TRANSPORTATION IMPACT STUDY

51 & 57 TANNERY STREET AND 208 EMBY DRIVE
HIGH-RISE RESIDENTIAL DEVELOPMENT

CITY OF MISSISSAUGA
REGION OF PEEL

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Revision Number	Date	Comments
Rev.0	April 2024	Issued for DARC Review
Rev.1	April 2024	Issued for DARC Submission

Executive Summary

C.F. Crozier & Associates (Crozier) was retained by NYX Capital Corp. Ltd. to complete a Transportation Impact Study (TIS) for a high-rise residential development situated at 51 & 57 Tannery Street and 208 Emby Drive in the City of Mississauga, Region of Peel.

The analysis undertaken herein was completed using the Draft Site Plan prepared by SRM, dated April 22nd, 2024. The development consists of one 12-storey and one 14-storey residential building connected by a 6-storey podium and consists of approximately 603 dwelling units.

The overall site proposes a total of 602 (507 residential spaces and 95 visitor spaces) vehicle parking spaces and 426 bicycle parking spaces (391 long-term spaces and 36 short-term spaces) and consists of multiple underground parking levels.

Existing Conditions

The study road network operates with a Level of Service "D" or better, except for the eastbound left-turn at the intersection of Queen Street and Tannery Street and the southbound left-turn at the intersection of Thomas Street and Joymar Drive in the weekday P.M. peak hour, which operate at Level of Service "E". Additionally, all queues are expected to be contained within their existing storage lengths except for eastbound left turns at the intersection of Queen Street and Tannery Street.

2028 Future Background Conditions

- All the study intersection operate similar to the existing conditions, except for southbound left-turns at the intersection of Thomas Street and Joymar Drive, which deteriorated to LOS "F" in the weekday PM peak hour.

- The 95th percentile queue length for the northbound left-turn at the intersection of Queen Street and Thomas Street, the southbound left-turn at the intersection of Thomas Street and Joymar Drive and the eastbound left-turn at the intersection of Queen Street and Tannery Street/Private Access are expected to increase in future background scenario.

Site Generate Trips

- The proposed development is expected to generate 159 two-way (42 inbound and 117 outbound) trips during the weekday A.M. peak hour and 187 two-way (116 inbound and 71 outbound) trips during the weekday P.M. peak hour.

2028 Future Background Conditions

- All the study intersections operate with a similar level of service to the future background conditions. However, control delay is expected to continue to increase for southbound left-turns at the intersection of Thomas Street and Joymar Drive during the weekday P.M. peak hour. The volume-to-capacity ratio of 0.92 is expected to be within the threshold of 1.00.

- Some 95th percentile queues may exceed the existing storage lengths, but nearly all average queue lengths are expected to be contained within the existing storage. However, the eastbound left-turn length at the intersection of Queen Street and Tannery Street should be considered to be lengthened by at least 15 metres in the future to allow average queue lengths in both peak hours to be contained within the storage length.

- The site access is expected to operate well with minimal delays and no queueing issues identified.

Site Access Review

Sight lines, Corner Clearance and Clear Throat Length are adequate for the proposed site accesses per the TAC standards. The vehicles turning right and left from site access via Tannery Street have sufficient sight distance.

Vehicle Maneuvering

Vehicle maneuverability diagrams were prepared and indicate that all design vehicles can circulate the proposed site adequately without encroaching on any curbs or obstacles.

Parking

A parking review and justification was conducted the development given the proposed parking supply is below the City's By-law requirement by 95 parking spaces. It is noted that proposed resident and visitor parking supplies can be supported given the site is located close to existing transit uses and based on a review of observed parking rates, as well as previous exceptions within the City of Mississauga. Furthermore, the site is supported by a number of Transportation Demand Management (TDM) measures to support the reduced parking supply.

Transportation Demand Management (TDM)

The proposed TDM measures include "hard" measures such as cycling and pedestrian facilities, as well as "soft" measures such as unbundling the parking supply and providing transit incentives to reduce single occupant vehicle usage within the study area.

The analysis contained herein was prepared using the most recent Site Plan prepared by SRM, dated April 22nd, 2024. Any minor changes to the data will not materially affect the conclusions contained within this report.

Conclusion

In conclusion, the Zoning By-Law Amendment (ZBA) and Official Plan Amendment (OPA) can be supported for the proposed development at 51 & 57 Tannery Street and 208 Emby Drive 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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Figure 15: Passenger Vehicle Maneuver

Figure 16: Passenger Vehicle Maneuver – Parking Spaces

1.0 Introduction

C.F. Crozier & Associates (Crozier) was retained by NYX Tannery LP. to complete a Transportation Impact Study (TIS) for a high-rise residential development situated at 51 & 57 Tannery Street and 208 Emby Drive in the City of Mississauga, Region of Peel.

The purpose of the Transportation Impact Study (TIS) is to evaluate the impacts of the proposed development on the surrounding road network and recommend transportation-related mitigation measures, if required.

It is noted that recently the City's Official Plan and Zoning Bylaw were amended to permit a similar but significantly lower density proposal. This previous approval included a Transportation Impact Study prepared by LEA Consulting Ltd based on a previous site plan prepared by Kirkor Architects & Planners. It is also noted that as part of that development, an extension of the existing Emby Drive alignment to the south was requested by the City that would extend through the subject site to Tannery Street opposite Rutledge Road. However, as agreed upon consultation with the City staff, the extension will no longer be provided.

The proposed massing for the land since the previous application has been revised, and now the development proposes a 14-story and a 12-storey residential building connected by 6 storey podium totaling approximately 633 units.

The Transportation Impact Study is prepared to support Official Plan Amendment and Zoning By-Law Amendment applications. The study has been completed in accordance with procedures set out in the City of Mississauga's updated Transportation Impact Study Guidelines in March 2023.

A Terms of Reference (ToR) encompassing the scope of the Transportation Impact Study was circulated to the City of Mississauga on July 19th, 2023, and comments were received on October 10th, 2023. Correspondence from the City is included in **Appendix A.**

1.1 Development Lands

The existing subject lands cover an area of approximately 1.6 ha and currently consist of two residential properties, a commercial property and associated at grade parking lots. The site is located in a mixed commercial and residential neighborhood and is bounded by CP railway tracks to the east, commercial properties to the south, a residential property to the west, and Tannery Street to the north.

The property is located in Streetsville area of Mississauga and is located within a 10-minute walk from the Streetsville GO station.

The Site Location is included in **Figure 1.**

1.2 Development Proposal

Per the most recent Site Plan prepared by SRM dated April 22nd, 2023, the elements envisioned for the proposed residential development include:

- One 14-storey and one 12-storey building connected by 6-storey podium consisting of 633 dwelling units.
- One Multi-Use trail is proposed on the east side of the proposed development and a conceptual location of pedestrian connection is shown on the east side.

- A total of 602 parking spaces consisting of 594 underground parking spaces, 8 at-grade parking spaces. Of the 602 parking spaces, 507 are proposed for residential use and 95 are proposed for visitor use.

- A total of 426 bicycle parking spaces consisting of 391 long-term spaces and 36 short-term spaces.

- A full-moves access via Tannery Street located approximately 160 metres from the existing intersection of Joymar Drive and Tannery Street and 65 metres from the CP railway track.

The development is anticipated to be fully built out by the year 2028. The most recent site plan is included in **Appendix B.**



Legend	51 & 57 Tannery Street and 208 Emby Drive	CROZIER CONSULTING ENGINEERS	Figure 1
Site Boundary	Site Location		Project No. 1241-6659 Date. 2023.07.31 Analyst. Aarzoo D

2.0 Existing Conditions

The following intersections were reviewed as part of the study area (per confirmation with City staff):

- Queen Street and Thomas Street (Signalized)
- Thomas Street and Broadway Street (Unsignalized)
- Thomas Street and Streetsville GO Station Entrance (Signalized)
- Thomas Street and Joymar Drive (Unsignalized)
- Joymar Drive and Tannery Street (Unsignalized)
- Tannery Street and Rutledge Road (Unsignalized)
- Tannery Street and Broadway Street/Crumbie Street (Unsignalized)
- Queen Street and Tanner Street (Signalized)

The following section provides a description of the study area from a transportation context, as well as a traffic operations analysis of the study road network.

2.1 Study Road Network

Queen Street South is a north-south two-lane roadway with one lane in each direction. It is classified as a major collector under Mississauga Official Plan – Part 2. It is located east of the subject lands and has a posted speed limit of 40 km/h.

Thomas Street is an east-west four-lane roadway. It is classified as major collector under Mississauga Official Plan – Schedule 5 and consists of two lanes in each direction. The roadway is located south of subject lands and has a posted speed limit of 50 km/hr.

Tannery Street is an east-west two-lane roadway. It is classified as minor collector under Mississauga Official Plan – Schedule 5 and consists of one lane in each direction. The roadway is located south of subject lands and has an assumed speed limit of 40 km/hr.

Joymar Drive is a north-south two-lane roadway. It is classified as minor collector under Mississauga Official Plan – Schedule 5 and consists of one lane in each direction. The roadway is located west of subject lands and has an assumed speed limit of 40 km/hr.

Rutledge Road is a north-south two-lane roadway. It is classified as local road under Mississauga Official Plan – Schedule 5 and consists of one lane in each direction. The roadway is located south of subject lands and has an assumed speed limit of 40 km/hr. On-street parking facility is available on west side of the roadway.

Crumbie Street/Broadway Street is a north-south two-lane local road with one lane in each direction. The roadway is located north-east of subject lands and is expected to have an assumed speed limit of 40 km/h. It terminates south at Thomas Street.

2.2 Active Transportation

The active transportation facilities were observed in the study road network and shown in **Table 1.**

Table 1: Existing Active Transportation

Roadways	Sidewalk	Bicycle
Queen Street	Available on both sides of the roadway	Under implementation on both sides of the roadway
Thomas Street	Available on both sides of the roadway	No bicycle lanes are present, and cyclists are expected to share the road with vehicles
Tannery Street	Available on both sides of the roadway	
Joymar Drive	Available on west side of the roadway	
Broadway Street	Available on east side of the roadway	
Crumbie Street	Available on both sides of the roadway	
Rutledge Road	Available on east side of the roadway	

The subject site is walkable as the study road network provides good pedestrian connectivity with sidewalks on both sides of the roadway on Major and Minor Collectors and sidewalk on at least one side of the local roadway. No separate bicycle lanes are currently present, and the cyclists are expected to share roadway with vehicles, with exception of Queen Street, where an existing cycle lane will be further expanded southbound based on the City's Cycling Master Plan. Additionally, separate bicycle lanes are proposed for Thomas Street as part of the proposed cycling network outlined in the Cycling Master Plan.

2.3 Study Intersections

The intersection of **Queen Street and Thomas Street** is a three-legged signalized intersection. The eastbound approach consists of single left and right-turn lane. The northbound approach consists of an auxiliary left-turn lane and shared though/right-turn lane. The southbound approach consists of a single shared through/right-turn/left-turn lane.

The intersection of **Thomas Street and Broadway Street** is a three-legged stop control intersection with stop control on Broadway Street. The eastbound approach consists of single shared though/left-turn lane and single shared through/right-turn lane. The westbound approach consists of a single shared though/left-turn lane and single shared through/right-turn lane. The southbound approach consists of a single shared through/right-turn/left-turn lane.

The intersection of **Thomas Street and Streetsville Go Station Entrance/Private Access** is a four-legged signalized intersection. The eastbound approach consists of single shared though/left-turn lane and single shared through/right-turn lane. The westbound approach consists of a single shared though/left-turn lane and single shared through/right-turn lane. The southbound approach consists of a single shared through/right-turn/left-turn lane. The northbound approach consists of a single left-turn and right-turn lane.

The intersection of **Thomas Street and Joymar Drive** is a three-legged stop control intersection with stop control on Joymar Drive. The eastbound approach consists of single shared though/left-turn lane and single shared through/right-turn lane. The westbound approach consists of a single shared

though/left-turn lane and single shared through/right-turn lane. The southbound approach consists of an auxiliary left-turn lane and shared through/right-turn lane.

The intersection of **Tannery Street and Joymar Drive** is a four-legged stop control with stop control on all approaches and consists of shared though/right/left-turn lane at all the approaches.

The intersection of **Tannery Street and Rutledge Road** is a three-legged stop control intersection with stop control on Rutledge Road and shared though/right/left-turn lane at all the approaches.

The intersection of **Tannery Street and Broadway Street/Crumbie Street** is a four-legged stop control intersection with stop control on north and south approach. All the approaches consist of a shared through/right/left-turn lane. The intersection is located approximately 25 metre east of the railway crossing.

The intersection of **Queen Street and Tannery Street/Private Access** is a four-legged signalized intersection. The northbound and southbound approaches consist of a shared though/right/left-turn lane. The eastbound approach consists of an auxiliary left-turn lane and a shared though/right-turn lane.

Figure 2 illustrates the study roadways.

2.4 Transit Network

The subject site currently has access to MiWay Transit Service with bus stops located within 260 metres on Queen Street for MiWay Route 44, which runs from Meadowvale Town Centre to the University of Toronto Mississauga (UTM) campus and on Thomas Street for MiWay Route 9, which runs from Churchill Meadows Community Centre to the City Centre Terminal. The subject site is also within a ~10-minute walk from the Streetsville GO Station.

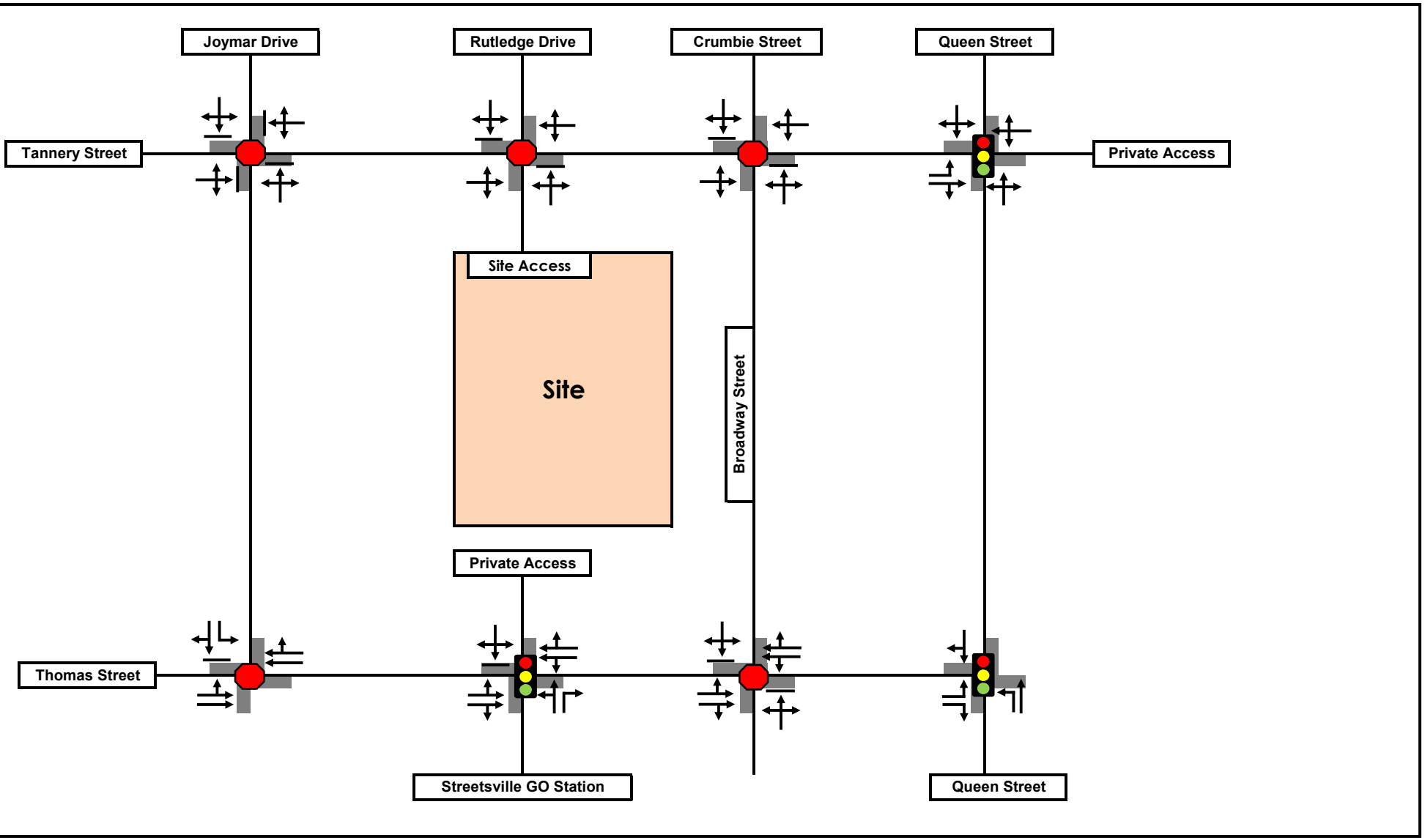
Table 2: Existing Weekday Transit Service Headway

Route	AM Peak Hour	PM Peak Hour
MiWay Transit (Route 9 – Rathburn to Thomas)	25 minutes	25 minutes
MiWay Transit (Route 44 – Mississauga Road)	20 minutes	20 minutes
GO Transit (Route 21 – Milton)	15 minutes	15 minutes

Within the GO Transit network, the Streetsville GO Station is located south of Thomas Street. During the peak periods, GO trains operate with headway of approximately 15 minutes, while headways during the off-peak period are approximately 30 minutes. The Milton line connects Streetsville to Union Station in the east and to Milton GO Station in the west.

The available MiWay Transit 44 and 9 routes also provide direct connections to major destinations such as Meadowvale Town Centre, City Centre, and UTM. MiWay Routes 44 and 9 operate at headways of 20 minutes and 25 minutes respectively during both the am and pm weekday peak hours.

The transit schedules for MiWay and GO are included in **Appendix C** and **Figure 3** shows the existing transit network surrounding the proposed development.



Legend

xx A.M. Peak Hour Traffic Volumes
(xx) P.M. Peak Hour Traffic Volumes
{xx} Weekend Peak Hour Traffic Volumes

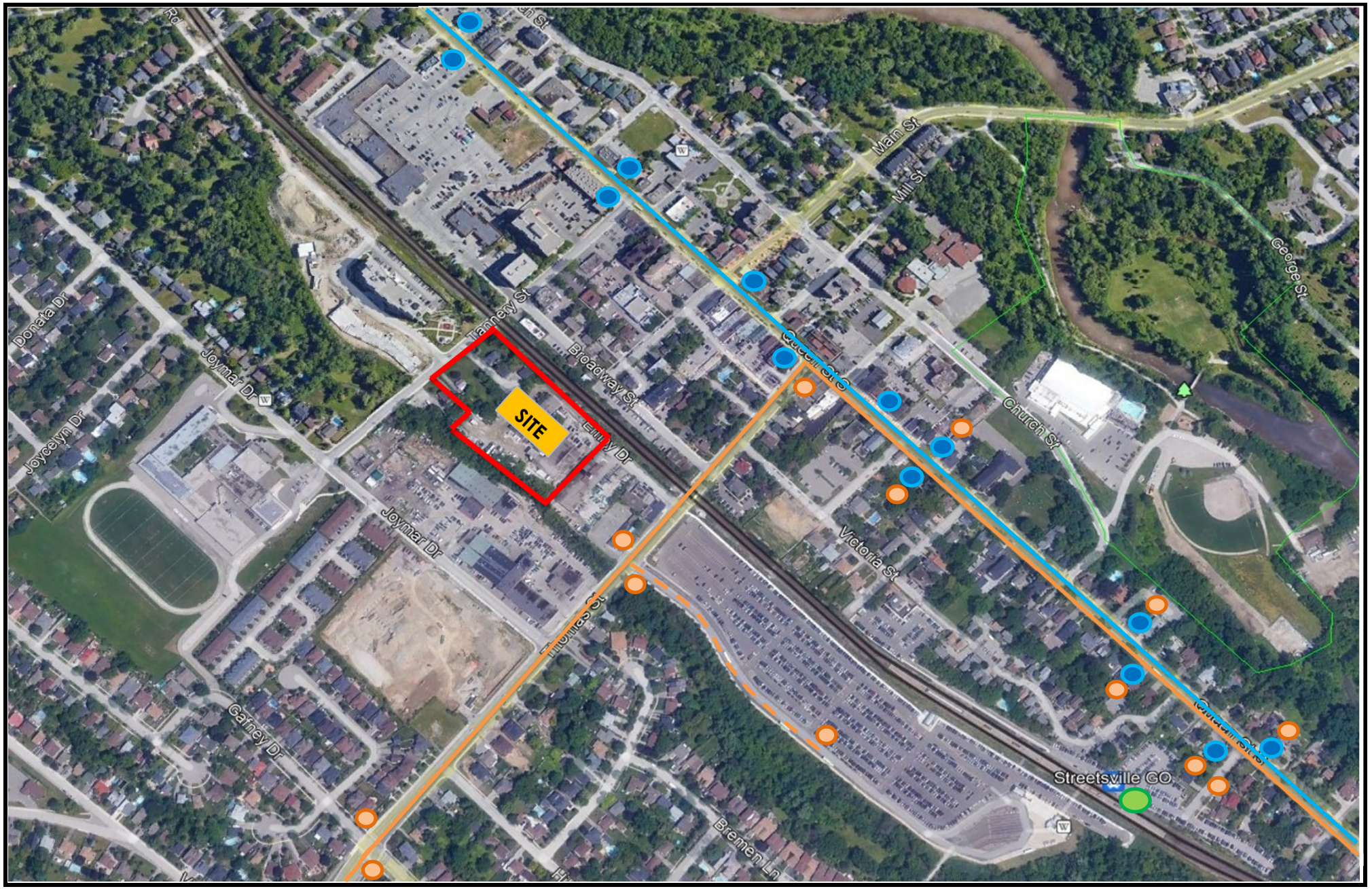
51 & 57 Tannery Street and 208 Emby Drive

Study Road Network

CROZIER CONSULTING ENGINEERS

Figure 2

Project No. 1241-6659
Date. 2024.03.20
Analyst. Aarzoo D



Legend	51 & 57 Tannery Street and 208 Emby Drive	CROZIER CONSULTING ENGINEERS	Figure 3
MiWay Transit Route 9 MiWay Transit Route 44 Go Station	Transit Routes		Project No. 1241-6659 Date. 2024.03.20 Analyst. Aarzoo D

2.5 Traffic Data

Turning movement counts at the study intersections were conducted by Spectrum Traffic Inc. on Wednesday, May 10th, 2023, between the weekday A.M. peak hours of 6:00 A.M. and 10:00 A.M. and weekday P.M. peak hours of 3:00 P.M. and 7:00 P.M except for the intersection of Tannery Street and Broadway Street/Crumbie Street, where the counts were conducted on Thursday March 30th, 2023 between the weekday A.M. peak hours of 6:00 A.M. and 10:00 A.M. and weekday P.M. peak hours of 3:00 P.M. and 7:00 P.M

A peak hour factor of 0.92 was used for all movements on all approaches in the study area per the City of Mississauga's TIS guidelines.

The traffic data containing turning movement counts and signal timings is attached in **Appendix D**.

Moreover, the newly obtained traffic counts were compared with the pre-pandemic 2017 traffic counts from the previous submission by LEA Consulting Ltd. The link volumes along Joymar Drive, Thomas Street, and Tannery Street were compared between 2023 and 2017, as presented in **Table 3**.

Table 3: Traffic Volumes Comparison

Direction	2023		2017		Difference	
Joymar Drive	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
Northbound	187	113	9	36	178	77
Southbound	155	149	8	102	147	47
Thomas Street	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
Eastbound	780	498	1224	470	-444	28
Westbound	243	384	198	424	45	-40
Tannery Street	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
Eastbound	197	101	401	207	-204	-106
Westbound	156	141	154	161	2	-20

Observations from **Table 3** indicate a significant increase in northbound and southbound volumes along Joymar Drive, likely driven by developments in the southwest corner of Joymar Drive and Thomas Street, as well as traffic from the secondary school, which had low volumes of traffic shown in the 2017 data.

In contrast, there's a noticeable decrease in eastbound traffic volumes along Thomas Street, primarily attributable to reduced traffic post-pandemic, including trips to/from the Streetsville GO station. Given that traffic volumes are generally stable post-pandemic, it is not expected that AM eastbound traffic along Tannery Street and Thomas Street will return to the pre-pandemic volumes.

Therefore, the new data collection is used for the study over the previous data. Furthermore, the traffic growth provided in section 3.1 is expected to encompass the increase in traffic volumes in the future years along Thomas Street and Joymar Drive.

2.6 Traffic Modelling

The evaluation of intersections within this report is conducted based on the methodology outlined in the Highway Capacity Manual (2000), using Synchro 11 modelling software. Intersections are assessed using a Level of Service (LOS) metric, with ranges of intersection delays 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 observed during commuter peak hours when significant vehicle volumes would cause lengthy travel times. The Level of Service definitions for signalized and stop-controlled intersections are included in **Appendix E.**

The City/Town/Region's Transportation Impact Study Guidelines provide the following parameters indicating critical operations requiring mitigation measures:

- For signalized intersections,
    - Volume-to-capacity (v/c) ratio of 0.85 or greater for through or shared turning movements, and a v/c ratio of 1.00 or greater for exclusive turning movements.
    - 95th percentile queues exceeding the available storage length.

- For stop-controlled intersections:
    - A Level of Service "E" or worse, or movement v/c ratios exceeding 0.85
    - 95th percentile queues exceeding the available storage length.

2.7 Intersection Operations

The traffic operations at the study intersections were analyzed based on observed traffic volumes during the weekday A.M. and P.M. peak hours.

Table 4 summarizes the existing traffic operations within the study area.

Table 4: 2023 Existing Levels of Service

Intersection	Movement	Level of Service		Control Delay		V/C Ratio	
		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
Queen St & Thomas St (Signal)	Overall	B	B	15.5	12.5	0.75	0.71
	EBL	D	D	44.6	50.7	0.75	0.71
	EBR	A	B	5.2	11.4	0.32	0.48
	NBL	A	A	8.5	8.5	0.16	0.30
	NBTR	A	A	8.7	6.7	0.31	0.31
	SBTR	A	A	9.3	6.8	0.49	0.56
Thomas St & Broadway St (Stop – Minor)	Overall	C	D	16.8	25.8	0.14	0.28
	EBLTR	A	A	3.5	4.3	0.12	0.12
	WBLTR	A	A	0.1	0.0	0.09	0.14
	NBLTR	C	D	16.8	25.8	0.01	0.04
	SBLTR	B	B	11.1	13.7	0.14	0.28
Thomas St & Streetsville Go Entrance (Signal)	Overall	B	C	15.0	20.3	0.80	0.74
	EBLT	B	B	11.4	16.8	0.31	0.40
	EBR	A	A	2.5	3.6	0.46	0.13
	WBL	A	A	3.0	10.0	0.12	0.10
	WBTR	A	B	7.8	14.3	0.17	0.52
	NBTL	E	D	61.1	42.7	0.80	0.74
	NBR	C	C	24.2	25.3	0.16	0.20
	SBLTR	A	A	0.0	2.3	0.00	0.03
Thomas St & Joymar Dr (Stop-Minor)	Overall	D	**E**	29.6	39.4	0.32	0.32
	EBLT	A	A	4.2	4.3	0.32	0.20
	WBTR	A	A	0.0	0.0	0.14	0.32
	SBL	D	**E**	29.6	39.4	0.14	0.25
	SBR	B	B	10.3	13.8	0.12	0.27
Tannery St & Joymar Dr (All-Way Stop)	Overall	B	A	10.4	8.7	0.32	0.23
	EBTLR	A	A	9.0	7.5	0.16	0.01
	WBTLR	A	A	9.6	8.7	0.24	0.23
	NBTLR	A	A	9.9	8.2	0.29	0.18
	SBTLR	B	A	10.4	8.3	0.32	0.13
Tannery St & Rutledge Rd (Stop-Minor)	Overall	B	A	12.1	9.8	0.11	0.11
	EBLT	A	A	0.1	0.2	0.00	0.00
	WBTR	A	A	0.0	0.0	0.11	0.11
	SBLR	B	A	12.1	9.8	0.01	0.01
Tannery St & Broadway St/Crumbie St (Stop-Minor)	Overall	B	B	13.4	11.9	0.15	0.19
	EBLTR	A	A	1.0	2.3	0.02	0.02
	WBLTR	A	A	1.0	1.9	0.02	0.02
	NBLTR	B	B	13.0	11.9	0.15	0.19
	SBLTR	B	B	13.4	11.4	0.10	0.14

Intersection	Movement	Level of Service		Control Delay		V/C Ratio	
		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
Queen St & Tannery St (Signal)	Overall	B	A	11.9	8.6	0.58	0.55
	EBL	D	**E**	52.1	58.0	0.58	0.55
	EBTR	B	B	15.0	17.0	0.27	0.24
	WBLTR	C	C	26.6	27.5	0.09	0.08
	NBLTR	A	A	7.7	3.9	0.42	0.46
	SBLTR	A	A	5.6	4.8	0.37	0.40

Note 1: The Level of Service of a signalized intersection is based on the average control delay per vehicle (Synchro/ICU). The Level of Service of a stop-controlled intersection is based on the delay associated with the critical minor road approach (HCM 2000).

Note 2: The critical v/c ratio is considered to be the maximum v/c ratio for movements at the intersection. In addition, all v/c ratios greater than 0.85 for through and shared turning movements, and 1.00 for exclusive turning movements are outlined and highlighted.

Table 5: 2023 Existing Queue Lengths

Intersection	Movement	Storage Length (m)	Queue Length			
			50th(m)		95th(m)	
			A.M.	P.M.	A.M.	P.M.
Queen St & Thomas St (Signal)	NBL	15	5	10	**15**	**15**
Thomas St & Joymar Dr (Stop-Minor)	SBL	10	-	-	5	**10**
Queen St & Tannery St (Signal)	EBL	20	**20**	**20**	**35**	**30**

Note: The queue lengths exceeding the available storage are outlined and highlighted.

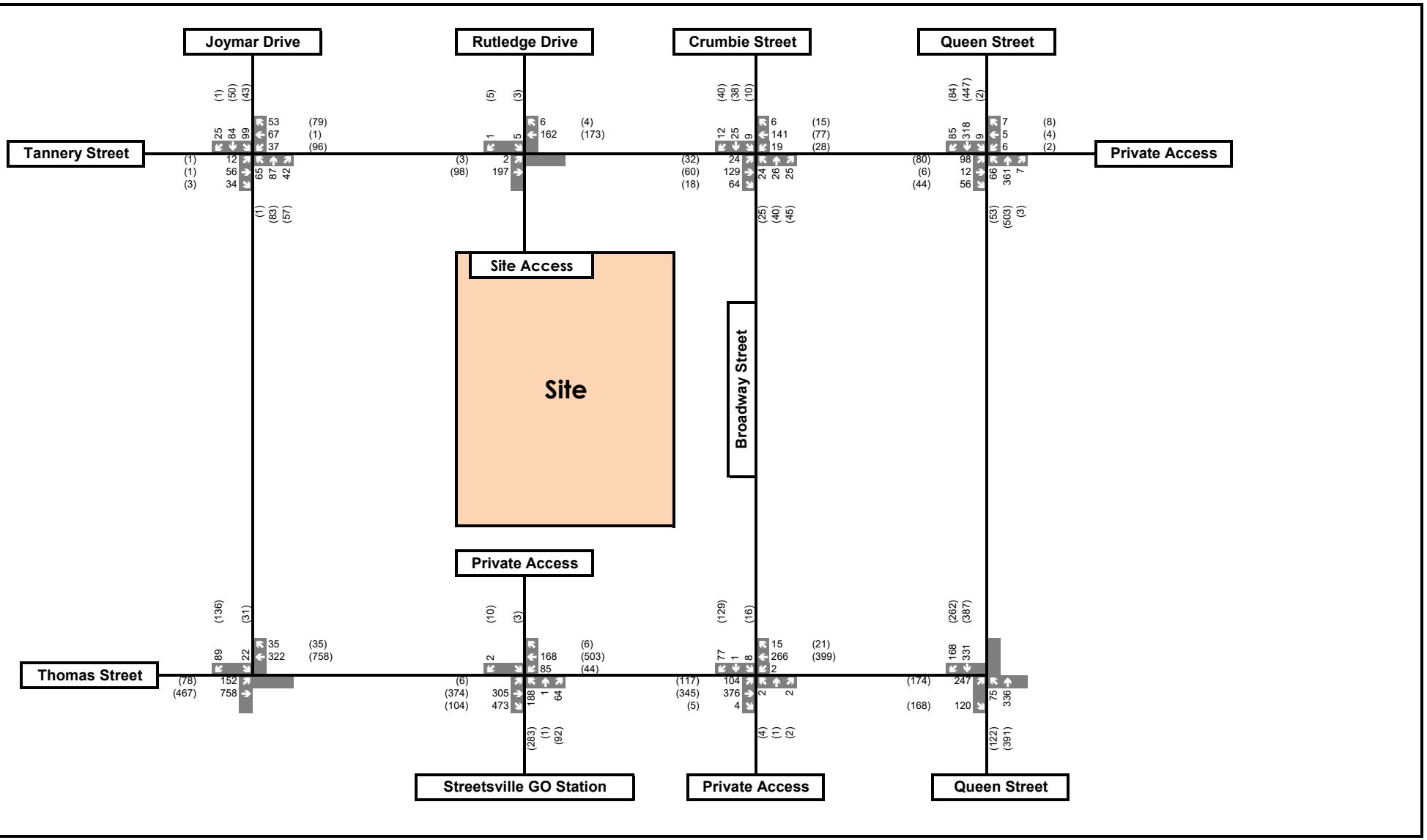
As indicated in **Table 4**, all the intersection approaches in the boundary road network operate with a Level of Service 'D" or better in the Weekday A.M. and P.M. peak with minimal delays and well under capacity except for the intersection of Thomas Street & Joymar Drive and Queen Street & Tannery Street/Private Access.

The southbound left-turn approach at the intersection of Thomas Street and Joymar Drive operates with a Level of Service "E" in the weekday P.M. peak hour. However, the delays are minimal, and no capacity concerns are observed at the intersection.

The eastbound left-turn approach at the intersection of Queen Street and Tannery Street/Private Access operates with a Level of Service "E" in the weekday P.M. peak hour. However, the delays are acceptable, and no capacity concerns are observed at the intersection.

