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	428	959	164	138	1	255	0	135	1	0	1
Future Volume (vph)	1	428	959	164	138	1	255	0	135	1	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00	0.96	0.99	1.00			0.99	0.97		0.98	
Frt			0.850		0.999				0.850		0.932	
Flt Protected				0.950				0.950			0.976	
Satd. Flow (prot)	0	1884	1601	1825	1777	0	0	1772	1570	0	1726	0
Flt Permitted				0.346				0.757			0.891	
Satd. Flow (perm)	0	1883	1539	661	1777	0	0	1393	1522	0	1568	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			807						153		82	
Link Speed (k/h)		120			50			40			40	
Link Distance (m)		135.0			129.1			86.6			64.4	
Travel Time (s)		4.1			9.3			7.8			5.8	
Confl. Peds. (#/hr)	16		6	6		16	7		10	10		7
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	2%	2%	0%	8%	0%	3%	0%	4%	0%	0%	0%
Parking (#/hr)	0											
Adj. Flow (vph)	1	486	1090	186	157	1	290	0	153	1	0	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	487	1090	186	158	0	0	290	153	0	2	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5		6.1	30.5	6.1	6.1	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8		6.1	1.8	6.1	6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases		2		1	2			4	1		4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2		2	2			4		4	4		
Detector Phase	2	2	2	1	2		4	4	1	4	4	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	5.0	8.0		8.0	8.0	5.0	8.0	8.0	
Minimum Split (s)	22.0	22.0	22.0	9.5	22.0		22.0	22.0	9.5	22.0	22.0	
Total Split (s)	52.0	52.0	52.0	20.0	52.0		28.0	28.0	20.0	28.0	28.0	
Total Split (%)	52.0%	52.0%	52.0%	20.0%	52.0%		28.0%	28.0%	20.0%	28.0%	28.0%	
Maximum Green (s)	46.0	46.0	46.0	15.5	46.0		22.0	22.0	15.5	22.0	22.0	
Yellow Time (s)	4.0	4.0	4.0	3.5	4.0		4.0	4.0	3.5	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	1.0	2.0		2.0	2.0	1.0	2.0	2.0	
Lost Time Adjust (s)		-1.0	-1.0	0.0	-1.0			0.0	0.0		0.0	
Total Lost Time (s)		5.0	5.0	4.5	5.0			6.0	4.5		6.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lag				Lead			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None		None	None	None	None	None	
Walk Time (s)	8.0	8.0	8.0		8.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	8.0	8.0	8.0		8.0		8.0	8.0		8.0	8.0	
Pedestrian Calls (#/hr)	0	0	0		0		0	0		0	0	
Act Effct Green (s)		43.0	43.0	52.6	43.0			21.3	32.0		21.3	
Actuated g/C Ratio		0.48	0.48	0.59	0.48			0.24	0.36		0.24	
v/c Ratio		0.54	0.94	0.37	0.18			0.87	0.24		0.00	
Control Delay		18.8	22.5	8.5	13.9			61.9	4.1		0.0	
Queue Delay		0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Delay		18.8	22.5	8.5	13.9			61.9	4.1		0.0	
LOS		B	C	A	B			E	A		A	
Approach Delay		21.4			11.0			42.0				
Approach LOS		C			B			D				

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 89.2			
Natural Cycle: 80			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay: 23.7		Intersection LOS: C	
Intersection Capacity Utilization 92.2%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 2: Streetsville GO Station Parking Lot Entrance & Thomas Street



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	153	532	4	2	220	16	0	0	1	3	0	68
Future Vol, veh/h	153	532	4	2	220	16	0	0	1	3	0	68
Conflicting Peds, #/hr	5	0	0	0	0	5	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	1	4	0	50	5	6	0	0	100	33	0	4
Mvmt Flow	178	619	5	2	256	19	0	0	1	3	0	79

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	280	0	0	624	0	0	1110	1262	313	942	1255	143
Stage 1	-	-	-	-	-	-	978	978	-	275	275	-
Stage 2	-	-	-	-	-	-	132	284	-	667	980	-
Critical Hdwy	4.12	-	-	5.1	-	-	7.5	6.5	8.9	8.16	6.5	6.98
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	7.16	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	7.16	5.5	-
Follow-up Hdwy	2.21	-	-	2.7	-	-	3.5	4	4.3	3.83	4	3.34
Pot Cap-1 Maneuver	1287	-	-	690	-	-	166	171	463	176	173	872
Stage 1	-	-	-	-	-	-	273	331	-	627	686	-
Stage 2	-	-	-	-	-	-	864	680	-	348	331	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1281	-	-	690	-	-	126	134	463	146	135	868
Mov Cap-2 Maneuver	-	-	-	-	-	-	126	134	-	146	135	-
Stage 1	-	-	-	-	-	-	215	260	-	491	681	-
Stage 2	-	-	-	-	-	-	783	675	-	273	260	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.3	0.1	12.8	10.7
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	463	1281	-	-	690	-	-	718
HCM Lane V/C Ratio	0.003	0.139	-	-	0.003	-	-	0.115
HCM Control Delay (s)	12.8	8.3	0.6	-	10.2	0	-	10.7
HCM Lane LOS	B	A	A	-	B	A	-	B
HCM 95th %tile Q(veh)	0	0.5	-	-	0	-	-	0.4

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	35	185	112	28	121	2	25	20	35	5	9	19
Future Vol, veh/h	35	185	112	28	121	2	25	20	35	5	9	19
Conflicting Peds, #/hr	21	0	9	9	0	21	1	0	3	3	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	73	73	73	73	73	73	73	73	73	73	73	73
Heavy Vehicles, %	3	4	2	7	2	0	4	5	6	0	11	0
Mvmt Flow	48	253	153	38	166	3	34	27	48	7	12	26

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	190	0	0	415	0	0	699	701	342	731	776	190
Stage 1	-	-	-	-	-	-	435	435	-	265	265	-
Stage 2	-	-	-	-	-	-	264	266	-	466	511	-
Critical Hdwy	4.13	-	-	4.17	-	-	7.14	6.55	6.26	7.1	6.61	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.55	-	6.1	5.61	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.55	-	6.1	5.61	-
Follow-up Hdwy	2.227	-	-	2.263	-	-	3.536	4.045	3.354	3.5	4.099	3.3
Pot Cap-1 Maneuver	1378	-	-	1118	-	-	352	359	692	340	318	857
Stage 1	-	-	-	-	-	-	596	575	-	745	673	-
Stage 2	-	-	-	-	-	-	737	683	-	581	522	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1350	-	-	1108	-	-	306	320	684	271	283	839
Mov Cap-2 Maneuver	-	-	-	-	-	-	306	320	-	271	283	-
Stage 1	-	-	-	-	-	-	563	543	-	696	635	-
Stage 2	-	-	-	-	-	-	673	644	-	487	493	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	1.6	17	13.8
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	409	1350	-	-	1108	-	-	453
HCM Lane V/C Ratio	0.268	0.036	-	-	0.035	-	-	0.1
HCM Control Delay (s)	17	7.8	0	-	8.4	0	-	13.8
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	1.1	0.1	-	-	0.1	-	-	0.3

Intersection	
Intersection Delay, s/veh	22.7
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	20	70	33	31	70	56	58	137	120	140	71	23
Future Vol, veh/h	20	70	33	31	70	56	58	137	120	140	71	23
Peak Hour Factor	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66
Heavy Vehicles, %	20	1	0	10	0	2	0	4	2	4	3	4
Mvmt Flow	30	106	50	47	106	85	88	208	182	212	108	35
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	15.3	16.4	29.6	21.7
HCM LOS	C	C	D	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	18%	16%	20%	60%
Vol Thru, %	43%	57%	45%	30%
Vol Right, %	38%	27%	36%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	315	123	157	234
LT Vol	58	20	31	140
Through Vol	137	70	70	71
RT Vol	120	33	56	23
Lane Flow Rate	477	186	238	355
Geometry Grp	1	1	1	1
Degree of Util (X)	0.803	0.389	0.472	0.659
Departure Headway (Hd)	6.177	7.516	7.144	6.688
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	592	479	507	542
Service Time	4.177	5.552	5.165	4.704
HCM Lane V/C Ratio	0.806	0.388	0.469	0.655
HCM Control Delay	29.6	15.3	16.4	21.7
HCM Lane LOS	D	C	C	C
HCM 95th-tile Q	7.9	1.8	2.5	4.8

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↰	↱
Traffic Vol, veh/h	96	455	1042	36	19	168
Future Vol, veh/h	96	455	1042	36	19	168
Conflicting Peds, #/hr	9	0	0	9	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	4	0	2	0	0
Mvmt Flow	110	523	1198	41	22	193

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1248	0	-	0	1710	629
Stage 1	-	-	-	-	1228	-
Stage 2	-	-	-	-	482	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	565	-	-	-	83	430
Stage 1	-	-	-	-	244	-
Stage 2	-	-	-	-	593	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	561	-	-	-	59	427
Mov Cap-2 Maneuver	-	-	-	-	59	-
Stage 1	-	-	-	-	175	-
Stage 2	-	-	-	-	588	-

Approach	EB	WB	SB
HCM Control Delay, s	3.3	0	28.1
HCM LOS			D

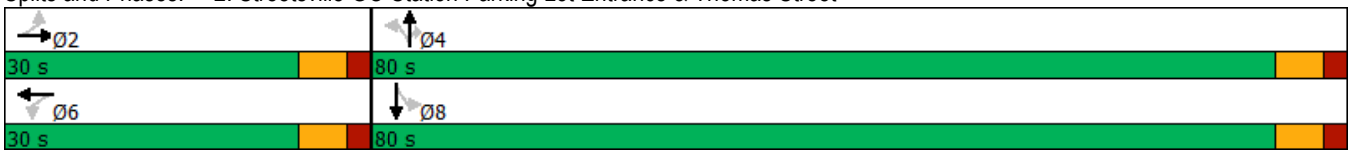
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	561	-	-	-	59	427
HCM Lane V/C Ratio	0.197	-	-	-	0.37	0.452
HCM Control Delay (s)	13	1.3	-	-	98.2	20.2
HCM Lane LOS	B	A	-	-	F	C
HCM 95th %tile Q(veh)	0.7	-	-	-	1.4	2.3

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	283	136	51	545	5	452	1	126	2	0	9
Future Volume (vph)	2	283	136	51	545	5	452	1	126	2	0	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98			1.00			1.00	0.98		0.99	
Frt		0.952			0.999				0.850		0.892	
Flt Protected					0.996			0.952			0.990	
Satd. Flow (prot)	0	3231	0	0	3506	0	0	1737	1597	0	1638	0
Flt Permitted		0.951			0.794			0.716			0.934	
Satd. Flow (perm)	0	3072	0	0	2793	0	0	1301	1559	0	1544	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		67			1				113		30	
Link Speed (k/h)		50			50			40			40	
Link Distance (m)		135.0			129.1			86.6			64.4	
Travel Time (s)		9.7			9.3			7.8			5.8	
Confl. Peds. (#/hr)	17		8	8		17	2		6	6		2
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles (%)	0%	2%	7%	4%	1%	0%	3%	0%	0%	0%	0%	0%
Adj. Flow (vph)	3	372	179	67	717	7	595	1	166	3	0	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	554	0	0	791	0	0	596	166	0	15	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4		4	8		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		6	6		4	4	4	8	8	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0	22.0	22.0	22.0	
Total Split (s)	30.0	30.0		30.0	30.0		80.0	80.0	80.0	80.0	80.0	
Total Split (%)	27.3%	27.3%		27.3%	27.3%		72.7%	72.7%	72.7%	72.7%	72.7%	
Maximum Green (s)	24.0	24.0		24.0	24.0		74.0	74.0	74.0	74.0	74.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		-1.0			-1.0			0.0	0.0		0.0	
Total Lost Time (s)		5.0			5.0			6.0	6.0		6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Recall Mode	Max	Max		Max	Max		None	None	None	None	None	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Flash Dont Walk (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effct Green (s)		26.0			26.0			44.5	44.5		44.5	
Actuated g/C Ratio		0.32			0.32			0.54	0.54		0.54	
v/c Ratio		0.54			0.89			0.84	0.18		0.02	
Control Delay		25.7			44.3			26.7	3.3		1.0	
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay		25.7			44.3			26.7	3.3		1.0	
LOS		C			D			C	A		A	
Approach Delay		25.7			44.3			21.6			1.0	
Approach LOS		C			D			C			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 81.9			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 31.0		Intersection LOS: C	
Intersection Capacity Utilization 75.1%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 2: Streetsville GO Station Parking Lot Entrance & Thomas Street



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	102	344	3	3	488	16	3	0	5	12	0	125
Future Vol, veh/h	102	344	3	3	488	16	3	0	5	12	0	125
Conflicting Peds, #/hr	13	0	16	16	0	13	0	0	3	3	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	2	33	0	1	0	0	0	0	0	0	1
Mvmt Flow	112	378	3	3	536	18	3	0	5	13	0	137

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	567	0	0	397	0	0	894	1193	210	980	1185	290
Stage 1	-	-	-	-	-	-	620	620	-	564	564	-
Stage 2	-	-	-	-	-	-	274	573	-	416	621	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.31
Pot Cap-1 Maneuver	1015	-	-	1173	-	-	239	188	802	207	191	710
Stage 1	-	-	-	-	-	-	447	483	-	483	512	-
Stage 2	-	-	-	-	-	-	714	507	-	590	482	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1004	-	-	1157	-	-	168	157	789	180	159	702
Mov Cap-2 Maneuver	-	-	-	-	-	-	168	157	-	180	159	-
Stage 1	-	-	-	-	-	-	378	409	-	410	504	-
Stage 2	-	-	-	-	-	-	572	499	-	501	408	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.4	0	16.2	13.8
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	331	1004	-	-	1157	-	-	560
HCM Lane V/C Ratio	0.027	0.112	-	-	0.003	-	-	0.269
HCM Control Delay (s)	16.2	9	0.4	-	8.1	0	-	13.8
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0.4	-	-	0	-	-	1.1

Intersection	
Int Delay, s/veh	5.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	30	67	24	37	109	8	31	26	49	3	23	49
Future Vol, veh/h	30	67	24	37	109	8	31	26	49	3	23	49
Conflicting Peds, #/hr	7	0	2	2	0	7	1	0	6	6	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	0	0	3	0	0	0	0	0	0	4	0
Mvmt Flow	33	74	27	41	121	9	34	29	54	3	26	54

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	137	0	0	103	0	0	405	375	96	416	384	134
Stage 1	-	-	-	-	-	-	156	156	-	215	215	-
Stage 2	-	-	-	-	-	-	249	219	-	201	169	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.1	6.5	6.2	7.1	6.54	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.54	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.5	4	3.3	3.5	4.036	3.3
Pot Cap-1 Maneuver	1441	-	-	1483	-	-	560	559	966	551	546	920
Stage 1	-	-	-	-	-	-	851	772	-	792	721	-
Stage 2	-	-	-	-	-	-	759	726	-	805	755	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1432	-	-	1480	-	-	485	525	959	473	513	914
Mov Cap-2 Maneuver	-	-	-	-	-	-	485	525	-	473	513	-
Stage 1	-	-	-	-	-	-	829	752	-	768	695	-
Stage 2	-	-	-	-	-	-	666	700	-	709	735	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.9	1.8	11.8	10.7
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	644	1432	-	-	1480	-	-	716
HCM Lane V/C Ratio	0.183	0.023	-	-	0.028	-	-	0.116
HCM Control Delay (s)	11.8	7.6	0	-	7.5	0	-	10.7
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.7	0.1	-	-	0.1	-	-	0.4

Intersection	
Intersection Delay, s/veh	8.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	1	0	92	4	91	1	76	60	56	104	1
Future Vol, veh/h	2	1	0	92	4	91	1	76	60	56	104	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	2	0	0
Mvmt Flow	2	1	0	102	4	101	1	84	67	62	116	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.1	9	8.3	9.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	1%	67%	49%	35%
Vol Thru, %	55%	33%	2%	65%
Vol Right, %	44%	0%	49%	1%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	137	3	187	161
LT Vol	1	2	92	56
Through Vol	76	1	4	104
RT Vol	60	0	91	1
Lane Flow Rate	152	3	208	179
Geometry Grp	1	1	1	1
Degree of Util (X)	0.183	0.005	0.258	0.231
Departure Headway (Hd)	4.336	5.046	4.464	4.656
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	827	707	804	771
Service Time	2.371	3.089	2.493	2.689
HCM Lane V/C Ratio	0.184	0.004	0.259	0.232
HCM Control Delay	8.3	8.1	9	9.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	0	1	0.9

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕↑	↑↕		↰	↱
Traffic Vol, veh/h	221	1400	397	44	32	137
Future Vol, veh/h	221	1400	397	44	32	137
Conflicting Peds, #/hr	9	0	0	9	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	5	2	10	4
Mvmt Flow	260	1647	467	52	38	161

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	528	0	-	0	1846	269
Stage 1	-	-	-	-	502	-
Stage 2	-	-	-	-	1344	-
Critical Hdwy	4.14	-	-	-	7	6.98
Critical Hdwy Stg 1	-	-	-	-	6	-
Critical Hdwy Stg 2	-	-	-	-	6	-
Follow-up Hdwy	2.22	-	-	-	3.6	3.34
Pot Cap-1 Maneuver	1035	-	-	-	61	723
Stage 1	-	-	-	-	551	-
Stage 2	-	-	-	-	194	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1026	-	-	-	0	717
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	192	-