Further, as per the **Table 5**, the 95th percentile queue length for the eastbound left-turn lane at the intersection of Queen Street and Tannery Street exceeds the available storage in both the peak hours. However, the 50th percentile queue length operates at/below the given storage.

Figure 4 shows the existing traffic volumes and detailed capacity analyses are included in **Appendix F.**



Legend	51 & 57 Tannery Street and 208 Emby Drive	CROZIER CONSULTING ENGINEERS	Figure 4
xx A.M. Peak Hour Traffic Volumes (xx) P.M. Peak Hour Traffic Volumes {xx} Weekend Peak Hour Traffic Volumes	2023 Existing Traffic Volumes		Project No. 1241-6659 Date. 2024.03.20 Analyst. Aarzoo D

3.0 Future Background Conditions

For the analysis of future background traffic conditions, the study considered a 5-year horizon (2028) from the existing scenario. The development is expected to be fully built by the year 2028.

The section discusses the methodology and assumptions adopted for the development of the 2028 future background scenario, including the growth rates applied and background developments identified.

3.1 Traffic Growth

Growth rates were provided by the City of Mississauga for Queen Street South and Thomas Street. The compounded growth rate was applied for the horizon years from existing conditions to 2028 to reflect community and employment growth in the area.

The **Table 6** below shows the growth rates for Queen Street South and Thomas Street.

Table 6: Traffic Growth Rate

Roadway	Horizon Year	Peak Hour	Northbound	Southbound
Queen Street	Compounded Annual Growth from 2023 to 2028	A.M.	0.5 %	0.5 %
		P.M.	0.5 %	0.5 %
Thomas Street		A.M.	0.5 %	0.5 %
		P.M.	0.5 %	0.5 %

3.2 Background Development

Future background traffic volumes at the study intersections were determined adding the site-generated trips from background developments to existing traffic volumes per consultancy with the City staff.

The buildout characteristics for 2028 horizon year was determine based on the most recent data available on construction phasing provided by other developments.

The following background developments were identified as part of the study area, as summarized in **Table 7** below.

Table 7: Background Developments

Development Address	Development Description	Source
180 Rutledge Road	97 Condominium Dwelling Units	Per correspondence with Site Planner (No TIS available)
150 Rutledge Road	301 Condominium Dwelling Units	Per correspondence with Site Planner (No TIS available)

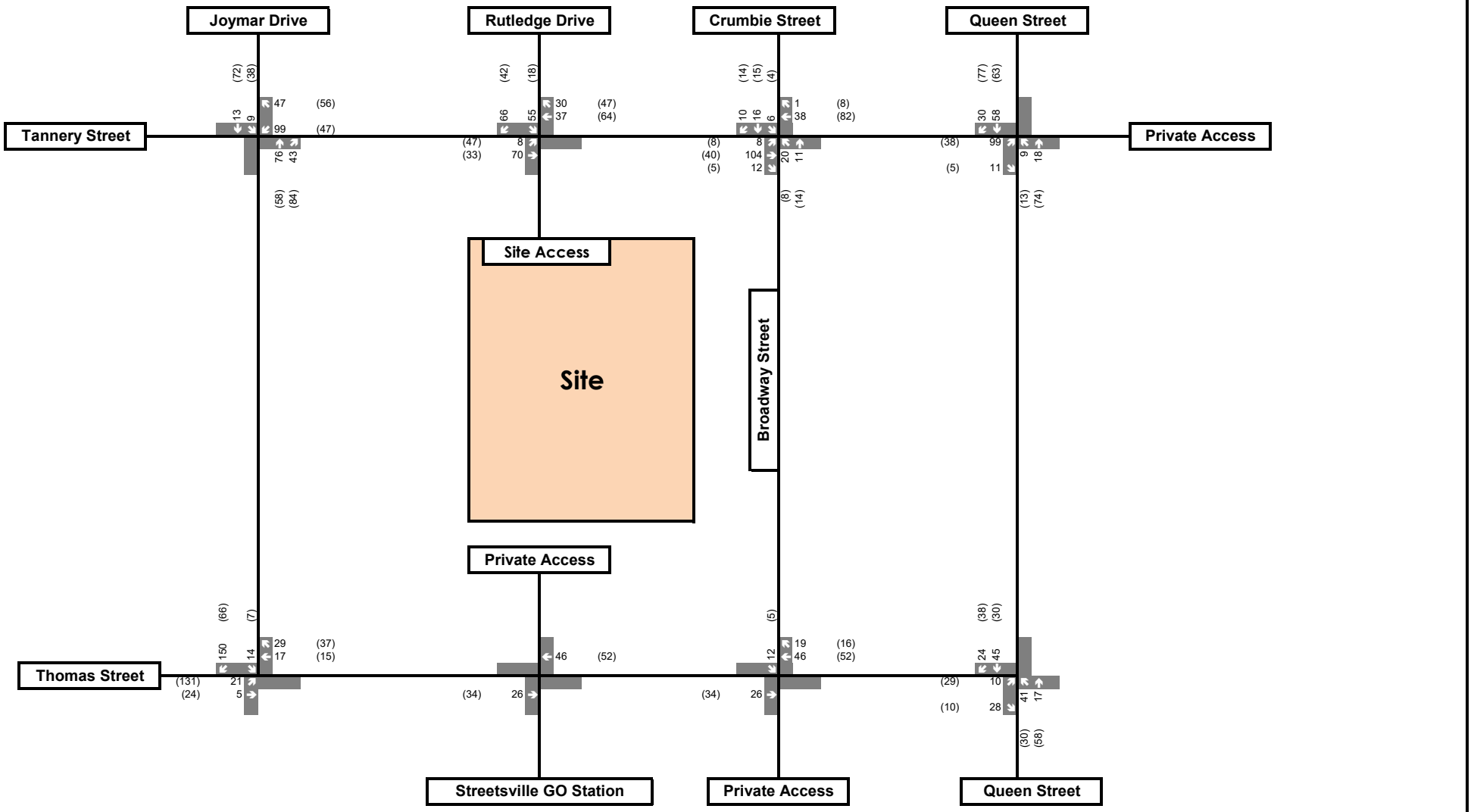
Development Address	Development Description	Source
66 Thomas Street	22 storey, 18 storey and 12 storey residential towers consisting of 1043 dwelling units	Crozier (Not Submitted, Subject to Change)
86 Thomas Street	10 Back-to-Back Townhouse Units	NextTrans (June, 2020)
80 Thomas Street	Condominium Townhouse consisting of 219 units	NextTrans (October 2016)
120 & 146 Queen Street and 169 Crumbie Street	Mixed-Use development consisting of 442 dwelling units, 2,913 square metres commercial and 320 square metres office area (Phase 1 only)	Crozier (March 2024)

The above developments are expected to be built out by 2028 horizon year and thus considered for the analysis of the 2028 horizon.

Additionally, it is noted that the transportation analysis for the development located at 66 Thomas Street and 120 & 146 Queen Street and 169 Crumbie Street are being performed by Crozier and hence the site generated trips by these developments are obtained from existing knowledge of those development applications within Crozier.

It should be noted that the 180 Rutledge Road and 150 Rutledge Road were not warranted for a Transportation Impact Study and the approximate unit counts were obtained from coordination with the Planner on the subject site and the trip distribution for subject site was used to determine the estimated number of trips per consultation with City staff.

Figure 5 illustrates the total background development volumes, and **Appendix G** provides the breakdown of background development volumes.



Legend	51 & 57 Tannery Street and 208 Emby Drive	CROZIER CONSULTING ENGINEERS	Figure 5
xx A.M. Peak Hour Traffic Volumes (xx) P.M. Peak Hour Traffic Volumes {xx} Weekend Peak Hour Traffic Volumes	Background Development Traffic Volumes		Project No. 1241-6659 Date. 2024.03.20 Analyst. Aarzoo D

3.3 Future Background Intersection Operations

Traffic operations at the study intersections were analyzed following addition of volumes from associated growth rates and background developments in the vicinity of the subject development for the horizon year 2028.

Table 8 summarizes the 2028 future background Levels of Service. Detailed capacity analyses are included in **Appendix H.**

Table 8: 2028 Future Background Intersection Operations

Intersection	Movement	Level of Service		Control Delay (s)		V/C Ratio	
		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
Queen St & Thomas St (Signal)	Overall	B	B	16.5	13.8	0.76	0.76
	EBL	D	D	43.9	50.7	0.76	0.76
	EBR	A	B	4.8	10.6	0.37	0.48
	NBL	B	B	10.9	13.9	0.29	0.46
	NBTR	A	A	9.5	8.2	0.34	0.37
	SBTR	B	A	12.2	7.7	0.57	0.64
Thomas St & Broadway St (Stop – Minor)	Overall	C	D	18.2	29.5	0.20	0.34
	EBLTR	A	A	3.5	4.3	0.13	0.13
	WBLTR	A	N/A	0.1	N/A	0.12	0.17
	NBLTR	C	D	18.2	29.5	0.01	0.05
	SBLTR	B	C	13.7	16.4	0.20	0.34
Thomas St& Streetsville Go Entrance (Signal)	Overall	B	C	14.7	20.0	0.80	0.74
	EBLT	B	B	11.8	17.5	0.34	0.44
	EBR	A	A	2.5	3.6	0.46	0.13
	WBL	A	A	2.6	8.8	0.13	0.11
	WBTR	A	B	7.3	14.0	0.22	0.58
	NBTL	E	D	61.1	42.7	0.80	0.74
	NBR	C	C	24.2	25.3	0.16	0.20
	SBLTR	A	A	0.0	2.3	0.00	0.03
Thomas St & Joymar Dr (Stop-Minor)	Overall	E	**F**	40.4	**145.7**	0.33	0.68
	EBLT	A	A	4.8	9.9	0.33	0.32
	WBTR	A	A	0.0	0.0	0.15	0.34
	SBL	E	**F**	40.4	**145.7**	0.28	0.68
	SBR	B	C	12.5	16.8	0.35	0.42
Tannery St & Joymar Dr (All-Way Stop)	Overall	B	B	15.2	11.8	0.55	0.43
	EBTLR	B	A	10.6	8.5	0.19	0.01
	WBTLR	C	B	15.2	11.8	0.54	0.43
	NBTLR	B	B	15.0	11.1	0.55	0.41
	SBTLR	B	B	13.2	10.7	0.42	0.32
Tannery St & Rutledge Rd (Stop-Minor)	Overall	C	B	15.0	11.6	0.28	0.18
	EBLT	A	A	0.4	2.5	0.01	0.04
	WBTR	N/A	N/A	0.0	0.0	0.15	0.18
	SBLR	C	B	15.0	11.6	0.28	0.12
Tannery St & Broadway St/Crumbie St (Stop-Minor)	Overall	C	C	19.1	15.5	0.31	0.30
	EBLTR	A	A	1.0	2.1	0.03	0.03
	WBLTR	A	A	0.9	1.2	0.02	0.02
	NBLTR	C	C	19.1	15.5	0.31	0.30
	SBLTR	C	B	17.2	13.9	0.21	0.25

Intersection	Movement	Level of Service		Control Delay (s)		V/C Ratio	
		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
Queen St & Tannery St (Signal)	Overall	B	B	18.8	11.9	0.77	0.67
	EBL	D	**E**	53.5	60.6	0.77	0.67
	EBTR	B	B	10.4	14.7	0.21	0.23
	WBLTR	C	C	20.9	25.2	0.06	0.06
	NBLTR	B	A	14.7	6.4	0.52	0.61
	SBLTR	B	A	10.4	8.3	0.49	0.57

Note 1: The Level of Service of a signalized intersection is based on the average control delay per vehicle (Synchro/ICU). The Level of Service of a stop-controlled intersection is based on the delay associated with the critical minor road approach (HCM 2000).

Note 2: The critical v/c ratio is considered to be the maximum v/c ratio for movements at the intersection. In addition, all v/c ratios greater than 0.85 for through and shared turning movements, and 1.00 for exclusive turning movements are bolded.

Table 9: 2028 Future Background Queue Lengths

Intersection	Movement	Storage Length (m)	Queue Length			
			50th(m)		95th(m)	
			A.M.	P.M.	A.M.	P.M.
Queen St & Thomas St (Signal)	NBL	15	10	**15**	**25**	**35**
Thomas St & Joymar Dr (Stop-Minor)	SBL	10	-	-	**10**	**20**
Queen St & Tannery St (Signal)	EBL	20	**35**	**25**	**55**	**40**

Note: The queue lengths exceeding the available storage are bolded.

Under 2028 future background conditions, the study intersections are expected to operate with a Level of Service "D" or better for all the approaches with minimum delays similar to the 2023 existing conditions except for the intersection of Thomas Street and Streetsville GO Entrance, Thomas Street and Queen Street and Tannery Street.

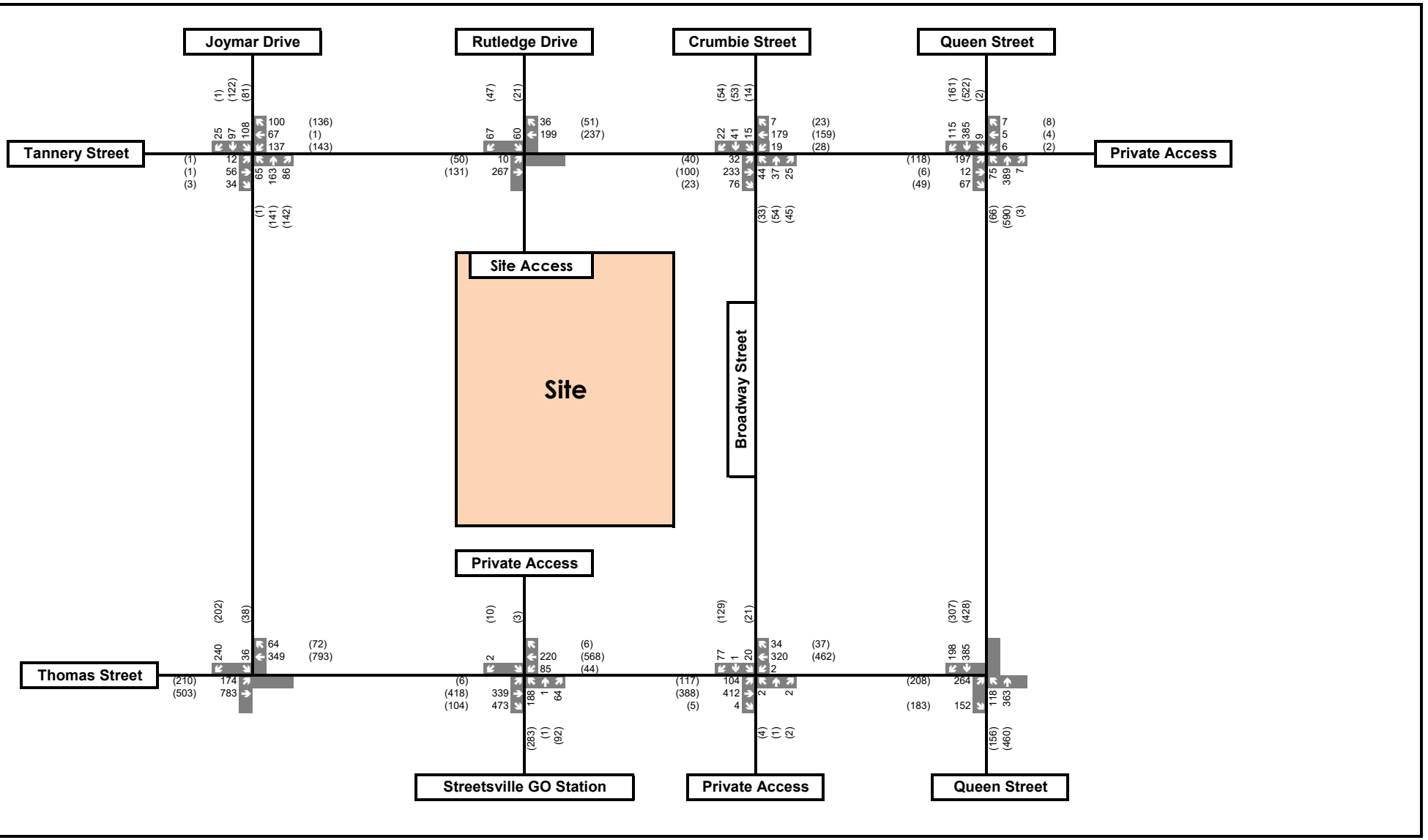
The northbound shared through/left-turn lane at the intersection of Thomas Street and Streetsville GO Entrance is expected to operate with a Level of Service "E" in the A.M. peak hour and the eastbound left-turn lane at the intersection of Queen Street and Tannery Street is expected to operate with a Level of Service "E" in the P.M. peak hour. However, the lanes are expected to operate within critical capacity similar to the 2023 existing conditions.

Further, at the intersection of Thomas Street and Joymar Drive, the Level of Service is expected to deteriorate to "F" from "E" due to increase in control delay by approximately 116 seconds in the weekday P.M. peak hour. However, the lane is expected to operate within critical capacity with a V/.C ratio of 0.68.

The Level of Service 'F' and the increase in delays for southbound left-turns can be accounted for by the rise in traffic resulting from the growth rate applied to Thomas Street. The traffic generated solely from background developments only results in seven additional turning movements at the intersection, which is controlled by a stop sign on Joymar Drive.

As per **Table 9**, the 95th percentile queue length for northbound left-turn lane at the intersection of Queen Street & Thomas Street is expected to exceed the available storage in both peak hours. The southbound left-turn lane at Thomas Street & Joymar Drive is expected to exceed available storage in P.M. peak hour. However, the 50th percentile queue length is expected to operate at/within available storage.

For the intersection of Queen Street and Tannery Street, the 95th percentile queue length for eastbound left-turn lane is expected to exceed the available storage of 20 metres by 35 metres in the A.M. peak hour and 20 metres in the P.M. peak hour. The 50 the percentile queue length is expected to exceed the storage as well in both the peak hours.



Legend	51 & 57 Tannery Street and 208 Emby Drive	CROZIER CONSULTING ENGINEERS	Figure 6
xx A.M. Peak Hour Traffic Volumes (xx) P.M. Peak Hour Traffic Volumes {xx} Weekend Peak Hour Traffic Volumes	2028 Future Background Traffic Volumes		Project No. 1241-6659 Date. 2024.03.20 Analyst. Aarzoo D

4.0 Site Generated Traffic

The proposed development will result in additional vehicles on the boundary road network that previously did not exists. The proposed development will also result in additional turning movements on the boundary road intersections.

The proposed development is expected to be fully built by the year 2028.

4.1 ITE Trip Generation

The Institute of Transportation Engineers (ITE) Trip Generation Manual 11th Edition was used to forecast the number of trips generated by the proposed residential development. As the development is proposed as high-rise residential, the Land Use Category 222 "Multifamily Housing (High-Rise)" was used to determine approximate number of trips generated by the subject site.

The development consists of one 14-storey and one 12-storey tower connected by 6 storey podium comprising of 633 dwelling units.

Table 10 below shows the trips generated.

Table 10: Site Generated Trips

Land Use Units/GFA	Peak Hour	Rate	Trips		Total
Multifamily High-Rise (LUC 221) 633 Dwelling Units	AM	Average: 0.27	In	44	**170**
			Out	126	
	PM	Average: 0.32	In	126	**203**
			Out	77	
Total				**373**	

The subject site is expected to generate 170 two-way (44 inbound and 126 outbound) trips during the weekday A.M. peak hour and 203 two-way (126 inbound and 77 outbound) trips during weekday P.M. peak hour.

Relevant excerpts from the ITE Trip Generation Manual 11th Edition are included in Appendix I**.**

Figure 7 shows the trips generated by the 2028 horizon year.

4.2 Trip Distribution and Assignment

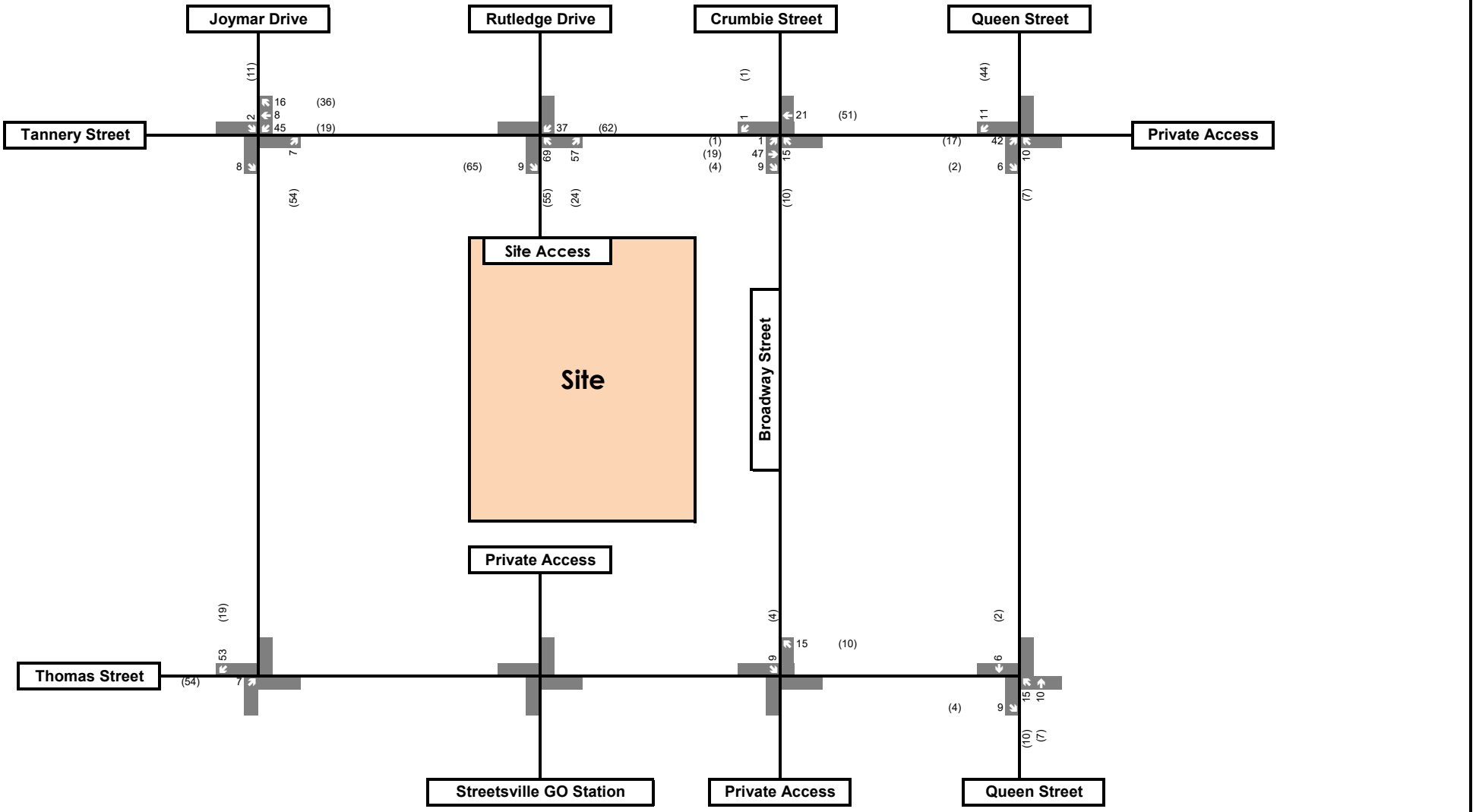
The Transportation Tomorrow Survey (TTS) is a comprehensive travel data survey conducted in the Greater Toronto and Hamilton Area. Data from the 2016 TTS was used to determine the peak hour trip distribution at the site.

The trip distribution calculations based on the TTS data are summarized in **Table 11.**

Appendix J provides the TTS query used to determine the site trip distribution.

Table 11: Site Distribution

Direction	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour	
	In	Out	In	Out
Northwest	0%	4%	3%	40%
North	0%	13%	11%	12%
Northeast	14%	14%	10%	1%
East	26%	23%	31%	20%
Southeast	55%	16%	23%	3%
South	3%	7%	8%	6%
Southwest	3%	22%	12%	18%
West	0%	2%	2%	0%



Legend	51 & 57 Tannery Street and 208 Emby Drive	CROZIER CONSULTING ENGINEERS	Figure 7
xx A.M. Peak Hour Traffic Volumes (xx) P.M. Peak Hour Traffic Volumes {xx} Weekend Peak Hour Traffic Volumes	Site Generated Trips		Project No. 1241-6659 Date. 2024.03.20 Analyst. Aarzoo D

5.0 Future Total Traffic Conditions

This section discusses the projected future total traffic conditions and traffic operations at the study intersections with the addition of the site generated trips by the proposed development and the background developments in the vicinity of the subject site for the horizon year 2028.

The 2028 future total operation were analyzed with the addition of site generated traffic to the future background traffic. The total traffic volumes are illustrated in **Figure 8**.

Table 12 outlines the 2028 future total traffic Levels of Service. Detailed capacity analysis worksheets are included in **Appendix K.**

Table 12: 2028 Future Total Intersection Operations

Intersection	Movement	Level of Service		Control Delay (s)		V/C Ratio	
		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
Queen St & Thomas St (Signal)	Overall	B	B	16.7	14.2	0.76	0.78
	EBL	D	D	43.5	52.0	0.76	0.78
	EBR	A	B	4.8	10.5	0.38	0.47
	NBL	B	B	12.1	15.4	0.33	0.52
	NBTR	A	A	9.7	8.4	0.35	0.39
	SBTR	B	A	13.3	7.8	0.59	0.67
Thomas St & Broadway St (Stop – Minor)	Overall	C	D	18.2	29.6	0.25	0.37
	EBLTR	A	A	3.5	4.3	0.13	0.13
	WBLTR	A	A	0.1	0.0	0.13	0.17
	NBLTR	C	D	18.2	29.6	0.01	0.05
	SBLTR	C	C	15.3	17.5	0.25	0.37
Thomas St & Streetsville Go Entrance (Signal)	Overall	B	C	14.6	20.5	0.80	0.74
	EBLT	B	B	11.8	17.5	0.34	0.44
	EBR	A	A	2.5	3.6	0.46	0.13
	WBL	A	A	2.5	8.7	0.13	0.11
	WBTR	A	B	7.1	15.3	0.22	0.63
	NBTL	**E**	D	61.1	42.7	0.80	0.74
	NBR	C	C	24.2	25.3	0.16	0.20
	SBLTR	A	A	0.0	2.3	0.00	0.03
Thomas St & Joymar Dr (Stop-Minor)	Overall	E	**F**	42.0	**252.0**	0.43	**0.92**
	EBLT	A	B	4.9	10.8	0.33	0.41
	WBTR	A	A	0.0	0.0	0.15	0.34
	SBL	E	**F**	42.0	**252.0**	0.29	**0.92**
	SBR	B	C	13.4	17.6	0.43	0.46
Tannery St & Joymar Dr (All-Way Stop)	Overall	C	B	20.7	14.2	0.68	0.54
	EBTLR	B	A	11.4	8.9	0.22	0.01
	WBTLR	C	B	20.7	14.2	0.68	0.54
	NBTLR	C	B	17.4	123.1	0.58	0.51
	SBTLR	B	B	14.6	11.7	0.45	0.36
Tannery St & Rutledge Rd/Site Access (Stop-Minor)	Overall	C	C	21.9	18.7	0.39	0.25
	EBLTR	A	A	0.4	2.0	0.01	0.04
	WBLTR	A	A	1.3	1.8	0.03	0.05
	NBLTR	C	C	19.3	18.7	0.36	0.25
	SBLTR	C	B	21.9	13.6	0.39	0.15

Intersection	Movement	Level of Service		Control Delay (s)		V/C Ratio	
		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
Tannery St & Broadway St/Crumbie St (Stop-Minor)	Overall	C	C	24.3	18.5	0.42	0.37
	EBLTR	A	A	0.9	2.0	0.03	0.03
	WBLTR	A	A	0.9	1.0	0.02	0.02
	NBLTR	C	C	24.3	18.5	0.42	0.37
	SBLTR	C	C	19.0	15.2	0.25	0.27
Queen St S & Tannery St (Signal)	Overall	C	B	21.8	13.4	0.82	0.73
	EBL	E	**E**	56.9	64.1	0.83	0.73
	EBTR	A	B	9.5	14.0	0.21	0.23
	WBLTR	B	C	19.9	24.8	0.05	0.06
	NBLTR	B	A	17.2	7.2	0.56	0.64
	SBLTR	B	A	11.8	9.5	0.53	0.62

Note 1: The Level of Service of a signalized intersection is based on the average control delay per vehicle (Synchro/ICU). The Level of Service of a stop-controlled intersection is based on the delay associated with the critical minor road approach (HCM 2000).

Note 2: The critical v/c ratio is considered to be the maximum v/c ratio for movements at the intersection. In addition, all v/c ratios greater than 0.85 for through and shared turning movements, and 1.00 for exclusive turning movements are outlined and highlighted.

Table 13: 2028 Future Total Queue Lengths

Intersection	Movement	Storage Length (m)	Queue Length			
			50th(m)		95th(m)	
			A.M.	P.M.	A.M.	P.M.
Queen St S & Thomas Street (Signal)	NBL	15	10	**15**	**30**	**40**
Thomas Str & Joymar Drive (Stop-Minor)	SBL	10	-	-	**10**	**25**
Queen St S & Tannery St (Signal)	EBL	20	**45**	**30**	**70**	**45**

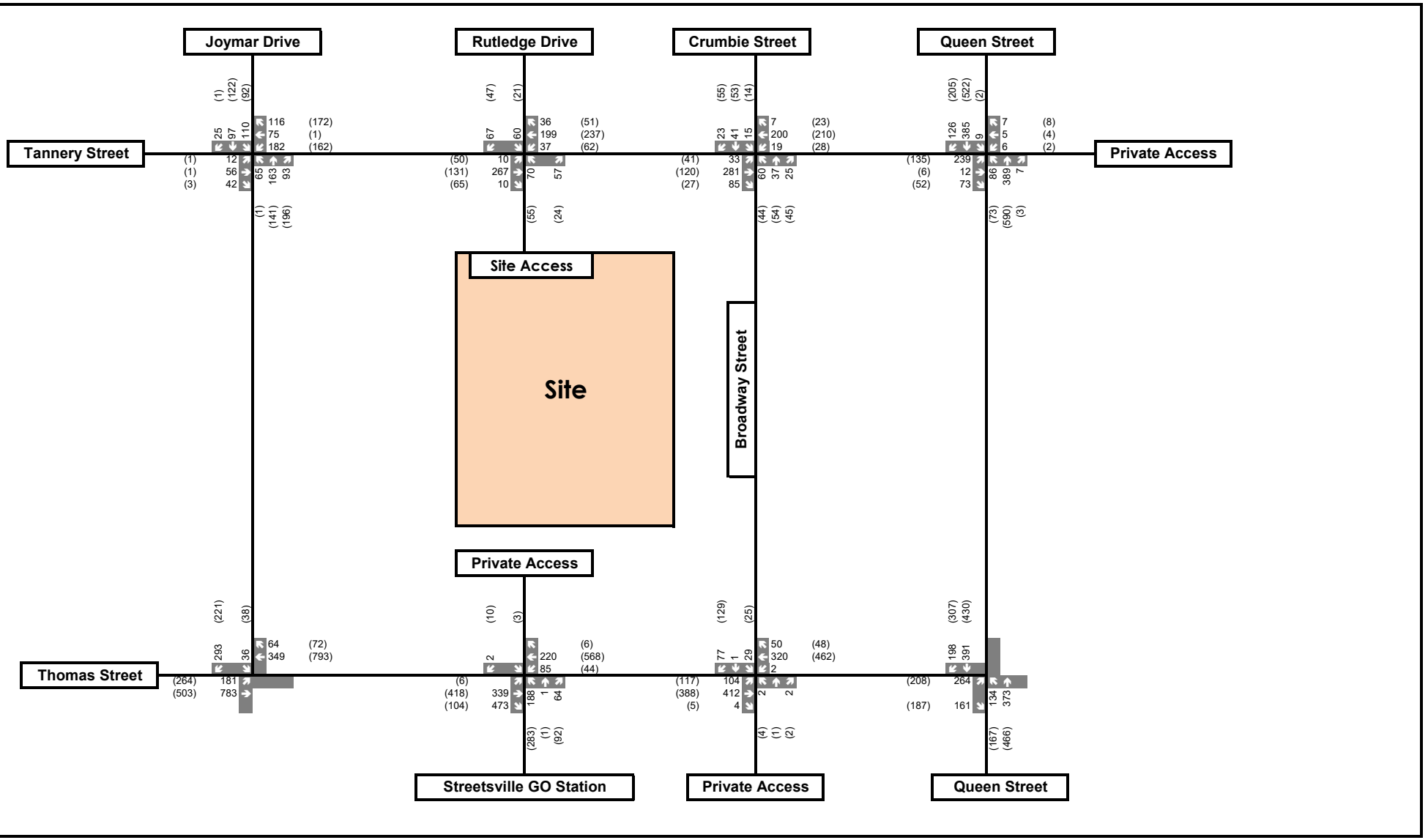
Note: The queue lengths exceeding the available storage are bolded.

Under 2028 future total conditions, the study intersections are expected to operate with an overall Level of Service "D" or better with minimum delays similar to the 2028 future background conditions except for the intersection of Thomas Street and Joymar Drive, Thomas Street and Streetsville Go Entrance and Queen Street and Tannery Street.

However, while the Level of Service is expected to remain "F" at the intersection of Thomas Street and Joymar Drive in the P.M. peak hour, all movements are expected to operate well within capacity and with reasonable queue lengths.

The 95th percentile queue length for northbound left-turn lane at the intersection of Queen Street and Thomas Street is expected to increase by 5 metres in the A.M. and P.M. peak hours and the southbound left-turn lane at the intersection of Thomas Street and Joymar Drive is expected to increase by 5 metres in weekday P.M. peak hour compared to the 2028 future background conditions. However, the 50th percentile queue lengths are expected to operate within the available storage.

However, at the intersection of Queen Street and Tannery Street, the 95th and 50th percentile queue lengths for the eastbound left-turn lane are expected to increase significantly compared to the 2028 future background conditions and be well above the existing storage length. As a result, the City should consider lengthening the storage length at this intersection in the future.