Approach	EB	WB	SB
HCM Control Delay, s	4.5	0	
HCM LOS			-

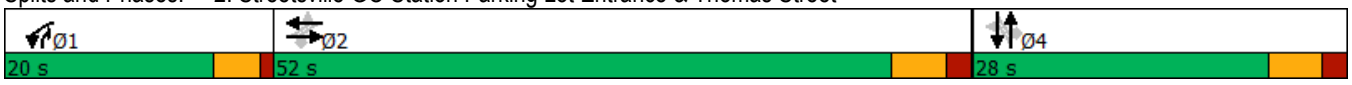
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1026	-	-	-	-	717
HCM Lane V/C Ratio	0.253	-	-	-	-	0.225
HCM Control Delay (s)	9.7	3.7	-	-	-	11.5
HCM Lane LOS	A	A	-	-	-	B
HCM 95th %tile Q(veh)	1	-	-	-	-	0.9

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	429	959	164	134	1	255	0	135	1	0	1
Future Volume (vph)	0	429	959	164	134	1	255	0	135	1	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.96	0.99	1.00			0.99	0.97		0.98	
Frt			0.850		0.999				0.850		0.932	
Flt Protected				0.950				0.950			0.976	
Satd. Flow (prot)	0	1883	1601	1825	1777	0	0	1772	1570	0	1726	0
Flt Permitted				0.346				0.757			0.891	
Satd. Flow (perm)	0	1883	1539	661	1777	0	0	1393	1522	0	1568	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			807						153		82	
Link Speed (k/h)		120			50			40			40	
Link Distance (m)		135.0			129.1			86.6			64.4	
Travel Time (s)		4.1			9.3			7.8			5.8	
Confl. Peds. (#/hr)	16		6	6		16	7		10	10		7
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	2%	2%	0%	8%	0%	3%	0%	4%	0%	0%	0%
Parking (#/hr)	0											
Adj. Flow (vph)	0	488	1090	186	152	1	290	0	153	1	0	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	488	1090	186	153	0	0	290	153	0	2	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5		6.1	30.5	6.1	6.1	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8		6.1	1.8	6.1	6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type		NA	Perm	pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases		2		1	2			4	1		4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2		2	2			4		4	4		
Detector Phase	2	2	2	1	2		4	4	1	4	4	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	5.0	8.0		8.0	8.0	5.0	8.0	8.0	
Minimum Split (s)	22.0	22.0	22.0	9.5	22.0		22.0	22.0	9.5	22.0	22.0	
Total Split (s)	52.0	52.0	52.0	20.0	52.0		28.0	28.0	20.0	28.0	28.0	
Total Split (%)	52.0%	52.0%	52.0%	20.0%	52.0%		28.0%	28.0%	20.0%	28.0%	28.0%	
Maximum Green (s)	46.0	46.0	46.0	15.5	46.0		22.0	22.0	15.5	22.0	22.0	
Yellow Time (s)	4.0	4.0	4.0	3.5	4.0		4.0	4.0	3.5	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	1.0	2.0		2.0	2.0	1.0	2.0	2.0	
Lost Time Adjust (s)		-1.0	-1.0	0.0	-1.0			0.0	0.0		0.0	
Total Lost Time (s)		5.0	5.0	4.5	5.0			6.0	4.5		6.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lag				Lead			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None		None	None	None	None	None	
Walk Time (s)	8.0	8.0	8.0		8.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	8.0	8.0	8.0		8.0		8.0	8.0		8.0	8.0	
Pedestrian Calls (#/hr)	0	0	0		0		0	0		0	0	
Act Effct Green (s)		43.0	43.0	52.7	43.0			21.3	32.0		21.3	
Actuated g/C Ratio		0.48	0.48	0.59	0.48			0.24	0.36		0.24	
v/c Ratio		0.54	0.94	0.37	0.18			0.87	0.24		0.00	
Control Delay		18.8	22.5	8.5	13.8			61.9	4.1		0.0	
Queue Delay		0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Delay		18.8	22.5	8.5	13.8			61.9	4.1		0.0	
LOS		B	C	A	B			E	A		A	
Approach Delay		21.4			10.9			42.0				
Approach LOS		C			B			D				

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 89.2			
Natural Cycle: 80			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay: 23.7		Intersection LOS: C	
Intersection Capacity Utilization 92.2%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 2: Streetsville GO Station Parking Lot Entrance & Thomas Street



Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	154	529	4	2	208	21	0	0	1	20	0	71
Future Vol, veh/h	154	529	4	2	208	21	0	0	1	20	0	71
Conflicting Peds, #/hr	5	0	0	0	0	5	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	1	4	0	50	5	6	0	0	100	33	0	4
Mvmt Flow	179	615	5	2	242	24	0	0	1	23	0	83

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	271	0	0	620	0	0	1101	1251	311	930	1241	138
Stage 1	-	-	-	-	-	-	976	976	-	263	263	-
Stage 2	-	-	-	-	-	-	125	275	-	667	978	-
Critical Hdwy	4.12	-	-	5.1	-	-	7.5	6.5	8.9	8.16	6.5	6.98
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	7.16	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	7.16	5.5	-
Follow-up Hdwy	2.21	-	-	2.7	-	-	3.5	4	4.3	3.83	4	3.34
Pot Cap-1 Maneuver	1297	-	-	693	-	-	169	174	465	180	176	879
Stage 1	-	-	-	-	-	-	273	332	-	639	694	-
Stage 2	-	-	-	-	-	-	872	686	-	348	331	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1291	-	-	693	-	-	128	136	465	149	138	875
Mov Cap-2 Maneuver	-	-	-	-	-	-	128	136	-	149	138	-
Stage 1	-	-	-	-	-	-	215	262	-	501	688	-
Stage 2	-	-	-	-	-	-	787	681	-	273	261	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.3	0.1	12.8	16.3
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	465	1291	-	-	693	-	-	423
HCM Lane V/C Ratio	0.003	0.139	-	-	0.003	-	-	0.25
HCM Control Delay (s)	12.8	8.2	0.6	-	10.2	0	-	16.3
HCM Lane LOS	B	A	A	-	B	A	-	C
HCM 95th %tile Q(veh)	0	0.5	-	-	0	-	-	1

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	35	185	132	28	121	2	31	20	35	5	9	19
Future Vol, veh/h	35	185	132	28	121	2	31	20	35	5	9	19
Conflicting Peds, #/hr	21	0	9	9	0	21	1	0	3	3	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	73	73	73	73	73	73	73	73	73	73	73	73
Heavy Vehicles, %	3	4	2	7	2	0	4	5	6	0	11	0
Mvmt Flow	48	253	181	38	166	3	42	27	48	7	12	26

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	190	0	0	443	0	0	713	715	356	745	804	190
Stage 1	-	-	-	-	-	-	449	449	-	265	265	-
Stage 2	-	-	-	-	-	-	264	266	-	480	539	-
Critical Hdwy	4.13	-	-	4.17	-	-	7.14	6.55	6.26	7.1	6.61	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.55	-	6.1	5.61	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.55	-	6.1	5.61	-
Follow-up Hdwy	2.227	-	-	2.263	-	-	3.536	4.045	3.354	3.5	4.099	3.3
Pot Cap-1 Maneuver	1378	-	-	1091	-	-	344	353	679	333	306	857
Stage 1	-	-	-	-	-	-	585	567	-	745	673	-
Stage 2	-	-	-	-	-	-	737	683	-	571	507	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1350	-	-	1081	-	-	298	314	671	264	272	839
Mov Cap-2 Maneuver	-	-	-	-	-	-	298	314	-	264	272	-
Stage 1	-	-	-	-	-	-	552	535	-	695	634	-
Stage 2	-	-	-	-	-	-	672	643	-	478	478	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	1.6	18.1	14.1
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	391	1350	-	-	1081	-	-	442
HCM Lane V/C Ratio	0.301	0.036	-	-	0.035	-	-	0.102
HCM Control Delay (s)	18.1	7.8	0	-	8.5	0	-	14.1
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	1.2	0.1	-	-	0.1	-	-	0.3

Intersection	
Intersection Delay, s/veh	26.1
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	20	70	33	47	70	56	58	137	125	140	71	23
Future Vol, veh/h	20	70	33	47	70	56	58	137	125	140	71	23
Peak Hour Factor	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66
Heavy Vehicles, %	20	1	0	10	0	2	0	4	2	4	3	4
Mvmt Flow	30	106	50	71	106	85	88	208	189	212	108	35
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	15.9	18.4	36.1	23.3
HCM LOS	C	C	E	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	18%	16%	27%	60%
Vol Thru, %	43%	57%	40%	30%
Vol Right, %	39%	27%	32%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	320	123	173	234
LT Vol	58	20	47	140
Through Vol	137	70	70	71
RT Vol	125	33	56	23
Lane Flow Rate	485	186	262	355
Geometry Grp	1	1	1	1
Degree of Util (X)	0.856	0.4	0.531	0.678
Departure Headway (Hd)	6.353	7.735	7.289	6.881
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	572	464	493	525
Service Time	4.353	5.817	5.36	4.945
HCM Lane V/C Ratio	0.848	0.401	0.531	0.676
HCM Control Delay	36.1	15.9	18.4	23.3
HCM Lane LOS	E	C	C	C
HCM 95th-tile Q	9.3	1.9	3.1	5.1

Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	331	5	6	161	16	20
Future Vol, veh/h	331	5	6	161	16	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	360	5	7	175	17	22

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	365	0	552	363
Stage 1	-	-	-	-	363	-
Stage 2	-	-	-	-	189	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1194	-	495	682
Stage 1	-	-	-	-	704	-
Stage 2	-	-	-	-	843	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1194	-	492	682
Mov Cap-2 Maneuver	-	-	-	-	492	-
Stage 1	-	-	-	-	700	-
Stage 2	-	-	-	-	843	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	11.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	582	-	-	1194	-
HCM Lane V/C Ratio	0.067	-	-	0.005	-
HCM Control Delay (s)	11.6	-	-	8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	21	0	288	9	0	150
Future Vol, veh/h	21	0	288	9	0	150
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	0	313	10	0	163

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	481	318	0	0	323	0
Stage 1	318	-	-	-	-	-
Stage 2	163	-	-	-	-	-
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	544	723	-	-	1237	-
Stage 1	738	-	-	-	-	-
Stage 2	866	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	544	723	-	-	1237	-
Mov Cap-2 Maneuver	544	-	-	-	-	-
Stage 1	738	-	-	-	-	-
Stage 2	866	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.9	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	544	1237	-
HCM Lane V/C Ratio	-	-	0.042	-	-
HCM Control Delay (s)	-	-	11.9	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↰	↱
Traffic Vol, veh/h	129	429	971	44	25	188
Future Vol, veh/h	129	429	971	44	25	188
Conflicting Peds, #/hr	9	0	0	9	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	4	0	2	0	0
Mvmt Flow	148	493	1116	51	29	216

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1176	0	-	0	1694	593
Stage 1	-	-	-	-	1151	-
Stage 2	-	-	-	-	543	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	601	-	-	-	86	454
Stage 1	-	-	-	-	268	-
Stage 2	-	-	-	-	552	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	596	-	-	-	56	451
Mov Cap-2 Maneuver	-	-	-	-	56	-
Stage 1	-	-	-	-	175	-
Stage 2	-	-	-	-	548	-

Approach	EB	WB	SB
HCM Control Delay, s	4.1	0	32.2
HCM LOS			D

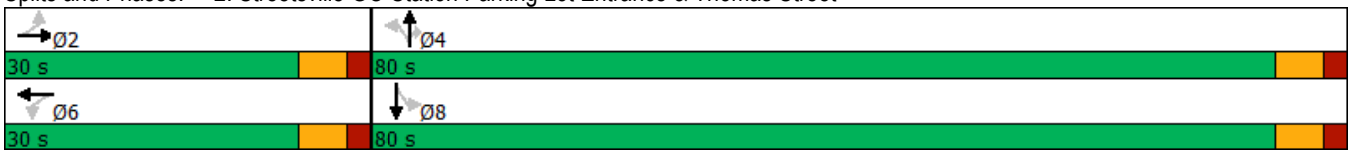
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	596	-	-	-	56	451
HCM Lane V/C Ratio	0.249	-	-	-	0.513	0.479
HCM Control Delay (s)	13	1.4	-	-	123.6	20.1
HCM Lane LOS	B	A	-	-	F	C
HCM 95th %tile Q(veh)	1	-	-	-	2	2.5

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	273	136	51	516	5	452	1	126	2	0	9
Future Volume (vph)	0	273	136	51	516	5	452	1	126	2	0	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98			1.00			1.00	0.98		0.99	
Frt		0.950			0.999				0.850		0.892	
Flt Protected					0.996			0.952			0.990	
Satd. Flow (prot)	0	3220	0	0	3505	0	0	1737	1597	0	1638	0
Flt Permitted					0.799			0.716			0.934	
Satd. Flow (perm)	0	3220	0	0	2810	0	0	1301	1559	0	1544	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		73			1				123		30	
Link Speed (k/h)		50			50			40			40	
Link Distance (m)		135.0			129.1			86.6			64.4	
Travel Time (s)		9.7			9.3			7.8			5.8	
Confl. Peds. (#/hr)	17		8	8		17	2		6	6		2
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles (%)	0%	2%	7%	4%	1%	0%	3%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	359	179	67	679	7	595	1	166	3	0	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	538	0	0	753	0	0	596	166	0	15	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type		NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4		4	8		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		6	6		4	4	4	8	8	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0	22.0	22.0	22.0	
Total Split (s)	30.0	30.0		30.0	30.0		80.0	80.0	80.0	80.0	80.0	
Total Split (%)	27.3%	27.3%		27.3%	27.3%		72.7%	72.7%	72.7%	72.7%	72.7%	
Maximum Green (s)	24.0	24.0		24.0	24.0		74.0	74.0	74.0	74.0	74.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		-1.0			-1.0			0.0	0.0		0.0	
Total Lost Time (s)		5.0			5.0			6.0	6.0		6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Recall Mode	Max	Max		Max	Max		None	None	None	None	None	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Flash Dont Walk (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effct Green (s)		26.0			26.0			44.5	44.5		44.5	
Actuated g/C Ratio		0.32			0.32			0.54	0.54		0.54	
v/c Ratio		0.50			0.85			0.84	0.18		0.02	
Control Delay		24.5			40.1			26.7	2.9		1.0	
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay		24.5			40.1			26.7	2.9		1.0	
LOS		C			D			C	A		A	
Approach Delay		24.5			40.1			21.5			1.0	
Approach LOS		C			D			C			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 81.9			
Natural Cycle: 60			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 28.9		Intersection LOS: C	
Intersection Capacity Utilization 74.3%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 2: Streetsville GO Station Parking Lot Entrance & Thomas Street



Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	106	327	3	3	463	29	3	0	5	21	0	127
Future Vol, veh/h	106	327	3	3	463	29	3	0	5	21	0	127
Conflicting Peds, #/hr	13	0	16	16	0	13	0	0	3	3	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	2	33	0	1	0	0	0	0	0	0	1
Mvmt Flow	116	359	3	3	509	32	3	0	5	23	0	140

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	554	0	0	378	0	0	870	1169	200	959	1154	284
Stage 1	-	-	-	-	-	-	609	609	-	544	544	-
Stage 2	-	-	-	-	-	-	261	560	-	415	610	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.31
Pot Cap-1 Maneuver	1026	-	-	1192	-	-	249	195	814	214	199	716
Stage 1	-	-	-	-	-	-	454	488	-	496	522	-
Stage 2	-	-	-	-	-	-	727	514	-	591	488	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1015	-	-	1176	-	-	175	162	801	186	166	708
Mov Cap-2 Maneuver	-	-	-	-	-	-	175	162	-	186	166	-
Stage 1	-	-	-	-	-	-	384	412	-	421	514	-
Stage 2	-	-	-	-	-	-	581	506	-	502	412	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.5	0	15.8	15.4
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	342	1015	-	-	1176	-	-	506
HCM Lane V/C Ratio	0.026	0.115	-	-	0.003	-	-	0.321
HCM Control Delay (s)	15.8	9	0.4	-	8.1	0	-	15.4
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.1	0.4	-	-	0	-	-	1.4

Intersection	
Int Delay, s/veh	5.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	30	67	35	37	109	8	48	26	49	3	23	49
Future Vol, veh/h	30	67	35	37	109	8	48	26	49	3	23	49
Conflicting Peds, #/hr	7	0	2	2	0	7	1	0	6	6	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	0	0	3	0	0	0	0	0	0	4	0
Mvmt Flow	33	74	39	41	121	9	53	29	54	3	26	54