Legend	51 & 57 Tannery Street and 208 Emby Drive	CROZIER CONSULTING ENGINEERS	Figure 8
xx A.M. Peak Hour Traffic Volumes (xx) P.M. Peak Hour Traffic Volumes {xx} Weekend Peak Hour Traffic Volumes	2028 Future Total Traffic Volumes		Project No. 1241-6659 Date. 2024.03.20 Analyst. Aarzoo D

6.0 Warrants

Observations indicate that the southbound left-turn approach at the intersection of Thomas Street and Joymar Drive is anticipated to operate at Level of Service 'F' with delays totaling 52 seconds and the volume to capacity ratio of 0.92 expected to be well below the threshold of 1.00 in the weekday P.M. peak hour. Consequently, an evaluation was conducted based on the Ontario Traffic Manual Justification 7 to determine if signalization is warranted given the projected volumes.

The assessment revealed that the signal warrants were not met for the projected conditions in 2028, as indicated in Appendix N. Justification 1A achieved a maximum rate of 67%, while other Justifications 1B, 2A, and 2B fell significantly short of satisfaction levels, with rates of 58%, 56%, and 20%, respectively. Therefore, a signal is not recommended.

Signal Warrants are provided in **Appendix L.**

7.0 Site Access Review

The following section provides a review of geometric properties of the proposed site accesses with reference to the Transportation Association of Canada (TAC) Geometric Design Guide for Canadian Roads (GDGCR), June 2017, as well as any municipal or regional design guidelines. This section specifically analyzes the proposed accesses from a sight distance and access spacing perspective to ensure adequate visibility and sufficient spacing to avoid conflicts have been provided.

7.1 Sight Distance Analysis

The available sightlines at the proposed site access at Tannery Street were measured and compared to the standards set out in the Transportation Association of Canada (TAC) Geometric Design Guide for Canadian Roads (GDGCR). Sight distances were measured from the proposed site access using the following assumptions:

A standard drive eye height of 1.08 metres for a passenger car, and;

A 4.4-5.4 metre setback from the approximate extension of the outer curb to represent a vehicle waiting to exit the site.

Intersection sight distance (ISD) is calculated using equation 9.9.1 from the GDGCR as outlined below:

$$ISD = 0.278 * V\ major * tg$$

Where;

ISD = Intersection Sight Distance

V major = design speed of roadway (km/h)

tg = assumed time gap for vehicles to turn from stop onto roadway (s)

The design speed of a roadway in an urban environment is typically 10 km/h greater than the posted speed limit. As there is a assumed speed limit of 40 km/h on Tannery Street, a design speed of 50 km/h was assumed.

Table 14 below outlines the sight distance analysis for the proposed site accesses.

Table 14: Sight Distance

Parameter	Access at Tannery Street
Access Type	Full-Moves
Intersection Control	Stop
Posted Speed Limit	40 km/h
Assumed Design Speed	50 km/h
Base Time Gap	Left Turn: 7.5s Right Turn: 6.5 s (Passenger Cars)
Additional Time Gap	None
Grade of Roadway	Less than 3%
Horizontal Alignment of Roadway	Straight
Intersection Sight Distance Required (TAC GDGCR Eqn. 9.9.1)	Left Turn (to the right): 105 m Right Turn (to the left): 95 m
Sight Distance Measured	Left-Turn (to the right): To Stop at Queen Street (270 m) Right Turn (to the left): To Joymar Drive (155 m)
Minimum Sight Distance Satisfied	Yes

The Tannery Street terminates at Joymar Drive approximately 155 metres east and at Queen Street approximately 270 metres of the proposed sight access.

Furthermore, the vehicles turning on Tannery Street from site access have sufficient sight distance on Tannery. Therefore, the minimum required sight distance is satisfied for left-turns and right-turns.

The road network along Tannery Street is straight, with minimal grade changes, and no visual obstructions are noted.



N

10 0m 10 20 30 40
SCALE: 1:500

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51 & 57 TANNERY STREET
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Drawing

SIGHT DISTANCE

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A.D.	B.B	1:1000	FIG 9

7.2 Access Location

It is noted that the proposed access would form a 4-leg intersection along Tannery Street opposite Rutledge Road, which is considered a desirable location to prevent forming two 3-leg intersections.

The required and provided corner clearances per Figure 8.8.2 in the TAC GDGCR are also summarized below.

Table 15: Corner Clearance Requirements

Parameter	Corner Clearance along Tannery Street	TAC Figure 8.8.2 Corner Clearance
Distance to Joymar Drive	155 m	25 m[a]
Distance to Broadway Street	95 m	20 m[a]

Note 1: Per Figure 8.8.2, the corner clearance distance required from the driveway to the signalized intersection along an arterial with a left-turn storage lane should be greater than the storage length plus taper.
Note 2: Per Figure 8.8.2, the corner clearance distance required from the driveway to the stop-controlled intersection in the absence of a storage lane.

The provided corner clearance from Joymar Drive and Broadway Street meets the minimum corner clearance requirement as per TAC GDGCR Figure 8.8.2. and the proposed site access can be supported.

Additionally, Section 11.1 of Transport Canada's Rail Transportation Standards states that a railway with a design speed above 25km/h must be at least 30 m away from the nearest intersecting road or entranceway.

It is noted that the distance between the site access and the existing railway crossing is approximately 65 metres and therefore the access location can be supported.

8.0 Maneuvering Assessment

A maneuvering assessment was conducted to ensure the proposed site design provides adequate space for the design vehicles expected at the site. As shown, a standard Peel Region waste collection vehicle. a delivery truck (MSU), and a passenger vehicle (PTAC) can enter and exit the proposed site access and loading space without conflict.

Please note that the driveway encircling the circular loop is intended to be proposed as a one-way driveway counterclockwise. Consequently, the maneuvers for design vehicles have been adjusted to accommodate this one-way driveway arrangement.

8.1 Waste Vehicles

A maneuvering assessment was conducted using a Peel Region Front Loading Garbage Truck 9.5 metre long and a centerline radius of 13.0 metre. The garbage truck can enter and exit the site via Tannery Street without any encroachment.

Please note that the northern loading space marked as Garbage/Loading in the architectural plans is only expected to be used for loading purposes and the updates will be provided in future applications.

Further, the truck can enter and exit the loading space without any conflicts.

Figure 10 and **Figure 11** show the waste collection vehicle maneuver.

8.2 Loading Vehicle

A maneuvering assessment was conducted using Medium Single Unit (MSU) vehicle 10.0 metres wide. The loading vehicle is expected to enter and exit the site via Tannery Street entrance without any encroachment.

Further, the loading truck is expected to use the small portion of the landscape area at the end of the driveway while reverse in the southern loading space. The modifications to driveway will be made in future applications.

Figure 12 and **Figure 13** show the loading vehicle maneuver.

8.3 Emergency Vehicle

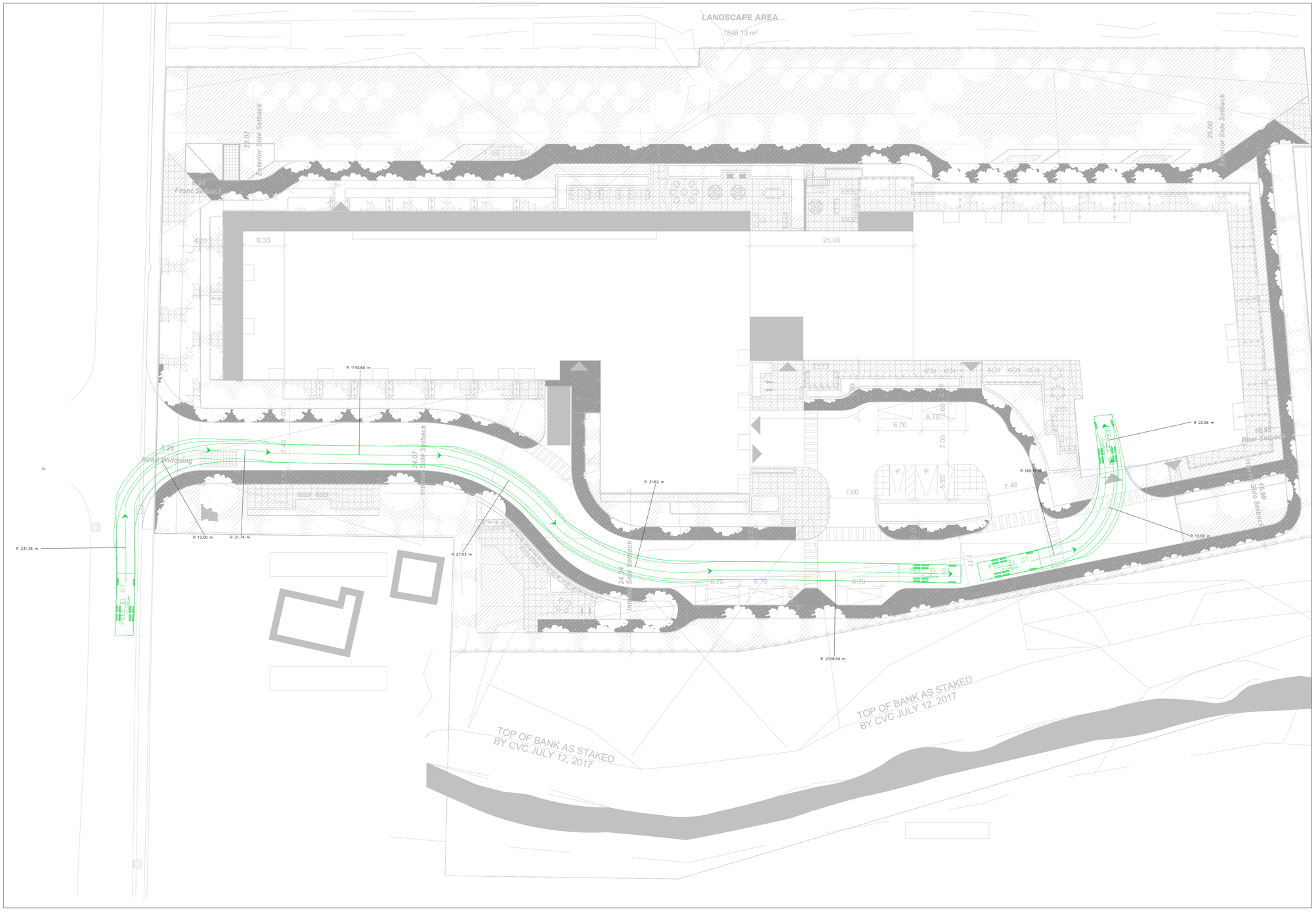
A maneuvering assessment was conducted using a Pumper Fire Truck 12.19 metres wide. The fire truck is expected to enter the site via Tannery Street. It is noted that the fire truck service the principal building entrance withing 15 metres. No conflicting movement is observed when the vehicle can enter and exits the site.

Figure 14 shows the emergency vehicle maneuver.

8.4 Passenger Vehicle

A maneuvering assessment was conducted using the PTAC vehicle. The passenger vehicle can enter and exit the site via Tannery Street entrance and circulate within the site without any encroachment.

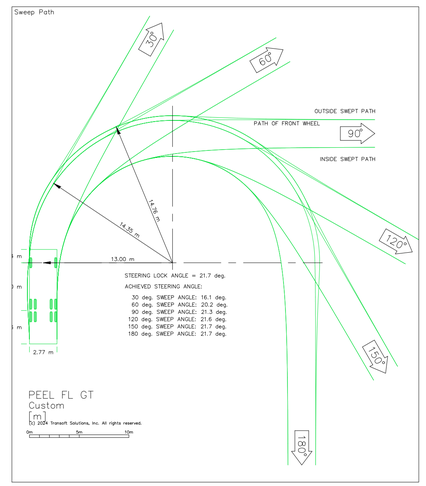
Figure 15 and **Figure 16** show the passenger vehicle maneuver.



10 0m 10 20 30 40
SCALE: 1:500

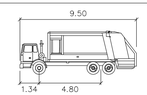
N

Sweep Path



PEEL FL GT
Custom
[m]
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0m 5m 10m

Vehicle Profile



PEEL FL GT

	meters
Width	: 2.77
Track	: 2.77
Lock to Lock Time	: 6.0
Steering Angle	: 21.7

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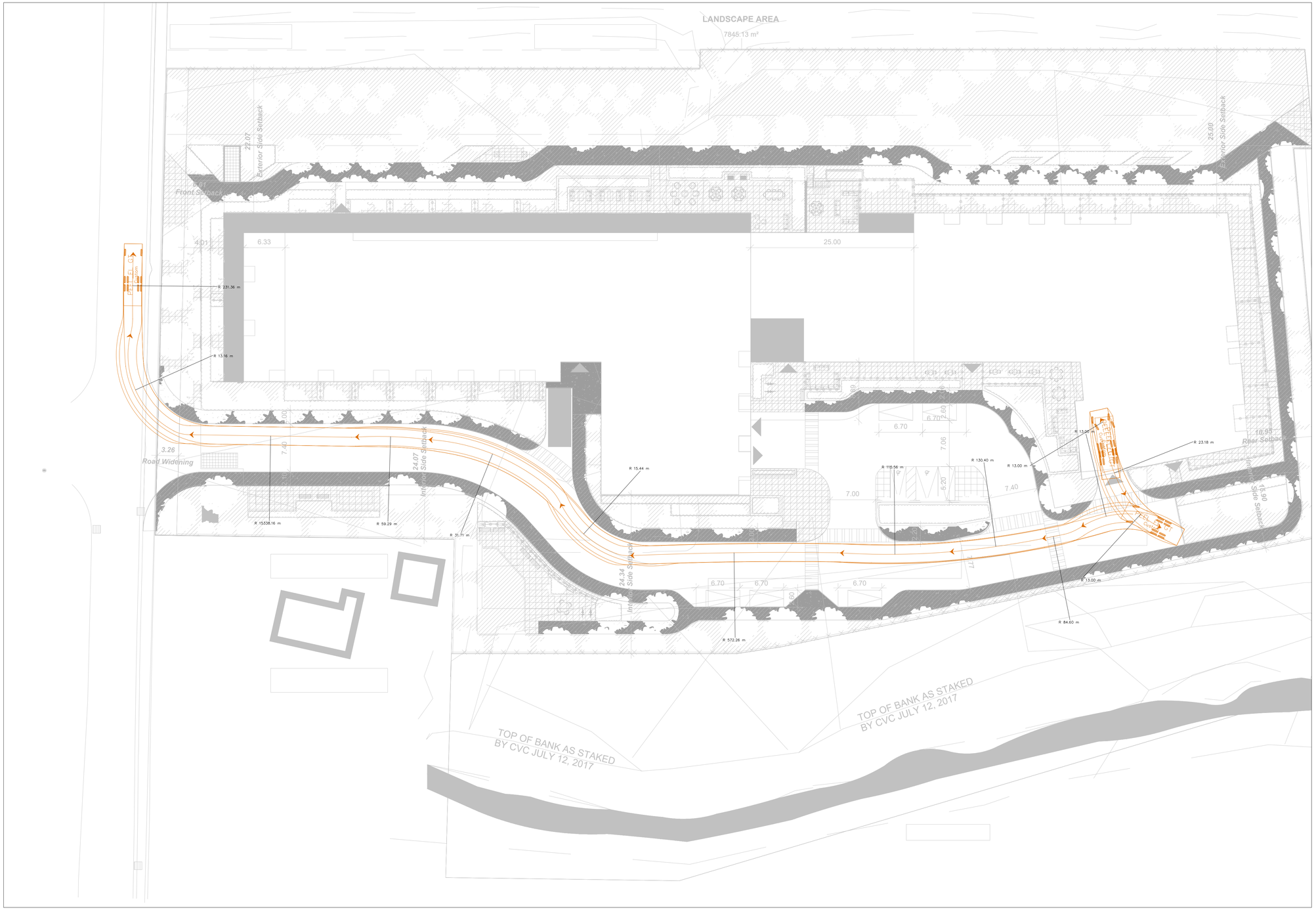
51 & 57 TANNERY STREET
AND 208 EMBY STREET

Drawing

VEHICLE MANEUVERING DIAGRAM
WASTE COLLECTION–INBOUND

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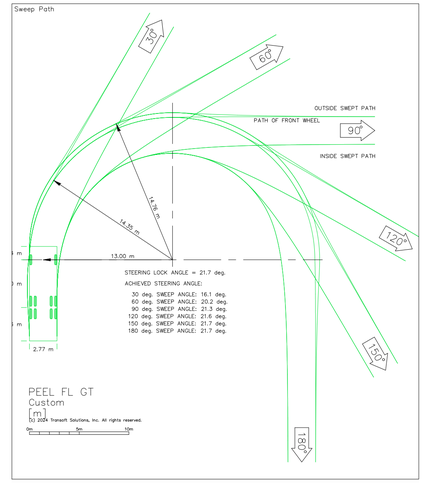
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A.D.	B.B	1:300 / FIG 10



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SCALE: 1:500

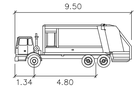
N

Sweep Path



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Vehicle Profile



PEEL FL GT

	meters
Width	: 2.77
Track	: 2.77
Lock to Lock Time	: 6.0
Steering Angle	: 21.7

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Engineer

Engineer

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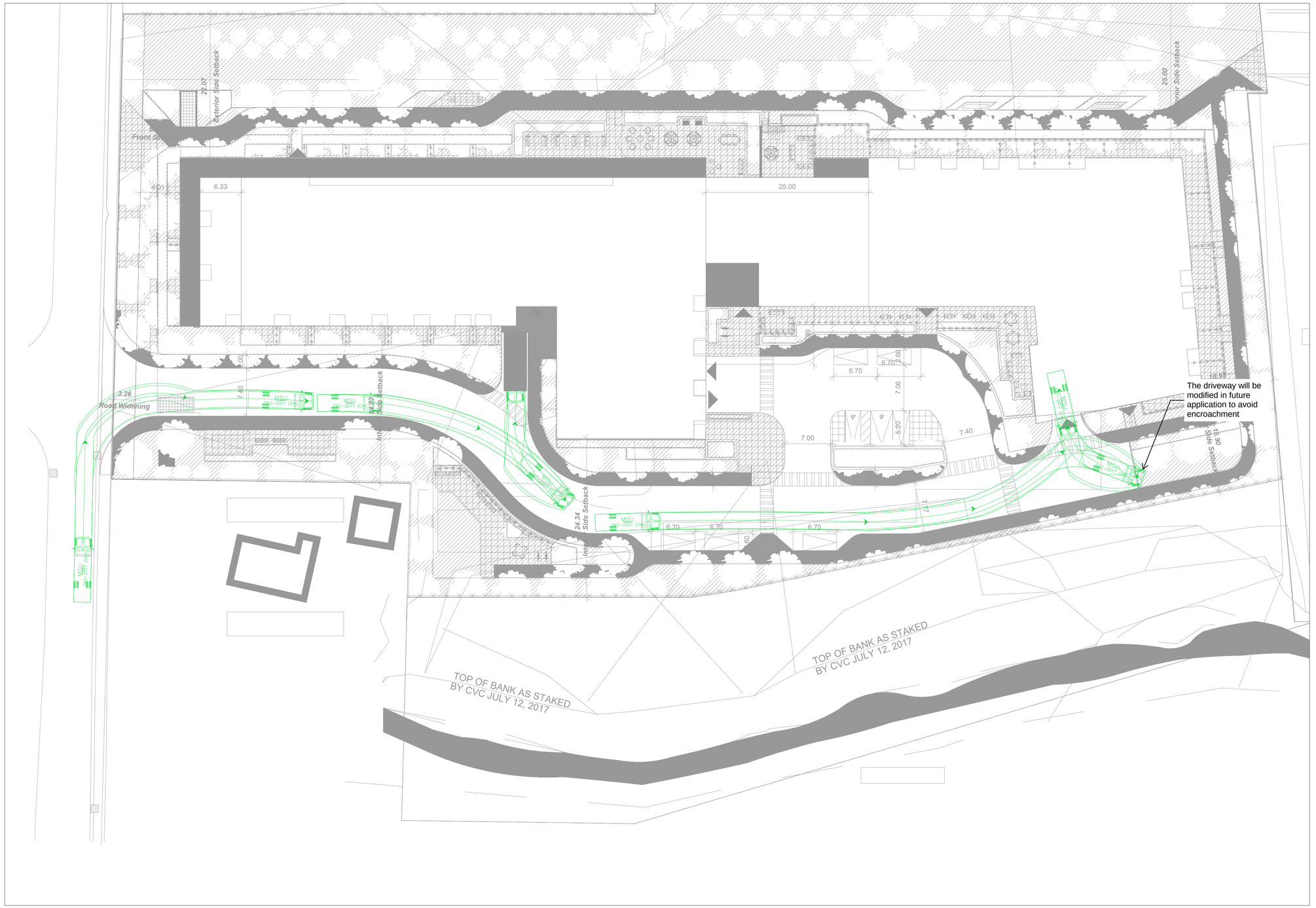
51 & 57 TANNERY STREET
AND 208 EMBY STREET

Drawing

VEHICLE MANEUVERING DIAGRAM
WASTE COLLECTION–OUTBOUND

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A.D.	B.B	1:250	FIG 11

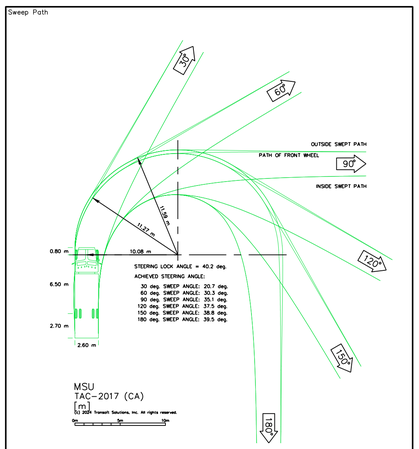


10 0m 10 20 30 40

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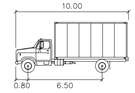
N

Sweep Path



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Vehicle Profile



MSU

	meters
Width	: 2.60
Track	: 2.60
Lock to Lock Time	: 6.0
Steering Angle	: 40.2

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Engineer

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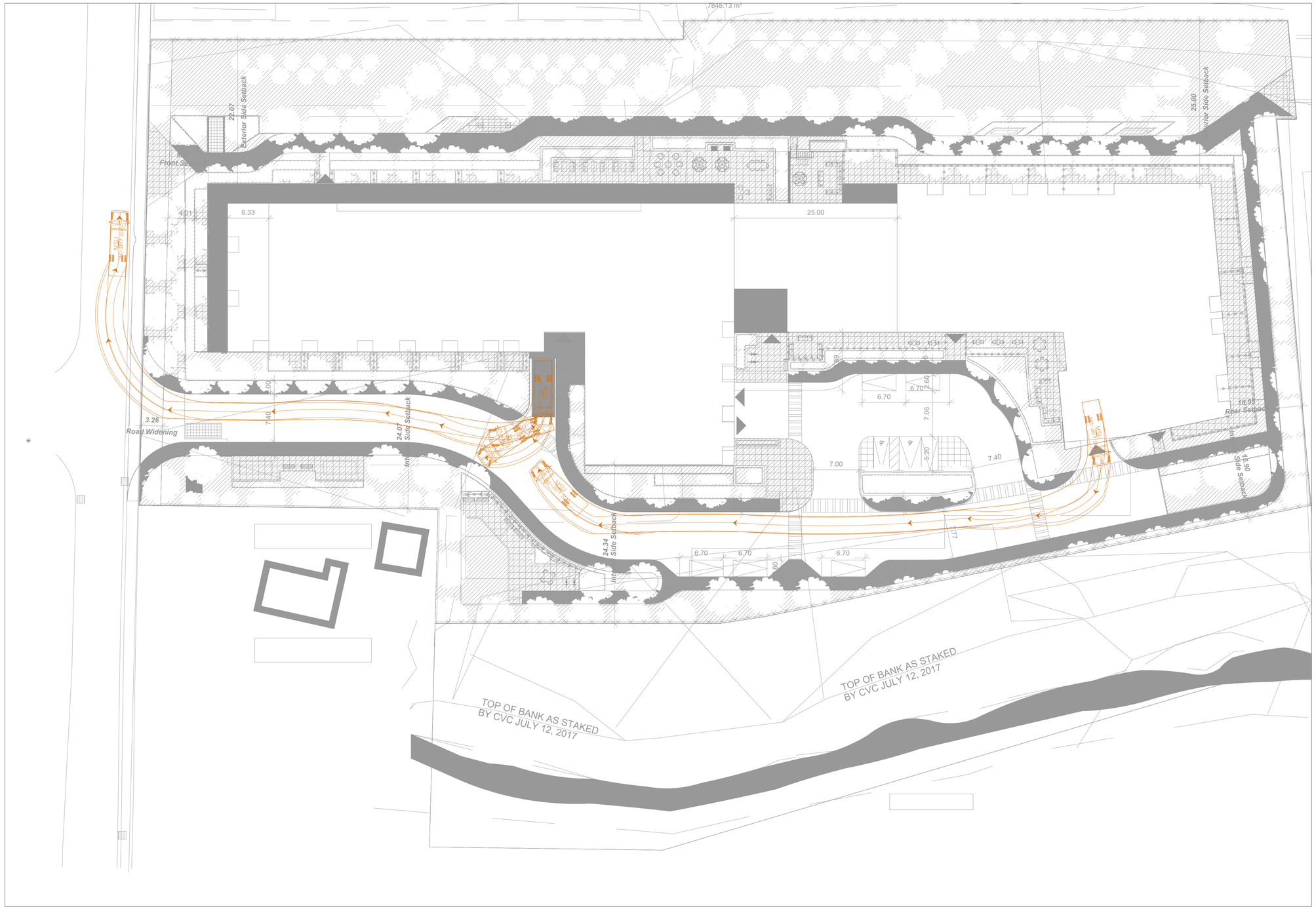
51 & 57 TANNERY STREET
AND 208 EMBY STREET

Drawing

VEHICLE MANEUVERING DIAGRAM
MEDIUM SINGLE UNIT TRUCK–INBOUND

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Check By	Check By	Scale	Drawing
A.D.	B.B	1:300	FIG 12

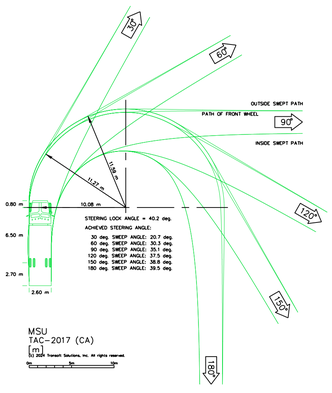


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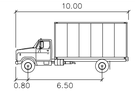
SCALE: 1:500

N

Sweep Path



Vehicle Profile



MSU

	meters
Width	: 2.60
Track	: 2.60
Lock to Lock Time	: 6.0
Steering Angle	: 40.2

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Engineer

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51 & 57 TANNERY STREET
AND 208 EMBY STREET

Drawing

VEHICLE MANEUVERING DIAGRAM
MEDIUM SINGLE UNIT TRUCK–OUTBOUND

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Check By	Check By	Scale	Drawing
A.D.	B.B	1:300	FIG 13

LANDSCAPE AREA
7845.13 m²

FIRE TRUCK DISTANCE FROM PRIMARY ENTRANCE < 15m

Front Setback
22.07 Exterior Side Setback
25.00 Exterior Side Setback
4.01
6.33
25.00
3.26 Road Widening
7.40
24.07 Interior Side Setback
24.34 Interior Side Setback
10.93 Rear Setback
15.60 Interior Side Setback
6.70
7.06
5.20
7.40
7.00
6.70
6.70
6.70
6.60
7.71
2.44
Pumper Fire Truck Custom
Pumper Fire Truck Custom
Pumper Fire Truck Custom
Pumper Fire Truck Custom
Pumper Fire Truck Custom

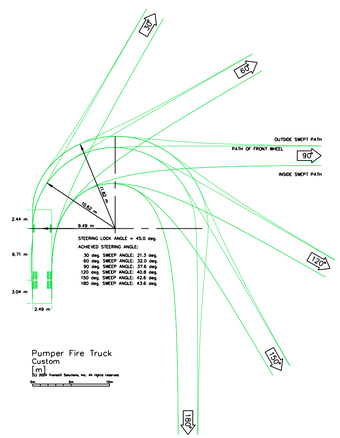
TOP OF BANK AS STAKED BY CVC JULY 12, 2017

TOP OF BANK AS STAKED BY CVC JULY 12, 2017

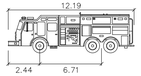
10 0m 10 20 30 40
SCALE: 1:500

N

Sweep Path



Vehicle Profile



Pumper Fire Truck

	meters
Width	: 2.49
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 45.0

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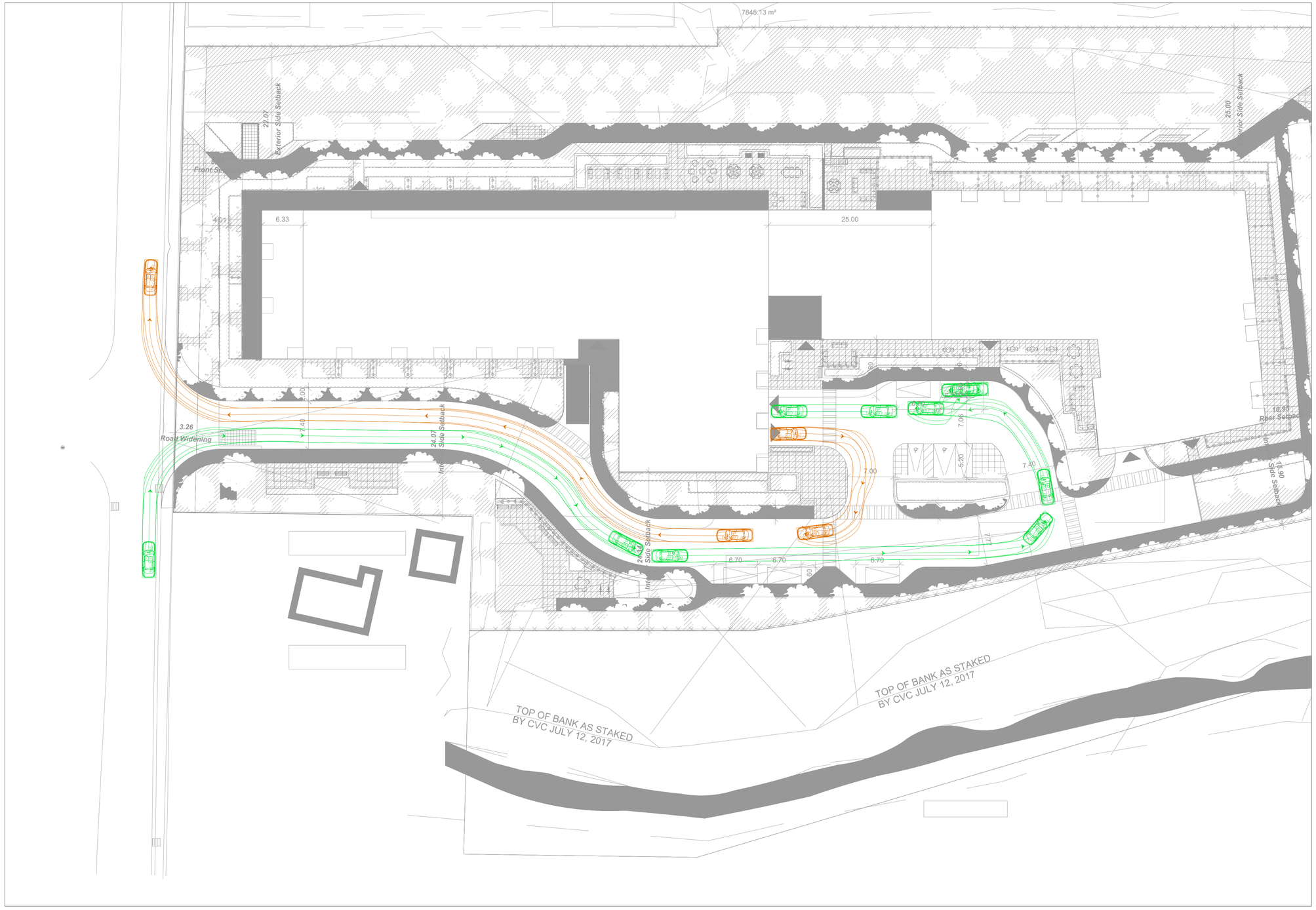
51 & 57 TANNERY STREET
AND 208 EMBY STREET

Drawing

VEHICLE MANEUVERING DIAGRAM
FIRE TRUCK

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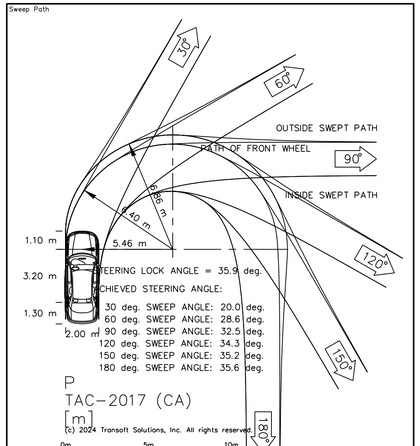
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Check By	Check By	Scale	Drawing
A.D.	B.B	1:300	FIG 14



10 0m 10 20 30 40
SCALE: 1:500

N

Sweep Path



Vehicle Profile



P

	meters
Width	: 2.00
Track	: 2.00
Lock to Lock Time	: 6.0
Steering Angle	: 35.9

No.	ISSUE	DATE: MM/DD/YYYY
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Engineer

Engineer

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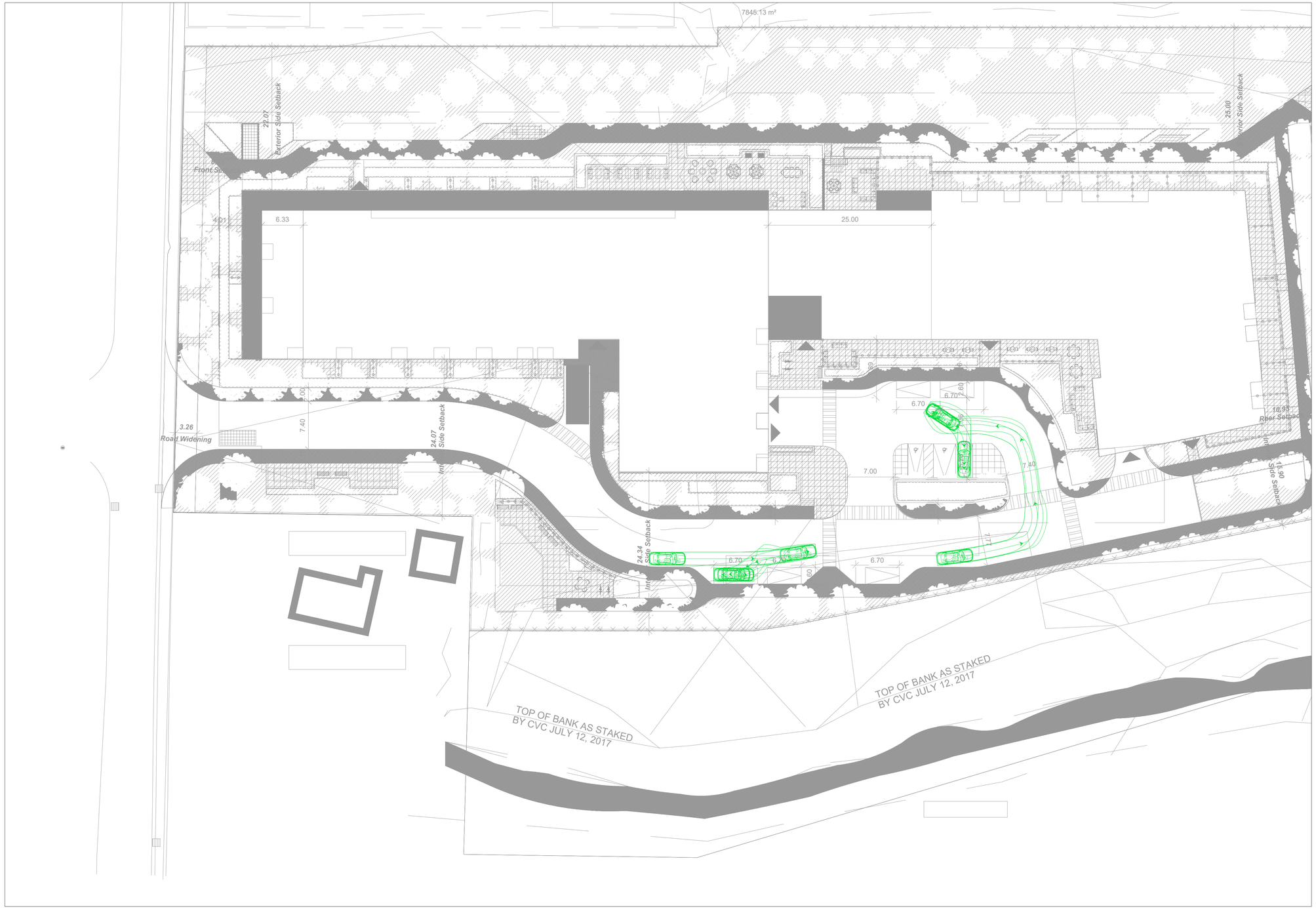
51 & 57 TANNERY STREET
AND 208 EMBY STREET

Drawing

VEHICLE MANEUVERING DIAGRAM
PASSENGER VEHICLE

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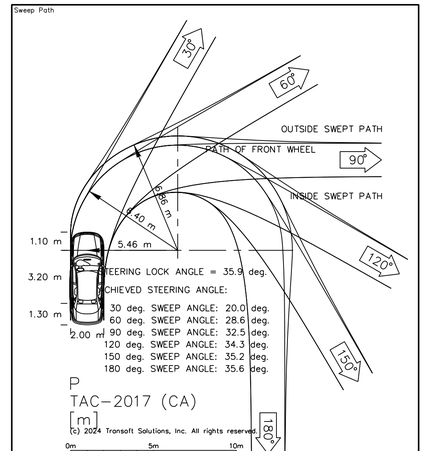
Drawn By	B.L.	Design By	B.L.	Project	1241-6659
Check By	A.D.	Check By	B.B	Scale 1:300	Drawing FIG 15



10 0m 10 20 30 40
SCALE: 1:500

N

Sweep Path



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Vehicle Profile



P

	meters
Width	: 2.00
Track	: 2.00
Lock to Lock Time	: 6.0
Steering Angle	: 35.9

No.	ISSUE	DATE: MM/DD/YYYY
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Engineer

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Project

51 & 57 TANNERY STREET
AND 208 EMBY STREET

Drawing

VEHICLE MANEUVERING DIAGRAM
PASSENGER VEHICLE

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A.D.	B.B	1:300	FIG 16

9.0 Parking Review

The subsequent section provides an assessment of vehicle and bicycle parking for the site, in accordance with the City of Mississauga's Zoning By-Law 0225-2007. It is important to note that the subject site is classified under Precinct 2, and therefore, the parking rates specified for Precinct 2 were taken into account for the assessment.

The relevant City of Mississauga Zoning By-Law excerpts are provided in **Appendix M.**

9.1 Auto Parking Requirements

The vehicle and bicycle parking supply were assessed for the overall site based on the Section 3.0 of the City's Zoning By-Law 0225-2007. A summary of the proposed parking and required parking at the development can be found in **Table 16.**

Table 16: Zoning By-Law Parking Review for Vehicles

Units/GFA	Zoning By-Law 0225-2007 Parking Rates (Precinct 2)	Required Parking Spaces	Proposed Parking Spaces	Surplus/Deficit
Dwelling Units (633)	Residents (0.9 spaces/unit)	570	507	**-63**
	Visitors (0.2 spaces/unit)	127	95	**-32**
Total		**697**	**602**	**-95**

The auto parking requirements for residents and visitors does not meet the Zoning By-Law requirements, as the proposed resident parking is deficient by 63 spaces and the visitor parking is deficient by 32 spaces. The total parking supply is deficient by 95 spaces.

It can be noted that the subject site is deficient by 13% compared to the City threshold of 10%. However, the site is in close proximity to Streetsville GO station (< 10minute walk) and the surrounding area is walkable with a Mi-Way transit stop within a short walk from the development to Thomas Street and Queen Street. Therefore, the proposed parking supply is anticipated to be sufficient and meet the parking demand of the future residents at the proposed site as well.

Furthermore, due to anticipated changes associated with Bill 185, it is anticipated that minimum parking requirements will be eliminated for the area encompassing the protected major transit station for Streetsville GO. Consequently, the applicant may not be required to adhere to parking supply regulations outlined in the Zoning By-Law.

A total of 10% parking is dedicated as Electric Vehicle parking for visitors and 20% is dedicated for resident Electric Vehicle Parking per the City's Zoning-By Law requirements.

9.2 Bicycle Parking Requirements

A summary of the proposed and required parking supply for proposed mixed-use development can be found in **Table 17.** However, it is noted that the plans currently do not define a parking supply but as the plans progress it is expected that the By-law requirements for bicycle parking will be met.

Table 17: Zoning By-Law Parking Review for Bicycles

Units/GFA	Zoning By-Law 0225-2007 Parking Rates (Precinct 2)	Required Parking Spaces	Proposed Parking Spaces	Surplus/Deficit
Dwelling Units (633)	Long-Term (0.6 spaces/unit)	380	391	**+11**
	Short Term (0.05 spaces/unit or 6 spaces whichever is greater)	32	36	**+4**
Total		**412**	**426**	**+15**

It can be noted that a total of 380 long-term and 32 short-term bicycle parking spaces are required per the City's Zoning By-Law and that the bicycle parking supply is expected to meet the By-law requirements and is in surplus by 15 spaces.

9.3 Resident Parking Justification

The proposed supply of residential parking spaces is deficient of 63 parking spaces compared to the By-Law requirements, and subsequently the justification herein has been prepared to support a rate of 0.80 residential spaces per unit within the proposed development.

9.3.1 Previous Zoning By-law Exceptions within Mississauga

It is noted that a number of recent City of Mississauga Zoning By-Law exceptions have been approved at or below the proposed resident parking rate and were reviewed as part of this justification with their proximity to GO Stations and transit stops noted as shown in **Table 18**.

Table 18: City of Mississauga Zoning By-Law Exceptions

Development	Approved Residential Parking Rate	Waking Distance to Transit (minutes)
51 & 57 Tannery Street and 208 Emby Drive (Subject Development)	0.80 per dwelling (proposed)	Mi-Way: ~5 GO Train: ~10
28 Ann Street	0.65 per dwelling unit	GO Train: <5
3015 and 3023 ParkerHill Road	0.64 per dwelling unit	LRT: ~10 GO Train: ~15
2590 Rugby Road	0.67 per dwelling unit	LRT: ~5 GO Train: ~15
151 City Centre	0.72 per dwelling unit	LRT: ~5 GO Train: ~30
5081 Hurontario Street	0.80 per dwelling unit	LRT: ~5 GO Train: ~45

The developments within a 15-minute walk to a GO Station have been granted permission to offer a range of parking spaces, from 0.64 to 0.67 spaces per dwelling unit. The subject site is conveniently located within a 10-minute walking distance from Streetsville GO Station, and transit users can utilize MiWay services on Thomas Street and Queen Street to travel within the City.

Additionally, there are plans to introduce a multi-use trail on the east side of the site along the rail corridor, as well as separated bicycle lanes along Thomas Street (per the City's Transportation Master Plan), which will enhance bicycle and pedestrian connectivity to Streetsville GO.

The implementation of this active transportation infrastructure is expected to support the use of non-auto modes of travel, subsequently reducing the number of trips completed by personal vehicle.

9.3.2 Observed Parking Demand at 4011 Brickstone Mews and 510 Curran Place

It is noted that an overnight parking survey was conducted by BA Group at 4011 Brickstone Mews and 510 Curran Place in February of 2020. The site is approximately 2.9 km from Cooksville GO Station and 1.6 km from Hurontario LRT stop and consists of approximately 1,000 units with ground floor retail uses.

The peak residential parking demand observed at this site was 0.78 spaces/unit and the subject site has a similar mixed-use context, as well as transportation context with access to major highways and higher-order transit.

9.3.3 ITE Parking Demand for Residential Purpose

The Institute of Transportation Engineers (ITE) Parking Generation Manual 5th Edition contains parking demand data from surveys for a variety of sites across Canada and the United States and is well recognized in the industry for parking demand data in lieu of, or in combination with data collected from local sites.

Land Use Code 222 "Multifamily Housing (High-Rise)" for sites not located near rail transit and for sites located in 0.5 mile of rail transit was used to estimate the site's peak parking generation, as tabulated in **Table 19.**

Table 19: ITE Parking Demand

Land Use Code	Location	Number of Units/ GFA	Parking Requirements	Parking Required	Parking Provided
Multifamily housing (High-Rise) (LUC 222)	Not close to rail transit	633 Dwelling Units	0.55 spaces per unit	348 spaces	602 Spaces **(+254)**
	Close to rail transit		0.44 spaces per unit	279 spaces	602 Spaces **(+323)**

As outlined above, the proposed parking supply would be surplus by 254 spaces to accommodate the expected parking demand at the site based on the ITE parking demand forecasted for high-rise sites even if it was considered not close to rail transit.

Given that the site is located within 800 metres of the Streetsville GO Station, the ITE parking demand was also forecasted for sites close to rail transit. The provided parking supply meets the required parking supply and would be expected to be in a surplus by 323 spaces based on this rate.

Therefore, it is expected to accommodate the parking demand when considering the ITE parking demand rates for high-rise buildings.

9.3.4 Precinct 1 Rates per the City of Mississauga Zoning By-Law

It is also noted that the precinct 1 rates are currently proposed as 0.80 spaces/unit in the City Zoning By-Law. The subject site is less than 10-minute walk to the Streetsville Go station and while it is not located near the Hurontario LRT, existing Mi-Way transit services are present to support local travel within the City.

Considering the close proximity to amenities on Queen Street and accessibility to the major destinations combined with the proposed TDM measures, the proposed parking rate of 0.80 spaces per dwelling units is expected to be sufficient to serve the needs of the development and the site is expected to better exhibit the characteristics within Precinct 1, especially as the area around the Streetsville GO station continues to densify.

9.3.5 Future Major Transit Station Area

According to the Peel 2041 Regional Official Plan Review, the Streetsville GO station is currently classified as a Planned Station. A planned station has the potential to evolve into a Major Transit Station Area (MTSA) when changes in land use unlock its development potential. Table 1 of the Peel 2041 Regional Official Plan Review indicates that the Streetsville GO station has the capacity to meet density targets through intensification or land assembly.

Given the ongoing development in the Streetsville area, it is anticipated that the station will satisfy density requirements and be designated as an MTSA in the near future. As a result, the proposed parking rates reflect this future area as a growing, transit-oriented community with everyday amenities located within a 15 minute walk of the proposed development.

Furthermore, per the Bill 185, the applicant may not be required to provide minimum parking as per the Zoning by-law requirements.

9.3.6 Conclusion

Based on a review of previous zoning by-law exceptions, the current provisions within the City of Mississauga By-law requirements, as well as observed residential parking demand at a similar mixed-use site within the City of Mississauga, the proposed residential parking supply can be supported.

9.4 Visitor Parking Justification

It is noted that the visitor parking supply proposed for the site does not meet the City of Mississauga Zoning By-Law parking requirements and is deficit by 32 parking spaces and therefore visitor rate is justifying for the proposed parking ratio of 0.15 spaces/unit.

9.4.1 Streetsville Area Context

The site is located in the Streetsville area, a Mixed-Use zone containing a wide variety of land uses along the Queen Street, ranging from low to mid-rise residential buildings, restaurants, pharmacies, medical offices, supermarkets, banks, religious facilities, schools, as well as other employment and commercial facilities.

This existing wide variety of amenities offered in close proximity to the site on Queen Street (~10-minute walk) enables residents to access both essential and non-essential services without the need of a vehicle, and to walk or cycle for errands if they choose to.

As the Village continues to develop and densify, it is expected that more and more amenities will become available, further supporting these shorter, local trips to occur via non-auto modes of transportation, which in turn is expected to reduce parking demand rates within Streetsville.

9.4.2 Observed Parking Demand at 1750 Bloor Street and 3315 Fieldgate Drive

It is noted that an overnight parking survey was conducted by LEA Consulting at 1750 Bloor Street and 3315 Fieldgate Drive within the City of Mississauga. The site is approximately 4.6 km to Kipling Go Station and consists of approximately 302 units in two-11 storey buildings.

The peak residential parking demand observed at this site was 0.09 spaces/unit from Thursday, February 28, 2019, to Sunday, March 3, 2019 from 6:00 P.M. to 1:00 A.M. and the subject site has a similar residential context, as well as similar major highway access while also being a significantly further distance to higher-order transit uses.

9.4.3 Recently Approved Visitor Parking Rate at 180 Rutledge Road

The site at 180 Rutledge Road proposed the construction of a five-storey building with approximate 62 dwelling units and is proposed as a retirement residence.

The development proposed a parking rate of 0.10 parking spaces per unit for residential spaces, which was ultimately approved per the Committee of Adjustment dated July 20th, 2023.

The subject site is located across the approved development on northwest intersection of Tannery Street and Rutledge Road.

Due to this development's similar context and proximity to the Streetsville GO Station compared to the subject site, it provides a useful comparison and precedent regarding what would be an appropriate parking supply close to the Streetsville GO station that supports the proposed visitor parking rate of 0.10 parking spaces per unit.

9.4.4 Paid/Unpaid On-Street Parking Availability

It is noted that existing paid parking lots are available along Broadway Street, as well as additional on-street parking providing a 4-hour maximum parking from Monday to Friday 7 AM -7 PM, 12-hour maximum parking from Monday to Friday 7 PM – 7 AM and 24 hour maximum parking on Saturday and Sunday.

In total there are approximately 50 parking spots along Broadway Street that can support visitor uses should there be excess demand. It is also noted that this parking is located within a 5-minute walk from the subject site. Additionally, on-street facilities are available on west side of the Rutledge Road within a short walking distance to the proposed site.

9.4.5 Conclusion

Based on a review of previously approved zoning by-law exceptions, the current provisions within the City of Mississauga By-law requirements, the availability of additional paid on-street parking close to the site, as well as observed visitor parking demand at a similar mixed-use site within the City of Mississauga, the proposed visitor parking supply can be supported.

10.0 Transportation Demand Management (TDM)

Transportation Demand Management (TDM) measures are recommended to promote alternative modes of transportation, such as transit, cycling or walking, and reduce single-occupant vehicle (SOV) trips entering and exiting the proposed development.

10.1 Existing TDM Opportunities

10.1.1 Modal Split

Transportation Tomorrow Survey (TTS) data was analyzed to determine the modal split at the subject development, located in 2006 GTA Zones 3602, 3604, 3715, 3718 and 3836. **Table 20** summarizes the modal split at the site, resulting from the TTS query analysis. The detailed TTS query is provided in **Appendix N.**

Table 20: Modal Split

Mode of Travel	Modal Split
Auto	79%
Transit	12%
Cycling	1%
Walking	8%

Note: other modes of transportation such as motorcycles and taxi passengers only represent less than 1% of the modal split and were not included in the results.

Per the results summarized above, while vehicles are the dominant form of travel mode in the area, there is a sizeable portion of the community using transit to reach their destinations, with some walking and cycling.

However, the number cycling trips is expected to generally increase as the village continues to implement cycling infrastructure.

10.1.2 Active Transportation

The study area provides ample opportunities for pedestrians to make trips, as sidewalks are available on at least one side of the road on the surrounding roadways, with wide sidewalks provided on both sides of Joymar Drive, Tannery Street and Thomas Street.

Cyclists have north/south connectivity along the signed route available Queen Street south to the north of the intersection of Queen Street and Plaza Access and separated bicycle lanes are planned to the south of the intersection within the City's Cycling Master Plan. Additionally, separated bicycle lanes are proposed for Thomas Street as part of the proposed cycling network outlined in the Cycling Master Plan.

10.1.3 Transit

As outlined previously in Section 2.3, there are two transit routes operated by Miway Transit available in the vicinity of the subject site that are within a 5-minute walk. As indicated by the TTS results, approximately 12% of peak hour trips use transit in the study area.

It is noted that headways are at about 15 minutes in the A.M. peak hour and about 30 minutes in the P.M. peak hour. However, the development is in close proximity to Streetsville GO station that can be reached by walking or cycling, which operates with 15 minute headways to/from Union Station during peak periods.

10.2 TDM Opportunities and Recommendations

10.2.1 Pedestrian Facilities

The design of the development facilitates mobility for pedestrians between the site and the surrounding roadways; this is achieved by providing pedestrian and cycling connections on the east and west sides of the site connecting to Tannery Street and potentially Thomas Street in the future should the property to the south also develop.

Additionally, pedestrian-friendly design measures such as proper lighting, benches, and landscaping are expected to be implemented to provide a welcoming and safe walking environment. The ground floor will provide weather refuge, and other beautification measures (landscaping, greenery, amenities).

10.2.2 Transit Facilities

The use of transit is generally supported by providing sufficient pedestrian connectivity from the site to the existing sidewalk on Tannery Street, which provides a convenient means of accessing the existing local transit stops located within a short walking distance of the site and the Streetsville Go Station as well.

MiWay Transit could also consider monitoring headway times for P.M. peak hours as the Streetsville area continues to develop with high-density developments to improve transit service.

10.2.3 Wayfinding

Signage or a digital display may be incorporated at front entrances or central areas (such as a lobby) to provide residents and visitors transit information, such as schedules of nearby routes.

Wayfinding signage may be installed to direct residents and visitors to locate bike share, transit stops and stations, and trails throughout the area. Additional wayfinding signages leading residents to nearby bus stops may be provided to promote the use of local transit options.

10.2.4 Education and Incentives

Various educational measures and incentives may be promoted at the new residential site to overall build a robust TDM brand and promote use of alternative modes of transportation available to residents.

The residential units being sold at the subject site should be promoted with a strong TDM brand, where marketing should highlight the convenience of proximity to nearby bus stops and amenities, as well as the accessibility to bike storage and the nearby trails.

Education on available transit in the vicinity of the subject site would also be highly effective in promoting transit to new residents, who may not be aware of the variety of options available in the area. Handouts on local transit offerings and stop/schedule information, as well as nearby cyclist and pedestrian routes, may be provided to residents as part of a welcome package, and extra copies should be made available in the lobby for reference.

10.2.5 Subsidized Transit Passes

The developer will be suggested to provide a 2-month preloaded transit pass to each unit as a new move-in incentive to encourage the habit of using public transit for daily commuting. It is noted that Metrolinx has recently announced that local transit rides are also free for all GO Rail passengers, so residents using Streetsville GO Station would not have to pay to transfer to a local MiWay transit route.

10.2.6 Unbundled Resident Parking

The develop is recommended to provide unbundled resident parking to separate the cost of parking from the cost of each residential unit for all new residents in site. The is expected to make visible the hidden cost of driving and encourage residents to make more effective use of active transportation and available transit facilities.

11.0 Community Impacts

No formal transportation related comments from the Community have been received pertaining to the Subject Development to date. Community concerns/comments related to transportation will be included within this section as part of any subsequent application(s).

It is not anticipated that a significant amount of traffic will pass through existing residential neighbourhoods on local roads.

12.0 Conclusion

The findings and recommendations of our analysis are summarized as the following:

- Under 2023 existing conditions, the study road network operates with a Level of Service "D" or better, however the Level of Service "E" for the eastbound left-turn approach at the intersection of Queen Street and Tannery Street and southbound left-turn approach at the intersection of Thomas Street and Joymar Drive was identified in the weekday P.M. peak hour. The 95th percentile queue length for eastbound left at the intersection of Queen Street and Tannery Street/Private Access was identified exceeding the available storage.

- No geometric improvements are identified in the study road network except for the implementation of separate bicycle lanes on Queen Street South and Thomas Street.

- Under 2028 future background conditions, all the study intersection operate similar to the existing conditions.

    - The Level of Service is expected to deteriorate to "F" at the intersection of Thomas Street and Joymar Drive in the weekday PM peak hour due to increase in control delay by 106 seconds that is mainly because of the growth rate applied on Thomas Street for through traffic.

    - The 95th percentile queue length for the northbound left-turn at the intersection of Queen Street and Thomas Street, the southbound left-turn at the intersection of Thomas Street and Joymar Drive and the eastbound left-turn at the intersection of Queen Street and Tannery Street/Private Access are expected to increase in future background scenario.

- The subject site is expected to generate 170 two-way (44 inbound and 126 outbound) trips during the weekday A.M. peak hour and 203 two-way (126 inbound and 77 outbound) trips during weekday P.M. peak hour.

- Under 2028 future total conditions, all the study intersection operate similar to the future background conditions.

    - The control delay for the southbound approach at the intersection of Thomas Street and Joymar Drive is expected to remain LOS "F". However, the approach operates within capacity and queues are reasonable.

    - Some 95th percentile queues may exceed the existing storage lengths, but nearly all average queue lengths are expected to be contained within the existing storage. However, the eastbound left-turn length at the intersection of Queen Street and Tannery Street should be considered to be lengthened by at least 15 metres in the future to allow average queue lengths in both peak hours to be contained within the storage length.

- A signal warrant was conducted pet the Ontario Traffic Manual Justification 7 for projected volumes at the intersection of Thomas Street and Joymar Drive. The volumes fell short of satisfaction levels and therefore a signal is not recommended.

- The site access is expected to operate well with minimal delays and no queueing issues identified.

- Sight lines, Corner Clearance and Clear Throat Length are adequate for the proposed site accesses per the TAC standards. The vehicles turning right and left from site access via Tannery Street have sufficient sight distance.

- Vehicle maneuverability diagrams were prepared and indicate that all design vehicles can circulate the proposed site adequately without encroaching on any curbs or obstacles.

- A parking assessment and justification was conducted for the proposed development and the proposed auto and bicycle parking supplies were determined to be adequate to support the needs of residents and visitors at the proposed site based on a review on the surrounding land-use context, transit availability and observed parking rates within the City of Mississauga.

- Transportation Demand Management (TDM) measures, including "hard" measures such as adequate cycling and pedestrian facilities, as well as "soft" measures such as unbundling the parking supply and providing transit incentives were recommended to reduce single-occupant vehicle trips and to promote transit and active transportation uses.

- Therefore, the proposed site is not expected to materially impact the surrounding study transportation network and supports the build out of a multi-modal transportation and can therefore be supported from a transportation perspective.

We trust that this study satisfies any transportation related concerns associated with the proposed development. Should you have any questions or require any further information, please do not hesitate to contact the undersigned.

Respectfully submitted,

C.F. CROZIER & ASSOCIATES INC.



Aarzoo Dhanani, M. Eng, EIT
Engineering Intern, Transportation

C.F. CROZIER & ASSOCIATES INC.



Brandon Bradt, M.Eng.CEM, P. Eng
Manager, Transportation Planning

AD/BB

J:\1200\1241 - NYX Capital Corp\6659 - 51 & 57 Tannery Street and 208 Emby Street\Reports\Transportation\2024.04.30 - TIS and PJS - 51 & 57 Tannery Street and 208 Emby Drive - FINAL.docx

APPENDIX A

City Correspondence and Terms of Reference

Appendix A

Certification Form

Individuals submitting reports will be responsible for all aspects of development-related transportation assessment and reporting, and undertaking such work, in accordance and compliance with the City of Mississauga's Official Plan, Transportation Master Plan, and Transportation Impact Study Guidelines.

By submitting the attached report (and any associated documents) and signing this document, I acknowledge that:

- I have reviewed and have a sound understanding of the objectives, needs, and requirements of the City of Mississauga's Official Plan, Transportation Master Plan, and the Transportation Impact Study Guidelines as they apply to this submission;
- I have sound knowledge of industry standard practices pertaining to the preparation of development-related transportation study reports;
- I have substantial experience (more than five years) in completing development-related transportation studies and strong background knowledge of the transportation planning and engineering principles underpinning these studies; and
- I am registered as a Professional Engineer (P.Eng.), Licensed Engineering Technologist (LET), Certified Engineering Technologist (C.E.T.), or Registered Professional Planner (RPP) in good standing in the Province of Ontario with specific training in transportation planning and engineering.

Dated at Toronto (City) this 30th day of April, 2024.

Name: Brandon Bradt

Professional Title: Manager, Transportation Planning

Signature: 

Office Contact Information (Please Print)

Address: 211 Yonge Street, Suite 600

City/Postal Code: Toronto M5B 1M4

Telephone/Extension: 416.842.0033

E-mail Address: bbradt@cfcrozier.ca

From: Brandon Bradt

Sent: Tuesday, January 2, 2024 12:00 PM

To: Michael Turco; Aarzoo Dhanani

Cc: Kate Vassilyev; Trans Projects

Subject: RE: Transportation Impact Study Terms of Reference CFC (#1241-6659) - 51 & 57 Tannery Street and 208 Emby Drive

Will do thanks Michael!

Brandon Bradt, M.Eng. CEM, P.Eng.
Manager (Planning), Transportation
DID: 416.842.0033

From: Michael Turco <Michael.Turco@mississauga.ca>
Sent: Tuesday, January 2, 2024 11:57 AM
To: Brandon Bradt <bbradt@cfcrozier.ca>; Aarzoo Dhanani <adhanani@cfcrozier.ca>
Cc: Kate Vassilyev <Kate.Vassilyev@mississauga.ca>; Trans Projects <Trans.Projects@mississauga.ca>
Subject: RE: Transportation Impact Study Terms of Reference CFC (#1241-6659) - 51 & 57 Tannery Street and 208 Emby Drive

Good morning Brandon,

Happy new year!

Please ensure that the Certification Form is attached to the TIS submitted with the associated application in ePlans.

Thank you,

Michael Turco, C.E.T., CPT, MITE
Traffic Planning Coordinator
T 905-615-3200 ext. 3597

From: Brandon Bradt <bbradt@cfcrozier.ca>
Sent: Tuesday, January 2, 2024 11:51 AM
To: Michael Turco <Michael.Turco@mississauga.ca>; Aarzoo Dhanani <adhanani@cfcrozier.ca>
Cc: Kate Vassilyev <Kate.Vassilyev@mississauga.ca>; Trans Projects <Trans.Projects@mississauga.ca>
Subject: RE: Transportation Impact Study Terms of Reference CFC (#1241-6659) - 51 & 57 Tannery Street and 208 Emby Drive

Good Morning Michael,

I hope you had an enjoyable and relaxing holiday break!

Please find attached the certification form for this project for your records.

Kind Regards,

Brandon

Brandon Bradt, M.Eng. CEM, P.Eng.
Manager (Planning), Transportation
Office: 416.842.0033
Collingwood | Milton | Toronto | Bradford | Guelph

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From: Michael Turco <Michael.Turco@mississauga.ca>
Sent: Tuesday, October 10, 2023 8:09 AM
To: Aarzoo Dhanani <adhanani@cfcrozier.ca>
Cc: Kate Vassilyev <Kate.Vassilyev@mississauga.ca>; Trans Projects <Trans.Projects@mississauga.ca>; Brandon Bradt <bbradt@cfcrozier.ca>; Ian Lindley <ilindley@cfcrozier.ca>
Subject: RE: Transportation Impact Study Terms of Reference CFC (#1241-6659) - 51 & 57 Tannery Street and 208 Emby Drive

Good morning Aarzoo,

Please find attached revised approved ToR for the proposed development. As previously noted, please be advised of the following:

- Certification Form - The Transportation Consultant must complete, sign, and seal (if appropriate) the attached Certification Form from the City's TIS Guidelines (2022) and submit the document with the application/report to ensure compliance with qualification requirements. The TIS Guidelines can be found at https://www.mississauga.ca/wp-content/uploads/2023/03/CMississauga-TIS-Guidelines-Version-5.1-Dec-2022.pdf . It must be ensured that the report conforms to the City's TIS Guidelines.
- Please contact Tyler Xuereb from the City's Transportation Planning Section (tyler.xuereb@mississauga.ca, Ext. 4783) to confirm growth rates and/or obtain traffic data for the study area roadways.
- Signal timing plans for signalized intersections under the City's jurisdiction can be obtained from Jim Kartsomanis (Jim.Kartsomanis@mississauga.ca, Ext. 3964).
- For the 170, 180 and 190 Rutledge Road background development, please confirm the estimated number of site trips using the ITE Trip Gen Manual and assign to the network based on the same parameters that will be assumed for the subject site.

Should you have any questions, please feel free to contact me.

Thank you,

Michael Turco, C.E.T., CPT, MITE
Traffic Planning Coordinator
T 905-615-3200 ext. 3597
michael.turco@mississauga.ca

City of Mississauga | Transportation & Works Department
300 City Centre Drive | Mississauga ON | L5B 3C1

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From: Aarzoo Dhanani <adhanani@cfcrozier.ca>
Sent: Thursday, October 5, 2023 11:14 AM
To: Michael Turco <Michael.Turco@mississauga.ca>
Cc: Kate Vassilyev <Kate.Vassilyev@mississauga.ca>; Trans Projects <Trans.Projects@mississauga.ca>; Brandon Bradt <bbradt@cfcrozier.ca>; Ian Lindley <ilindley@cfcrozier.ca>
Subject: RE: Transportation Impact Study Terms of Reference CFC (#1241-6659) - 51 & 57 Tannery Street and 208 Emby Drive

Hey Michael,

Hope you're doing well!

Regarding the email sent below about the Emby Drive extension to north to Tannery Street, I wanted to inform you that we will no longer be providing the extension to public road. The City Planning Staff and Chris Rouse had discussion with the Client and agreed not to have the extension.

Could you please approve the Terms of Reference by removing the Emby extension from it and providing us with the updated ToR?

Kind Regards,

Aarzoo

Aarzoo Dhanani, M.Eng., EIT
Engineering Intern, Transportation
Office: 416.477.3392
Collingwood | Milton | Toronto | Bradford | Guelph

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CROZIER CONSULTING ENGINEERS

From: Brandon Bradt <bbradt@cfcrozier.ca>
Sent: Monday, July 31, 2023 10:24 AM
To: Michael Turco <Michael.Turco@mississauga.ca>; Aarzoo Dhanani <adhanani@cfcrozier.ca>
Cc: Kate Vassilyev <Kate.Vassilyev@mississauga.ca>; Trans Projects <Trans.Projects@mississauga.ca>; Michael Linton <mlinton@cfcrozier.ca>
Subject: RE: Transportation Impact Study Terms of Reference CFC (#1241-6659) - 51 & 57 Tannery Street and 208 Emby Drive

Hey Michael,

Thanks for the prompt response and your comments on the terms of reference.

We understand that the City is requesting a public road extension of the existing Emby Road alignment north to Tannery Street, and that this was a requirement of the previous application/approval made at the proposed site. However, we were not the transportation consultant on the file at the time, and cannot support this extension of the existing Emby alignment given the road's proximity to the rail corridor, particularly at the intersection with Thomas Street.

It is noted that this is a safety issue as the Thomas and Emby intersection is significantly substandard to Transport Canada's Grade Crossing Standard, which states that the distance between a road/property and the nearest rail crossing should not be less than 30 meters (see excerpt below). The current distance to the intersection from the nearest rail is significantly substandard (~10m). Furthermore, this distance would almost certainly not allow for a future grade separation of Thomas from the rail corridor should it be warranted, since both rail traffic and auto traffic are expected to increase in the future.

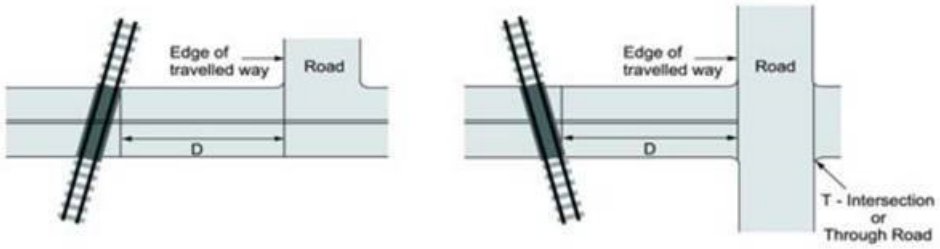
Therefore, given the resulting additional safety risk to this existing intersection we do not support extending the existing Emby alignment, especially when traffic can be adequately handled by a single access per the results of our previous letter (attached).

We request that the TOR comments acknowledge that the site is not proposing an extension of Emby Road as a result, and therefore an extension of Emby Road will not be considered within the TIS other than to discuss the previous proposed extension and why it is not supportable from a transportation engineering perspective.

Please let us know if a meeting is necessary between City staff and the project team to further discuss the Emby Road extension issue or if you are able to approve the TOR per the attached revisions.