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	137	0	0	115	0	0	411	381	102	422	396	134
Stage 1	-	-	-	-	-	-	162	162	-	215	215	-
Stage 2	-	-	-	-	-	-	249	219	-	207	181	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.1	6.5	6.2	7.1	6.54	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.54	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.5	4	3.3	3.5	4.036	3.3
Pot Cap-1 Maneuver	1441	-	-	1468	-	-	555	555	959	546	538	920
Stage 1	-	-	-	-	-	-	845	768	-	792	721	-
Stage 2	-	-	-	-	-	-	759	726	-	800	746	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1432	-	-	1466	-	-	480	521	953	467	505	914
Mov Cap-2 Maneuver	-	-	-	-	-	-	480	521	-	467	505	-
Stage 1	-	-	-	-	-	-	822	747	-	767	695	-
Stage 2	-	-	-	-	-	-	666	700	-	703	726	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.7	1.8	12.6	10.7
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	611	1432	-	-	1466	-	-	710
HCM Lane V/C Ratio	0.224	0.023	-	-	0.028	-	-	0.117
HCM Control Delay (s)	12.6	7.6	0	-	7.5	0	-	10.7
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.9	0.1	-	-	0.1	-	-	0.4

Intersection	
Intersection Delay, s/veh	9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	2	1	0	104	4	91	1	76	76	56	104	1
Future Vol, veh/h	2	1	0	104	4	91	1	76	76	56	104	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	2	0	0
Mvmt Flow	2	1	0	116	4	101	1	84	84	62	116	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.2	9.3	8.5	9.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	1%	67%	52%	35%
Vol Thru, %	50%	33%	2%	65%
Vol Right, %	50%	0%	46%	1%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	153	3	199	161
LT Vol	1	2	104	56
Through Vol	76	1	4	104
RT Vol	76	0	91	1
Lane Flow Rate	170	3	221	179
Geometry Grp	1	1	1	1
Degree of Util (X)	0.205	0.005	0.278	0.234
Departure Headway (Hd)	4.344	5.109	4.526	4.714
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	825	698	792	760
Service Time	2.379	3.16	2.562	2.751
HCM Lane V/C Ratio	0.206	0.004	0.279	0.236
HCM Control Delay	8.5	8.2	9.3	9.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.8	0	1.1	0.9

Intersection	
Int Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	119	16	17	188	12	11
Future Vol, veh/h	119	16	17	188	12	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	129	17	18	204	13	12

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	146	0	378	138
Stage 1	-	-	-	-	138	-
Stage 2	-	-	-	-	240	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1436	-	624	910
Stage 1	-	-	-	-	889	-
Stage 2	-	-	-	-	800	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1436	-	615	910
Mov Cap-2 Maneuver	-	-	-	-	615	-
Stage 1	-	-	-	-	877	-
Stage 2	-	-	-	-	800	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	10.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	728	-	-	1436	-
HCM Lane V/C Ratio	0.034	-	-	0.013	-
HCM Control Delay (s)	10.1	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	14	0	151	25	0	204
Future Vol, veh/h	14	0	151	25	0	204
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	0	164	27	0	222

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	400	178	0	0	191	0
Stage 1	178	-	-	-	-	-
Stage 2	222	-	-	-	-	-
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	606	865	-	-	1383	-
Stage 1	853	-	-	-	-	-
Stage 2	815	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	606	865	-	-	1383	-
Mov Cap-2 Maneuver	606	-	-	-	-	-
Stage 1	853	-	-	-	-	-
Stage 2	815	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.1	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	606	1383	-
HCM Lane V/C Ratio	-	-	0.025	-	-
HCM Control Delay (s)	-	-	11.1	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕↑	↑↕		↰	↱
Traffic Vol, veh/h	221	1440	424	44	32	137
Future Vol, veh/h	221	1440	424	44	32	137
Conflicting Peds, #/hr	9	0	0	9	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	5	2	10	4
Mvmt Flow	260	1694	499	52	38	161

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	560	0	-	0	1901	285
Stage 1	-	-	-	-	534	-
Stage 2	-	-	-	-	1367	-
Critical Hdwy	4.14	-	-	-	7	6.98
Critical Hdwy Stg 1	-	-	-	-	6	-
Critical Hdwy Stg 2	-	-	-	-	6	-
Follow-up Hdwy	2.22	-	-	-	3.6	3.34
Pot Cap-1 Maneuver	1007	-	-	-	55	706
Stage 1	-	-	-	-	530	-
Stage 2	-	-	-	-	188	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	998	-	-	-	0	700
Mov Cap-2 Maneuver	-	-	-	-	0	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	186	-

Approach	EB	WB	SB
HCM Control Delay, s	4.6	0	
HCM LOS			-

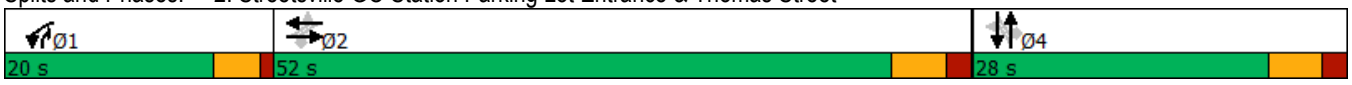
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	998	-	-	-	-	700
HCM Lane V/C Ratio	0.261	-	-	-	-	0.23
HCM Control Delay (s)	9.9	3.8	-	-	-	11.7
HCM Lane LOS	A	A	-	-	-	B
HCM 95th %tile Q(veh)	1	-	-	-	-	0.9

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	441	959	164	144	1	255	0	135	1	0	1
Future Volume (vph)	1	441	959	164	144	1	255	0	135	1	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00	0.96	1.00	1.00			0.99	0.97		0.98	
Frt			0.850		0.999				0.850		0.932	
Flt Protected				0.950				0.950			0.976	
Satd. Flow (prot)	0	1884	1601	1825	1777	0	0	1772	1570	0	1726	0
Flt Permitted				0.334				0.757			0.891	
Satd. Flow (perm)	0	1883	1539	639	1777	0	0	1393	1522	0	1568	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			805						153		82	
Link Speed (k/h)		120			50			40			40	
Link Distance (m)		135.0			129.1			86.6			64.4	
Travel Time (s)		4.1			9.3			7.8			5.8	
Confl. Peds. (#/hr)	16		6	6		16	7		10	10		7
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	2%	2%	0%	8%	0%	3%	0%	4%	0%	0%	0%
Parking (#/hr)	0											
Adj. Flow (vph)	1	501	1090	186	164	1	290	0	153	1	0	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	502	1090	186	165	0	0	290	153	0	2	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5		6.1	30.5	6.1	6.1	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8		6.1	1.8	6.1	6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases		2		1	2			4	1		4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2		2	2			4		4	4		
Detector Phase	2	2	2	1	2		4	4	1	4	4	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	5.0	8.0		8.0	8.0	5.0	8.0	8.0	
Minimum Split (s)	22.0	22.0	22.0	9.5	22.0		22.0	22.0	9.5	22.0	22.0	
Total Split (s)	52.0	52.0	52.0	20.0	52.0		28.0	28.0	20.0	28.0	28.0	
Total Split (%)	52.0%	52.0%	52.0%	20.0%	52.0%		28.0%	28.0%	20.0%	28.0%	28.0%	
Maximum Green (s)	46.0	46.0	46.0	15.5	46.0		22.0	22.0	15.5	22.0	22.0	
Yellow Time (s)	4.0	4.0	4.0	3.5	4.0		4.0	4.0	3.5	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	1.0	2.0		2.0	2.0	1.0	2.0	2.0	
Lost Time Adjust (s)		-1.0	-1.0	0.0	-1.0			0.0	0.0		0.0	
Total Lost Time (s)		5.0	5.0	4.5	5.0			6.0	4.5		6.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lag				Lead			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None		None	None	None	None	None	
Walk Time (s)	8.0	8.0	8.0		8.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	8.0	8.0	8.0		8.0		8.0	8.0		8.0	8.0	
Pedestrian Calls (#/hr)	0	0	0		0		0	0		0	0	
Act Effct Green (s)		43.1	43.1	52.8	43.1			21.3	32.0		21.3	
Actuated g/C Ratio		0.48	0.48	0.59	0.48			0.24	0.36		0.24	
v/c Ratio		0.55	0.94	0.37	0.19			0.87	0.24		0.00	
Control Delay		19.1	22.6	8.7	14.0			62.1	4.1		0.0	
Queue Delay		0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Delay		19.1	22.6	8.7	14.0			62.1	4.1		0.0	
LOS		B	C	A	B			E	A		A	
Approach Delay		21.5			11.2			42.1				
Approach LOS		C			B			D				

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 89.3			
Natural Cycle: 80			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay: 23.8		Intersection LOS: C	
Intersection Capacity Utilization 92.2%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 2: Streetsville GO Station Parking Lot Entrance & Thomas Street



Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	154	544	4	2	223	21	0	0	1	20	0	71
Future Vol, veh/h	154	544	4	2	223	21	0	0	1	20	0	71
Conflicting Peds, #/hr	5	0	0	0	0	5	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	1	4	0	50	5	6	0	0	100	33	0	4
Mvmt Flow	179	633	5	2	259	24	0	0	1	23	0	83

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	288	0	0	638	0	0	1128	1286	320	956	1276	147
Stage 1	-	-	-	-	-	-	994	994	-	280	280	-
Stage 2	-	-	-	-	-	-	134	292	-	676	996	-
Critical Hdwy	4.12	-	-	5.1	-	-	7.5	6.5	8.9	8.16	6.5	6.98
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	7.16	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	7.16	5.5	-
Follow-up Hdwy	2.21	-	-	2.7	-	-	3.5	4	4.3	3.83	4	3.34
Pot Cap-1 Maneuver	1278	-	-	679	-	-	162	166	457	172	168	867
Stage 1	-	-	-	-	-	-	267	326	-	623	683	-
Stage 2	-	-	-	-	-	-	861	675	-	344	325	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1272	-	-	679	-	-	122	129	457	142	130	863
Mov Cap-2 Maneuver	-	-	-	-	-	-	122	129	-	142	130	-
Stage 1	-	-	-	-	-	-	209	255	-	485	677	-
Stage 2	-	-	-	-	-	-	776	669	-	268	254	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.3	0.1	12.9	16.9
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	457	1272	-	-	679	-	-	408
HCM Lane V/C Ratio	0.003	0.141	-	-	0.003	-	-	0.259
HCM Control Delay (s)	12.9	8.3	0.6	-	10.3	0	-	16.9
HCM Lane LOS	B	A	A	-	B	A	-	C
HCM 95th %tile Q(veh)	0	0.5	-	-	0	-	-	1

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	35	185	132	28	121	2	31	20	35	5	9	19
Future Vol, veh/h	35	185	132	28	121	2	31	20	35	5	9	19
Conflicting Peds, #/hr	21	0	9	9	0	21	1	0	3	3	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	73	73	73	73	73	73	73	73	73	73	73	73
Heavy Vehicles, %	3	4	2	7	2	0	4	5	6	0	11	0
Mvmt Flow	48	253	181	38	166	3	42	27	48	7	12	26

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	190	0	0	443	0	0	713	715	356	745	804	190
Stage 1	-	-	-	-	-	-	449	449	-	265	265	-
Stage 2	-	-	-	-	-	-	264	266	-	480	539	-
Critical Hdwy	4.13	-	-	4.17	-	-	7.14	6.55	6.26	7.1	6.61	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.55	-	6.1	5.61	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.55	-	6.1	5.61	-
Follow-up Hdwy	2.227	-	-	2.263	-	-	3.536	4.045	3.354	3.5	4.099	3.3
Pot Cap-1 Maneuver	1378	-	-	1091	-	-	344	353	679	333	306	857
Stage 1	-	-	-	-	-	-	585	567	-	745	673	-
Stage 2	-	-	-	-	-	-	737	683	-	571	507	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1350	-	-	1081	-	-	298	314	671	264	272	839
Mov Cap-2 Maneuver	-	-	-	-	-	-	298	314	-	264	272	-
Stage 1	-	-	-	-	-	-	552	535	-	695	634	-
Stage 2	-	-	-	-	-	-	672	643	-	478	478	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	1.6	18.1	14.1
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	391	1350	-	-	1081	-	-	442
HCM Lane V/C Ratio	0.301	0.036	-	-	0.035	-	-	0.102
HCM Control Delay (s)	18.1	7.8	0	-	8.5	0	-	14.1
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	1.2	0.1	-	-	0.1	-	-	0.3

Intersection	
Intersection Delay, s/veh	26.1
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	20	70	33	47	70	56	58	137	125	140	71	23
Future Vol, veh/h	20	70	33	47	70	56	58	137	125	140	71	23
Peak Hour Factor	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66
Heavy Vehicles, %	20	1	0	10	0	2	0	4	2	4	3	4
Mvmt Flow	30	106	50	71	106	85	88	208	189	212	108	35
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	15.9	18.4	36.1	23.3
HCM LOS	C	C	E	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	18%	16%	27%	60%
Vol Thru, %	43%	57%	40%	30%
Vol Right, %	39%	27%	32%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	320	123	173	234
LT Vol	58	20	47	140
Through Vol	137	70	70	71
RT Vol	125	33	56	23
Lane Flow Rate	485	186	262	355
Geometry Grp	1	1	1	1
Degree of Util (X)	0.856	0.4	0.531	0.678
Departure Headway (Hd)	6.353	7.735	7.289	6.881
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	572	464	493	525
Service Time	4.353	5.817	5.36	4.945
HCM Lane V/C Ratio	0.848	0.401	0.531	0.676
HCM Control Delay	36.1	15.9	18.4	23.3
HCM Lane LOS	E	C	C	C
HCM 95th-tile Q	9.3	1.9	3.1	5.1

Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	331	5	6	161	16	20
Future Vol, veh/h	331	5	6	161	16	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	360	5	7	175	17	22

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	365	0	552	363
Stage 1	-	-	-	-	363	-
Stage 2	-	-	-	-	189	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1194	-	495	682
Stage 1	-	-	-	-	704	-
Stage 2	-	-	-	-	843	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1194	-	492	682
Mov Cap-2 Maneuver	-	-	-	-	492	-
Stage 1	-	-	-	-	700	-
Stage 2	-	-	-	-	843	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	11.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	582	-	-	1194	-
HCM Lane V/C Ratio	0.067	-	-	0.005	-
HCM Control Delay (s)	11.6	-	-	8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	21	0	288	9	0	150
Future Vol, veh/h	21	0	288	9	0	150
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	0	313	10	0	163

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	481	318	0	0	323	0
Stage 1	318	-	-	-	-	-
Stage 2	163	-	-	-	-	-
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	544	723	-	-	1237	-
Stage 1	738	-	-	-	-	-
Stage 2	866	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	544	723	-	-	1237	-
Mov Cap-2 Maneuver	544	-	-	-	-	-
Stage 1	738	-	-	-	-	-
Stage 2	866	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.9	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	544	1237	-
HCM Lane V/C Ratio	-	-	0.042	-	-
HCM Control Delay (s)	-	-	11.9	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	5.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	129	459	1044	44	25	188
Future Vol, veh/h	129	459	1044	44	25	188
Conflicting Peds, #/hr	9	0	0	9	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	4	0	2	0	0
Mvmt Flow	148	528	1200	51	29	216

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1260	0	-	0	1795	635
Stage 1	-	-	-	-	1235	-
Stage 2	-	-	-	-	560	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	559	-	-	-	73	426
Stage 1	-	-	-	-	242	-
Stage 2	-	-	-	-	541	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	555	-	-	-	45	423
Mov Cap-2 Maneuver	-	-	-	-	45	-
Stage 1	-	-	-	-	150	-
Stage 2	-	-	-	-	537	-

Approach	EB	WB	SB
HCM Control Delay, s	4.4	0	40.1
HCM LOS			E

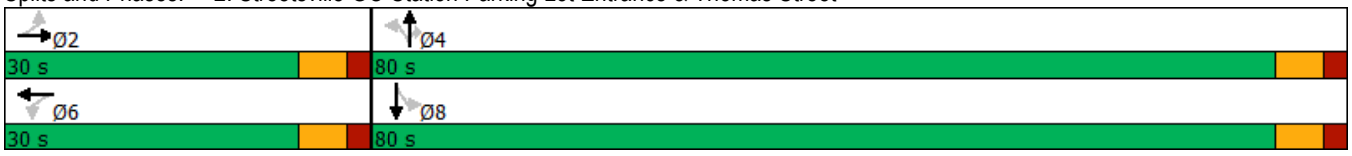
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	555	-	-	-	45	423
HCM Lane V/C Ratio	0.267	-	-	-	0.639	0.511
HCM Control Delay (s)	13.8	1.7	-	-	175.7	22.1
HCM Lane LOS	B	A	-	-	F	C
HCM 95th %tile Q(veh)	1.1	-	-	-	2.4	2.8