Figure 11-1 – Restrictions on the Proximity of Intersections and Entranceways to Public Grade Crossings

Figure 11-1, Diagram 1



▼ Figure 11-1, Diagram 1 - Text version

As provided for in article 11.1 a public grade crossing must be constructed so that no part of the travelled way of an intersecting road is closer than 30 m to the nearest rail of the grade crossing.

Best Regards,

Brandon

Brandon Bradt, M.Eng. CEM, P.Eng.
Manager (Planning), Transportation
Office: 416.477.3392
Collingwood | Milton | Toronto | Bradford | Guelph

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CROZIER CONSULTING ENGINEERS

From: Michael Turco <Michael.Turco@mississauga.ca>
Sent: Wednesday, July 26, 2023 9:07 AM
To: Aarzoo Dhanani <adhanani@cfcrozier.ca>
Cc: Brandon Bradt <bbradt@cfcrozier.ca>; Kate Vassilyev <Kate.Vassilyev@mississauga.ca>; Trans Projects <Trans.Projects@mississauga.ca>

Subject: RE: Transportation Impact Study Terms of Reference CFC (#1241-6659) - 51 & 57 Tannery Street and 208 Emby Drive

Hi Aarzoo,

Please find attached stamped and approved ToR for the proposed development, which encompasses City comments. Other items to note:

- Certification Form - The Transportation Consultant must complete, sign, and seal (if appropriate) the attached Certification Form from the City's TIS Guidelines (2022) and submit the document with the application/report to ensure compliance with qualification requirements. The TIS Guidelines can be found at https://www.mississauga.ca/wp-content/uploads/2023/03/CMississauga-TIS-Guidelines-Version-5.1-Dec-2022.pdf . It must be ensured that the report conforms to the City's TIS Guidelines.
- Please contact Tyler Xuereb from the City's Transportation Planning Section (tyler.xuereb@mississauga.ca, Ext. 4783) to confirm growth rates and/or obtain traffic data for the study area roadways.
- Signal timing plans for signalized intersections under the City's jurisdiction can be obtained from Jim Kartsomanis (Jim.Kartsomanis@mississauga.ca, Ext. 3964).
- For the 170, 180 and 190 Rutledge Road background development, please confirm the estimated number of site trips using the ITE Trip Gen Manual and assign to the network based on the same parameters that will be assumed for the subject site.

Should you have any questions, please feel free to contact me.

Thank you,

MISSISSAUGA

Michael Turco, C.E.T., CPT, MITE
Traffic Planning Coordinator
T 905-615-3200 ext. 3597
michael.turco@mississauga.ca

City of Mississauga | Transportation & Works Department
300 City Centre Drive | Mississauga ON | L5B 3C1

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From: Aarzoo Dhanani <adhanani@cfcrozier.ca>
Sent: Wednesday, July 19, 2023 9:03 AM
To: Kate Vassilyev <Kate.Vassilyev@mississauga.ca>; Michael Turco <Michael.Turco@mississauga.ca>
Cc: Brandon Bradt <bbradt@cfcrozier.ca>
Subject: Transportation Impact Study Terms of Reference CFC (#1241-6659) - 51 & 57 Tannery Street and 208 Emby Drive

Hello Kate/Michael,

C.F. Crozier and Consulting Engineers (Crozier) has been retained to provide transportation consulting services for residential development located at 51 & 57 Tannery Street and 208 Emby Drive in the City of Mississauga, Region of Peel.

A Transportation Impact Study (TIS) was originally conducted by Lea Consulting Ltd. for the aforementioned lands, outlining plans for townhouse residential development. However, the current proposal for the land involves high-rise residential development. In light of this change, we are now preparing a Transportation Impact Study to support an Official Plan Amendment and Zoning By-Law Amendment for the proposed development.

A concept plan detailing the full build-out envisioned for the site has been included for reference.

It should be noted that the background development 170, 180 and 190 Rutledge Road was not warranted for a Transportation Impact Study. So please suggest method to analyze site generated trips from these developments.

We kindly request your review of the attached Pre-Study Consultation Checklist for the proposed development. Your feedback and confirmation regarding our proposed scope of work and study assumptions would be greatly appreciated.

Further, if you are not the appropriate contact person for this correspondence, we would be grateful for your guidance in directing us to the appropriate individual.

Kind Regards,

Aarzoo

Aarzoo Dhanani, M.Eng., EIT
Engineering Intern, Transportation
Office: 416.477.3392
Collingwood | Milton | Toronto | Bradford | Guelph

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APPENDIX B

Draft Plans

51,57 Tannery Street and Emby Drive

Mississauga, Ont.

Architectural Package

April 22, 2024



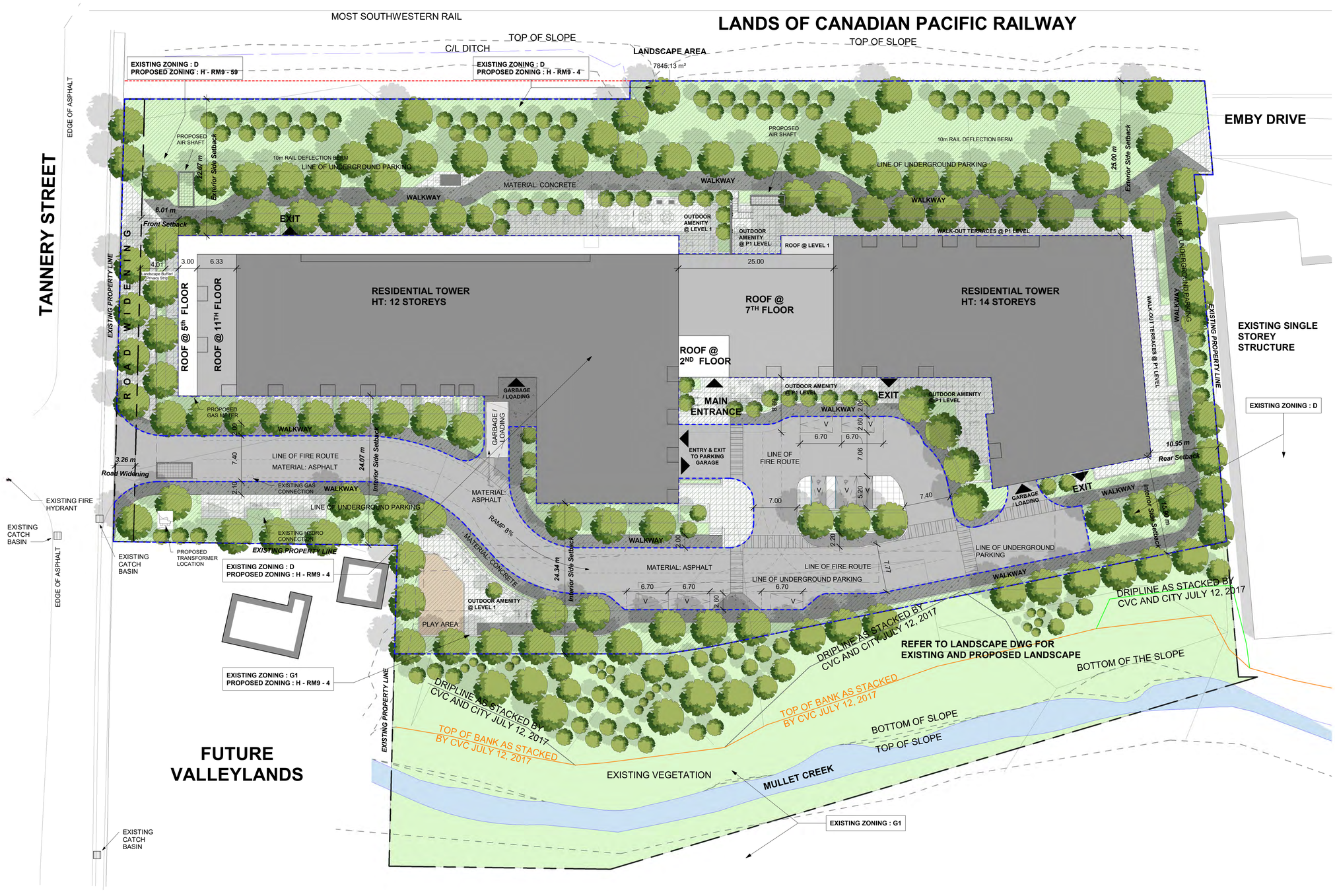
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COVER

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SITE PLAN

A0.1

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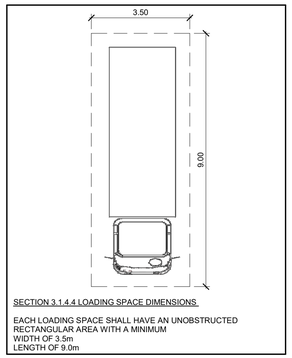
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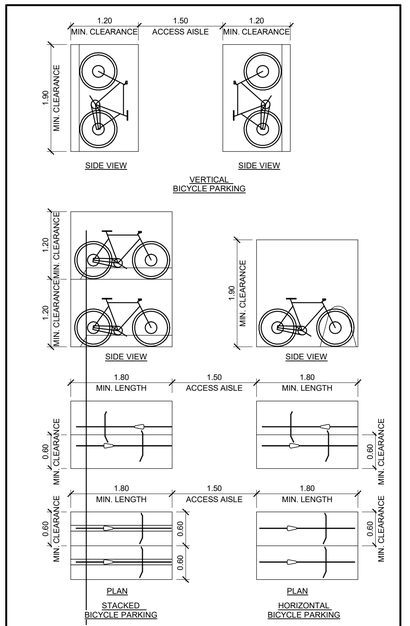
5 CONTEXT PLAN
N.T.S.



SECTION 3.1.4.4 LOADING SPACE DIMENSIONS

EACH LOADING SPACE SHALL HAVE AN UNOBSTRUCTED RECTANGULAR AREA WITH A MINIMUM
WIDTH OF 3.5m
LENGTH OF 9.0m

4 LOADING SPACE DIMENSIONS
1 : 100

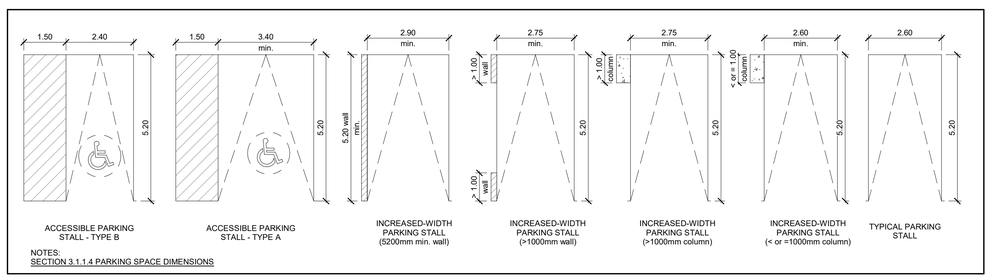


SECTION 3.1.6.3 BICYCLE PARKING SPACE DIMENSIONS

MIN LENGTH - 1.8m
MIN WIDTH - 0.6m
MIN VERTICAL CLEARANCE - 1.9m

VERTICAL POSITION DIMENSIONS
MIN HORIZONTAL CLEARANCE FROM THE WALL - 1.2m
MIN WIDTH - 0.6m
MIN LENGTH / VERTICAL CLEARANCE - 1.9m

3 BICYCLE PARKING DIMENSIONS
1 : 50



NOTES:
SECTION 3.1.1.4 PARKING SPACE DIMENSIONS

2 PARKING STALL DIMENSIONS
1 : 100

SITE DATA

51-57 Tannery St and 208 Embry Dr., Missisauga, ON

ZONING	H-RM5-59; H-RM9-4	
DATA	**HECTARES**	**ACRES**
LOT AREA (EXISTING)	1.853	4.578
DEVELOPMENT LOT AREA	1.426	3.522
DEDICATION (ROAD WIDENING)	0.023	0.058
DEDICATION (VALLEY LANDS)	0.404	0.998
	REQUIRED	**PROVIDED**
SETBACKS: FRONT YARD (m)		6.0 m
SETBACKS: INTERIOR SIDE YARD (m)		10.95 m
SETBACKS: EXTERIOR SIDE YARD (m)		25 m
SETBACKS: REAR YARD (m)		16.05 m

BUILDING DATA

DATA	PROVIDED
TOTAL DENSITY (# of units)	633 units
BUILDING AREA (m²)	4,389.2 m² (47,245 ft²)
GROSS FLOOR AREA (DEFINED AS PER ZONING)	47,931.8 m² (515,934 ft²)
GROSS CONSTRUCTION AREA (EXCLUDING PARKING)	51,399.1 m² (553,256 ft²)
GROSS CONSTRUCTION AREA (INCL. PARKING)	73,757 m² (793,918 ft²)
NUMBER OF STOREYS	14
BUILDING HEIGHT (m)	+/- 50.75 m
DENSITY (FSI) GFA / EXISTING LOT AREA	2.58

AMENITY AREA

REQUIRED	RATE	AREA
	5.6 m² / UNIT	= 633 UNITS x 5.6 = **3,544.8 m²** (38,156 ft²)
PROVIDED	**RATE**	**AREA**
	5.6 m² / UNIT INDOOR	INDOOR **1,381.8 m²** (14,874 ft²) OUTDOOR **2,164.5 m²** (23,298 ft²) **TOTAL** = **3,546.3 m²** (38,172 ft²)

LANDSCAPE AREA

TYPE	REQUIRED	PROPOSED
LANDSCAPE AREA (DEFINED AS PER ZONING; SEE BELOW)	40% OF LOT AREA = 7,411.3 m² (70,774.8 ft²)	7845.13 m² (84,444 ft²)

Landscaped Area means any outdoor area on a lot, located at grade, including the landscaped buffer, that is suitable for the growth and maintenance of grass, flowers, shrubs, trees and other vegetation, as well as other landscape features, and may include walkways, berms, retaining walls and outdoor amenity areas, but shall not include, driveways, aisles, ramps or condominium roads, parking areas whether surfaced or not, bicycle parking space - class b, curbs, any open space beneath or within any building, structure or part thereof, or any exterior garbage storage or handling area. (0190-2014), (0181-2018/LPAT Order 2019 February 15), (0118-2022)

UNIT SCHEDULE (ENTIRE DEVELOPMENT)

UNIT TYPE	COUNT	AREA (SQ. FT.)		PERCENTAGE	AVG. SUITE SIZE (SQ.FT.)
		AREA (TOTAL)	AREA (Min - Max)		
STUDIO	31	13394	374 - 458	5%	432
1 BED	175	94284	468 - 672	28%	539
1 BED + D	167	110333	589 - 756	26%	661
2 BED	170	131480	703 - 907	27%	773
2 BED + D	17	15792	789 - 977	3%	929
3 BED	73	78033	869 - 1455	12%	1069
TOTAL	**633**			**100%**	**700**

UNIT AND PARKING BREAKDOWN

UNIT TYPE	UNITS	REQUIRED BY ZBL*		PROPOSED	
		RATE	PARKING	RATE	PARKING
STUDIO	31	0.9	27.9	0.8	24.8
1 BED	342	0.9	307.8	0.8	273.6
2 BED	187	0.9	168.3	0.8	149.6
3 BED	73	0.9	65.7	0.8	58.4
TOTAL (RESIDENTIAL)					506
VISITOR PARKING	633	0.2	126.6	0.15	94.95
TOTAL	**633**		**696**		**601**
				LEVEL P1	110
				LEVEL P2	269
				LEVEL P3	223
				TOTAL	**602**
NUMBER OF BARRIER FREE PARKING SPACES (INCLUDES TOTAL PARKING SPACES)	2.0 SPACES + 2% OF THE TOTAL = 14			TYPE A: 11	TYPE B: 4
EV PARKING (RESIDENTIAL) (20% OF THE TOTAL REQ. RESI. PARKING SPACES)	**20% X 506 = 101.2**			**101 (Incl. Total Resi. Parking Count)**	
EV PARKING (VISITOR) (10% OF THE TOTAL REQ. VISITOR PARKING SPACES)	**10% X 95 = 9.5**			**10 (Incl. Total Visitor Parking Count)**	

*NOTE:
Required parking is based on Zoning By-law No.0225-2007

BIKE PARKING

TYPE	REQUIRED	PROPOSED
CLASS A (INDOOR)	0.6 / UNIT = 380 STALLS	391 STALLS
CLASS B (OUTDOOR)	THE GREATER OF 0.05 / UNIT **OR** 6 : 0.05 / UNIT = 32 STALLS	36 STALLS
TOTAL	**412 STALLS**	**426 STALLS**

1 PROJECT STATISTICS
N.T.S.



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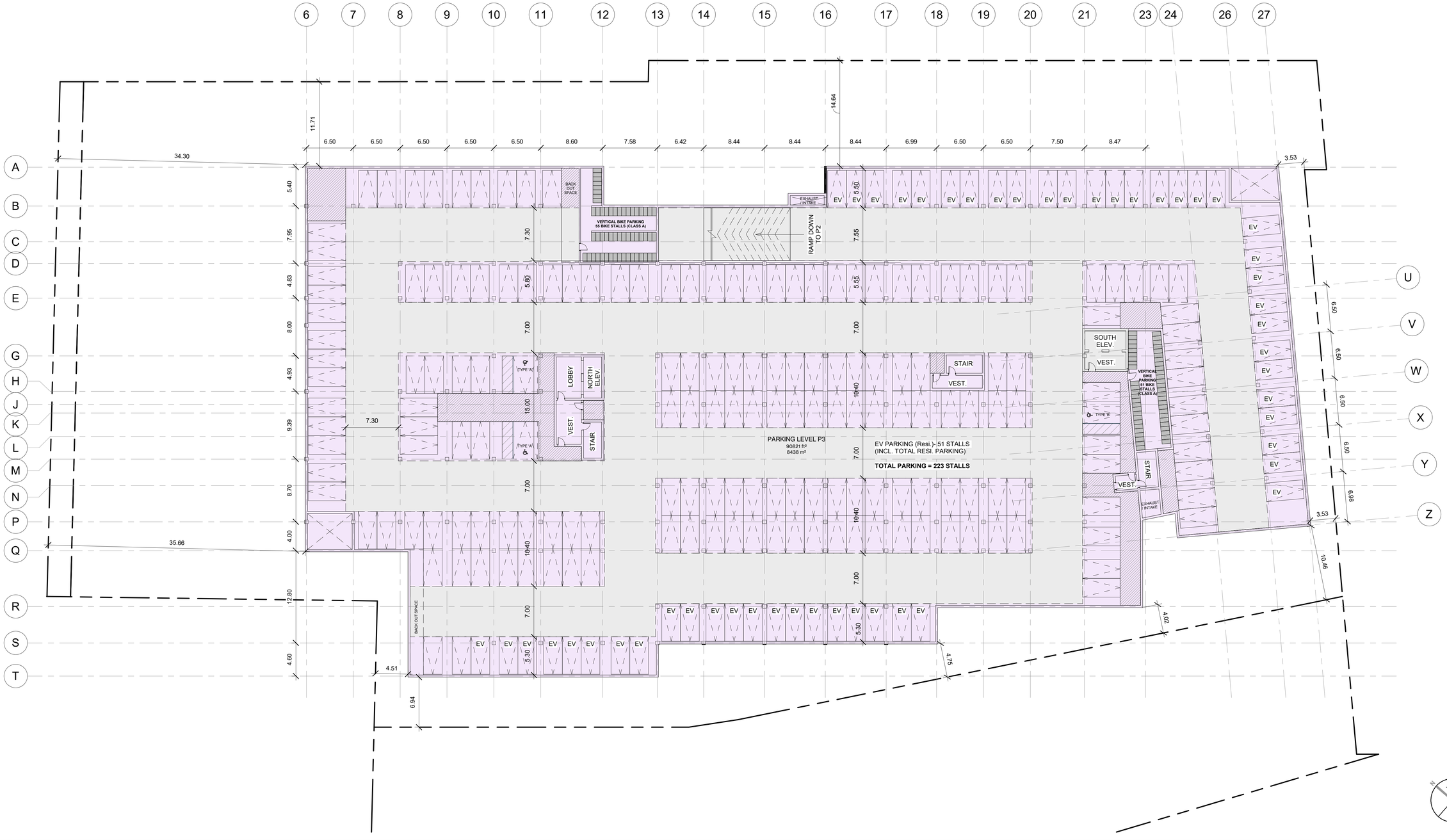
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CONTEXT PLAN & STATISTICS

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PARKING LEVEL P3

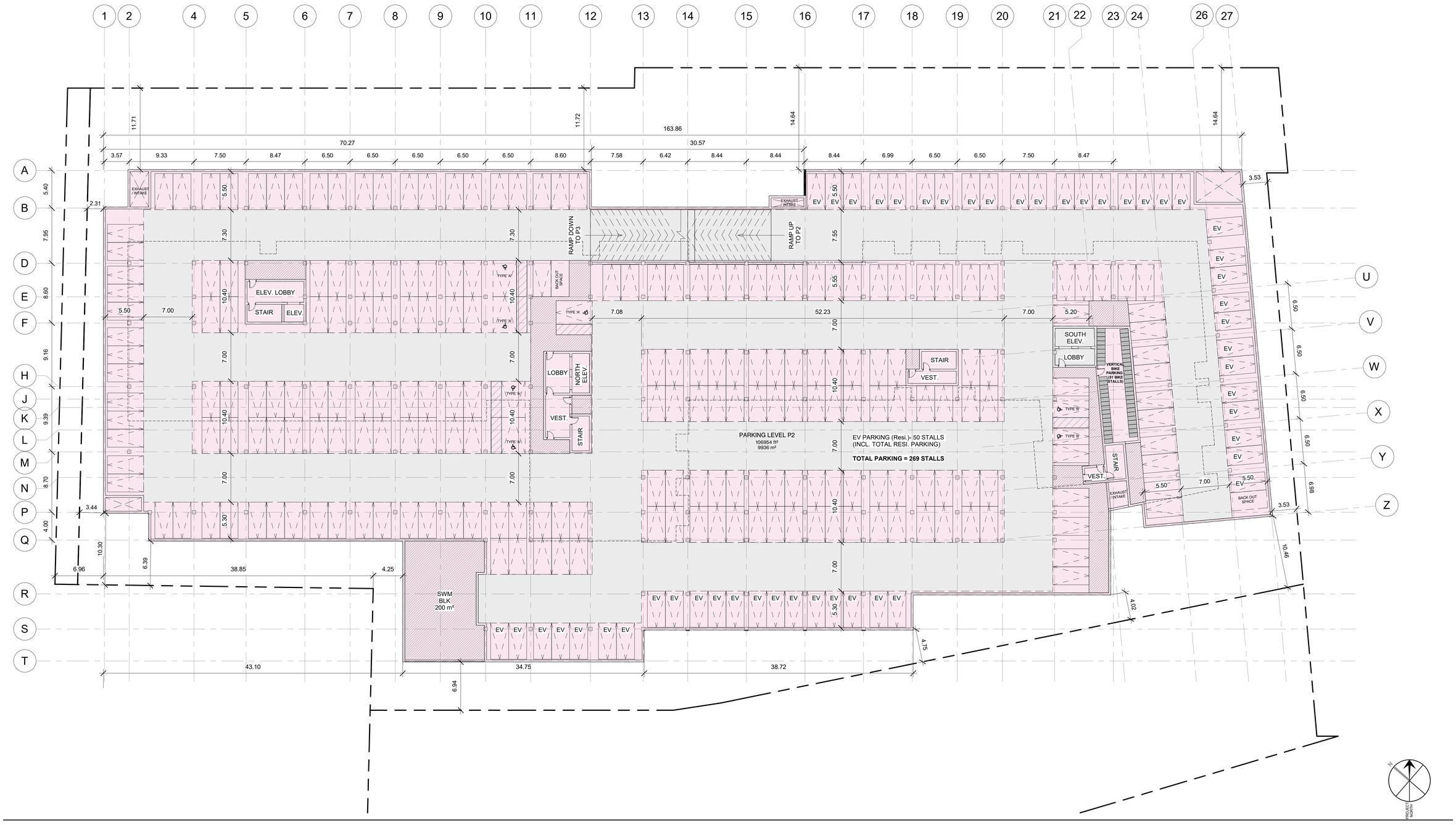
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PARKING LEVEL P2

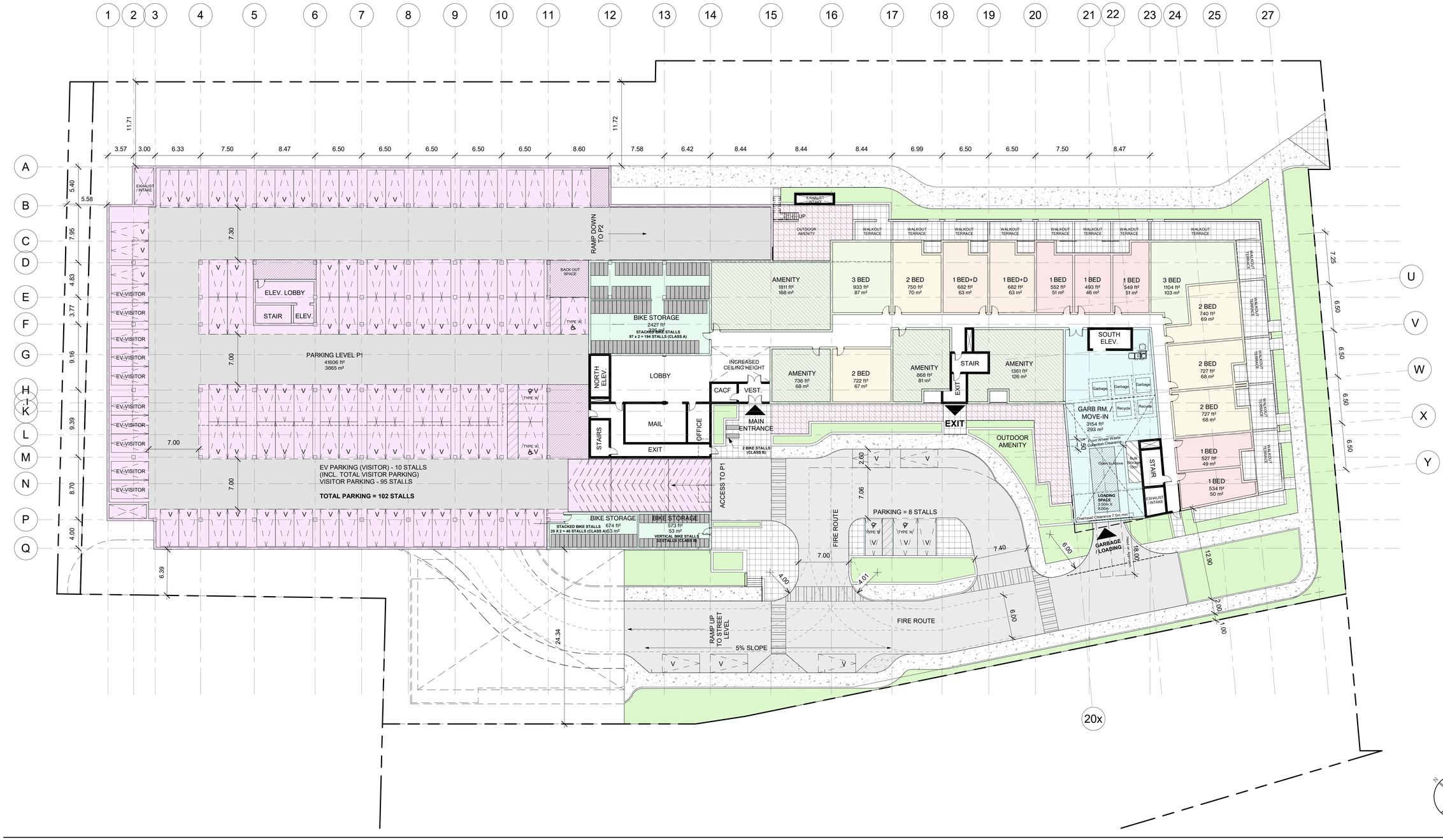
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PARKING LEVEL P1

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Scale 1 : 250 FULL SIZE

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LANDS OF CANADIAN PACIFIC RAILWAY

TANNERY STREET

ROAD WIDENING

EXISTING PROPERTY LINE

PROPERTY LINE

10m RAIL DEFLECTION BERM

LINE OF UNDERGROUND PARKING

OUTDOOR AMENITY @ LEVEL 1 1340.01 m²

OUTDOOR AMENITY @ P1 LEVEL 76.73 m²

WALK OUT TERRACES @ P1 LEVEL

25m RAIL SETBACK

EXHAUST / INTAKE

ROOF @ LEVEL 1

AMENITY 3626 ft² 337 m²

AMENITY 824 ft² 77 m²

AMENITY 1290 ft² 120 m²

AMENITY 1819 ft² 169 m²

AMENITY 1179 ft² 109 m²

LOBBY BELOW INCREASED CEILING HEIGHT

STAIR

ELEV.

NORTH ELEV.

SOUTH ELEV.

GARB RM. / MOVE-IN 1783 ft² 166 m²

LOADING SPACE 3.50m X 9.00m

PROPOSED GAS METER

LINE OF FIRE ROUTE

PROPOSED TRANSFORMER LOCATION

RAMP 8%

OUTDOOR AMENITY @ P1 LEVEL 114.39 m²

OUTDOOR AMENITY @ P1 LEVEL 158.41 m²

2 BIKE STALLS ON P1 LEVEL (CLASS B)

REFER TO P1 PLAN

GARBAGE BELOW

GARBAGE / LOADING

OUTDOOR AMENITY @ LEVEL 1 474.96 m²

2 BIKE STALLS (CLASS B)

PLAY AREA

LINE OF UNDERGROUND PARKING

FUTURE VALLEYLANDS

REFER TO LANDSCAPE DWG FOR EXISTING AND PROPOSED LANDSCAPE

DRIPLINE AS STACKED BY CVC AND CITY JULY 12, 2017

TOP OF BANK AS STACKED BY CVC JULY 12, 2017

BOTTOM OF THE SLOPE

BOTTOM OF SLOPE

TOP OF SLOPE

MULLET CREEK

PROJECT NORTH

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LEVEL 1

A2.4

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Scale 1 : 250 FULL SIZE

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LEVELS 2-4

A2.5

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LEVELS 5

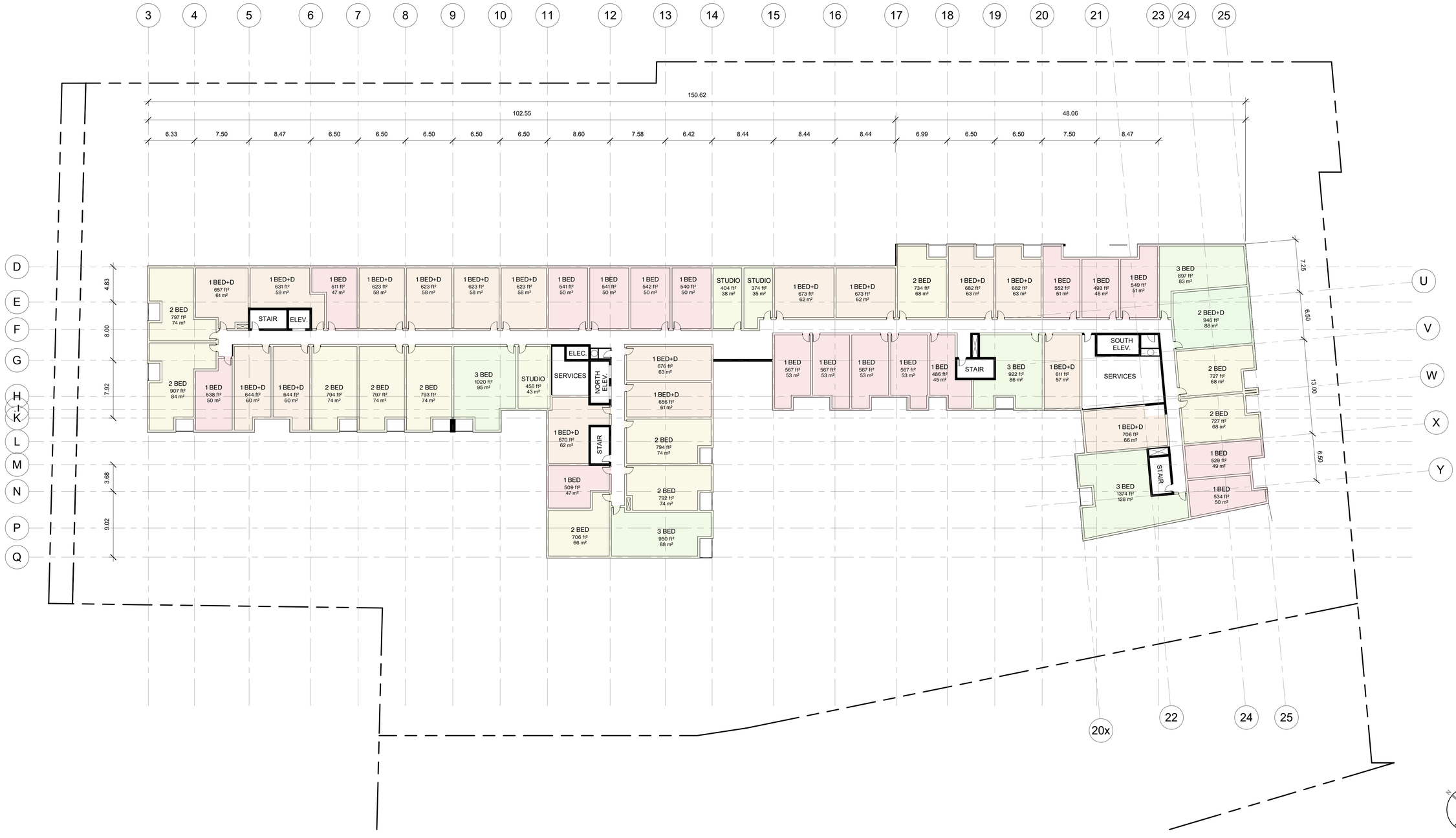
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FOR REVIEW

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LEVEL 6

A2.7

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LEVEL 7-10

A2.8

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LEVELS 11-12

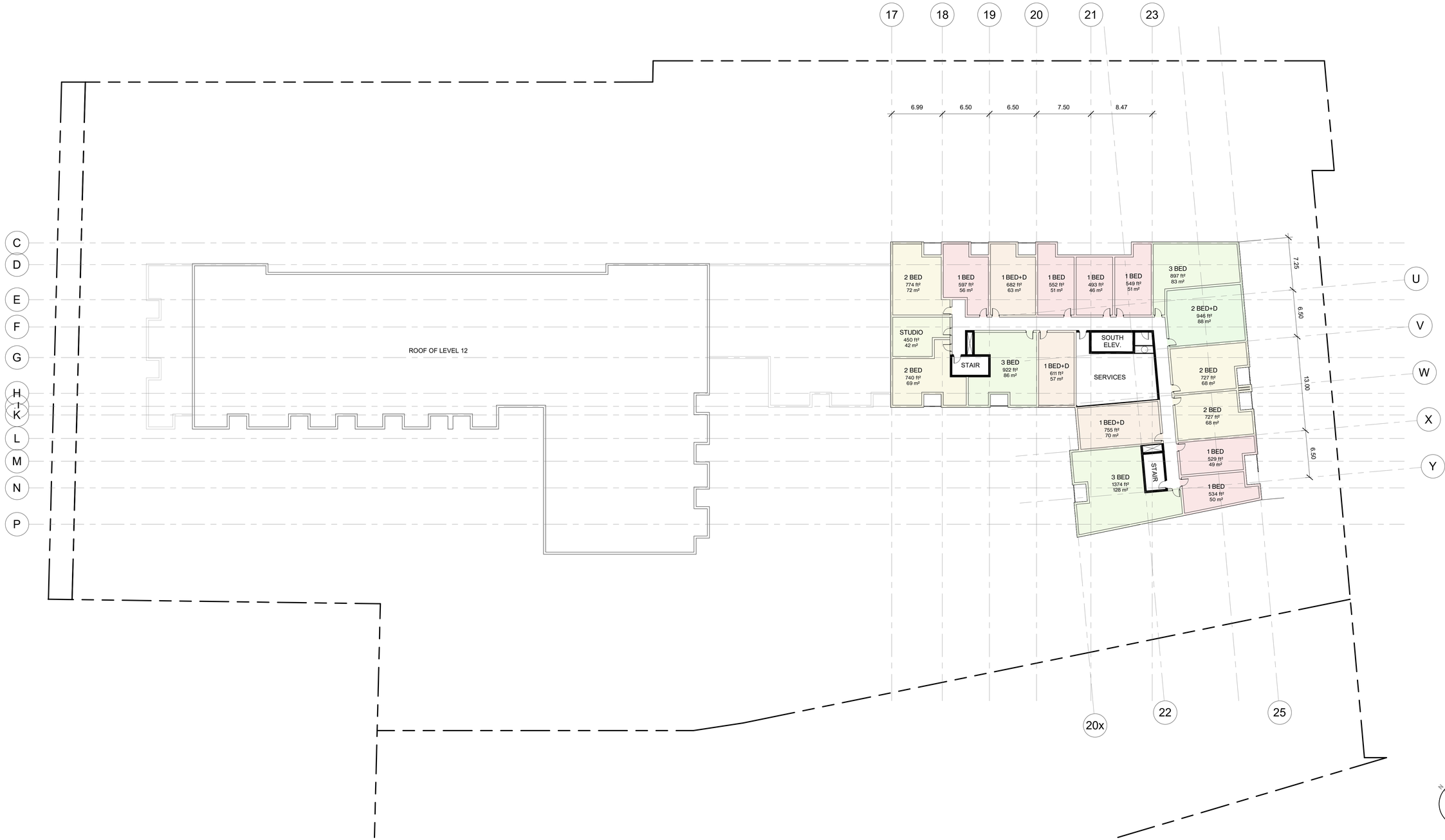
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LEVELS 13-14

A2.10

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Scale 1 : 250 FULL SIZE

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1 East Elevation
Facing the Railway Corridor



2 North Elevation
Facing Tannery Street

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BUILDING ELEVATIONS

A3.1

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1 West Elevation
Facing the Creek



2 South Elevation
Facing Emby Drive

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BUILDING ELEVATIONS

A3.2

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BUILDING PERSPECTIVE

A4.1

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2024-04-22



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Asset Management

BUILDING PERSPECTIVE

A4.2

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Asset Management

BUILDING PERSPECTIVE

A4.3

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BUILDING PERSPECTIVE

A4.4

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BUILDING PERSPECTIVE

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2024-04-22



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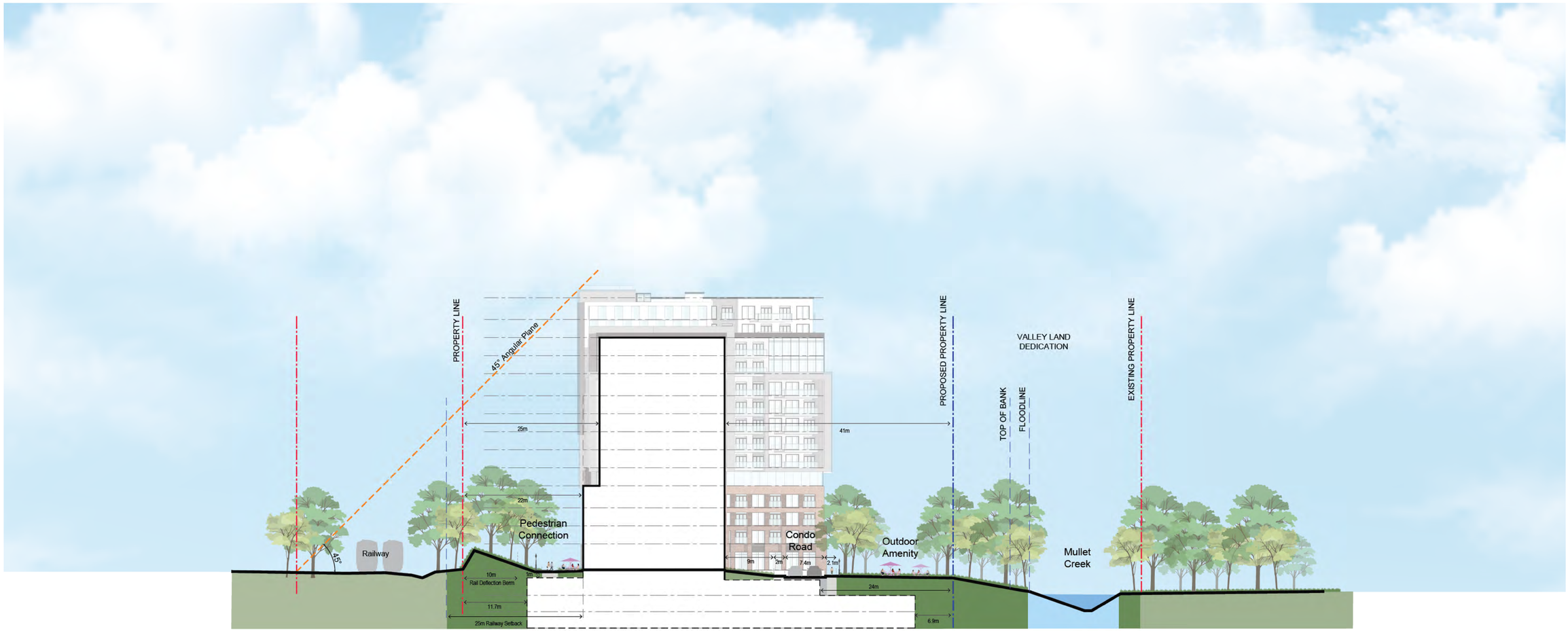
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BUILDING PERSPECTIVE

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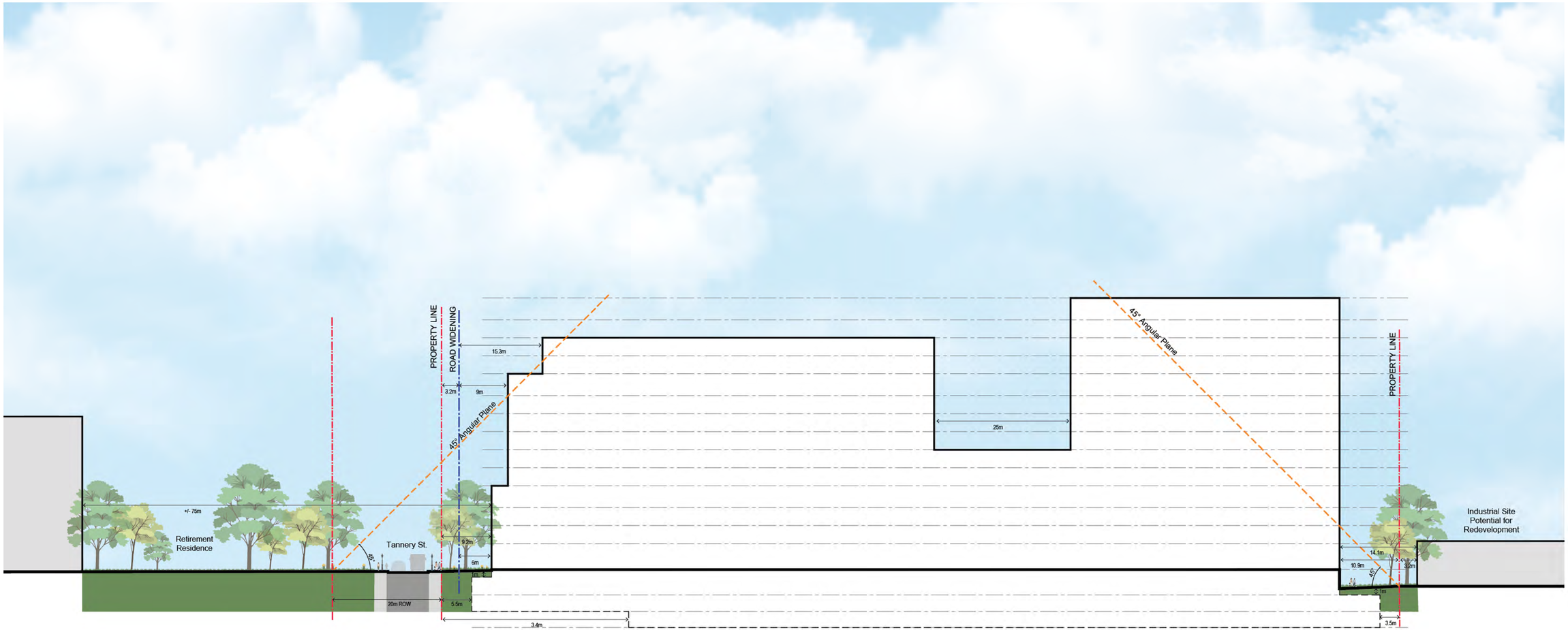
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SECTION - NORTH SOUTH

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SECTION - EAST WEST

A5.2

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APPENDIX C

Transit Data

21

Route number
Nombre d'itinéraire

Milton



CONTACT US

1-888-438-6646
416-869-3200
TTY: #711 or call
1-800-855-0511

gotransit.com/schedules

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1-877-297-0642

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gotransit.com/OnTheGO

Milton

GO Train and Bus Schedule/
Horaire des trains et des autobus GO

METROLINX

MI 21

- Milton
- Oakville
- Mississauga
- Toronto

Daily / Quotidiennement

Includes GO Bus routes 21 / Inclut les routes 21 d'autobus GO

Effective / À partir de:

24 JUNE JUIN 2023

How to read our schedules

Step 1
Find the station or terminal you are departing from. Stops are listed across the top in the order they are served.

Step 2
The upper left corner tells you what day the schedule is for and the direction of travel.

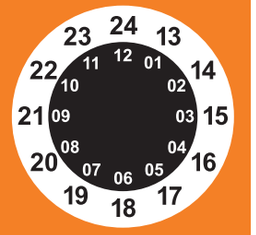
Step 3
Look across the rows for available departure times.

Step 4
Not all trains or buses stop at every station. If you see → the train or bus will not stop at that station.

Schedule times shown in 24-hour clock

Midnight to noon
00 01 - 12 00

Noon to midnight
12 01 - 24 00



Legend

- Train trips
- Bus trips
- → Trip does not serve this location.
- GO Bus service is accessible to passengers using mobility devices at this location.
- GO Train & GO Bus service is accessible to passengers using mobility devices at this location.
- GO Train service is accessible to passengers using mobility devices at this location.
- Parking available.

For the latest schedule information and updates, please visit gotransit.com/schedules.

Notes

Bicycles

1. Bicycles are not allowed in Union Station or on-board trains during morning rush hour (6:30-9:30) and evening rush hour (15:30-18:30), Monday to Friday.
2. Foldable bicycles are allowed on-board trains at all times.

Comment lire nos horaires

Étape 1
Trouvez votre gare ou terminus de départ. La liste des arrêts est donnée en haut dans l'ordre dans lequel ils sont desservis.

Étape 2
Le coin supérieur gauche vous indique le jour pour lequel l'horaire est donné et la direction de circulation.

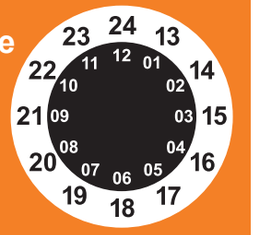
Étape 3
Regardez dans les rangées pour obtenir les heures de départ offertes.

Étape 4
Les trains ou les autobus ne s'arrêtent pas tous à chaque gare. Si vous voyez le symbole → le train ou l'autobus ne s'arrêtera pas à cette gare.

Indications selon un système horaire de 24 heures

De minuit à midi:
00 01 - 12 00

De midi à minuit:
12 01 - 24 00



Légende

- Horaire des trains
- Horaire des autobus
- → Trajet ne sert pas cette station.
- Service d'autobus GO accessible aux personnes utilisant des aides à la mobilité à cet endroit.
- Les services de trains et d'autobus GO sont accessibles aux utilisateurs d'un appareil d'aide à la mobilité à cet endroit.
- Service de trains GO accessible aux personnes utilisant des aides à la mobilité à cet endroit.
- Stationnement disponible.

Pour consulter les horaires les plus récents et les mises à jour, veuillez visiter gotransit.com/schedules.

Notes

Vélos

1. Les vélos ne sont pas autorisés dans la gare Union ou à bord des trains du lundi au vendredi, pendant l'heure de pointe (6:30-9:30) et pendant l'heure de pointe du soir (15:30-18:30).
2. Les vélos pliables sont permis à bord des trains en tout temps.

Monday to Friday (except holidays)
Du lundi au vendredi (sauf les jours fériés)

EASTBOUND / EN DIRECTION EST

Route Number / Numéro du trajet	Zone→	Milton 24 Dp	Mississauga 22	Mississauga 23 Dp	Mississauga 22	Mississauga 22	Mississauga 21	Oakville 13	Oakville 12	Oakville 13	Mississauga 40	Mississauga 40	Mississauga 12	Mississauga 20 Dp	Mississauga 11	Mississauga 10	Mississauga 11	Etobicoke 59	Etobicoke 79	Etobicoke 3	Toronto 2	Toronto 2 Ar
Trip Number / Numéro du parcours		Milton GO	Derry Rd. W. @ Ninth Line	Lisgar GO	Aquitane Ave. @ Meadowvale Town Centre Circle	Meadowvale GO	Streetsville GO	Trafalgar Rd. @ Hwy. 407	Sheridan College	Oakville GO	Erin Mills Transitway	Erindale GO	Clarkson GO	Square One	Cooksville GO	Port Credit GO	Dixie GO	Long Branch GO	Mimico GO	Kipling GO	Exhibition GO	Union Station
21	21000	03 45	03 55	04 02	04 08	04 15	04 23	→	→	→	→	04 36	→	04 45	04 55	→	→	→	→	→	→	05 20
21A	21010	04 33	→	→	→	→	→	04 53	05 00	05 08↓												
21B	21012			04 25	04 33	04 39	04 51	→	→	→	05 01	→	05 15↓									
21C	21014											04 49	→	04 58	05 08	05 21↓						
	1004									05 18	→	→	05 25	→	→	05 31	→	05 37	05 44	→	05 51	06 00
21A	21030	05 03	→	→	→	→	→	05 23	05 30	05 38↓												
21D	21032			05 05	05 13	05 19	→	→	→	→	→	→	05 45↓									
21C	21034											05 19	→	05 28	05 38	05 51↓						
	1704									05 48	→	→	05 55	→	→	06 01	→	06 07	06 14	→	06 21	06 30
	2706	05 59	→	06 08	→	06 13	06 20	→	→	→	→	06 25	→	→	06 31	→	06 36	→	→	06 42	→	07 03
	2712	06 29	→	06 38	→	06 43	06 50	→	→	→	→	06 55	→	→	07 01	→	07 06	→	→	07 12	→	07 33
	2714	06 59	→	07 08	→	07 13	07 20	→	→	→	→	07 25	→	→	07 31	→	07 36	→	→	07 42	→	08 03
	2716	07 14	→	07 23	→	07 28	07 35	→	→	→	→	07 40	→	→	07 46	→	07 51	→	→	07 57	→	08 18
	2718	07 29	→	07 38	→	07 43	07 50	→	→	→	→	07 55	→	→	08 01	→	08 06	→	→	08 12	→	08 33
	2720	07 44	→	07 53	→	07 58	08 05	→	→	→	→	08 10	→	→	08 16	→	08 21	→	→	08 27	→	08 48
	2722	07 59	→	08 08	→	08 13	08 20	→	→	→	→	08 25	→	→	08 31	→	08 36	→	→	08 42	→	09 03
	2726	08 29	→	08 38	→	08 43	08 50	→	→	→	→	08 55	→	→	09 01	→	09 06	→	→	09 12	→	09 33
21A	21240	08 58	→	→	→	→	→	09 20	09 30	09 38↓												
21B	21242			08 50	09 00	09 06	09 18	→	→	→	09 30	→	09 45↓									
21C	21244											09 16	→	09 26	09 36	09 51↓						
	1712									09 48	→	→	09 55	→	→	10 01	→	10 07	10 14	→	10 21	10 30
21A	21260	09 28	→	→	→	→	→	09 50	10 00	10 08↓												
21D	21262			09 35	09 43	09 49	→	→	→	→	→	→	10 15↓									
21C	21264											09 46	→	09 56	10 06	10 21↓						
	1014									10 18	→	→	10 25	→	→	10 31	→	10 37	10 44	→	10 51	11 00
21A	21280	09 58	→	→	→	→	→	10 20	10 30	10 38↓												
21B	21282			09 55	10 03	10 09	10 21	→	→	→	10 31	→	10 45↓									
21C	21284											10 16	→	10 26	10 36	10 51↓						
	1714									10 48	→	→	10 55	→	→	11 01	→	11 07	11 14	→	11 21	11 30
21A	21300	10 28	→	→	→	→	→	10 50	11 00	11 08↓												
21D	21302			10 35	10 43	10 49	→	→	→	→	→	→	11 15↓									
21C	21304											10 46	→	10 56	11 06	11 21↓						
	1016									11 18	→	→	11 25	→	→	11 31	→	11 37	11 44	→	11 51	12 00
21A	21320	10 58	→	→	→	→	→	11 20	11 30	11 38↓												
21B	21322			10 55	11 03	11 09	11 21	→	→	→	11 31	→	11 45↓									
21C	21324											11 16	→	11 26	11 36	11 51↓						
	1716									11 48	→	→	11 55	→	→	12 01	→	12 07	12 14	→	12 21	12 30
21A	21340	11 28	→	→	→	→	→	11 50	12 00	12 08↓												
21D	21342			11 35	11 43	11 49	→	→	→	→	→	→	12 15↓									
21C	21344											11 46	→	12 56	12 06	12 21↓						
	1018									12 18	→	→	12 25	→	→	12 31	→	12 37	12 44	→	12 51	13 00
21A	21360	11 58	→	→	→	→	→	12 20	12 30	12 38↓												
21B	21362			11 55	12 03	12 09	12 21	→	→	→	12 31	→	12 45↓									
21C	21364											12 16	→	12 26	12 36	12 51↓						
	1718									12 48	→	→	12 55	→	→	13 01	→	13 07	13 14	→	13 21	13 30
21A	21380	12 28	→	→	→	→	→	12 50	13 00	13 08↓												
21D	21382			12 35	12 43	12 49	→	→	→	→	→	→	13 15↓									
21C	21384											12 46	→	12 56	13 06	13 21↓						
	1020									13 18	→	→	13 25	→	→	13 31	→	13 37	13 44	→	13 51	14 00
21A	21400	12 58	→	→	→	→	→	13 20	13 30	13 38↓												
21B	21402			12 50	13 00	13 06	13 18	→	→	→	13 30	→	13 45↓									
21C	21404											13 16	→	13 26	13 36	13 51↓						
	1720									13 48	→	→	13 55	→	→	14 01	→	14 07	14 14	→	14 21	14 30
21A	21420	13 28	→	→	→	→	→	13 50	14 00	14 08↓												
21D	21422			13 35	13 43	13 49	→	→	→	→	→	→	14 15↓									
21C	21424											13 46	→	13 56	14 06	14 21↓						
	1022									14 18	→	→	14 25	→	→	14 31	→	14 37	14 44	→	14 51	15 00
21A	21440	13 58	→	→	→	→	→	14 20	14 30	14 38↓												

Monday to Friday (except holidays)
Du lundi au vendredi (sauf les jours fériés)

EASTBOUND / EN DIRECTION EST

Route Number / Numéro du trajet	Zone→	Milton 24 Dp	Mississauga 22	Mississauga 23 Dp	Mississauga 22	Mississauga 22	Mississauga 21	Oakville 13	Oakville 12	Oakville 13	Mississauga 40	Mississauga 12	Mississauga 20 Dp	Mississauga 11	Mississauga 10	Mississauga 11	Etobicoke 59	Etobicoke 79	Etobicoke 3	Toronto 2	Toronto 2 Ar
Trip Number / Numéro du parcours		Milton GO	Derry Rd. W. @ Ninth Line	Lisgar GO	Aquitane Ave. @ Meadowvale Town Centre Circle	Meadowvale GO	Streetsville GO	Trafalgar Rd. @ Hwy. 407	Sheridan College	Oakville GO	Erin Mills Transitway	Erindale GO	Clarkson GO	Square One	Cooksville GO	Port Credit GO	Dixie GO	Long Branch GO	Mimico GO	Kipling GO	Exhibition GO	Union Station
21B	21442			13 50	14 00	14 06	14 18	→	→	→	14 30	→	14 45↓									
21C	21444											14 16	→	14 26	14 36	14 51↓						
	1722									14 48	→	→	14 55	→	→	15 01	→	15 07	15 14	→	15 21	15 30
21A	21460	14 28	→	→	→	→	→	→	14 50	15 00	15 08↓											
21D	21462			14 30	14 40	14 46	→	→	→	→	→	→	15 15↓									
21C	21464											14 43	→	14 53	15 04	15 21↓						
	1024									15 18	→	→	15 25	→	→	15 31	→	15 37	15 44	→	15 51	16 00
21A	21480	14 58	→	→	→	→	→	15 20	15 30	15 38↓												
21B	21482			14 50	15 00	15 06	15 18	→	→	→	15 30	→	15 45↓									
21C	21484											15 13	→	15 23	15 34	15 51↓						
	1724									15 48	→	→	15 55	→	→	16 01	→	16 07	16 14	→	16 21	16 30
21A	21510	15 23	→	→	→	→	→	15 48	16 00	16 08↓												
21D	21512			15 30	15 40	15 46	→	→	→	→	→	→	16 15↓									
21C	21514											15 43	→	15 53	16 04	16 21↓						
	1026									16 18	→	→	16 25	→	→	16 31	→	16 37	16 44	→	16 51	17 00
21A	21540	15 53	→	→	→	→	→	16 18	16 30	16 38↓												
21B	21542			15 50	16 00	16 06	16 18	→	→	→	16 30	→	16 45↓									
21C	21544											16 13	→	16 23	16 34	16 51↓						
	1726									16 48	→	→	16 55	→	→	17 01	→	17 07	17 14	→	17 21	17 30
21A	21570	16 23	→	→	→	→	→	16 48	17 00	17 08↓												
21D	21572			16 30	16 40	16 46	→	→	→	→	→	→	17 15↓									
21C	21574											16 43	→	16 53	17 04	17 21↓						
	1028									17 18	→	→	17 25	→	→	17 31	→	17 37	17 44	→	17 51	18 00
21A	21600	16 53	→	→	→	→	→	17 18	17 30	17 38↓												
21B	21602			16 45	16 55	17 01	17 15	→	→	→	17 29	→	17 45↓									
21C	21604											17 13	→	17 23	17 34	17 51↓						
	1728									17 48	→	→	17 55	→	→	18 01	→	18 07	18 14	→	18 21	18 30
21A	21630	17 23	→	→	→	→	→	17 48	18 00	18 08↓												
21D	21632			17 30	17 40	17 46	→	→	→	→	→	→	18 15↓									
21C	21634											17 43	→	17 53	18 04	18 21↓						
	1030									18 18	→	→	18 25	→	→	18 31	→	18 37	18 44	→	18 51	19 00
21A	21660	17 58	→	→	→	→	→	18 20	18 30	18 38↓												
21B	21662			17 50	18 00	18 06	18 18	→	→	→	18 30	→	18 45↓									
21C	21664											18 13	→	18 23	18 34	18 51↓						
	1730									18 48	→	→	18 55	→	→	19 01	→	19 07	19 14	→	19 22	19 31
21A	21680	18 28	→	→	→	→	→	18 50	19 00	19 08↓												
21D	21682			18 30	18 40	18 46	→	→	→	→	→	→	19 15↓									
21C	21684											18 43	→	18 53	19 04	19 21↓						
	1032									19 18	→	→	19 25	→	→	19 31	→	19 37	19 44	→	19 52	20 01
21A	21700	18 58	→	→	→	→	→	19 20	19 30	19 38↓												
21B	21702			18 55	19 03	19 09	19 21	→	→	→	19 31	→	19 45↓									
21C	21704											19 16	→	19 26	19 36	19 51↓						
	1732									19 48	→	→	19 55	→	→	20 01	→	20 07	20 14	→	20 22	20 31
21A	21720	19 28	→	→	→	→	→	19 50	20 00	20 08↓												
21D	21722			19 35	19 43	19 49	→	→	→	→	→	→	20 15↓									
21C	21724											19 46	→	19 56	20 06	20 21↓						
	1034									20 18	→	→	20 25	→	→	20 31	→	20 37	20 44	→	20 52	21 01
21A	21740	19 58	→	→	→	→	→	20 20	20 30	20 38↓												
21B	21742			19 55	20 03	20 09	20 21	→	→	→	20 31	→	20 45↓									
21C	21744											20 16	→	20 26	20 36	20 51↓						
	1734									20 48	→	→	20 55	→	→	21 01	→	21 07	21 14	→	21 22	21 31
21A	21780	21 03	→	→	→	→	→	21 23	21 30	21 38↓												
21B	21782			20 55	21 03	21 09	21 21	→	→	→	21 31	→	21 45↓									
21C	21784											21 16	→	21 26	21 36	21 51↓						
	1736									21 48	→	→	21 55	→	→	22 01	→	22 07	22 14	→	22 22	22 31
21A	21820	22 03	→	→	→	→	→	22 23	22 30	22 38↓												
21B	21822			21 55	22 03	22 09	22 21	→	→	→	22 31	→	22 45↓									
21C	21824											22 19	→	22 28	22 38	22 51↓						
	1738									22 48	→	→	22 55	→	→	23 01	→	23 07	23 14	→	23 22	23 31
21	21830	22 20	22 31	22 38	22 45	22 55	23 03	→	→	→	→	23 16	→	23 25	23 35	→	→	→	→	→	→	00 05
21	21860	23 25	23 35	23 42	23 48	23 55	18 15	→	→	→	→	00 16	→	00 25	00 35	→	→	→	→	→	→	01 05
21	21890	00 25	00 35	00 42	00 48	00 55	01 03	→	→	→	→	01 16	→	01 25	01 35	→	→	→	→	→	→	02 00

Monday to Friday (except holidays)
Du lundi au vendredi (sauf les jours fériés)

WESTBOUND / EN DIRECTION OUEST

Route Number / Numéro du trajet		Zone→	2	2	3	79	59	11	10	11	20	12	40	40	13	12	13	21	22	22	23	22	24
			Toronto	Toronto	Etobicoke	Etobicoke	Etobicoke	Mississauga	Mississauga	Mississauga	Mississauga	Mississauga	Mississauga	Mississauga	Oakville	Oakville	Oakville	Mississauga	Mississauga	Mississauga22	Mississauga	Mississauga	Milton
	Trip Number / Numéro du parcours		Dp																	Aquitaine Ave. @Fomentera Ave. Meadowvale Town Centre			Ar
			Union Station	Exhibition GO	Kipling GO	Mimico GO	Long Branch GO	Dixie GO	Port Credit GO	Cooksville GO	Square One	Clarkson GO	Erindale GO	Erin Mills Transitway	Oakville GO	Sheridan College	Trafalgar Rd. @ Hwy. 407	Streetsville GO	Meadowvale GO		Lisgar GO	Derry Rd. W. @ Ninth Line	Milton GO
21	21051		05 40	→	→	→	→	→	→	06 02	06 14	→	06 23	→	→	→	→	06 38	06 51	06 53	07 01	07 09	07 25
	1005		06 15	05 25	→	06 28	06 34	→	06 40	→	→	06 47	→	→	06 54								
21A	21131														07 01h	07 09	07 21	→	→	→	→	→	07 46
21B	21133											06 55h	→	07 09	→	→	→	07 19	07 31	07 34	07 45		
21C	21135								06 47h	07 00	07 12	→	07 22										
	1705		06 45	06 52	→	06 58	07 04	→	07 10	→	→	07 17	→	→	07 24								
21A	21161														07 31h	07 39	07 51	→	→	→	→	→	08 16
21D	21163											07 25h	→	→	→	→	→	→	07 55	07 58	08 10		
21C	21165								07 17h	07 30	07 42	→	07 52										
	1007		07 15	07 22	→	07 30	07 36	→	07 42	→	→	07 49	→	→	07 56								
21A	21191														08 01h	08 09	08 21	→	→	→	→	→	08 46
21B	21193											07 55h	→	08 12	→	→	→	08 24	08 39	08 42	08 55		
21C	21195								07 47h	08 00	08 13	→	08 25										
	1707		07 45	07 52	→	08 00	08 06	→	08 12	→	→	08 19	→	→	08 26								
21A	21221														08 31h	08 39	08 51	→	→	→	→	→	09 16
21D	21223											08 25h	→	→	→	→	→	→	08 59	09 02	09 15		
21C	21225								08 17h	08 30	08 43	→	08 55										
	1009		08 15	08 22	→	08 30	08 36	→	08 42	→	→	08 49	→	→	08 56								
21A	21241														09 01h	09 09	09 21	→	→	→	→	→	09 46
21B	21243											08 55h	→	09 11	→	→	→	09 21	09 35	09 38	09 50		
21C	21245								08 47h	09 00	09 13	→	09 25										
	1709		08 45	08 52	→	09 00	09 06	→	09 12	→	→	09 19	→	→	09 26								
21A	21261														09 31h	09 39	09 49	→	→	→	→	→	10 11
21D	21263											09 25h	→	→	→	→	→	→	09 51	09 54	10 05		
21C	21265								09 17h	09 30	09 42	→	09 52										
	1011		09 15	09 22	→	09 30	09 36	→	09 42	→	→	09 49	→	→	09 56								
21A	21281														10 01h	10 09	10 19	→	→	→	→	→	10 41
21B	21283											09 55h	→	10 09	→	→	→	10 19	10 31	10 34	10 45		
21C	21285								09 47h	10 00	10 12	→	10 22										
	1711		09 45	09 52	→	10 00	10 06	→	10 12	→	→	10 19	→	→	10 26								
21A	21301														10 31h	10 39	10 49	→	→	→	→	→	11 11
21D	21303											10 25h	→	→	→	→	→	→	10 51	10 54	11 05		
21C	21305								10 17h	10 30	10 42	→	10 52										
	1013		10 15	10 22	→	10 30	10 36	→	10 42	→	→	10 49	→	→	10 56								
21A	21321														11 01h	11 09	11 19	→	→	→	→	→	11 41
21B	21323											10 55h	→	11 09	→	→	→	11 19	11 31	11 34	11 45		
21C	21325								10 47h	11 00	11 12	→	11 22										
	1713		10 45	10 52	→	11 00	11 06	→	11 12	→	→	11 19	→	→	11 26								
21A	21341														11 31h	11 39	11 49	→	→	→	→	→	12 11
21D	21343											11 25h	→	→	→	→	→	→	11 51	11 54	12 05		
21C	21345								11 17h	11 30	11 42	→	11 52										
	1015		11 15	11 22	→	11 30	11 36	→	11 42	→	→	11 49	→	→	11 56								
21A	21361														12 01h	12 09	12 19	→	→	→	→	→	12 41
21B	21363											11 55h	→	12 09	→	→	→	12 19	12 31	12 34	12 45		
21C	21365								11 47h	12 00	12 12	→	12 22										
	1715		11 45	11 52	→	12 00	12 06	→	12 12	→	→	12 19	→	→	12 26								
21A	21381														12 31h	12 39	12 49	→	→	→	→	→	13 11
21D	21383											12 25h	→	→	→	→	→	→	12 51	12 54	13 05		
21C	21385								12 17h	12 30	12 42	→	12 52										
	1017		12 15	12 22	→	12 30	12 36	→	12 42	→	→	12 49	→	→	12 56								
21A	21401														13 01h	13 09	13 19	→	→	→	→	→	13 41
21B	21403											12 55h	→	13 09	→	→	→	13 19	13 31	13 34	13 45		

Monday to Friday (except holidays)
Du lundi au vendredi (sauf les jours fériés)