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	293	136	51	555	5	452	1	126	2	0	9
Future Volume (vph)	2	293	136	51	555	5	452	1	126	2	0	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00			1.00	0.98		0.99	
Frt		0.953			0.999				0.850		0.892	
Flt Protected					0.996			0.952			0.990	
Satd. Flow (prot)	0	3236	0	0	3506	0	0	1737	1597	0	1638	0
Flt Permitted		0.951			0.788			0.716			0.934	
Satd. Flow (perm)	0	3078	0	0	2772	0	0	1301	1559	0	1544	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		63			1				104		30	
Link Speed (k/h)		50			50			40			40	
Link Distance (m)		135.0			129.1			86.6			64.4	
Travel Time (s)		9.7			9.3			7.8			5.8	
Confl. Peds. (#/hr)	17		8	8		17	2		6	6		2
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles (%)	0%	2%	7%	4%	1%	0%	3%	0%	0%	0%	0%	0%
Adj. Flow (vph)	3	386	179	67	730	7	595	1	166	3	0	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	568	0	0	804	0	0	596	166	0	15	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4		4	8		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		6	6		4	4	4	8	8	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0	22.0	22.0	22.0	
Total Split (s)	30.0	30.0		30.0	30.0		80.0	80.0	80.0	80.0	80.0	
Total Split (%)	27.3%	27.3%		27.3%	27.3%		72.7%	72.7%	72.7%	72.7%	72.7%	
Maximum Green (s)	24.0	24.0		24.0	24.0		74.0	74.0	74.0	74.0	74.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		-1.0			-1.0			0.0	0.0		0.0	
Total Lost Time (s)		5.0			5.0			6.0	6.0		6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Recall Mode	Max	Max		Max	Max		None	None	None	None	None	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Flash Dont Walk (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effct Green (s)		26.0			26.0			44.5	44.5		44.5	
Actuated g/C Ratio		0.32			0.32			0.54	0.54		0.54	
v/c Ratio		0.56			0.92			0.84	0.19		0.02	
Control Delay		26.2			46.9			26.7	3.7		1.0	
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay		26.2			46.9			26.7	3.7		1.0	
LOS		C			D			C	A		A	
Approach Delay		26.2			46.9			21.6			1.0	
Approach LOS		C			D			C			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 81.9			
Natural Cycle: 60			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.92			
Intersection Signal Delay: 32.2		Intersection LOS: C	
Intersection Capacity Utilization 75.4%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 2: Streetsville GO Station Parking Lot Entrance & Thomas Street



Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	106	350	3	3	496	29	3	0	5	21	0	127
Future Vol, veh/h	106	350	3	3	496	29	3	0	5	21	0	127
Conflicting Peds, #/hr	13	0	16	16	0	13	0	0	3	3	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	2	33	0	1	0	0	0	0	0	0	1
Mvmt Flow	116	385	3	3	545	32	3	0	5	23	0	140

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	590	0	0	404	0	0	914	1231	213	1008	1216	302
Stage 1	-	-	-	-	-	-	635	635	-	580	580	-
Stage 2	-	-	-	-	-	-	279	596	-	428	636	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.31
Pot Cap-1 Maneuver	995	-	-	1166	-	-	231	179	798	198	183	697
Stage 1	-	-	-	-	-	-	438	476	-	472	503	-
Stage 2	-	-	-	-	-	-	710	495	-	581	475	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	984	-	-	1150	-	-	160	148	785	171	151	689
Mov Cap-2 Maneuver	-	-	-	-	-	-	160	148	-	171	151	-
Stage 1	-	-	-	-	-	-	367	399	-	397	495	-
Stage 2	-	-	-	-	-	-	564	488	-	489	398	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.4	0	16.6	16.2
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	318	984	-	-	1150	-	-	482
HCM Lane V/C Ratio	0.028	0.118	-	-	0.003	-	-	0.337
HCM Control Delay (s)	16.6	9.1	0.4	-	8.1	0	-	16.2
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.1	0.4	-	-	0	-	-	1.5

Intersection	
Int Delay, s/veh	5.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	30	67	35	37	109	8	48	26	49	3	23	49
Future Vol, veh/h	30	67	35	37	109	8	48	26	49	3	23	49
Conflicting Peds, #/hr	7	0	2	2	0	7	1	0	6	6	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	0	0	3	0	0	0	0	0	0	4	0
Mvmt Flow	33	74	39	41	121	9	53	29	54	3	26	54

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	137	0	0	115	0	0	411	381	102	422	396	134
Stage 1	-	-	-	-	-	-	162	162	-	215	215	-
Stage 2	-	-	-	-	-	-	249	219	-	207	181	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.1	6.5	6.2	7.1	6.54	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.54	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.5	4	3.3	3.5	4.036	3.3
Pot Cap-1 Maneuver	1441	-	-	1468	-	-	555	555	959	546	538	920
Stage 1	-	-	-	-	-	-	845	768	-	792	721	-
Stage 2	-	-	-	-	-	-	759	726	-	800	746	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1432	-	-	1466	-	-	480	521	953	467	505	914
Mov Cap-2 Maneuver	-	-	-	-	-	-	480	521	-	467	505	-
Stage 1	-	-	-	-	-	-	822	747	-	767	695	-
Stage 2	-	-	-	-	-	-	666	700	-	703	726	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.7	1.8	12.6	10.7
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	611	1432	-	-	1466	-	-	710
HCM Lane V/C Ratio	0.224	0.023	-	-	0.028	-	-	0.117
HCM Control Delay (s)	12.6	7.6	0	-	7.5	0	-	10.7
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.9	0.1	-	-	0.1	-	-	0.4

Intersection	
Intersection Delay, s/veh	9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	1	0	104	4	91	1	76	76	56	104	1
Future Vol, veh/h	2	1	0	104	4	91	1	76	76	56	104	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	2	0	0
Mvmt Flow	2	1	0	116	4	101	1	84	84	62	116	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.2	9.3	8.5	9.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	1%	67%	52%	35%
Vol Thru, %	50%	33%	2%	65%
Vol Right, %	50%	0%	46%	1%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	153	3	199	161
LT Vol	1	2	104	56
Through Vol	76	1	4	104
RT Vol	76	0	91	1
Lane Flow Rate	170	3	221	179
Geometry Grp	1	1	1	1
Degree of Util (X)	0.205	0.005	0.278	0.234
Departure Headway (Hd)	4.344	5.109	4.526	4.714
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	825	698	792	760
Service Time	2.379	3.16	2.562	2.751
HCM Lane V/C Ratio	0.206	0.004	0.279	0.236
HCM Control Delay	8.5	8.2	9.3	9.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.8	0	1.1	0.9

Intersection	
Int Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	119	16	17	188	12	11
Future Vol, veh/h	119	16	17	188	12	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	129	17	18	204	13	12

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	146	0	378	138
Stage 1	-	-	-	-	138	-
Stage 2	-	-	-	-	240	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1436	-	624	910
Stage 1	-	-	-	-	889	-
Stage 2	-	-	-	-	800	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1436	-	615	910
Mov Cap-2 Maneuver	-	-	-	-	615	-
Stage 1	-	-	-	-	877	-
Stage 2	-	-	-	-	800	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	10.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	728	-	-	1436	-
HCM Lane V/C Ratio	0.034	-	-	0.013	-
HCM Control Delay (s)	10.1	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	14	0	151	25	0	204
Future Vol, veh/h	14	0	151	25	0	204
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	0	164	27	0	222

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	400	178	0	0	191	0
Stage 1	178	-	-	-	-	-
Stage 2	222	-	-	-	-	-
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	606	865	-	-	1383	-
Stage 1	853	-	-	-	-	-
Stage 2	815	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	606	865	-	-	1383	-
Mov Cap-2 Maneuver	606	-	-	-	-	-
Stage 1	853	-	-	-	-	-
Stage 2	815	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.1	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	606	1383	-
HCM Lane V/C Ratio	-	-	0.025	-	-
HCM Control Delay (s)	-	-	11.1	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	88	475	367	22	14	81
Future Vol, veh/h	88	475	367	22	14	81
Conflicting Peds, #/hr	9	0	0	9	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	5	2	10	4
Mvmt Flow	104	559	432	26	16	95

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	467	0	-	0	942	238
Stage 1	-	-	-	-	454	-
Stage 2	-	-	-	-	488	-
Critical Hdwy	4.14	-	-	-	7	6.98
Critical Hdwy Stg 1	-	-	-	-	6	-
Critical Hdwy Stg 2	-	-	-	-	6	-
Follow-up Hdwy	2.22	-	-	-	3.6	3.34
Pot Cap-1 Maneuver	1091	-	-	-	247	757
Stage 1	-	-	-	-	584	-
Stage 2	-	-	-	-	560	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1081	-	-	-	209	750
Mov Cap-2 Maneuver	-	-	-	-	209	-
Stage 1	-	-	-	-	498	-
Stage 2	-	-	-	-	555	-

Approach	EB	WB	SB
HCM Control Delay, s	1.7	0	12.4
HCM LOS			B

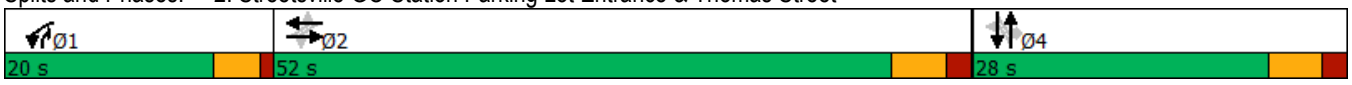
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1081	-	-	-	209	750
HCM Lane V/C Ratio	0.096	-	-	-	0.079	0.127
HCM Control Delay (s)	8.7	0.4	-	-	23.7	10.5
HCM Lane LOS	A	A	-	-	C	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.3	0.4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	184	274	54	175	2	177	0	65	1	0	3
Future Volume (vph)	1	184	274	54	175	2	177	0	65	1	0	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98			1.00			0.99	0.97		0.98	
Frt		0.910			0.999				0.850		0.899	
Flt Protected					0.988			0.950			0.988	
Satd. Flow (prot)	0	3182	0	0	3395	0	0	1772	1570	0	1675	0
Flt Permitted		0.954			0.790			0.755			0.896	
Satd. Flow (perm)	0	3035	0	0	2709	0	0	1390	1522	0	1514	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		311			1				74		82	
Link Speed (k/h)		120			50			40			40	
Link Distance (m)		135.0			64.5			86.6			64.4	
Travel Time (s)		4.1			4.6			7.8			5.8	
Confl. Peds. (#/hr)	16		6	6		16	7		10	10		7
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	2%	2%	0%	8%	0%	3%	0%	4%	0%	0%	0%
Parking (#/hr)	0											
Adj. Flow (vph)	1	209	311	61	199	2	201	0	74	1	0	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	521	0	0	262	0	0	201	74	0	4	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases		2		1	2			4	1		4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			2			4		4	4		
Detector Phase	2	2		1	2		4	4	1	4	4	
Switch Phase												
Minimum Initial (s)	8.0	8.0		5.0	8.0		8.0	8.0	5.0	8.0	8.0	
Minimum Split (s)	22.0	22.0		9.5	22.0		22.0	22.0	9.5	22.0	22.0	
Total Split (s)	52.0	52.0		20.0	52.0		28.0	28.0	20.0	28.0	28.0	
Total Split (%)	52.0%	52.0%		20.0%	52.0%		28.0%	28.0%	20.0%	28.0%	28.0%	
Maximum Green (s)	46.0	46.0		15.5	46.0		22.0	22.0	15.5	22.0	22.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	3.5	4.0	4.0	
All-Red Time (s)	2.0	2.0		1.0	2.0		2.0	2.0	1.0	2.0	2.0	
Lost Time Adjust (s)		-1.0			-1.0			0.0	0.0		0.0	
Total Lost Time (s)		5.0			5.0			6.0	4.5		6.0	
Lead/Lag	Lag	Lag		Lead	Lag				Lead			
Lead-Lag Optimize?	Yes	Yes		Yes	Yes				Yes			
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		None	None	None	None	None	
Walk Time (s)	8.0	8.0			8.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	8.0	8.0			8.0		8.0	8.0		8.0	8.0	
Pedestrian Calls (#/hr)	0	0			0		0	0		0	0	
Act Effct Green (s)		18.0			20.4			17.3	17.5		17.3	
Actuated g/C Ratio		0.45			0.51			0.43	0.44		0.43	
v/c Ratio		0.34			0.18			0.34	0.10		0.01	
Control Delay		6.4			7.4			16.5	2.7		0.0	
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay		6.4			7.4			16.5	2.7		0.0	
LOS		A			A			B	A		A	
Approach Delay		6.4			7.4			12.8				
Approach LOS		A			A			B				

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 40			
Natural Cycle: 55			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.34			
Intersection Signal Delay: 8.3		Intersection LOS: A	
Intersection Capacity Utilization 53.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 2: Streetsville GO Station Parking Lot Entrance & Thomas Street



APPENDIX E

TTS Analysis

Tue Feb 05 2019 13:57:18 GMT-0500 (Eastern Standard Time) - Run Time: 2014ms

TTS Detailed Distribution - AM Peak IN

Cross Tabulation Query Form - Trip - 2016 v1.1		Auto driver	North %	North #	South %	South #	East %	East #	West %	West #
	PD 1 of Toronto	18		0	80%	14	20%	4		0
Row: Planning district of origin - pd_orig	PD 4 of Toronto	5		0	80%	4	20%	1		0
Column: Primary travel mode of trip - mode_prime	PD 7 of Toronto	29		0	80%	23	20%	6		0
	PD 8 of Toronto	16		0	80%	13	20%	3		0
	Vaughan	16	80%	13		0	20%	3		0
Filters:	Caledon	12	100%	12		0		0		0
2006 GTA zone of destination - gta06_dest In 3715,3836	Brampton	116	100%	116		0		0		0
and	Mississauga	1462	2%	29	30%	439	25%	366	43%	629
Start time of trip - start_time In 700-899	Halton Hills	25	50%	13		0		0	50%	13
and	Milton	41		0		0		0	100%	41
Primary travel mode of trip - mode_prime In d	Oakville	47		0	50%	24		0	50%	24
	Burlington	34		0	50%	17		0	50%	17
	Erin	7	100%	7		0		0		0
Trip 2016		1828	10%	190	29%	534	21%	383	40%	724

Table:

,Auto driver		AS-IS	ROUNDED
	North	10%	10%
PD 1 of Toronto,18	South	29%	30%
PD 4 of Toronto,5	East	21%	20%
PD 7 of Toronto,29	West	40%	40%
PD 8 of Toronto,16		100%	100%

Tue Feb 05 2019 13:58:04 GMT-0500 (Eastern Standard Time) - Run Time: 2040ms

TTS Detailed Distribution - AM Peak OUT

			North		South		East		West	
Cross Tabulation Query Form - Trip - 2016 v1.1		Auto driver	%	#	%	#	%	#	%	#
	PD 3 of Toronto	31		0	80%	25	20%	6		0
Row: Planning district of destination - pd_dest	PD 8 of Toronto	6		0	80%	5	20%	1		0
Column: Primary travel mode of trip - mode_prime	PD 9 of Toronto	39		0	80%	31	20%	8		0
	Whitchurch-Stouffville	21	50%	11		0	50%	11		0
	Markham	16	50%	8		0	50%	8		0
Filters:	Vaughan	44	50%	22		0	50%	22		0
2006 GTA zone of origin - gta06_orig In 3715,3836	Brampton	115	100%	115		0		0		0
and	Mississauga	1559	10%	156	10%	156	40%	624	40%	624
Start time of trip - start_time In 700-899	Halton Hills	31	50%	16		0		0	50%	16
and	Milton	31		0		0		0	100%	31
Primary travel mode of trip - mode_prime In d	Oakville	115		0	50%	58		0	50%	58
	Burlington	57		0	50%	29		0	50%	29
Trip 2016	Flamborough	18		0		0		0	100%	18
Table:	Hamilton	66		0	50%	33		0	50%	33
		2149	15%	328	16%	337	32%	680	38%	809

,Auto driver
PD 3 of Toronto,31
PD 8 of Toronto,6
PD 9 of Toronto,39
Whitchurch-Stouffville,21
Markham,16
Vaughan,44

	AS-IS	ROUNDED
North	15%	15%
South	16%	15%
East	32%	30%
West	38%	40%
	100%	100%

Tue Feb 05 2019 14:00:36 GMT-0500 (Eastern Standard Time) - Run Time: 1981ms

TTS Detailed Distribution - PM Peak IN

			North		South		East		West	
Cross Tabulation Query Form - Trip - 2016 v1.1		Auto driver	%	#	%	#	%	#	%	#
	PD 2 of Toronto	18		0	80%	14	20%	4		0
Row: Planning district of origin - pd_orig	PD 3 of Toronto	31		0	80%	25	20%	6		0
Column: Primary travel mode of trip - mode_prime	PD 7 of Toronto	18		0	80%	14	20%	4		0
	PD 9 of Toronto	74		0	80%	59	20%	15		0
	PD 16 of Toronto	66		0	80%	53	20%	13		0
Filters:	Whitchurch-Stouffville	21	50%	11		0	50%	11		0
2006 GTA zone of destination - gta06_dest In 3715,3836	Markham	16	50%	8		0	50%	8		0
and	Vaughan	61	50%	31		0	50%	31		0
Start time of trip - start_time In 1600-1799	Caledon	29	100%	29		0		0		0
and	Brampton	133	100%	133		0		0		0
Primary travel mode of trip - mode_prime In d	Mississauga	1508	15%	226	20%	302	10%	151	55%	829
	Halton Hills	31	50%	16		0		0	50%	16
Trip 2016	Milton	24		0		0		0	100%	24
Table:	Oakville	81		0	50%	41		0	50%	41
	Flamborough	18		0		0		0	100%	18
,Auto driver		2129	21%	454	24%	508	11%	243	44%	928

PD 2 of Toronto,18
PD 3 of Toronto,31
PD 7 of Toronto,18
PD 9 of Toronto,74
PD 16 of Toronto,66
Whitchurch-Stouffville,21
Markham,16