WESTBOUND / EN DIRECTION OUEST

Route Number / Numéro du trajet		Zone→	2	2	3	79	59	11	10	11	20	12	40	40	13	12	13	21	22	22	23	22	24
			Toronto	Toronto	Etobicoke	Etobicoke	Etobicoke	Mississauga	Mississauga	Mississauga	Mississauga	Mississauga	Mississauga	Mississauga	Oakville	Oakville	Oakville	Mississauga	Mississauga	Mississauga22	Mississauga	Mississauga	Milton
	Trip Number / Numéro du parcours		Dp																	Aquitaine Ave. @Fomentera Ave. Meadowvale Town Centre			Ar
			Union Station	Exhibition GO	Kipling GO	Mimico GO	Long Branch GO	Dixie GO	Port Credit GO	Cooksville GO	Square One	Clarkson GO	Erindale GO	Erin Mills Transitway	Oakville GO	Sheridan College	Trafalgar Rd. @ Hwy. 407	Streetsville GO	Meadowvale GO		Lisgar GO	Derry Rd. W. @ Ninth Line	Milton GO
21C	21405												12 47h	13 00	13 12	→	13 22						
	1717		12 45	12 52	→	13 00	13 06	→	13 12	→	→	13 19	→	→	13 26								
21A	21421																	13 31h	13 39	13 51	→	→	→	→	→	14 16
21D	21423																	13 25h	→	→	→	→	→	→	13 55	13 58	14 10		
21C	21425												13 17h	13 30	13 42	→	13 52						
	1019		13 15	13 22	→	13 30	13 36	→	13 42	→	→	13 49	→	→	13 56								
21A	21441																	14 01h	14 09	14 21	→	→	→	→	→	14 46
21B	21443																	13 55h	→	14 11	→	→	→	14 21	14 35	14 38	14 50		
21C	21445												13 47h	14 00	14 12	→	14 22						
	1719		13 45	13 52	→	14 00	14 06	→	14 12	→	→	14 19	→	→	14 26								
21A	21461																	14 31h	14 39	14 51	→	→	→	→	→	15 16
21D	21463																	14 25h	→	→	→	→	→	→	14 55	14 58	15 10		
21C	21465												14 17h	14 30	14 43	→	14 55						
	1021		14 15	14 22	→	14 30	14 36	→	14 42	→	→	14 49	→	→	14 56								
21A	21481																	15 01h	15 09	15 21	→	→	→	→	→	15 46
21B	21483																	14 55h	→	15 12	→	→	→	15 24	15 39	15 42	15 55		
21C	21485												14 47h	15 00	15 13	→	15 25						
	1721		14 45	14 52	→	15 00	15 06	→	15 12	→	→	15 19	→	→	15 26								
21A	21511																	15 31h	15 39	15 51	→	→	→	→	→	16 16
21D	21513																	15 25h	→	→	→	→	→	→	15 59	16 02	16 15		
21C	21515												15 17h	15 30	15 43	→	15 55						
	2723		15 40	→	15 58	→	→	16 04	→	16 10	→	→	16 16	→	→	→	→	16 22	16 28	→	16 33	→	16 42
	2729		16 25	→	16 43	→	→	16 49	→	16 55	→	→	17 01	→	→	→	→	17 07	17 13	→	17 18	→	17 27
	2735		16 55	→	17 13	→	→	17 19	→	17 25	→	→	17 31	→	→	→	→	17 37	17 43	→	17 48	→	17 57
	2737		17 10	→	17 28	→	→	17 34	→	17 40	→	→	17 46	→	→	→	→	17 52	17 58	→	18 03	→	18 12
	2739		17 25	→	17 43	→	→	17 49	→	17 55	→	→	18 01	→	→	→	→	18 07	18 13	→	18 18	→	18 27
	2741		17 55	→	18 13	→	→	18 19	→	18 25	→	→	18 31	→	→	→	→	18 37	18 43	→	18 48	→	18 57
	2745		18 25	→	18 43	→	→	18 49	→	18 55	→	→	19 01	→	→	→	→	19 07	19 13	→	19 18	→	19 27
	2749		19 10	→	19 28	→	→	19 34	→	19 40	→	→	19 46	→	→	→	→	19 52	19 58	→	20 03	→	20 12
	1731		19 43	19 51	→	19 59	20 05	→	20 11	→	→	20 18	→	→	20 26								
21A	21761																	20 31h	20 39	20 49	→	→	→	→	→	21 11
21D	21763																	20 25h	→	→	→	→	→	→	20 51	20 54	21 05		
21C	21765												20 17h	20 30	20 42	→	20 52						
	1033		20 13	20 21	→	20 29	20 35	→	20 41	→	→	20 48	→	→	20 56								
21A	21781																	21 01h	21 09	21 19	→	→	→	→	→	21 41
21B	21783																	20 55h	→	21 09	→	→	→	21 19	21 31	21 34	21 45		
21C	21785												20 47h	21 00	21 12	→	21 22						
	1733		20 45	20 52	→	21 00	21 06	→	21 12	→	→	21 19	→	→	21 26								
21A	21801																	21 31h	21 39	21 49	→	→	→	→	→	22 11
21D	21803																	21 25h	→	→	→	→	→	→	21 51	21 54	22 05		
21C	21805												21 17h	21 30	21 42	→	21 52						
	1035		21 13	21 21	→	21 29	21 35	→	21 41	→	→	21 48	→	→	21 56								
21A	21821																	22 01h	22 09	22 19	→	→	→	→	→	22 41
21B	21823																	21 55h	→	22 09	→	→	→	22 19	22 31	22 34	22 45		
21C	21825												21 47h	22 00	22 12	→	22 22						
	1735		21 43	21 51	→	21 59	22 05	→	22 11	→	→	22 18	→	→	22 26								
21A	21831																	22 31h	22 39	22 49	→	→	→	→	→	23 11
21D	21833																	22 25h	→	→	→	→	→	→	22 51	22 54	23 05		
21C	21835												22 17h	22 29	22 39	→	22 49						
	1037		22 13	22 21	→	22 29	22 35	→	22 41	→	→	22 48	→	→	22 56								
21A	21851																	23 01h	23 08	23 15	→	→	→	→	→	23 36
21B	21853																	22 55h	→	23 09	→	→	→	23 19	23 31	23 34	22 45		
21C	21855												22 47h	22 59	23 09	→	23 19						
	1737		22 43	22 51	→	22 59	23 05	→	23 11	→	→	23 18	→	→	23 26								
21A	21861																	23 31h	23 38	23 45	→	→	→	→	→	00 06
21D	21863																	23 25h	→	→	→	→	→	→	23 51	23 54	00 05		
21C	21865												23 17h	23 29	23 39	→	23 49						
	1039		23 13	23 21	→	23 29	23 35	→	23 41	→	→	23 48	→	→	23 56								
21A	21881																	00 01h	00 08	00 15	→	→	→	→	→	00 36
21B	21883																	23 55h	→	00 09	→	→	→	00 19	00 31	00 34	00 45		
21C	21885												23 47h	23 59	00 09	→	00 19						
	1739		23 43	23 51	→	23 59	00 06	→	00 12	→	→	00 19	→	→	00 26								
21A	21891																	00 31h	00 38	00 45	→	→	→	→	→	01 06
21D	21893																	00 25h	→	→	→	→	→	→	00 51	00 54	01 05		
21C	21895												00 17h	00 29	00 39	→	00 49						
21	21901		00 25	→	→	→	→	→	→	00 47	00 59	→	01 08	→	→	→	→	01 20	01 28	01 30	01 37	01 44	02 00
21	21921		01 20	→	→	→	→	→	→	01 40	01 50	→	01 58	→	→	→	→	02 10	02 18	02 20	02 27	02 34	02 50
21	21951		02 20	→	→	→	→	→	→	02 40	02 48	→	02 56	→	→	→	→	03 08	03 16	03 18	03 25	03 32	03 45

Saturday and Sunday
Samedi et dimanche

EASTBOUND / EN DIRECTION EST

Route Number / Numéro du trajet	Zone→	Milton 24 Dp	Mississauga 22	Derry Rd. W. @ Ninth Line	Mississauga 23 Dp	Aquitane Ave. @ Meadowvale Town Centre Circle	Mississauga 22	Mississauga 22	Mississauga 21	Oakville 13	Oakville 12	Sheridan College	Oakville 13	Mississauga 40	Mississauga 40	Mississauga 12	Mississauga 20 Dp	Mississauga 11	Mississauga 10	Etobicoke 59	Etobicoke 79	Etobicoke 3	Toronto 2	Toronto 2 Ar
Trip Number / Numéro du parcours		Milton GO			Lisgar GO			Meadowvale GO	Streetsville GO	Trafalgar Rd. @ Hwy. 407			Oakville GO	Erin Mills Transitway	Erindale GO	Clarkson GO	Square One	Cooksville GO	Port Credit GO	Long Branch GO	Mimico GO	Kipling GO	Exhibition GO	Union Station
21	21040	04 55	05 05		05 12	05 18	05 25	05 33	→	→	→	→	05 46	→	05 55	06 05	→	→	→	→	→	06 30
21	21090	05 55	06 05		06 12	06 18	06 25	06 33	→	→	→	→	06 46	→	06 55	07 05	→	→	→	→	→	07 30
21A	21140	07 15	→		→	→	→	→	07 35	07 42	07 50↓											
21B	21142				07 13	07 18	07 24	07 34	→	→	→	07 44	→	07 58↓										
21C	21144												07 33	→	07 42	07 52	08 05↓							
	1708												08 00	→	→	08 08	→	→	08 15	08 21	08 28	→	08 36	08 45
21B	21172				07 43	07 48	07 54	08 04	→	→	→	08 14	→	08 28↓										
21C	21174												08 03	→	08 12	08 22	08 35↓							
	1010												08 30	→	→	08 38	→	→	08 45	08 51	08 58	→	09 06	09 15
21A	21200	08 15	→		→	→	→	→	08 35	08 42	08 50↓													
21B	21202				08 13	08 18	08 24	08 34	→	→	→	08 44	→	08 58↓										
21C	21204												08 33	→	08 42	08 52	09 05↓							
	1710												09 00	→	→	09 08	→	→	09 15	09 21	09 28	→	09 36	09 45
21B	21232				08 38	08 44	08 50	09 02	→	→	→	09 14	→	09 28↓										
21C	21234												09 03	→	09 12	09 22	09 35↓							
	1012												09 30	→	→	09 38	→	→	09 45	09 51	09 58	→	10 06	10 15
21A	21250	09 12	→		→	→	→	→	09 32	09 42	09 50↓													
21B	21252				09 08	09 14	09 20	09 32	→	→	→	09 44	→	09 58↓										
21C	21254												09 33	→	09 42	09 52	10 05↓							
	1712												10 00	→	→	10 08	→	→	10 15	10 21	10 28	→	10 36	10 45
21B	21272				09 38	09 44	09 50	10 02	→	→	→	10 14	→	10 28↓										
21C	21274												10 00	→	10 10	10 22	10 35↓							
	1014												10 30	→	→	10 38	→	→	10 45	10 51	10 58	→	11 06	11 15
21A	21290	10 12	→		→	→	→	→	10 32	10 42	10 50↓													
21B	21292				10 08	10 14	10 20	10 32	→	→	→	10 44	→	10 58↓										
21C	21294												10 30	→	10 40	10 50	11 05↓							
	1714												11 00	→	→	11 08	→	→	11 15	11 21	11 28	→	11 36	11 45
21B	21312				10 38	10 44	10 50	11 02	→	→	→	11 14	→	11 28↓										
21C	21314												11 00	→	11 10	11 20	11 35↓							
	1016												11 30	→	→	11 38	→	→	11 45	11 51	11 58	→	12 06	12 15
21A	21330	11 12	→		→	→	→	→	11 32	11 42	11 50↓													
21B	21332				11 08	11 14	11 20	11 32	→	→	→	11 44	→	11 58↓										
21C	21334												11 30	→	11 40	11 50	12 05↓							
	1716												12 00	→	→	12 08	→	→	12 15	12 21	12 28	→	12 36	12 45
21B	21352				11 38	11 44	11 50	12 02	→	→	→	12 14	→	12 28↓										
21C	21354												11 57	→	12 07	12 18	12 35↓							
	1018												12 30	→	→	12 38	→	→	12 45	12 51	12 58	→	13 06	13 15
21A	21370	12 10	→		→	→	→	→	12 32	12 42	12 50↓													
21B	21372				12 08	12 14	12 20	12 32	→	→	→	12 44	→	12 58↓										
21C	21374												12 27	→	12 37	12 48	13 05↓							
	1718												13 00	→	→	13 08	→	→	13 15	13 21	13 28	→	13 36	13 45
21B	21392				12 38	12 44	12 50	13 02	→	→	→	13 14	→	13 28↓										
21C	21394												12 57	→	13 07	13 18	13 35↓							
	1020												13 30	→	→	13 38	→	→	13 45	13 51	13 58	→	14 06	14 15
21A	21410	13 10	→		→	→	→	→	13 32	13 42	13 50↓													
21B	21412				13 08	13 14	13 20	13 32	→	→	→	13 44	→	13 58↓										
21C	21414												13 27	→	13 37	13 48	14 05↓							
	1720												14 00	→	→	14 08	→	→	14 15	14 21	14 28	→	14 36	14 45

Saturday and Sunday
Samedi et dimanche

EASTBOUND / EN DIRECTION EST

Route Number / Numéro du trajet	Zone→	Milton 24 Dp	Mississauga 22	Derry Rd. W. @ Ninth Line	Mississauga 23 Dp	Aquitane Ave. @ Meadowvale Town Centre Circle	Mississauga 22	Mississauga 21	Oakville 13	Oakville 12	Sheridan College	Oakville 13	Mississauga 40	Mississauga 40	Mississauga 12	Mississauga 20 Dp	Mississauga 11	Mississauga 10	Etobicoke 59	Etobicoke 79	Etobicoke 3	Toronto 2	Toronto 2 Ar
Trip Number / Numéro du parcours		Milton GO			Lisgar GO		Meadowvale GO	Streetsville GO	Trafalgar Rd. @ Hwy. 407			Oakville GO	Erin Mills Transitway	Erindale GO	Clarkson GO	Square One	Cooksville GO	Port Credit GO	Long Branch GO	Mimico GO	Kipling GO	Exhibition GO	Union Station
21B	21432				13 38	13 44	13 50	14 02	→	→	→	14 14	→	14 28↓										
21C	21434														13 57	→	14 07	14 18	14 35↓					
	1022											14 30	→	→	14 38	→	→	14 45	14 51	14 58	→	15 06	15 15
21A	21450	14 10	→		→	→	→	→	14 32	14 42	14 50↓													
21B	21452				14 08	14 14	14 20	14 32	→	→	→	14 44	→	14 58↓										
21C	21454														14 27	→	14 37	14 48	15 05↓					
	1722											15 00	→	→	15 08	→	→	15 15	15 21	15 28	→	15 36	15 45
21B	21472				14 38	14 44	14 50	15 02	→	→	→	15 14	→	15 28↓										
21C	21474														14 57	→	15 07	15 18	15 35↓					
	1024											15 30	→	→	15 38	→	→	15 45	15 51	15 58	→	16 06	16 15
21A	21490	15 10	→		→	→	→	→	15 32	15 42	15 50↓													
21B	21492				15 08	15 14	15 20	15 32	→	→	→	15 44	→	15 58↓										
21C	21494														15 27	→	15 37	15 48	16 05↓					
	1724											16 00	→	→	16 08	→	→	16 15	16 21	16 28	→	16 36	16 45
21B	21522				15 38	15 44	15 50	16 02	→	→	→	16 14	→	16 28↓										
21C	21524														15 57	→	16 07	16 18	16 35↓					
	1026											16 30	→	→	16 38	→	→	16 45	16 51	16 58	→	17 06	17 15
21A	21550	16 10	→		→	→	→	→	16 32	16 42	16 50↓													
21B	21552				16 08	16 14	16 20	16 32	→	→	→	16 44	→	16 58↓										
21C	21554														16 27	→	16 37	16 48	17 05↓					
	1726											17 00	→	→	17 08	→	→	17 15	17 21	17 28	→	17 36	17 45
21B	21582				16 38	16 44	16 50	17 02	→	→	→	17 14	→	17 28↓										
21C	21584														16 57	→	17 07	17 18	17 35↓					
	1028											17 30	→	→	17 38	→	→	17 45	17 51	17 58	→	18 06	18 15
21A	21610	17 10	→		→	→	→	→	17 32	17 42	17 50↓													
21B	21612				17 08	17 14	17 20	17 32	→	→	→	17 44	→	17 58↓										
21C	21614														17 27	→	17 37	17 48	18 05↓					
	1728											18 00	→	→	18 08	→	→	18 15	18 21	18 28	→	18 36	18 45
21B	21642				17 38	17 44	17 50	18 02	→	→	→	18 14	→	18 28↓										
21C	21644														17 57	→	18 07	18 18	18 35↓					
	1030											18 30	→	→	18 38	→	→	18 45	18 51	18 58	→	19 06	19 15
21A	21670	18 10	→		→	→	→	→	18 32	18 42	18 50↓													
21B	21672				18 08	18 14	18 20	18 32	→	→	→	18 44	→	18 58↓										
21C	21674														18 27	→	18 37	18 48	19 05↓					
	1730											19 00	→	→	19 08	→	→	19 15	19 21	19 28	→	19 36	19 45
21A	21710	19 12	→		→	→	→	→	19 32	19 42	19 50↓													
21B	21712				19 08	19 14	19 20	19 32	→	→	→	19 44	→	19 58↓										
21C	21714														19 30	→	19 40	19 50	20 05↓					
	1732											20 00	→	→	20 08	→	→	20 15	20 21	20 28	→	20 36	20 45
21A	21750	20 12	→		→	→	→	→	20 32	20 42	20 50↓													
21B	21752				20 08	20 14	20 20	20 32	→	→	→	20 44	→	20 58↓										
21C	21754														20 30	→	20 40	20 50	21 05↓					
	1734											21 00	→	→	21 08	→	→	21 15	21 21	21 28	→	21 36	21 45
21A	21790	21 15	→		→	→	→	→	21 35	21 42	21 50↓													
21B	21792				21 08	21 14	21 20	21 32	→	→	→	21 44	→	21 58↓										
21C	21794														21 33	→	21 42	21 52	22 05↓					
	1736											22 00	→	→	22 08	→	→	22 15	22 21	22 28	→	22 36	22 45
21A	21820	22 15	→		→	→	→	→	22 35	22 42	22 50↓													
21B	21822				22 13	22 18	22 24	22 34	→	→	→	22 44	→	22 58↓										
21C	21824														22 33	→	22 42	22 52	23 05↓					
	1738											23 00	→	→	23 08	→	→	23 15	23 21	23 28	→	23 36	23 45
21	21830	22 35	22 46		22 53	23 00	23 08	23 16	→	→	→	→	23 29	→	23 38	23 48	→	→	→	→	→	00 15		
21	21860	23 25	23 36		23 43	23 50	23 58	00 06	→	→	→	→	00 19	→	00 28	00 38	→	→	→	→	→	01 05		
21	21890	00 30	00 40		00 47	00 53	01 00	01 08	→	→	→	→	01 21	→	01 30	01 40	→	→	→	→	→	02 05		

Saturday and Sunday
Samedi et dimanche

WESTBOUND / EN DIRECTION OUEST

Route Number / Numéro du trajet	Zone→	Toronto 2 Dp	Toronto 2	Etobicoke 3	Etobicoke 79	Etobicoke 59	Mississauga 10	Mississauga 11	Mississauga 20	Mississauga 12	Mississauga 40	Mississauga 40	Oakville 13	Oakville 12	Oakville 13	Mississauga 21	Mississauga 22	Mississauga22	Mississauga 23	Mississauga 22	Milton 24 Ar
Trip Number / Numéro du parcours		Union Station	Exhibition GO	Kipling GO	Mimico GO	Long Branch GO	Port Credit GO	Cooksville GO	Square One	Clarkson GO	Erindale GO	Erin Mills Transitway	Oakville GO	Sheridan College	Trafalgar Rd. @ Hwy. 407	Streetsville GO	Meadowvale GO	Aquitaine Ave. @ Formentera Ave. Meadowvale Town Centre	Lisgar GO	Derry Rd. W. @ Ninth Line	Milton GO
21	21151	07 30	→	→	→	→	→	07 52	08 04	→	08 12	→	→	→	→	08 25	08 35	08 37	08 45	08 53	09 15
	1709	08 44	08 52	→	09 00	09 06	09 12	→	→	09 19	→	→	09 26								
21A	21261												09 31h	09 39	09 49	→	→	→	→	→	10 11
21B	21263									09 24h	→	09 38	→	→	→	09 48	10 00	10 03	10 14		
21C	21265						09 17h	09 29	09 39	→	09 49										
	1011	09 14	09 22	→	09 30	09 36	09 41	→	→	09 48	→	→	09 55								
21B	21283									09 54h	→	10 08	→	→	→	10 18	10 30	10 33	10 44		
21C	21285						09 47h	10 00	10 12	→	10 22										
	1711	09 44	09 52	→	10 00	10 06	10 12	→	→	10 19	→	→	10 26								
21A	21301												10 31h	10 39	10 49	→	→	→	→	→	11 11
21B	21303									10 24h	→	10 38	→	→	→	10 48	11 00	11 03	11 14		
21C	21305						10 17h	10 30	10 42	→	10 52										
	1013	10 14	10 22	→	10 30	10 36	10 42	→	→	10 49	→	→	10 56								
21B	21323									10 54h	→	11 08	→	→	→	11 18	11 30	11 33	11 44		
21C	21325						10 47h	11 00	11 12	→	11 22										
	1713	10 44	10 52	→	11 00	11 06	11 12	→	→	11 19	→	→	11 26								
21A	21341												11 31h	11 39	11 49	→	→	→	→	→	12 11
21B	21343									11 24h	→	11 38	→	→	→	11 48	12 00	12 03	12 14		
21C	21345						11 17h	11 30	11 42	→	11 52										
	1015	11 14	11 22	→	11 30	11 36	11 42	→	→	11 49	→	→	11 56								
21B	21363									11 54h	→	12 08	→	→	→	12 18	12 30	12 33	12 44		
21C	21365						11 47h	12 00	12 12	→	12 22										
	1715	11 44	11 52	→	12 00	12 06	12 12	→	→	12 19	→	→	12 26								
21A	21381												12 31h	12 39	12 51	→	→	→	→	→	13 14
21B	21383									12 24h	→	12 40	→	→	→	12 50	13 04	13 07	13 19		
21C	21385						12 17h	12 30	12 43	→	12 55										
	1017	12 14	12 22	→	12 30	12 36	12 42	→	→	12 49	→	→	12 56								
21B	21403									12 54h	→	13 10	→	→	→	13 20	13 34	13 37	13 49		
21C	21405						12 47h	13 00	13 13	→	13 25										
	1717	12 44	12 52	→	13 00	13 06	13 12	→	→	13 19	→	→	13 26								
21A	21421												13 31h	13 39	13 51	→	→	→	→	→	14 14
21B	21423									13 24h	→	13 40	→	→	→	13 50	14 04	14 07	14 19		
21C	21425						13 17h	13 30	13 43	→	13 55										
	1019	13 14	13 22	→	13 30	13 36	13 42	→	→	13 49	→	→	13 56								
21B	21443									13 54h	→	14 10	→	→	→	14 20	14 34	14 37	14 49		
21C	21445						13 47h	14 00	14 13	→	14 25										
	1719	13 44	13 52	→	14 00	14 06	14 12	→	→	14 19	→	→	14 26								
21A	21461												14 31h	14 39	14 51	→	→	→	→	→	15 14
21B	21463									14 24h	→	14 40	→	→	→	14 50	15 04	15 07	15 19		
21C	21465						14 17h	14 30	14 43	→	14 55										
	1021	14 14	14 22	→	14 30	14 36	14 42	→	→	14 49	→	→	14 56								
21B	21483									14 54h	→	15 10	→	→	→	15 20	15 34	15 37	15 49		
21C	21485						14 47h	15 00	15 13	→	15 25										
	1721	14 44	14 52	→	15 00	15 06	15 12	→	→	15 19	→	→	15 26								
21A	21511												15 31h	15 39	15 51	→	→	→	→	→	16 14
21B	21513									15 24h	→	15 40	→	→	→	15 50	16 04	16 07	16 19		
21C	21515						15 17h	15 30	15 43	→	15 55										
	1023	15 14	15 22	→	15 30	15 36	15 42	→	→	15 49	→	→	15 56								
21B	21543									15 54h	→	16 10	→	→	→	16 20	16 34	16 37	16 49		
21C	21545						15 47h	16 00	16 13	→	16 25										
	1723	15 44	15 52	→	16 00	16 06	16 12	→	→	16 19	→	→	16 26								
21A	21571												16 31h	16 39	16 51	→	→	→	→	→	17 14
21B	21573									16 24h	→	16 40	→	→	→	16 50	17 04	17 07	17 19		
21C	21575						16 17h	16 30	16 43	→	16 55										

Saturday and Sunday
Samedi et dimanche

WESTBOUND / EN DIRECTION OUEST

Route Number / Numéro du trajet	Zone→	Toronto 2 Dp	Toronto 2	Etobicoke 3	Etobicoke 79	Etobicoke 59	Mississauga 10	Mississauga 11	Mississauga 20	Mississauga 12	Mississauga 40	Mississauga 40	Oakville 13	Oakville 12	Oakville 13	Mississauga 21	Mississauga 22	Mississauga22	Mississauga 23	Mississauga 22	Milton 24 Ar
Trip Number / Numéro du parcours		Union Station	Exhibition GO	Kipling GO	Mimico GO	Long Branch GO	Port Credit GO	Cooksville GO	Square One	Clarkson GO	Erindale GO	Erin Mills Transitway	Oakville GO	Sheridan College	Trafalgar Rd. @ Hwy. 407	Streetsville GO	Meadowvale GO	Aquitaine Ave. @ Formentera Ave. Meadowvale Town Centre	Lisgar GO	Derry Rd. W. @ Ninth Line	Milton GO
	1025	16 14	16 22	→	16 30	16 36	16 42	→	→	16 49	→	→	16 56								
21B	21603												16 54h	→	17 10	→	→	→	17 20	17 34	17 37	17 49		
21C	21605						16 47h	17 00	17 13	→	17 25										
	1725	16 44	16 52	→	17 00	17 06	17 12	→	→	17 19	→	→	17 26								
21A	21631												17 31h	17 39	17 51	→	→	→	→	→	18 14
21B	21633									17 24h	→	17 40	→	→	→	17 50	18 04	18 07	18 19		
21C	21635						17 17h	17 30	17 43	→	17 55										
	1027	17 14	17 22	→	17 30	17 36	17 42	→	→	17 49	→	→	17 56								
21B	21663									17 54h	→	18 08	→	→	→	18 18	18 30	18 33	18 44		
21C	21665						17 47h	18 00	18 13	→	18 25										
	1727	17 44	17 52	→	18 00	18 06	18 12	→	→	18 19	→	→	18 26								
21A	21681												18 31h	18 39	18 49	→	→	→	→	→	19 11
21B	21683									18 24h	→	18 38	→	→	→	18 48	19 00	19 03	19 14		
21C	21685						18 17h	18 30	18 43	→	18 55										
	1029	18 14	18 22	→	18 30	18 36	18 42	→	→	18 49	→	→	18 56								
21B	21703									18 54h	→	19 08	→	→	→	19 18	19 30	19 33	19 44		
21C	21705						18 47h	19 00	19 13	→	19 25										
	1729	18 44	18 52	→	19 00	19 06	19 12	→	→	19 19	→	→	19 26								
21A	21721												19 31h	19 39	19 49	→	→	→	→	→	20 11
21B	21723									19 24h	→	19 38	→	→	→	19 48	20 00	20 03	20 14		
21C	21725						19 17h	19 30	19 43	→	19 55										
	1031	19 14	19 22	→	19 30	19 36	19 42	→	→	19 49	→	→	19 56								
21B	21743									19 54h	→	20 08	→	→	→	20 18	20 30	20 33	20 44		
21C	21745						19 47h	20 00	20 13	→	20 25										
	1731	19 44	19 52	→	20 00	20 06	20 12	→	→	20 19	→	→	20 26								
21A	21761												20 31h	20 39	20 49	→	→	→	→	→	21 11
21B	21763									20 24h	→	20 38	→	→	→	20 48	21 00	21 03	21 14		
21C	21765						20 17h	20 30	20 42	→	20 52										
	1033	20 14	20 22	→	20 30	20 36	20 42	→	→	20 49	→	→	20 56								
21B	21783									20 54h	→	21 08	→	→	→	21 18	21 30	21 33	21 44		
21C	21785						20 47h	21 00	21 12	→	21 22										
	1733	20 44	20 52	→	21 00	21 06	→	→	→	21 19	→	→	21 26								
21A	21801												21 31h	21 39	21 48	→	→	→	→	→	22 09
21B	21803									21 24h	→	21 38	→	→	→	21 48	22 00	22 03	22 14		
21C	21805						21 17h	21 30	21 42	→	21 52										
	1035	21 14	21 22	→	21 30	21 36	→	→	→	21 49	→	→	21 56								
21B	21823									21 54h	→	22 08	→	→	→	22 18	22 30	22 33	22 44		
21C	21825						21 47h	22 00	22 12	→	22 22										
	1735	21 44	21 52	→	22 00	22 06	22 12	→	→	22 19	→	→	22 26								
21A	21831												22 31h	22 39	22 48	→	→	→	→	→	23 09
21B	21833									22 24h	→	22 38	→	→	→	22 48	23 00	23 03	23 14		
21C	21835						22 17h	22 30	22 42	→	22 52										
	1037	22 14	22 22	→	22 30	22 36	22 42	→	→	22 49	→	→	22 56								
21B	21853									22 54h	→	23 08	→	→	→	23 18	23 30	23 33	23 44		
21C	21855						22 47h	22 59	23 09	→	23 19										
	1737	22 44	22 52	→	23 00	23 06	23 12	→	→	23 19	→	→	23 26								
21A	21861												23 31h	23 38	23 45	→	→	→	→	→	00 06
21B	21863									23 24h	→	23 38	→	→	→	23 48	00 00	00 03	00 14		
21C	21865						23 17h	23 29	23 39	→	23 49										
	1039	23 14	23 22	→	23 30	23 36	23 42	→	→	23 49	→	→	23 56								
21B	21883									23 54h	→	00 08	→	→	→	00 18	00 30	00 33	00 44		
21C	21885						23 47h	23 59	00 09	→	00 19										
	1739	23 45	23 52	→	00 01	00 06	00 12	→	→	00 19	→	→	00 26								
21A	21891												00 31h	00 38	00 45	→	→	→	→	→	01 06
21B	21893									00 24h	→	00 38	→	→	→	00 48	01 00	01 03	01 14		
21C	21895						00 17h	00 29	00 39	→	00 49										
	1041	00 15	00 22	→	00 30	00 36	00 42	→	→	00 49	→	→	00 56								
21	21901	00 50	→	→	→	→	→	01 12	01 24	→	01 32	→	→	→	→	01 45	01 55	01 57	02 04	02 11	02 30
21	21921	01 20	→	→	→	→	→	01 40	01 52	→	02 00	→	→	→	→	02 13	02 23	02 25	02 32	02 39	02 55
21	21951	02 20	→	→	→	→	→	02 40	02 48	→	02 56	→	→	→	→	03 08	03 16	03 18	03 25	03 32	03 45

Scheduled Departure Times from this Stop

Route 9

Churchill Meadows Community Centre

Morning

4am	5am	6am	7am	8am	9am	10am	11am	12pm
	5:57 am	6:17 am 6:42 am	7:09 am 7:34 am 7:59 am	8:25 am 8:50 am	9:19 am 9:54 am	10:24 am 10:54 am	11:29 am 11:59 am	12:35 pm

Afternoon/Evening

1pm	2pm	3pm	4pm	5pm	6pm	7pm	8pm	9pm	10pm	11pm
1:05 pm 1:37 pm	2:12 pm 2:47 pm	3:22 pm 3:52 pm	4:25 pm 4:50 pm	5:10 pm 5:40 pm	6:10 pm 6:40 pm	7:10 pm 7:34 pm	8:04 pm 8:30 pm 8:55 pm	9:19 pm 9:54 pm	10:24 pm 10:48 pm	11:18 pm 11:47 pm

Evening

12am	1am
12:11 am 12:41 am	1:06 am

Scheduled Departure Times from this Stop

Route 9

City Centre Transit Terminal Drop Off

Morning

4am	5am	6am	7am	8am	9am	10am	11am	12pm
	5:16 am	6:16 am	7:07 am	8:23 am	9:11 am	10:05 am	11:09 am	12:14 pm
	5:36 am	6:41 am	7:32 am	8:48 am	9:35 am	10:39 am	11:39 am	12:44 pm
	5:56 am		7:58 am					

Afternoon/Evening

1pm	2pm	3pm	4pm	5pm	6pm	7pm	8pm	9pm	10pm	11pm
1:19 pm	2:25 pm	3:00 pm	4:11 pm	5:20 pm	6:10 pm	7:10 pm	8:09 pm	9:09 pm	10:03 pm	11:07 pm
1:55 pm		3:36 pm	4:45 pm	5:45 pm	6:40 pm	7:40 pm	8:29 pm	9:38 pm	10:32 pm	11:32 pm
							8:49 pm			

Evening

12am
12:01 am
12:26 am

STOP SCHEDULES

Powered by Triplinx

Scheduled Departure Times from this Stop

Route 44

Meadowvale Town Centre Drop Off

Morning

4am	5am	6am	7am	8am	9am	10am	11am	12pm
	5:07 am	6:11 am	7:14 am	8:17 am	9:20 am	10:01 am	11:04 am	12:07 pm
	5:27 am	6:32 am	7:35 am	8:38 am	9:40 am	10:22 am	11:25 am	12:28 pm
	5:50 am	6:53 am	7:56 am	8:59 am		10:43 am	11:46 am	12:49 pm

Afternoon/Evening

1pm	2pm	3pm	4pm	5pm	6pm	7pm	8pm	9pm	10pm	11pm
1:10 pm	2:13 pm	3:17 pm	4:01 pm	5:07 pm	6:13 pm	7:18 pm	8:04 pm	9:23 pm	10:11 pm	11:23 pm
1:31 pm	2:34 pm	3:39 pm	4:23 pm	5:29 pm	6:34 pm	7:42 pm	8:33 pm	9:47 pm	10:35 pm	11:47 pm
1:52 pm	2:55 pm		4:45 pm	5:51 pm	6:56 pm		8:59 pm		10:59 pm	

Evening

12am
12:09 am

Scheduled Departure Times from this Stop

University Of Toronto At Mississauga Campus

Route 44

Morning

4am	5am	6am	7am	8am	9am	10am	11am	12pm
4:57 am	5:18 am	6:20 am	7:01 am	8:03 am	9:06 am	10:10 am	11:12 am	12:15 pm
	5:38 am	6:41 am	7:22 am	8:24 am	9:27 am	10:30 am	11:33 am	12:36 pm
	5:59 am		7:43 am	8:45 am	9:49 am	10:51 am	11:54 am	12:57 pm