	AS-IS	ROUNDED
North	21%	20%
South	24%	25%
East	11%	10%
West	44%	45%
	100%	100%

Tue Feb 05 2019 14:01:10 GMT-0500 (Eastern Standard Time) - Run Time: 2019ms

TTS Detailed Distribution - PM Peak OUT

			North		South		East		West	
Cross Tabulation Query Form - Trip - 2016 v1.1		Auto driver	%	#	%	#	%	#	%	#
	PD 7 of Toronto	5		0	80%	4	20%	1		0
Row: Planning district of destination - pd_dest	Vaughan	25	50%	13		0	50%	13		0
Column: Primary travel mode of trip - mode_prime	Caledon	18	100%	18		0		0		0
	Brampton	68	100%	68		0		0		0
	Mississauga	979	2%	20	30%	294	25%	245	43%	421
Filters:	Milton	53		0		0		0	100%	53
2006 GTA zone of origin - gta06_orig In 3715,3836	Oakville	86		0	50%	43		0	50%	43
and	City of Guelph	15	50%	8		0		0	50%	8
Start time of trip - start_time In 1600-1799		1249	10%	127	27%	341	21%	259	42%	525
and										
Primary travel mode of trip - mode_prime In d				AS-IS	ROUNDED					
			North	10%	10%	8				
Trip 2016			South	27%	25%	29				
Table:			East	21%	20%	19				
			West	42%	45%	45				
,Auto driver				100%	100%					

Mon Jan 14 2019 09:52:01 GMT-0500 (Eastern Standard Time) - Run Time: 1471ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: 2006 GTA zone of household - gta06_hhld
Column: Primary travel mode of trip - mode_prime

Filters:
2006 GTA zone of household - gta06_hhld In 3715,3836
and
Age of person - age In 18-99
and
Start time of trip - start_time In 700-900,1500-1900

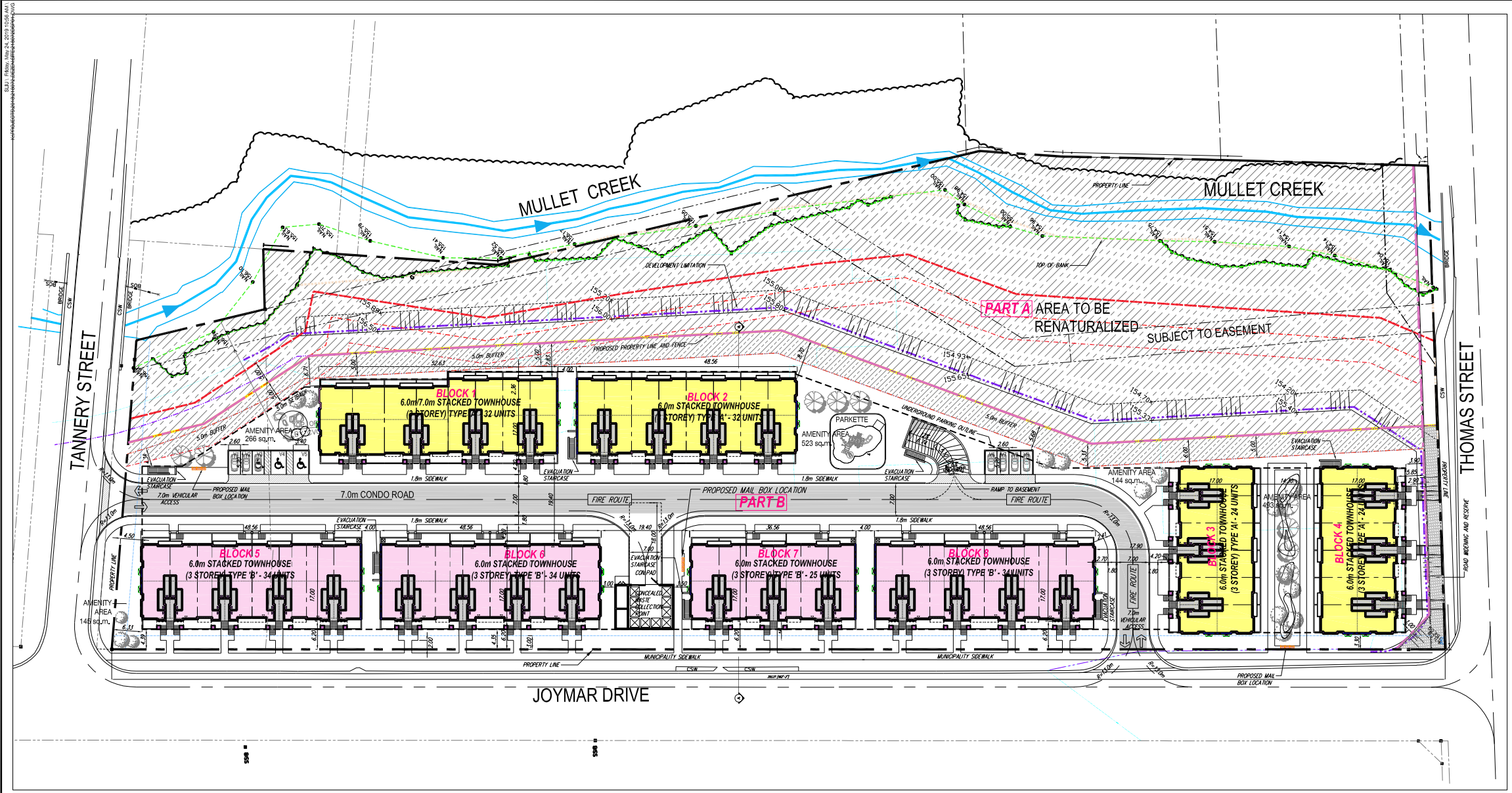
Trip 2016
Table:

Household Zone	Transit excluding GO rail	Auto driver	GO rail only	Joint GO rail and local transit	Auto passenger	Walk	Total
3715	107	4097	294	153	173	196	5020
3836	80	1123	0	20	368	0	1591
Total	187	5220	294	173	541	196	6611
	3%	79%	4%	3%	8%	3%	
			Modal Split	13%			

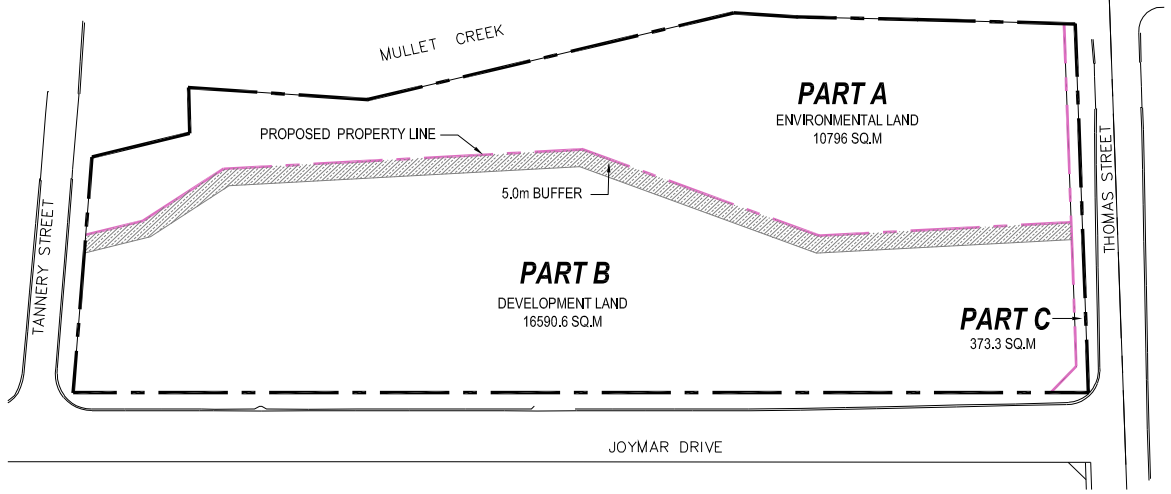
,Transit excluding GO rail,Auto driver,GO rail only,Joint GO rail and local transit,Auto passenger,Walk
3715, 107,4097,294,153,173,196
3836,80,1123,0,20,368,0

FIGURES

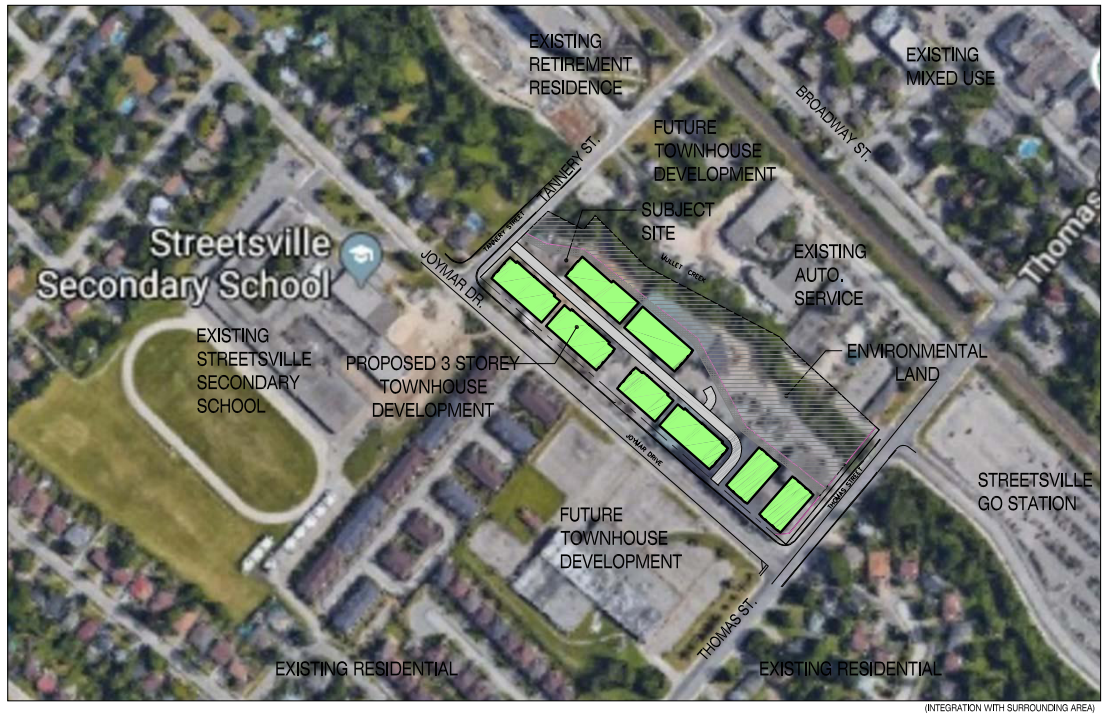
Figure 1: Site Location



1 SITE PLAN
Scale: 1:500



2 CONTEXT PLAN
Scale: 1:1000



(INTEGRATION WITH SURROUNDING AREA)

3 CONCEPT PLAN
1:2500

SITE STATISTICS

1. SITE AREA

PART A - ENVIRONMENTAL LAND	10796 sq.m, (1,08 ha)	2,67 acre
PART B - DEVELOPMENT LAND	16590,6 sq.m, (1,66 ha)	4,10 acre
PART C - ROAD WIDENING, RESERVE & SITE TRIANGLE	373,3 sq.m.	0,09 acre
TOTAL SITE AREA	27759,8 sq.m,(2,77 ha)	6,86 acre

2. TOWNHOUSE UNIT COUNT

3 STOREY STACKED TOWNHOUSE	TYPE	UNITS		
		3 BED	2 BED/ 2 BED+DEN	TOTAL
BLOCK 1	TYPE 'A'	2	30	32
BLOCK 2	TYPE 'A'	2	30	32
BLOCK 3	TYPE 'A	2	22	24
BLOCK 4	TYPE 'A'	2	22	24
BLOCK 5	TYPE 'B'	2	32	34
BLOCK 6	TYPE 'B'	2	32	34
BLOCK 7	TYPE 'B'	2	23	25
BLOCK 8	TYPE 'B'	2	32	34
TOTAL		16	223	239

3. DENSITY (PART B ONLY)

239 UNITS / 4,10 acre	58,29
239 UNITS / 1,66 ha	143,98

4. GROSS FLOOR AREA & COVERAGE (PART B ONLY)

4.1 TOWNHOUSE

BLOCK #	COVERAGE	GFA	FSI
BLOCK 1	980 sq.m, (5,9%)	3600 sq.m,	0,22
BLOCK 2	980 sq.m, (5,9%)	3600 sq.m,	0,22
BLOCK 3	750 sq.m, (4,5%)	2470 sq.m,	0,15
BLOCK 4	750 sq.m, (4,5%)	2470 sq.m,	0,15
BLOCK 5	1010 sq.m, (6,1%)	3300 sq.m,	0,20
BLOCK 6	1010 sq.m, (6,1%)	3300 sq.m,	0,20
BLOCK 7	760 sq.m, (4,6%)	2340 sq.m,	0,14
BLOCK 8	1010 sq.m, (6,1%)	3300 sq.m,	0,20
TOTAL	7250 sq.m, (43,7%)	24470 sq.m.	1,47
4.2 UNDERGROUND PARKING AREA		13000 sq.m.	

5. PARKING

5.1 RESIDENTIAL PARKING

	# OF UNITS	REQUIRED RATIO	REQUIRED SPACES	PROPOSED SPACES	
RESIDENTIAL	239	1,5 (223 UN)	335	363	
		1,75 (16 UN)	28		
RESIDENTIAL VISITOR		0,25	60	ON GRADE 9 + UNDERGROUND 51	60
TOTAL			423	423	
ACCESSIBLE PARKING		(4% OF VISITOR) 3		3	

5.2 BICYCLE PARKING

LONG TERM	239	0,6	144	0,64	154
SHORT TERM		0,15	36	0,15	36
TOTAL		0,75	180	0,79	190

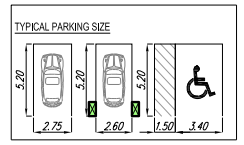
6. AMENITY AREA & LANDSCAPE AREA

	REQUIRED			PROPOSED	
AMENITY AREA	%	AREA	WHICHEVER IS GREATER	%	AREA
BY AREA	5%	830 sq.m,		2,8 sq.m./UNIT	672 sq.m.
BY UNITS	2,8 sq.m./UNIT	672 sq.m.			
LANDSCAPE AREA	40%	6636 sq.m,		35%	5800 sq.m.
LANDSCAPE SOFT AREA	50% OF LANDSCAPE AREA			50% OF LA,	

7. ZONING REGULATIONS

PROPOSED ZONE: RM9 - XXX & G1	PERMITTED	PROPOSED
3,0 MAX, BLOCK FRONTAGE (m)	41,0 m	48,2 m
5,1 MAX, DWELLING HEIGHT (TOP OF PARAPET/RAILING)	13,0 m	15,0 m
6,0 MIN, FRONT YARD	7,5 m	3,0 m
7,0 MIN, EXTERIOR SIDE YARD	7,5 m	3,0 m
9,0 MIN, REAR YARD	7,5 m	5,0 m
11,0 MIN, INTERNAL SETBACKS		
11,3 FROM A FRONT WALL OF BUILDING TO A CONDO ROAD, SIDEWALK, WALKWAY OR PARKING SPACE	4,5 m	4,2 m
11,4 FROM A PORCH, LOCATED AT AND ACCESSIBLE FROM THE FIRST STOREY OR BELOW THE FIRST STOREY TO A COND. ROAD , SIDEWALK, WALKWAY OR PARKING SPACE	2,5 m	2,0 m

TYPICAL PARKING SIZE



APPLICATION NUMBER:
-

APPLICATION NUMBER:
-

KEY MAP - NOT TO SCALE

LEGEND

	FIRE ROUTE
	PARKING PLACE
	PROPERTY LINE
	PROPOSED PROPERTY LINE
	PROPOSED SETBACK LINE
	MAILBOX LOCATION
	EXISTING REGIONAL FLOODLINE (CFCA 2018)
	PROPOSED REGIONAL FLOODLINE (CFCA 2018)
	LONG-TERM STABLE TOP OF SLOPE (SIRATI 2018)
	LONG-TERM STABLE TOP OF SLOPE -10m SETBACK (SIRATI 2018)
	PROPOSED DEVELOPMENT LIMIT
1.5% 1.5%	PROPOSED 3:1 SLOPE
	AREA TO BE RENATURALIZED
	2,0 m ROAD WIDENING
	BUFFER
	TYPE 'A' TOWNHOUSES
	TYPE 'B' TOWNHOUSES

REVISIONS

No.			
10.	-	-	-
9.	-	-	-
8.	-	-	-
7.	-	-	-
6.	-	-	-
5.	-	-	-
4.	-	-	-
3.	-	-	-
2.	-	-	-
1.	REVISED AS PER -	-	-

SUBMITTALS

No.			
10.	-	-	-
9.	-	-	-
8.	-	-	-
7.	-	-	-
6.	-	-	-
5.	-	-	-
4.	-	-	-
3.	-	-	-
2.	-	-	-
1.	ISSUED FOR OPA & ZONING APPLICATION	2019.05.24	SL
No.	Description	YYYY.MM.DD	By

NORTH: STAMP:

4 ARCHITECTURE INC
WWW.4ARCHITECTURE.CA
8966 Woodbine Avenue, Suite 300, Markham, ON L3R 0J7
T. (905) 470 7212 // F. (905) 737 7326 email: mail@4architecture.ca

DEZEN REALTY - 218072
TOWNHOUSE RESIDENTIAL DEVELOPMENT

MISSISSAUGA, ONTARIO — JOYMAR DR.,THOMAS ST.

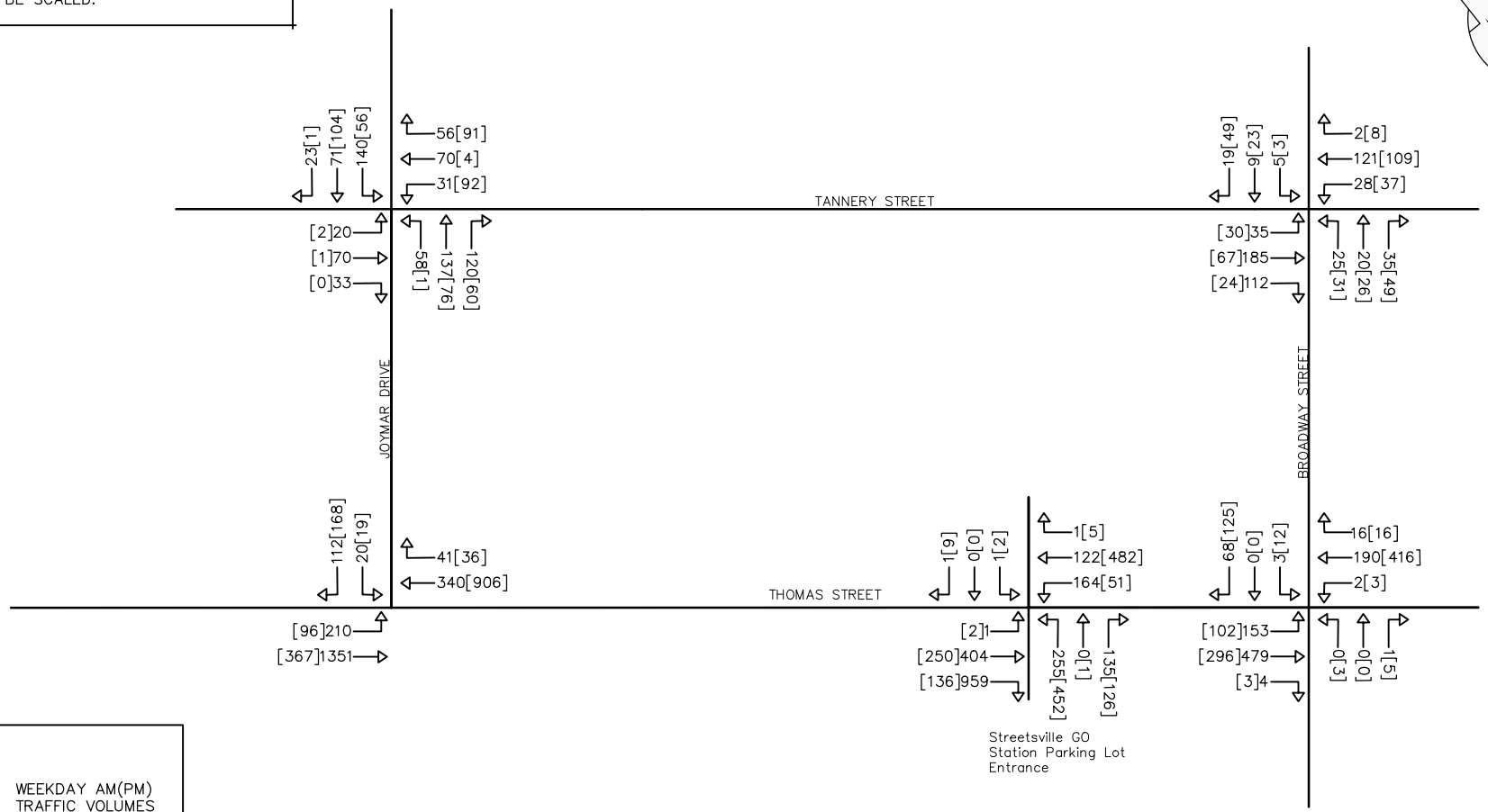
SITE PLAN

2019.05.24		
Scale: AS NOTED	Drawn By: JZ/SL	Checked By: SL
File Name: 218072DSP01.DWG		

A1.1

NOTE:

THIS FIGURE IS SCHEMATIC ONLY AND IS NOT TO BE SCALED.



LEGEND:

XX(XX) WEEKDAY AM(PM) TRAFFIC VOLUMES

66 THOMAS STREET CITY OF MISSISSAUGA

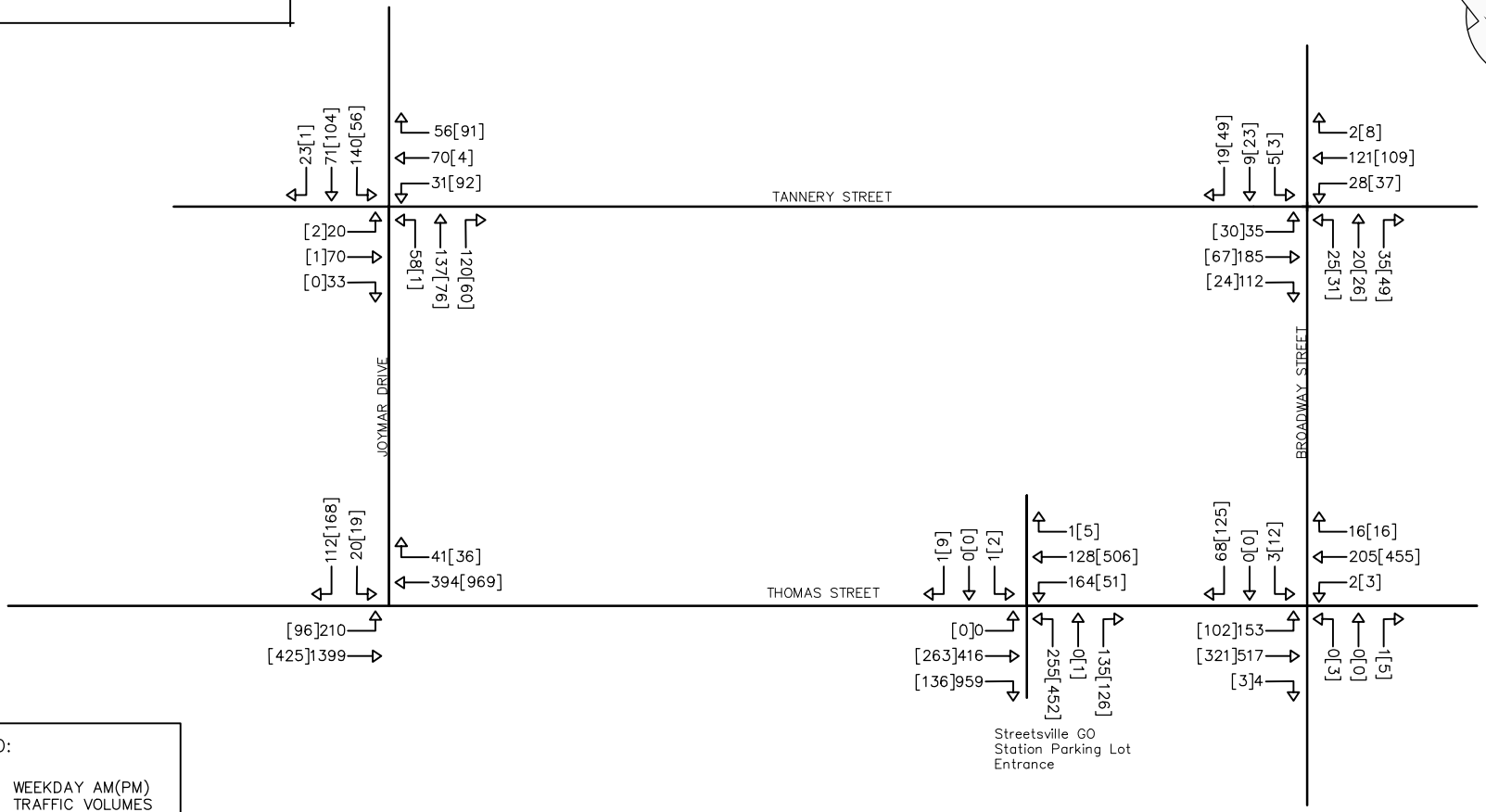
2019 EXISTING TRAFFIC VOLUMES

CROZIER & ASSOCIATES Consulting Engineers

2800 High Point Drive
Suite 100
Milton, ON L9T 6P4
905 875-0026 T
905 875-4915 F
www.cfcrozier.ca

Drawn	Design	Project No.	
M.B.	K.S.		1419–4679
Check	Check	Scale	Dwg.
K.S.	K.S.	N.T.S	FIG. 03

NOTE:
THIS FIGURE IS SCHEMATIC ONLY AND IS NOT TO BE SCALED.



LEGEND:

XX(XX) WEEKDAY AM(PM) TRAFFIC VOLUMES

66 THOMAS STREET CITY OF MISSISSAUGA

2024 FUTURE BACKGROUND TRAFFIC VOLUMES

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SUITE 100
MILTON, ON L9T 6P4
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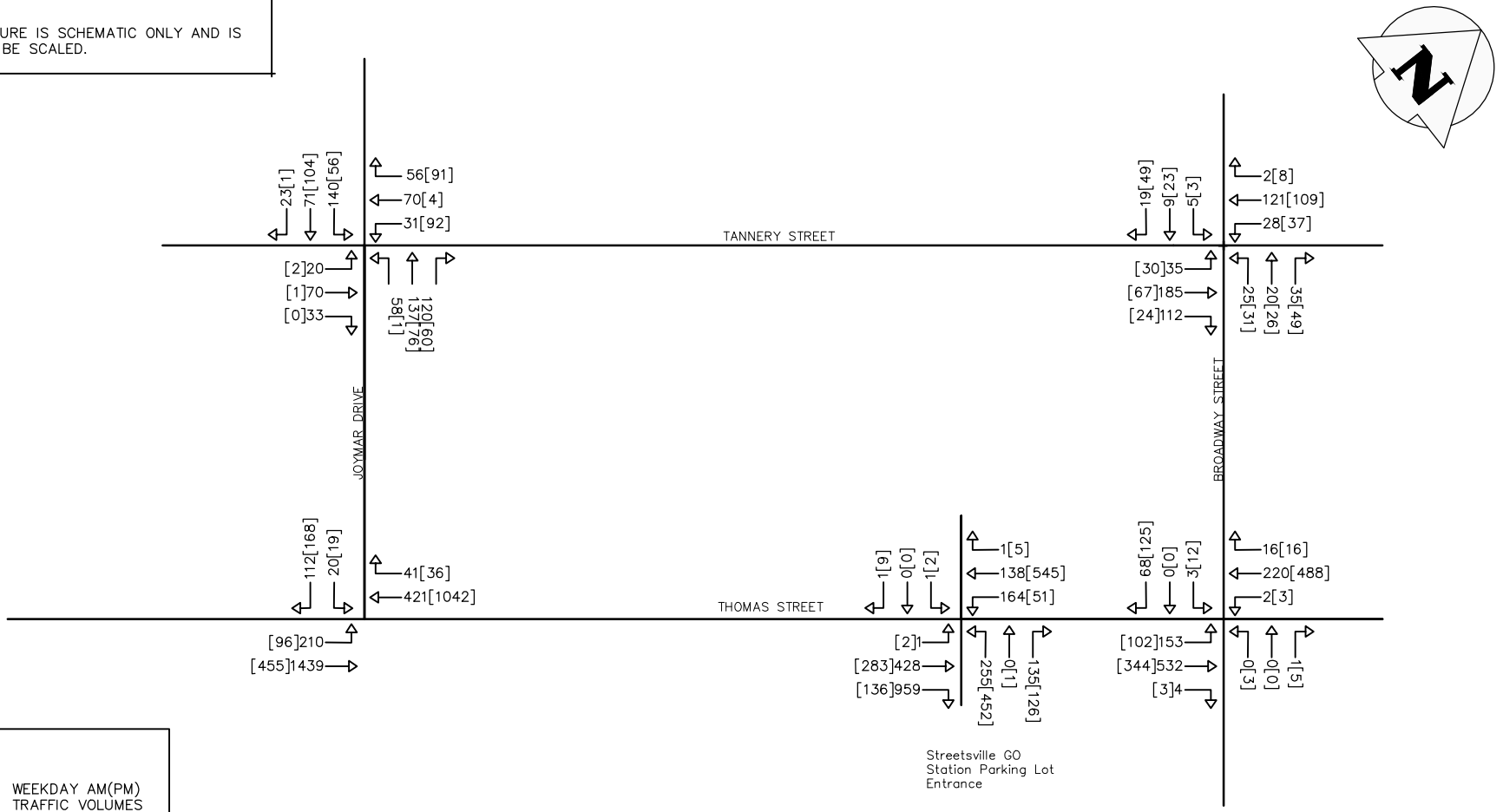
905 875-4915 F
WWW.CFCROZIER.CA

Drawn	Design	Project No.	
M.B.	K.S.	1419–4679	
Check K.S.	Check K.S.	Scale N.T.S	Dwg. FIG. 04

NOTE:

THIS FIGURE IS SCHEMATIC ONLY AND IS NOT TO BE SCALED.



LEGEND:

XX(XX) WEEKDAY AM(PM) TRAFFIC VOLUMES

66 THOMAS STREET CITY OF MISSISSAUGA

2031 FUTURE BACKGROUND TRAFFIC VOLUMES

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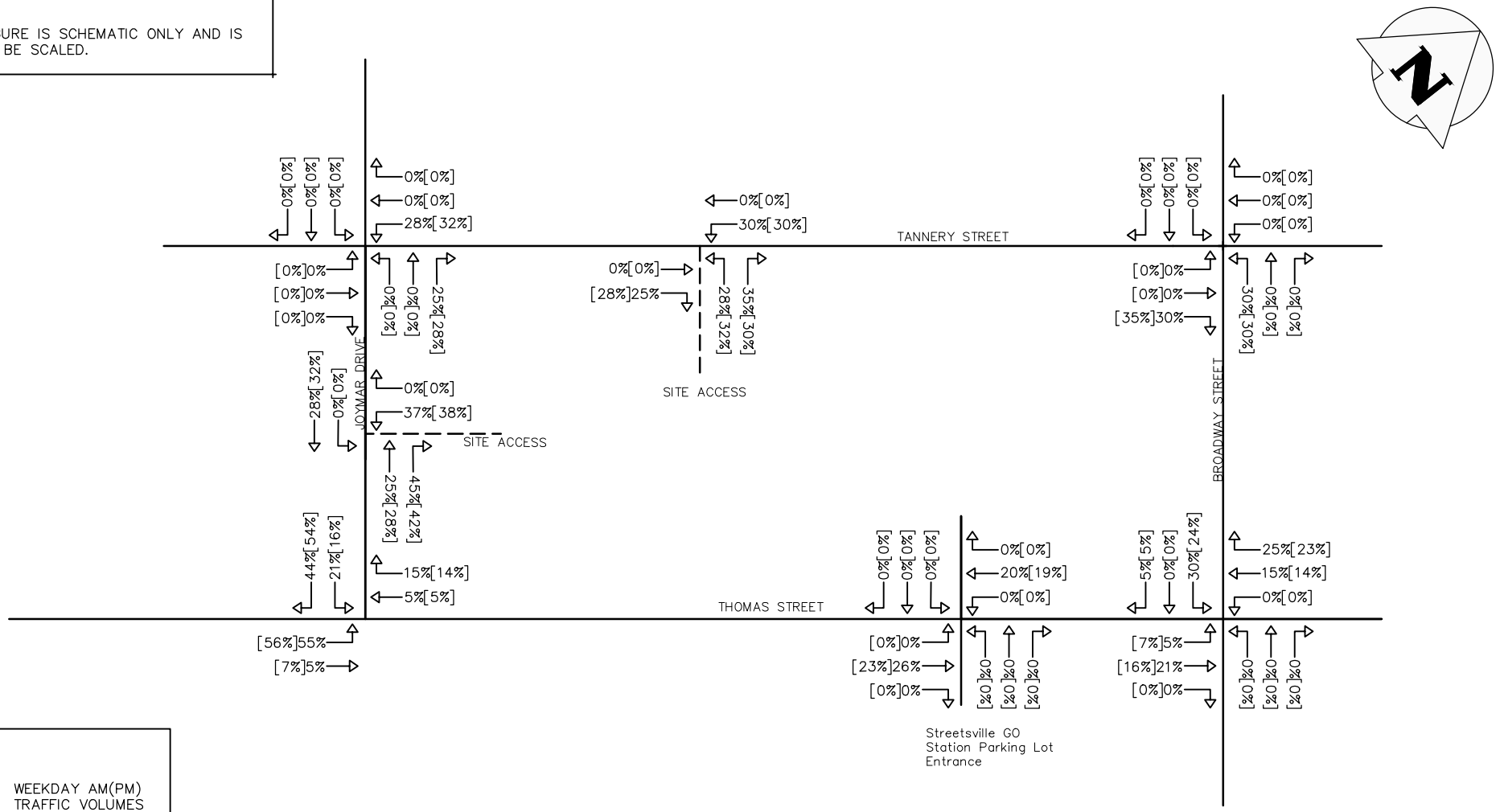
Drawn	Design	Project No.	
M.B.	K.S.	1419–4679	
Check K.S.	Check K.S.	Scale N.T.S	Dwg. FIG. 05

NOTE:

THIS FIGURE IS SCHEMATIC ONLY AND IS NOT TO BE SCALED.



LEGEND:

XX(XX) WEEKDAY AM(PM) TRAFFIC VOLUMES

66 THOMAS STREET CITY OF MISSISSAUGA

TRIP DISTRIBUTION

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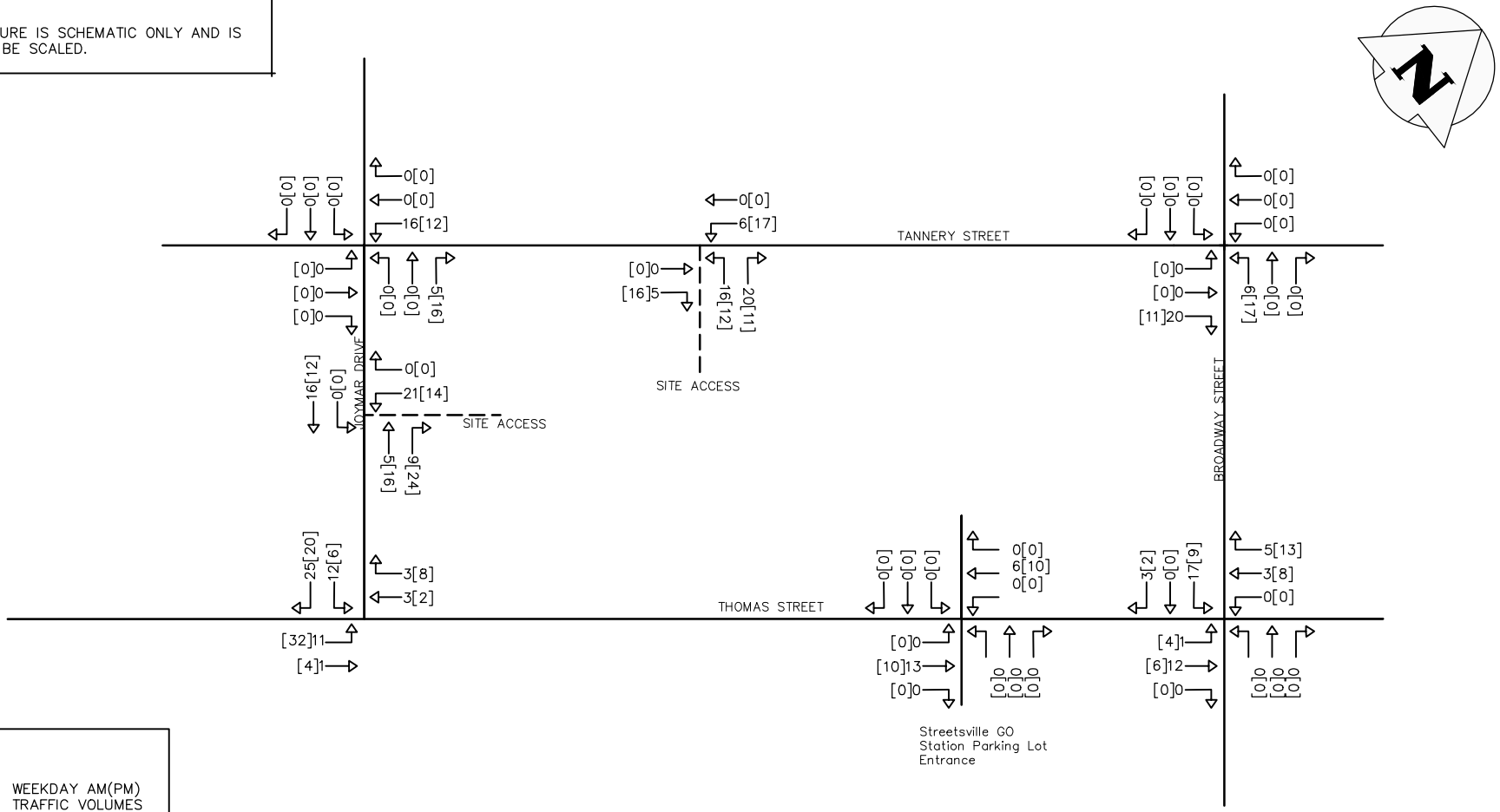
Drawn	Design	Project No.	
M.B.	K.S.		1419-4679
Check: K.S.	Check: K.S.	Scale: N.T.S	Dwg.: FIG. 06

NOTE:

THIS FIGURE IS SCHEMATIC ONLY AND IS NOT TO BE SCALED.



LEGEND:

XX(XX) WEEKDAY AM(PM) TRAFFIC VOLUMES

66 THOMAS STREET CITY OF MISSISSAUGA

TRIP ASSIGNMENT

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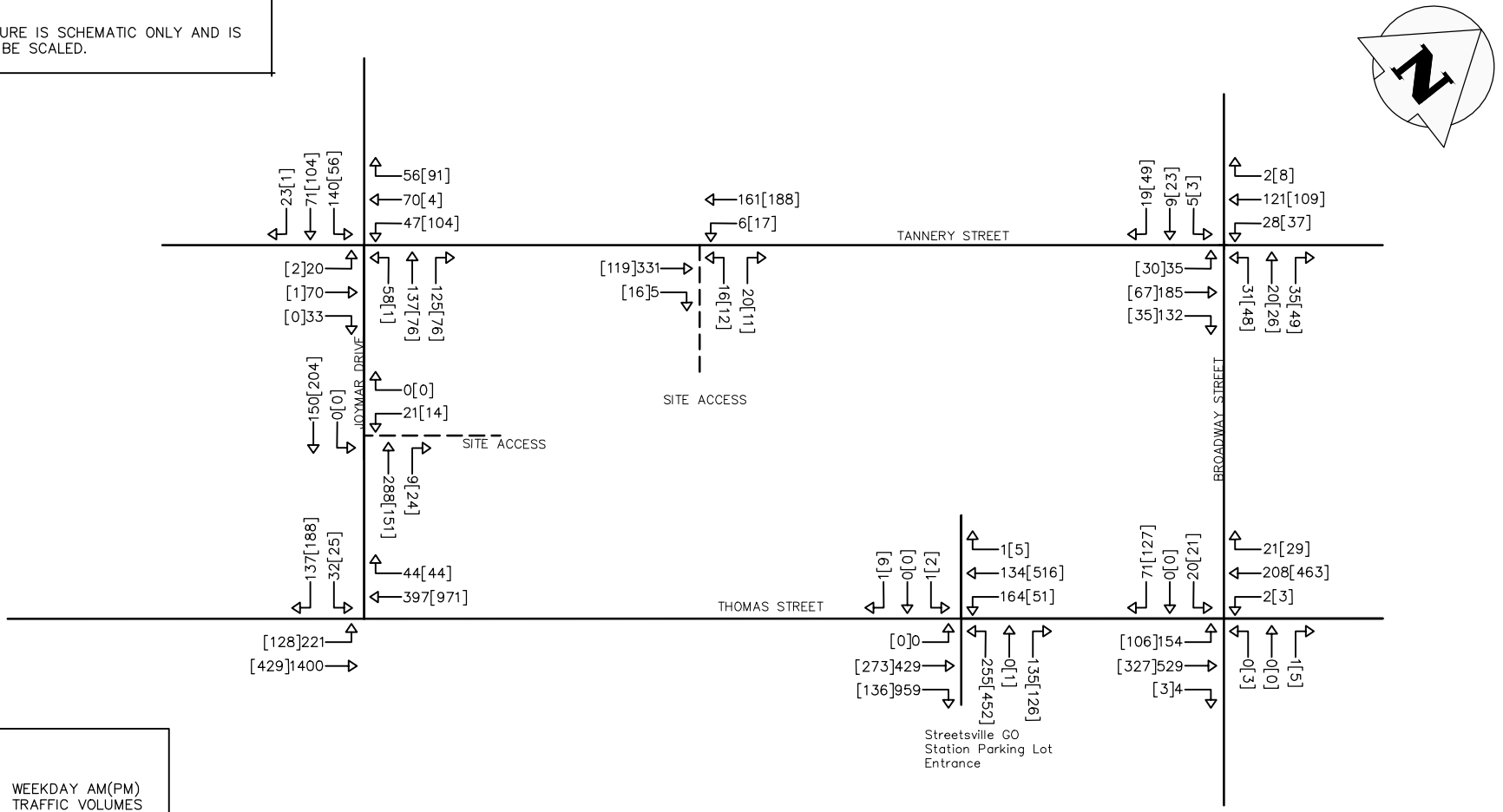
Drawn	Design	Project No.	
M.B.	K.S.	1419–4679	
Check K.S.	Check K.S.	Scale N.T.S	Dwg. FIG. 07

NOTE:

THIS FIGURE IS SCHEMATIC ONLY AND IS NOT TO BE SCALED.



LEGEND:

XX(XX) WEEKDAY AM(PM) TRAFFIC VOLUMES

66 THOMAS STREET CITY OF MISSISSAUGA

2024 FUTURE TOTAL TRAFFIC VOLUMES

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905 875-4915 F
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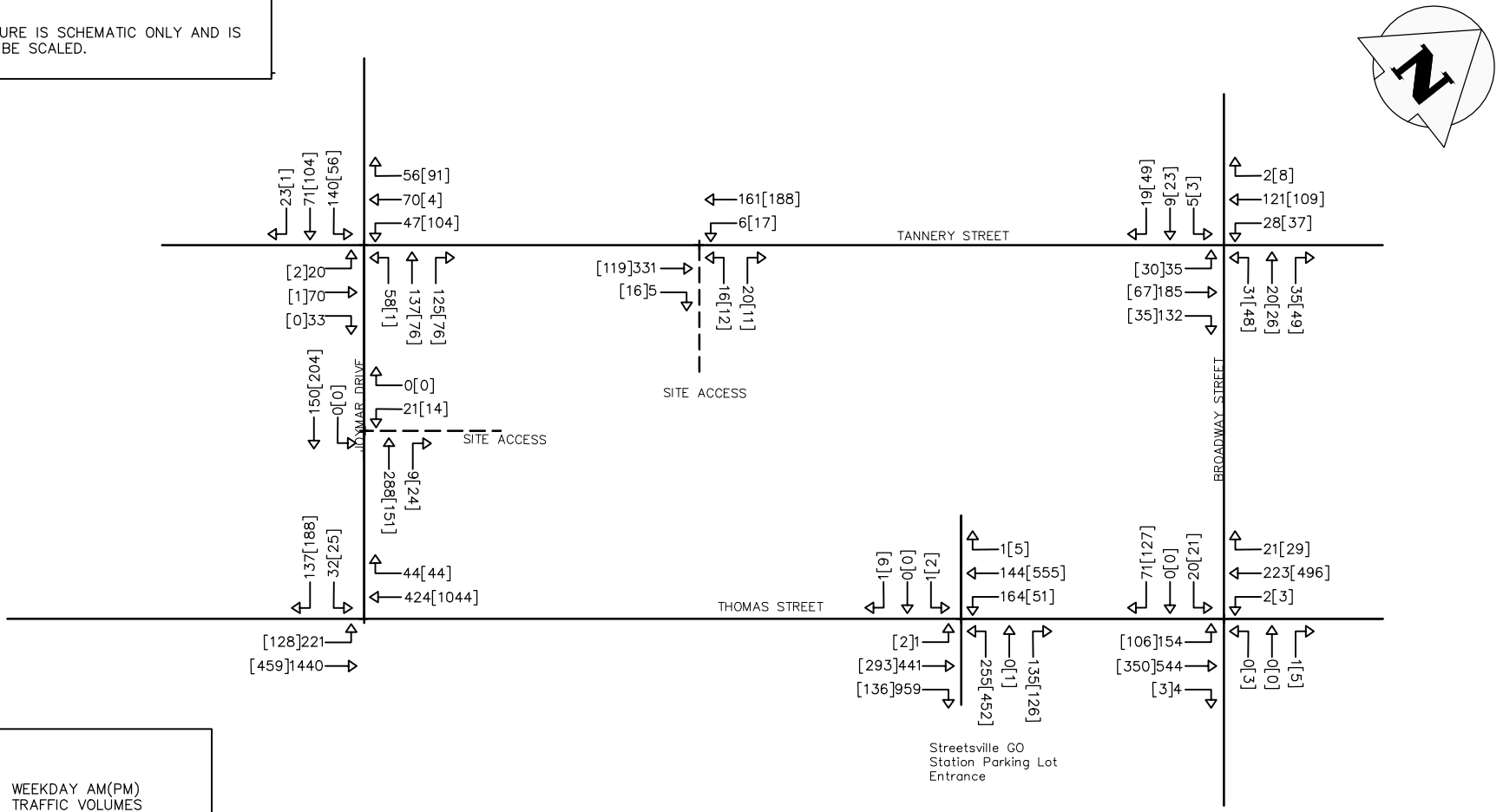
Drawn	Design	Project No.	
M.B.	K.S.	1419–4679	
Check K.S.	Check K.S.	Scale N.T.S	Dwg. FIG. 08

NOTE:

THIS FIGURE IS SCHEMATIC ONLY AND IS NOT TO BE SCALED.



LEGEND:

XX(XX) WEEKDAY AM(PM) TRAFFIC VOLUMES

66 THOMAS STREET CITY OF MISSISSAUGA

2031 FUTURE TOTAL TRAFFIC VOLUMES

CROZIER & ASSOCIATES Consulting Engineers

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905 875-4915 F
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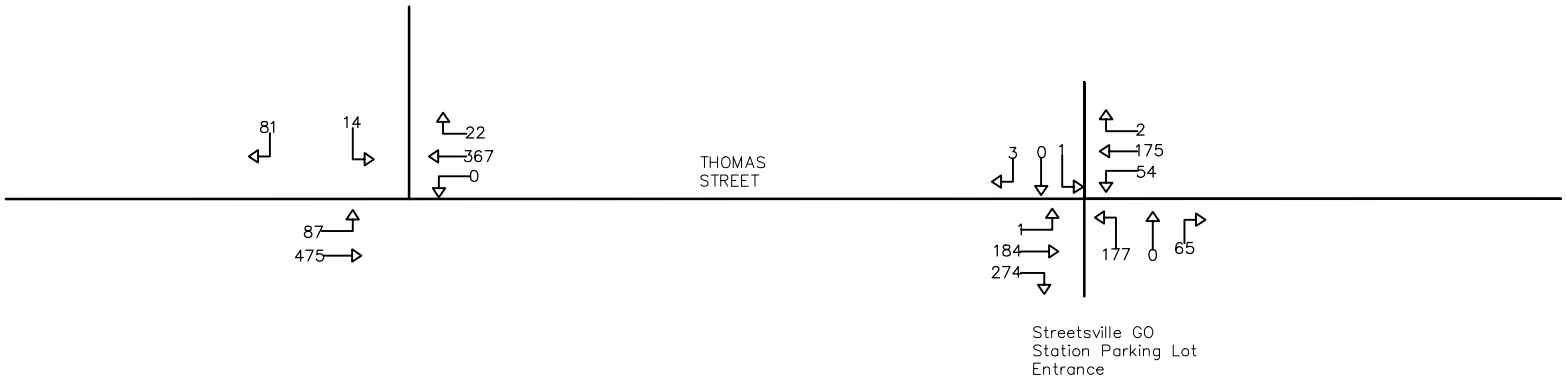
Drawn	Design	Project No.	
M.B.	K.S.	1419–4679	
Check K.S.	Check K.S.	Scale N.T.S	Dwg. FIG. 09

NOTE:
THIS FIGURE IS SCHEMATIC ONLY AND IS NOT TO BE SCALED.



LEGEND:

XX(XX) WEEKDAY AM(PM) TRAFFIC VOLUMES

66 THOMAS STREET CITY OF MISSISSAUGA

2031 FUTURE TOTAL AVERAGE HOUR VOLUMES

CROZIER & ASSOCIATES Consulting Engineers
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Suite 100
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905 875-4915 F
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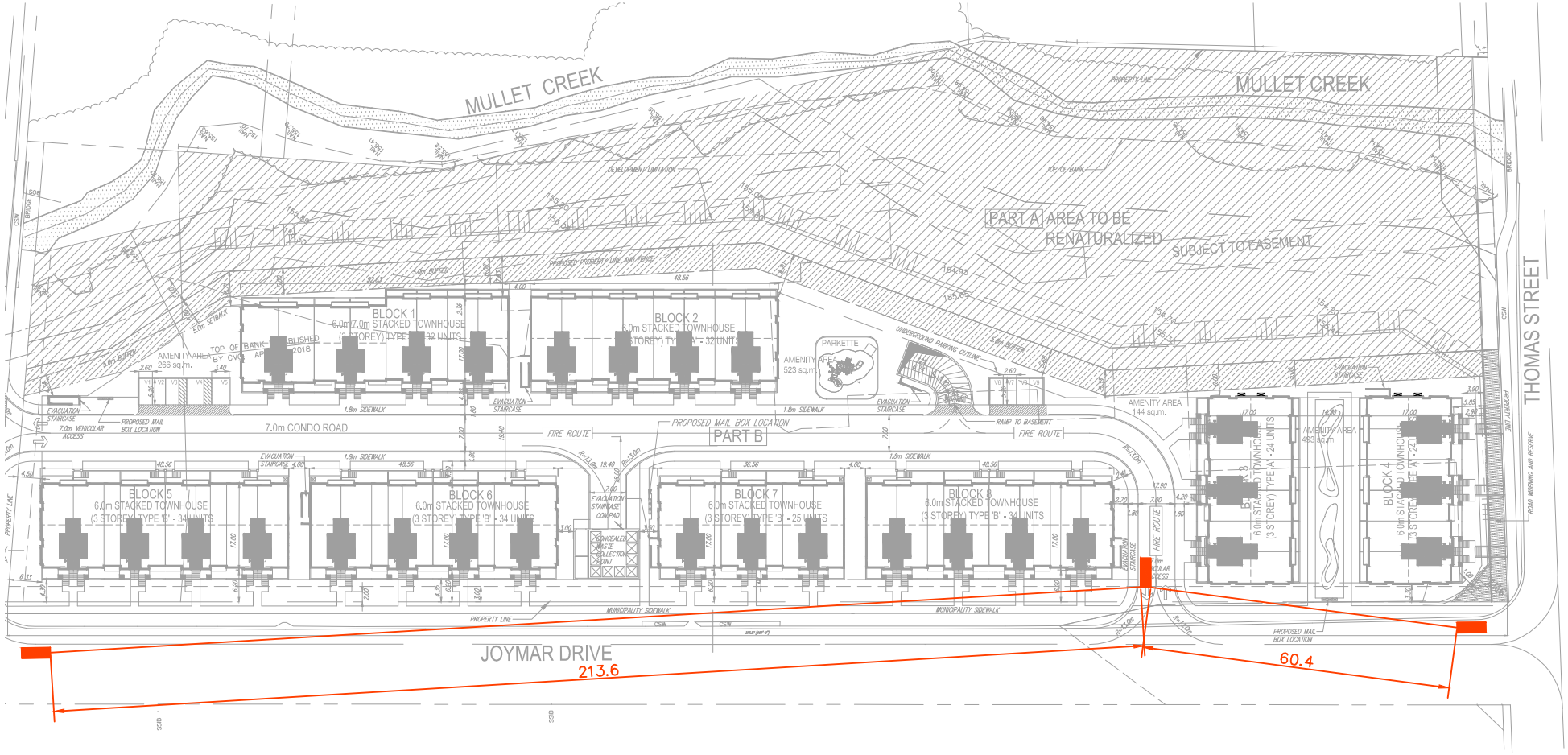
Drawn	Design	Project No.	
M.B.	K.S.	1419–4679	
Check K.S.	Check K.S.	Scale N.T.S	Dwg. FIG. 10



LEGEND:

SIGHT DISTANCE FOR A VEHICLE EXITING THE PROPOSED ACCESS

PASSENGER VEHICLE

66 THOMAS STREET CITY OF MISSISSAUGA

SIGHT DISTANCE ON JOYMAR ROAD

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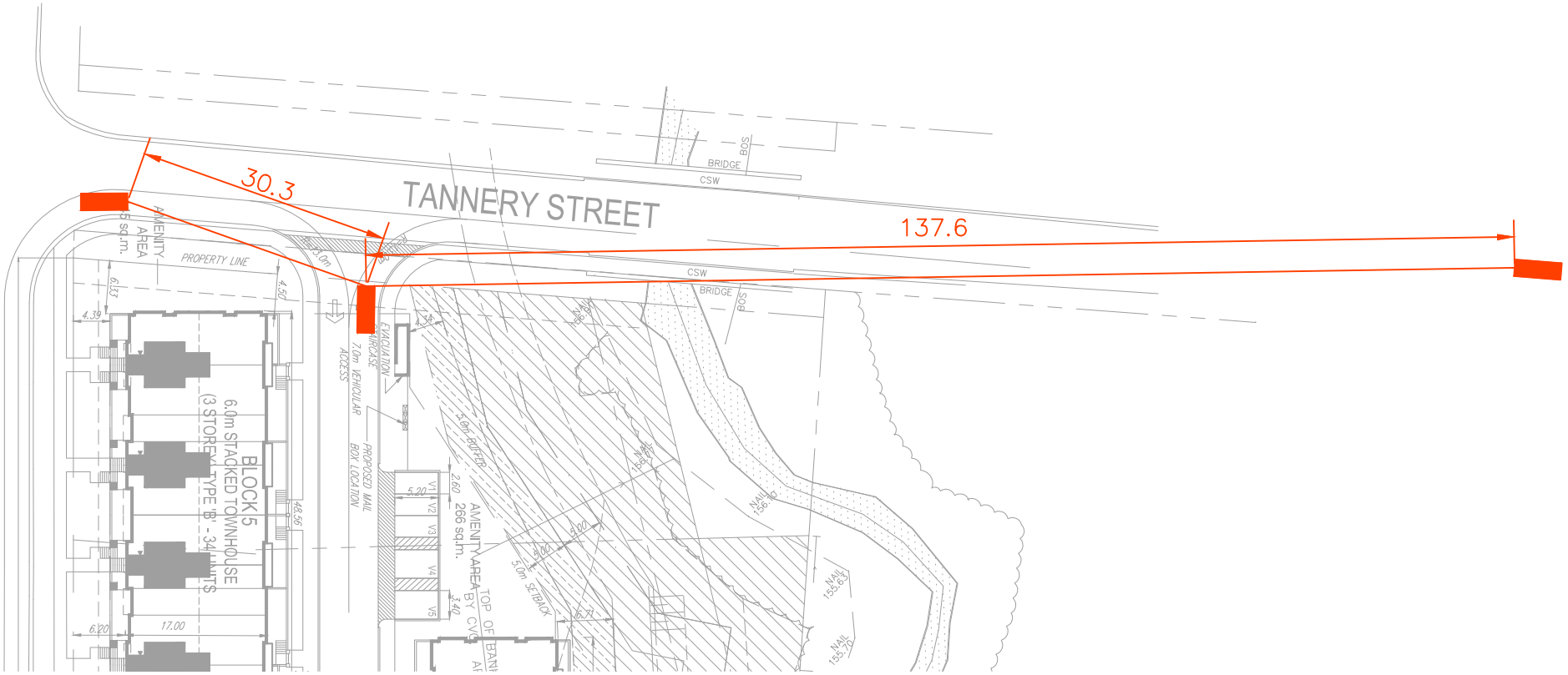
Drawn	Design	Project No.	
M.B.	K.S.	1419–4679	
Check	Check	Scale	Dwg.
K.S.	K.S.	N.T.S	FIG. 11



LEGEND:

SIGHT DISTANCE FOR A VEHICLE EXITING THE PROPOSED ACCESS

PASSENGER VEHICLE

66 THOMAS STREET CITY OF MISSISSAUGA

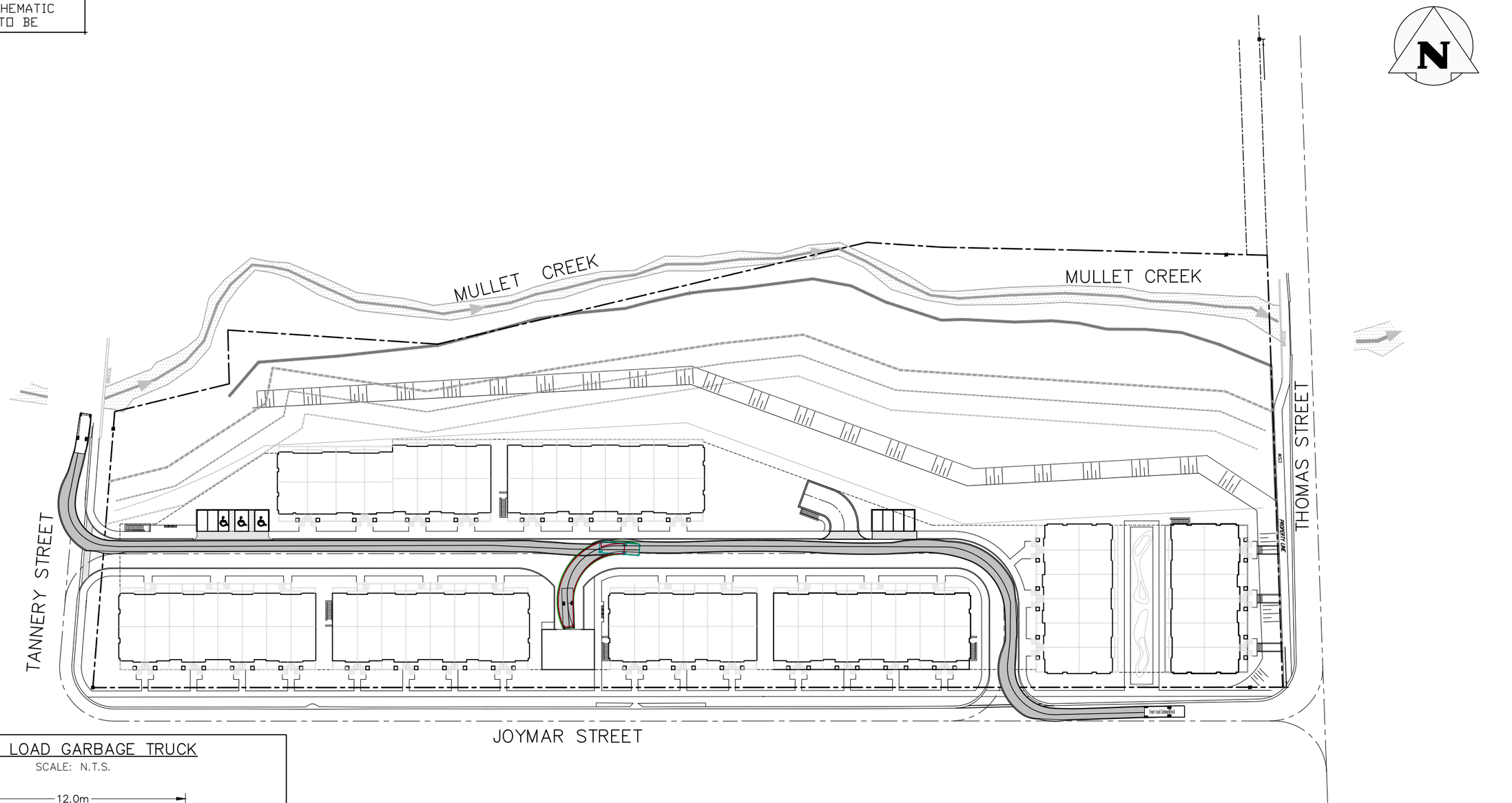
SIGHT DISTANCE ON TANNERY STREET

CROZIER & ASSOCIATES Consulting Engineers

2800 High Point Drive
Suite 100
Milton, ON L9T 6P4
905 875-0026 T
905 875-4915 F
www.cfcrozier.ca

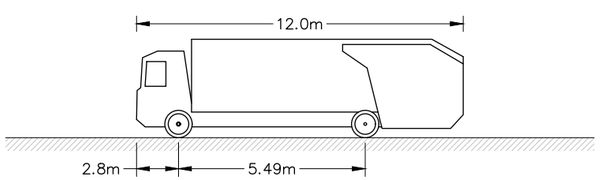
Drawn	Design	Project No.	
M.B.	K.S.		1419-4679
Check	Check	Scale	Dwg.
K.S.	K.S.	N.T.S	FIG. 12

NOTE:
THIS FIGURE IS SCHEMATIC ONLY AND IS NOT TO BE SCALED.



FRONT LOAD GARBAGE TRUCK

SCALE: N.T.S.



VEHICLE STATISTICS:

OVERALL VEHICLE LENGTH:	12.00 m
OVERALL VEHICLE WIDTH:	2.40 m
OVERALL VEHICLE HEIGHT:	4.10 m
MIN. BODY/GROUND CLEARANCE:	0.30 m
VEHICLE TRACK WIDTH:	2.40 m
LOCK-TO-LOCK TIME:	6.00 sec
CURB TO CURB TURNING RADIUS:	14.00 m

66 THOMAS STREET

FRONT LOAD TRUCK TURN ANALYSIS

CROZIER & ASSOCIATES Consulting Engineers
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Milton, ON L9T 6P4
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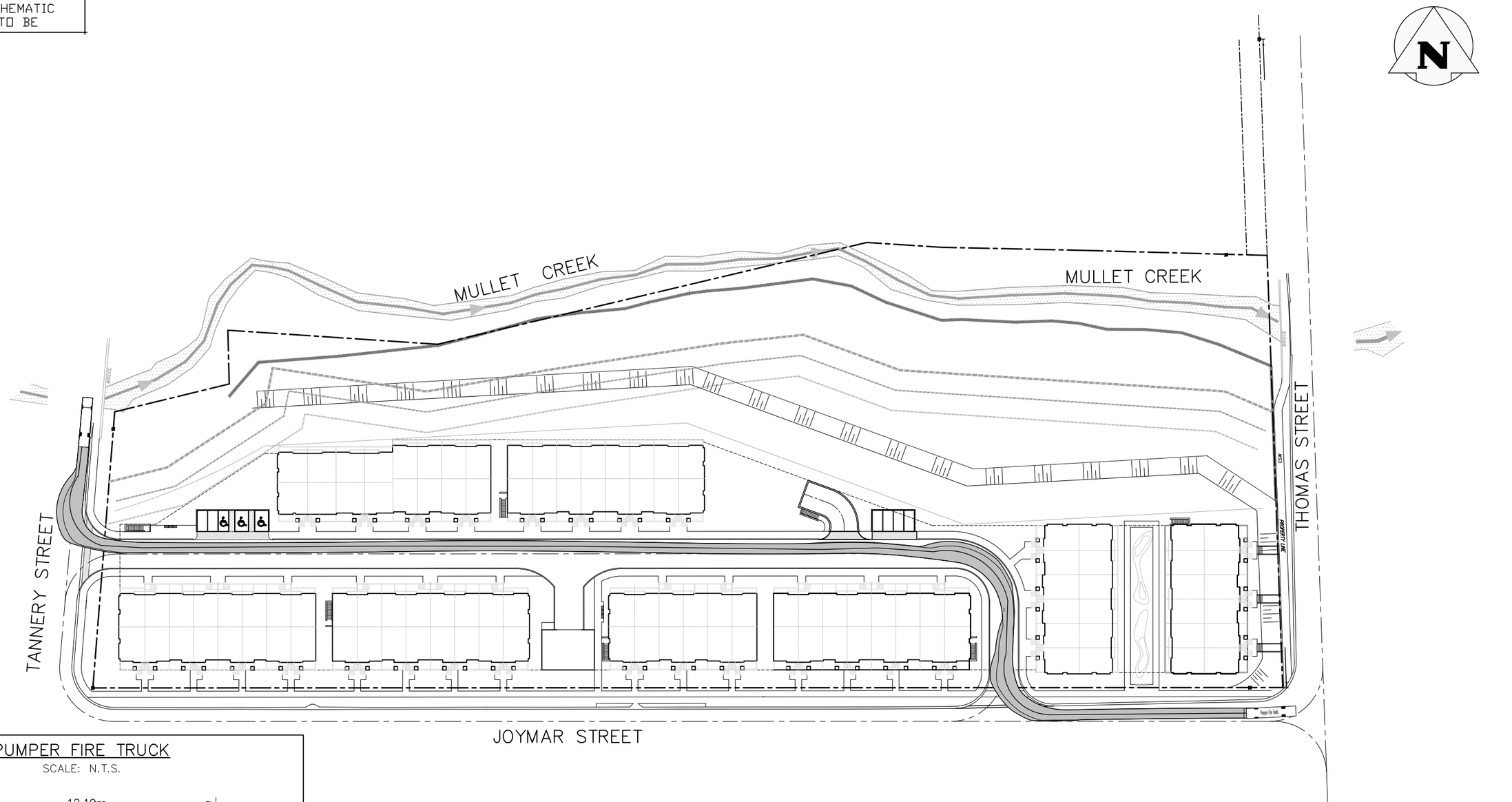
905 875-4915 F
www.cfcrozier.ca

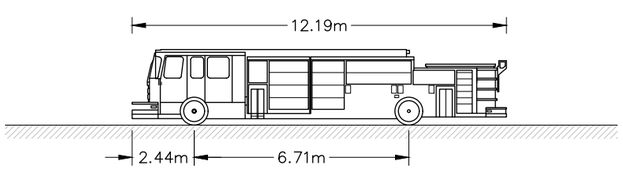
Drawn	Design	Project No.	
A.K.	K.S.		1419-4679
Check	Check	Scale	Dwg.
	K.S.	N.T.S	FIG. 13

NOTE:
THIS FIGURE IS SCHEMATIC ONLY AND IS NOT TO BE SCALED.



PUMPER FIRE TRUCK

SCALE: N.T.S.



VEHICLE STATISTICS:

OVERALL VEHICLE LENGTH:	12.19 m
OVERALL VEHICLE WIDTH:	2.49 m
OVERALL VEHICLE HEIGHT:	2.36 m
MIN. BODY/GROUND CLEARANCE:	0.20 m
VEHICLE TRACK WIDTH:	2.49 m
LOCK-TO-LOCK TIME:	5.00 sec
MAX. WHEEL ANGLE:	45.00°

66 THOMAS STREET

PUMPER FIRE TRUCK TURN ANALYSIS

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Drawn	Design	Project No.	
A.K.	K.S.		1419-4679
Check	Check	Scale	Dwg.
	K.S.	N.T.S	FIG. 14