Afternoon/Evening

1pm	2pm	3pm	4pm	5pm	6pm	7pm	8pm	9pm	10pm	11pm
1:20 pm	2:02 pm	3:04 pm	4:11 pm	5:18 pm	6:01 pm	7:07 pm	8:06 pm	9:19 pm	10:07 pm	11:19 pm
1:41 pm	2:23 pm	3:27 pm	4:34 pm	5:39 pm	6:23 pm	7:28 pm	8:28 pm	9:43 pm	10:31 pm	11:42 pm
	2:42 pm	3:49 pm	4:56 pm		6:45 pm	7:44 pm	8:51 pm		10:55 pm	

Evening

12am
12:06 am
12:30 am

APPENDIX D

Traffic Data

Spectrum

Turning Movement Count
Location Name: TANNERY ST & CRUMBIE ST / BROADWAY ST
Date: Thu, Mar 30, 2023 Deployment Lead: Peter Ilias

Crozier & Associates
SUITE 301 211 YONGE
STREET
TORONTO ONTARIO, M5B 1M4
CANADA

Turning Movement Count (5 . TANNERY ST & CRUMBIE 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	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
06:00:00	1	0	1	0	0	2	0	1	0	0	0	1	3	1	0	0	0	4	0	1	2	0	0	3	10	
06:15:00	2	2	3	0	0	7	0	1	0	0	0	1	2	2	0	0	0	4	0	1	1	0	0	2	14	
06:30:00	1	0	0	0	1	1	1	6	1	0	0	8	1	0	1	0	0	2	0	3	0	0	0	3	14	
06:45:00	2	0	1	0	0	3	0	12	3	0	1	15	1	0	0	0	0	1	0	10	2	0	2	12	31	69
07:00:00	1	3	4	0	1	8	1	9	0	0	2	10	2	1	0	0	0	3	1	6	1	0	0	8	29	88
07:15:00	2	0	1	0	2	3	0	5	5	0	0	10	2	4	0	0	0	6	4	7	3	0	0	14	33	107
07:30:00	4	0	1	0	11	5	0	19	3	0	2	22	7	5	1	0	1	13	1	7	1	0	0	9	49	142
07:45:00	3	4	3	0	5	10	2	32	5	0	1	39	3	5	7	0	2	15	11	26	5	0	0	42	106	217
08:00:00	1	1	1	0	21	3	1	71	5	0	1	77	8	4	2	0	6	14	31	59	6	0	4	96	190	378
08:15:00	5	14	2	0	13	21	2	29	5	0	0	36	6	9	12	0	0	27	18	28	9	0	0	55	139	484
08:30:00	3	6	3	0	4	12	1	9	4	0	0	14	8	8	3	0	0	19	4	16	4	0	0	24	69	504
08:45:00	3	5	0	0	1	8	0	11	5	0	1	16	11	4	3	0	2	18	2	20	11	0	1	33	75	473
09:00:00	3	5	1	0	3	9	1	15	3	0	2	19	8	8	4	0	1	20	6	13	4	0	1	23	71	354
09:15:00	9	7	2	0	7	18	1	8	7	0	2	16	1	6	2	0	0	9	1	10	9	0	0	20	63	278
09:30:00	9	1	2	0	2	12	1	12	3	0	2	16	5	7	4	0	0	16	4	8	7	0	1	19	63	272
09:45:00	5	4	1	0	0	10	2	12	2	0	1	16	5	6	2	0	1	13	6	13	4	0	0	23	62	259
BREAK																										
15:00:00	9	9	3	0	2	21	5	29	7	0	2	41	8	11	0	0	2	19	1	17	4	0	1	22	103	
15:15:00	9	7	3	0	4	19	2	17	6	0	2	25	3	7	4	0	0	14	2	13	1	0	1	16	74	
15:30:00	13	7	4	0	2	24	0	16	2	0	0	18	3	8	3	0	1	14	3	15	4	0	3	22	78	
15:45:00	12	9	2	0	9	23	4	22	12	0	4	38	9	8	8	0	1	25	6	25	9	1	0	41	127	382
16:00:00	5	4	1	0	9	10	2	21	12	0	1	35	8	5	8	0	4	21	3	23	5	0	0	31	97	376
16:15:00	4	8	3	0	2	15	5	15	6	0	3	26	12	15	6	0	2	33	3	18	4	0	2	25	99	401
16:30:00	12	12	4	0	3	28	2	15	12	0	0	29	10	6	6	0	1	22	3	8	2	0	1	13	92	415
16:45:00	8	5	3	0	1	16	3	18	6	0	0	27	11	10	6	0	2	27	6	21	8	0	1	35	105	393
17:00:00	11	9	3	0	1	23	6	23	10	0	3	39	16	8	5	0	2	29	7	12	9	0	1	28	119	415
17:15:00	10	16	2	0	7	28	3	22	4	0	7	29	8	12	7	0	4	27	4	12	9	0	0	25	109	425
17:30:00	11	8	2	0	1	21	3	14	8	0	1	25	10	10	7	0	7	27	1	15	6	0	3	22	95	428
17:45:00	14	7	3	0	6	24	1	16	7	0	1	24	12	6	5	0	6	23	3	19	6	0	0	28	99	422
18:00:00	10	11	1	0	3	22	2	8	12	0	2	22	8	11	4	0	1	23	1	7	7	0	0	15	82	385
18:15:00	12	13	2	0	1	27	6	16	5	0	5	27	10	9	5	0	4	24	3	6	6	0	0	15	93	369
18:30:00	5	7	0	0	1	12	1	18	8	0	2	27	10	3	4	0	1	17	4	7	7	0	0	18	74	348
18:45:00	12	5	0	0	2	17	2	10	3	0	1	15	8	9	2	0	2	19	1	12	6	0	0	19	70	319
Grand Total	211	189	62	0	125	462	60	532	171	0	49	763	219	208	121	0	53	548	140	458	162	1	22	761	**2534**	-
Approach%	45.7%	40.9%	13.4%	0%		-	7.9%	69.7%	22.4%	0%		-	40%	38%	22.1%	0%		-	18.4%	60.2%	21.3%	0.1%		-	-	-
Totals %	8.3%	7.5%	2.4%	0%		18.2%	2.4%	21%	6.7%	0%		30.1%	8.6%	8.2%	4.8%	0%		21.6%	5.5%	18.1%	6.4%	0%		30%	-	-
Heavy	1	1	2	0		-	1	10	2	0		-	5	2	1	0		-	4	8	0	0		-	-	-
Heavy %	0.5%	0.5%	3.2%	0%		-	1.7%	1.9%	1.2%	0%		-	2.3%	1%	0.8%	0%		-	2.9%	1.7%	0%	0%		-	-	-
Bicycles	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-
Bicycle %	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-

Spectrum

Turning Movement Count
Location Name: TANNERY ST & CRUMBIE ST / BROADWAY ST
Date: Thu, Mar 30, 2023 Deployment Lead: Peter Ilias

Crozier & Associates
SUITE 301 211 YONGE
STREET
TORONTO ONTARIO, M5B 1M4
CANADA

Peak Hour: 07:45 AM - 08:45 AM **Weather: Few Clouds (-5.39 °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	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
07:45:00	3	4	3	0	5	10	2	32	5	0	1	39	3	5	7	0	2	15	11	26	5	0	0	42	106
08:00:00	1	1	1	0	21	3	1	71	5	0	1	77	8	4	2	0	6	14	31	59	6	0	4	96	190
08:15:00	5	14	2	0	13	21	2	29	5	0	0	36	6	9	12	0	0	27	18	28	9	0	0	55	139
08:30:00	3	6	3	0	4	12	1	9	4	0	0	14	8	8	3	0	0	19	4	16	4	0	0	24	69
Grand Total	12	25	9	0	43	46	6	141	19	0	2	166	25	26	24	0	8	75	64	129	24	0	4	217	**504**
Approach%	26.1%	54.3%	19.6%	0%		-	3.6%	84.9%	11.4%	0%		-	33.3%	34.7%	32%	0%		-	29.5%	59.4%	11.1%	0%		-	**-**
Totals %	2.4%	5%	1.8%	0%		9.1%	1.2%	28%	3.8%	0%		32.9%	5%	5.2%	4.8%	0%		14.9%	12.7%	25.6%	4.8%	0%		43.1%	**-**
PHF	0.6	0.45	0.75	0		0.55	0.75	0.5	0.95	0		0.54	0.78	0.72	0.5	0		0.69	0.52	0.55	0.67	0		0.57	**-**
Heavy	0	1	1	0		2	0	3	0	0		3	0	2	1	0		3	2	5	0	0		7	**-**
Heavy %	0%	4%	11.1%	0%		4.3%	0%	2.1%	0%	0%		1.8%	0%	7.7%	4.2%	0%		4%	3.1%	3.9%	0%	0%		3.2%	**-**
Lights	12	24	8	0		44	6	138	19	0		163	25	24	22	0		71	62	124	24	0		210	**-**
Lights %	100%	96%	88.9%	0%		95.7%	100%	97.9%	100%	0%		98.2%	100%	92.3%	91.7%	0%		94.7%	96.9%	96.1%	100%	0%		96.8%	**-**
Single-Unit Trucks	0	1	1	0		2	0	0	0	0		0	0	2	0	0		2	1	0	0	0		1	**-**
Single-Unit Trucks %	0%	4%	11.1%	0%		4.3%	0%	0%	0%	0%		0%	0%	7.7%	0%	0%		2.7%	1.6%	0%	0%	0%		0.5%	**-**
Buses	0	0	0	0		0	0	3	0	0		3	0	0	1	0		1	1	5	0	0		6	**-**
Buses %	0%	0%	0%	0%		0%	0%	2.1%	0%	0%		1.8%	0%	0%	4.2%	0%		1.3%	1.6%	3.9%	0%	0%		2.8%	**-**
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%	**-**
Bicycles on Road	0	0	0	0		0	0	0	0	0		0	0	0	1	0		1	0	0	0	0		0	**-**
Bicycles on Road %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	4.2%	0%		1.3%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	43	-	-	-	-	-	2	-	-	-	-	-	8	-	-	-	-	-	4	-	**-**
Pedestrians%	-	-	-	-	75.4%		-	-	-	-	3.5%		-	-	-	-	14%		-	-	-	-	7%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

Spectrum

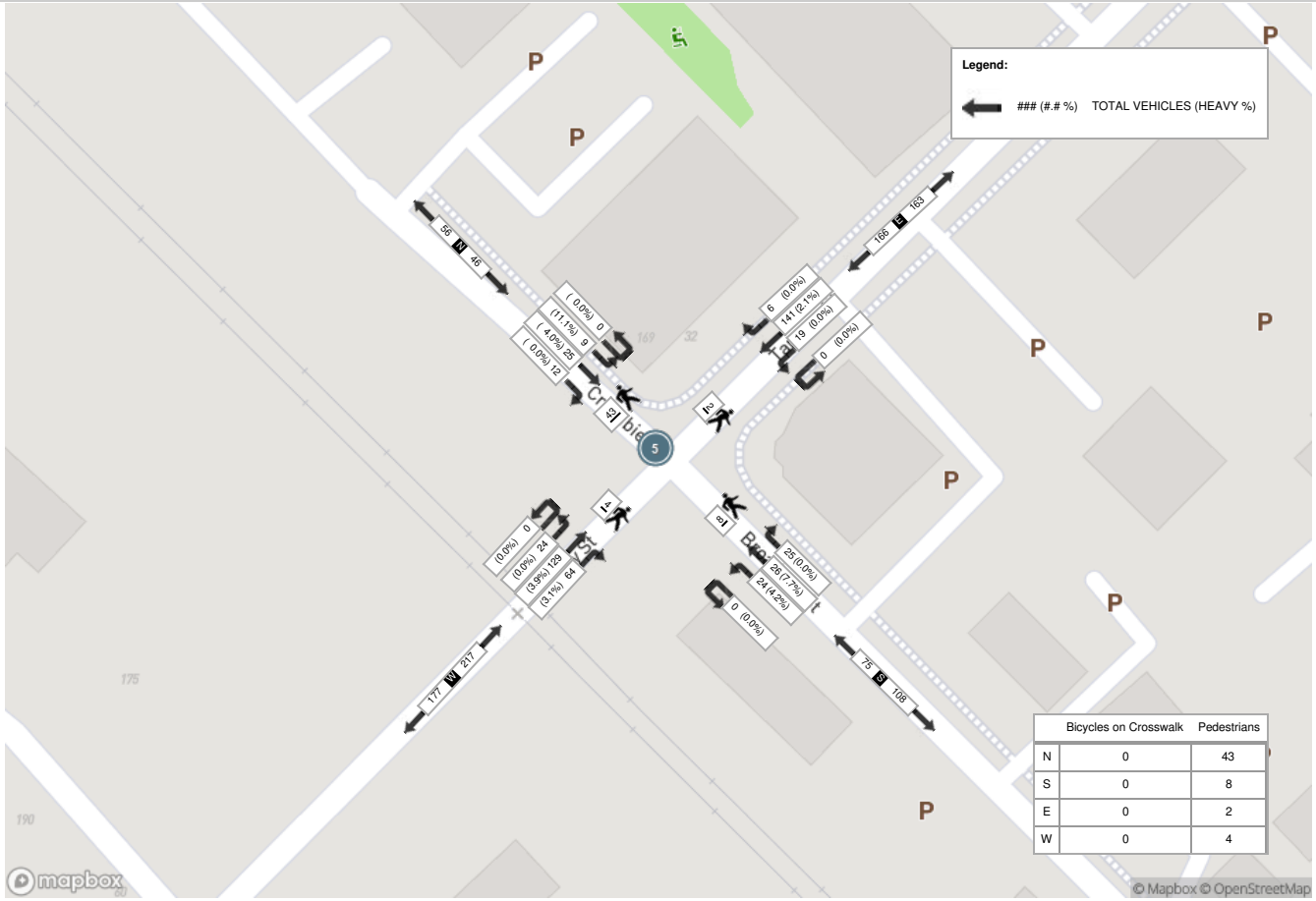
Turning Movement Count
Location Name: TANNERY ST & CRUMBIE ST / BROADWAY ST
Date: Thu, Mar 30, 2023 Deployment Lead: Peter Ilias

Crozier & Associates
SUITE 301 211 YONGE
STREET
TORONTO ONTARIO, M5B 1M4
CANADA

Peak Hour: 04:45 PM - 05:45 PM Weather: Scattered Clouds (3.74 °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	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
16:45:00	8	5	3	0	1	16	3	18	6	0	0	27	11	10	6	0	2	27	6	21	8	0	1	35	105
17:00:00	11	9	3	0	1	23	6	23	10	0	3	39	16	8	5	0	2	29	7	12	9	0	1	28	119
17:15:00	10	16	2	0	7	28	3	22	4	0	7	29	8	12	7	0	4	27	4	12	9	0	0	25	109
17:30:00	11	8	2	0	1	21	3	14	8	0	1	25	10	10	7	0	7	27	1	15	6	0	3	22	95
Grand Total	40	38	10	0	10	88	15	77	28	0	11	120	45	40	25	0	15	110	18	60	32	0	5	110	**428**
Approach%	45.5%	43.2%	11.4%	0%		-	12.5%	64.2%	23.3%	0%		-	40.9%	36.4%	22.7%	0%		-	16.4%	54.5%	29.1%	0%		-	**-**
Totals %	9.3%	8.9%	2.3%	0%		20.6%	3.5%	18%	6.5%	0%		28%	10.5%	9.3%	5.8%	0%		25.7%	4.2%	14%	7.5%	0%		25.7%	**-**
PHF	0.91	0.59	0.83	0		0.79	0.63	0.84	0.7	0		0.77	0.7	0.83	0.89	0		0.95	0.64	0.71	0.89	0		0.79	**-**
Heavy	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	**-**
Heavy %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	**-**
Lights	39	38	10	0		87	15	77	28	0		120	45	40	25	0		110	18	60	30	0		108	**-**
Lights %	97.5%	100%	100%	0%		98.9%	100%	100%	100%	0%		100%	100%	100%	100%	0%		100%	100%	100%	93.8%	0%		98.2%	**-**
Single-Unit Trucks	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	**-**
Single-Unit Trucks %	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	**-**
Buses %	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	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	**-**
Bicycles on Road	1	0	0	0		1	0	0	0	0		0	0	0	0	0		0	0	0	2	0		2	**-**
Bicycles on Road %	2.5%	0%	0%	0%		1.1%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	6.3%	0%		1.8%	**-**
Pedestrians	-	-	-	-	9	-	-	-	-	-	11	-	-	-	-	-	15	-	-	-	-	-	5	-	**-**
Pedestrians%	-	-	-	-	22%		-	-	-	-	26.8%		-	-	-	-	36.6%		-	-	-	-	12.2%		**-**
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	2.4%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

Peak Hour: 07:45 AM - 08:45 AM **Weather: Few Clouds (-5.39 °C)**



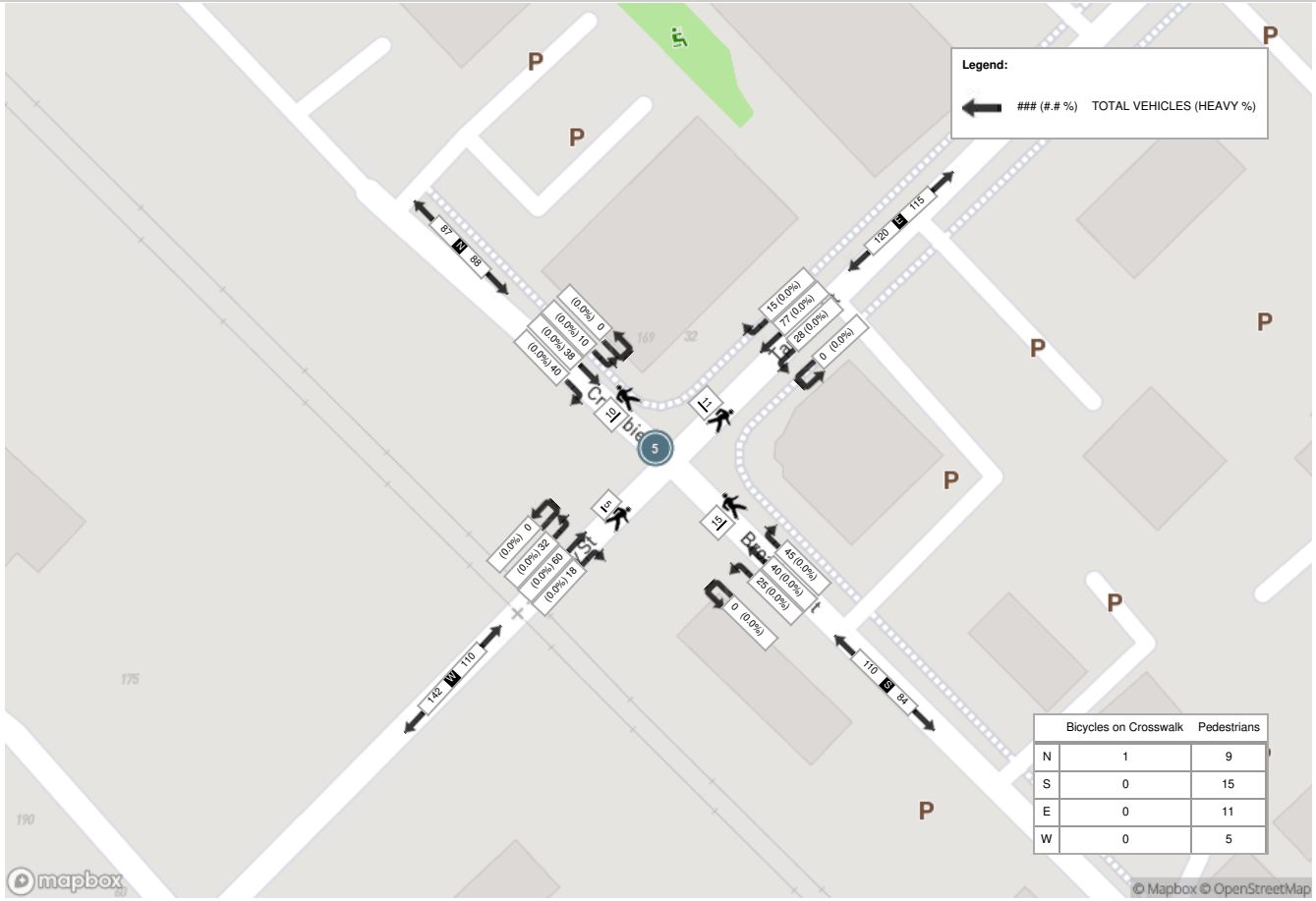
	Bicycles on Crosswalk	Pedestrians
N	0	43
S	0	8
E	0	2
W	0	4

Spectrum

Turning Movement Count
Location Name: TANNERY ST & CRUMBIE ST / BROADWAY ST
Date: Thu, Mar 30, 2023 Deployment Lead: Peter Ilias

Crozier & Associates
SUITE 301 211 YONGE
STREET
TORONTO ONTARIO, M5B 1M4
CANADA

Peak Hour: 04:45 PM - 05:45 PM Weather: Scattered Clouds (3.74 °C)



Spectrum

Turning Movement Count
Location Name: THOMAS ST & QUEEN ST S
Date: Wed, May 10, 2023 Deployment Lead: Walter Fugaj

Crozier & Associates
SUITE 301 211 YONGE
STREET
TORONTO ONTARIO, M5B 1M4
CANADA

Turning Movement Count (1 . THOMAS ST & QUEEN ST S)

Start Time	N Approach QUEEN ST					S Approach QUEEN ST					W Approach THOMAS RD					Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	UTurn N:N	Peds N:	Approach Total	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Left W:N	UTurn W:W	Peds W:	Approach Total		
07:00:00	29	35	0	0	64	26	4	0	1	30	11	25	0	1	36	130	
07:15:00	31	55	0	0	86	44	5	0	2	49	19	33	0	3	52	187	
07:30:00	36	48	0	0	84	60	12	0	0	72	17	46	0	3	63	219	
07:45:00	37	53	0	1	90	62	15	0	1	77	29	56	0	3	85	252	788
08:00:00	46	75	0	1	121	75	14	0	3	89	18	66	0	2	84	294	952
08:15:00	35	85	0	2	120	78	13	0	0	91	31	56	0	3	87	298	1063
08:30:00	50	80	0	2	130	100	24	0	1	124	44	66	0	2	110	364	1208
08:45:00	37	91	0	0	128	83	24	0	0	107	27	59	0	2	86	321	1277
09:00:00	62	73	0	1	135	63	16	0	1	79	20	56	0	0	76	290	1273
09:15:00	23	42	0	2	65	53	18	0	0	71	25	51	0	7	76	212	1187
09:30:00	30	54	0	2	84	58	15	0	2	73	27	31	0	4	58	215	1038
09:45:00	30	42	0	2	72	62	15	0	1	77	19	57	0	4	76	225	942
BREAK																	
16:00:00	63	101	0	1	164	91	22	0	5	113	20	51	0	9	71	348	
16:15:00	54	83	0	0	137	106	26	0	3	132	29	33	0	7	62	331	
16:30:00	62	87	0	5	149	102	24	0	5	126	25	49	0	6	74	349	
16:45:00	61	90	0	4	151	82	24	0	6	106	24	45	0	9	69	326	1354
17:00:00	75	95	0	6	170	98	27	0	7	125	32	42	0	10	74	369	1375
17:15:00	64	94	0	11	158	111	35	0	13	146	44	39	0	17	83	387	1431
17:30:00	60	112	0	12	172	99	28	0	9	127	42	47	0	8	89	388	1470
17:45:00	63	86	0	9	149	83	32	0	6	115	50	46	0	12	96	360	1504
18:00:00	49	81	0	11	130	84	20	0	3	104	35	51	0	5	86	320	1455
18:15:00	66	82	0	8	148	84	25	0	7	109	28	48	0	15	76	333	1401
18:30:00	59	70	0	10	129	73	27	0	9	100	38	66	0	7	104	333	1346
18:45:00	37	76	0	11	113	87	28	0	9	115	40	52	0	12	92	320	1306
Grand Total	1159	1790	0	101	2949	1864	493	0	94	2357	694	1171	0	151	1865	**7171**	-
Approach%	39.3%	60.7%	0%		-	79.1%	20.9%	0%		-	37.2%	62.8%	0%		-	**-**	-
Totals %	16.2%	25%	0%		41.1%	26%	6.9%	0%		32.9%	9.7%	16.3%	0%		26%	**-**	-
Heavy	20	40	0		-	40	18	0		-	28	19	0		-	**-**	-
Heavy %	1.7%	2.2%	0%		-	2.1%	3.7%	0%		-	4%	1.6%	0%		-	**-**	-
Bicycles	-	-	-		-	-	-	-		-	-	-	-		-	**-**	-
Bicycle %	-	-	-		-	-	-	-		-	-	-	-		-	**-**	-

Crozier & Associates
SUITE 301 211 YONGE
STREET
TORONTO ONTARIO, M5B 1M4
CANADA

Peak Hour: 08:00 AM - 09:00 AM Weather: Scattered Clouds (6.79 °C)

Start Time	N Approach QUEEN ST					S Approach QUEEN ST					W Approach THOMAS RD					Int. Total (15 min)
	Right	Thru	UTurn	Peds	Approach Total	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	
08:00:00	46	75	0	1	121	75	14	0	3	89	18	66	0	2	84	294
08:15:00	35	85	0	2	120	78	13	0	0	91	31	56	0	3	87	298
08:30:00	50	80	0	2	130	100	24	0	1	124	44	66	0	2	110	364
08:45:00	37	91	0	0	128	83	24	0	0	107	27	59	0	2	86	321
Grand Total	168	331	0	5	499	336	75	0	4	411	120	247	0	9	367	**1277**
Approach%	33.7%	66.3%	0%		-	81.8%	18.2%	0%		-	32.7%	67.3%	0%		-	**-**
Totals %	13.2%	25.9%	0%		39.1%	26.3%	5.9%	0%		32.2%	9.4%	19.3%	0%		28.7%	**-**
PHF	0.84	0.91	0		0.96	0.84	0.78	0		0.83	0.68	0.94	0		0.83	**-**
Heavy	7	14	0		21	10	3	0		13	8	6	0		14	**-**
Heavy %	4.2%	4.2%	0%		4.2%	3%	4%	0%		3.2%	6.7%	2.4%	0%		3.8%	**-**
Lights	160	316	0		476	325	72	0		397	112	241	0		353	**-**
Lights %	95.2%	95.5%	0%		95.4%	96.7%	96%	0%		96.6%	93.3%	97.6%	0%		96.2%	**-**
Single-Unit Trucks	2	3	0		5	1	0	0		1	2	2	0		4	**-**
Single-Unit Trucks %	1.2%	0.9%	0%		1%	0.3%	0%	0%		0.2%	1.7%	0.8%	0%		1.1%	**-**
Buses	5	8	0		13	9	3	0		12	6	4	0		10	**-**
Buses %	3%	2.4%	0%		2.6%	2.7%	4%	0%		2.9%	5%	1.6%	0%		2.7%	**-**
Articulated Trucks	0	3	0		3	0	0	0		0	0	0	0		0	**-**
Articulated Trucks %	0%	0.9%	0%		0.6%	0%	0%	0%		0%	0%	0%	0%		0%	**-**
Bicycles on Road	1	1	0		2	1	0	0		1	0	0	0		0	**-**
Bicycles on Road %	0.6%	0.3%	0%		0.4%	0.3%	0%	0%		0.2%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	5	-	-	-	-	4	-	-	-	-	8	-	**-**
Pedestrians%	-	-	-	27.8%		-	-	-	22.2%		-	-	-	44.4%		**-**
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	1	-	**-**
Bicycles on Crosswalk%	-	-	-	0%		-	-	-	0%		-	-	-	5.6%		**-**

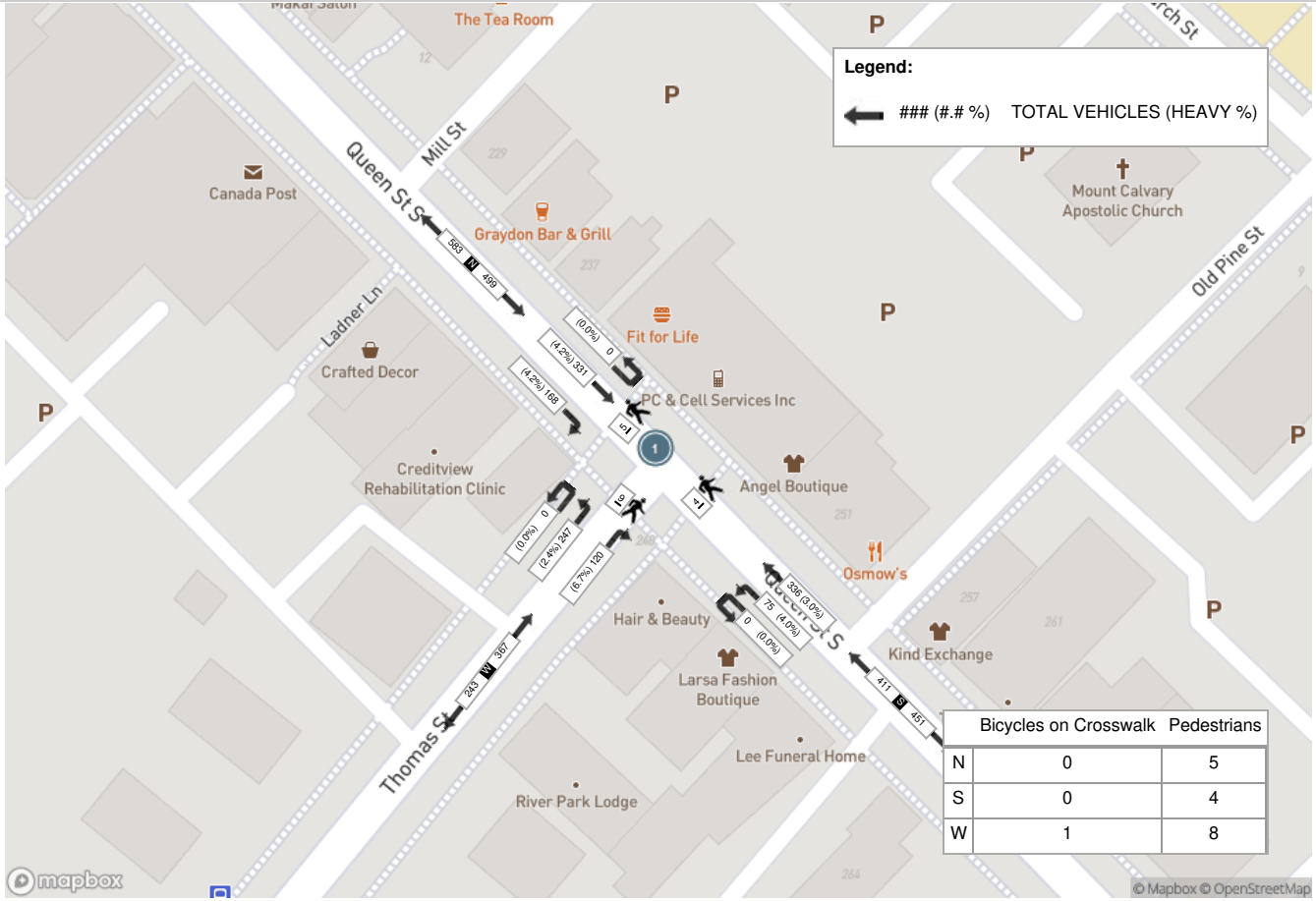
Crozier & Associates
SUITE 301 211 YONGE
STREET
TORONTO ONTARIO, M5B 1M4
CANADA

Peak Hour: 05:00 PM - 06:00 PM Weather: Broken Clouds (20.49 °C)

Start Time	N Approach QUEEN ST					S Approach QUEEN ST					W Approach THOMAS RD					Int. Total (15 min)
	Right	Thru	UTurn	Peds	Approach Total	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	
17:00:00	75	95	0	6	170	98	27	0	7	125	32	42	0	10	74	369
17:15:00	64	94	0	11	158	111	35	0	13	146	44	39	0	17	83	387
17:30:00	60	112	0	12	172	99	28	0	9	127	42	47	0	8	89	388
17:45:00	63	86	0	9	149	83	32	0	6	115	50	46	0	12	96	360
Grand Total	262	387	0	38	649	391	122	0	35	513	168	174	0	47	342	**1504**
Approach%	40.4%	59.6%	0%		-	76.2%	23.8%	0%		-	49.1%	50.9%	0%		-	**-**
Totals %	17.4%	25.7%	0%		43.2%	26%	8.1%	0%		34.1%	11.2%	11.6%	0%		22.7%	**-**
PHF	0.87	0.86	0		0.94	0.88	0.87	0		0.88	0.84	0.93	0		0.89	**-**
Heavy	0	2	0		2	3	3	0		6	3	0	0		3	**-**
Heavy %	0%	0.5%	0%		0.3%	0.8%	2.5%	0%		1.2%	1.8%	0%	0%		0.9%	**-**
Lights	262	384	0		646	386	119	0		505	165	173	0		338	**-**
Lights %	100%	99.2%	0%		99.5%	98.7%	97.5%	0%		98.4%	98.2%	99.4%	0%		98.8%	**-**
Single-Unit Trucks	0	0	0		0	0	0	0		0	0	0	0		0	**-**
Single-Unit Trucks %	0%	0%	0%		0%	0%	0%	0%		0%	0%	0%	0%		0%	**-**
Buses	0	2	0		2	3	3	0		6	3	0	0		3	**-**
Buses %	0%	0.5%	0%		0.3%	0.8%	2.5%	0%		1.2%	1.8%	0%	0%		0.9%	**-**
Articulated Trucks	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%	**-**
Bicycles on Road	0	1	0		1	2	0	0		2	0	1	0		1	**-**
Bicycles on Road %	0%	0.3%	0%		0.2%	0.5%	0%	0%		0.4%	0%	0.6%	0%		0.3%	**-**
Pedestrians	-	-	-	36	-	-	-	-	35	-	-	-	-	44	-	**-**
Pedestrians%	-	-	-	30%		-	-	-	29.2%		-	-	-	36.7%		**-**
Bicycles on Crosswalk	-	-	-	2	-	-	-	-	0	-	-	-	-	3	-	**-**
Bicycles on Crosswalk%	-	-	-	1.7%		-	-	-	0%		-	-	-	2.5%		**-**

Crozier & Associates
SUITE 301 211 YONGE
STREET
TORONTO ONTARIO, M5B 1M4
CANADA

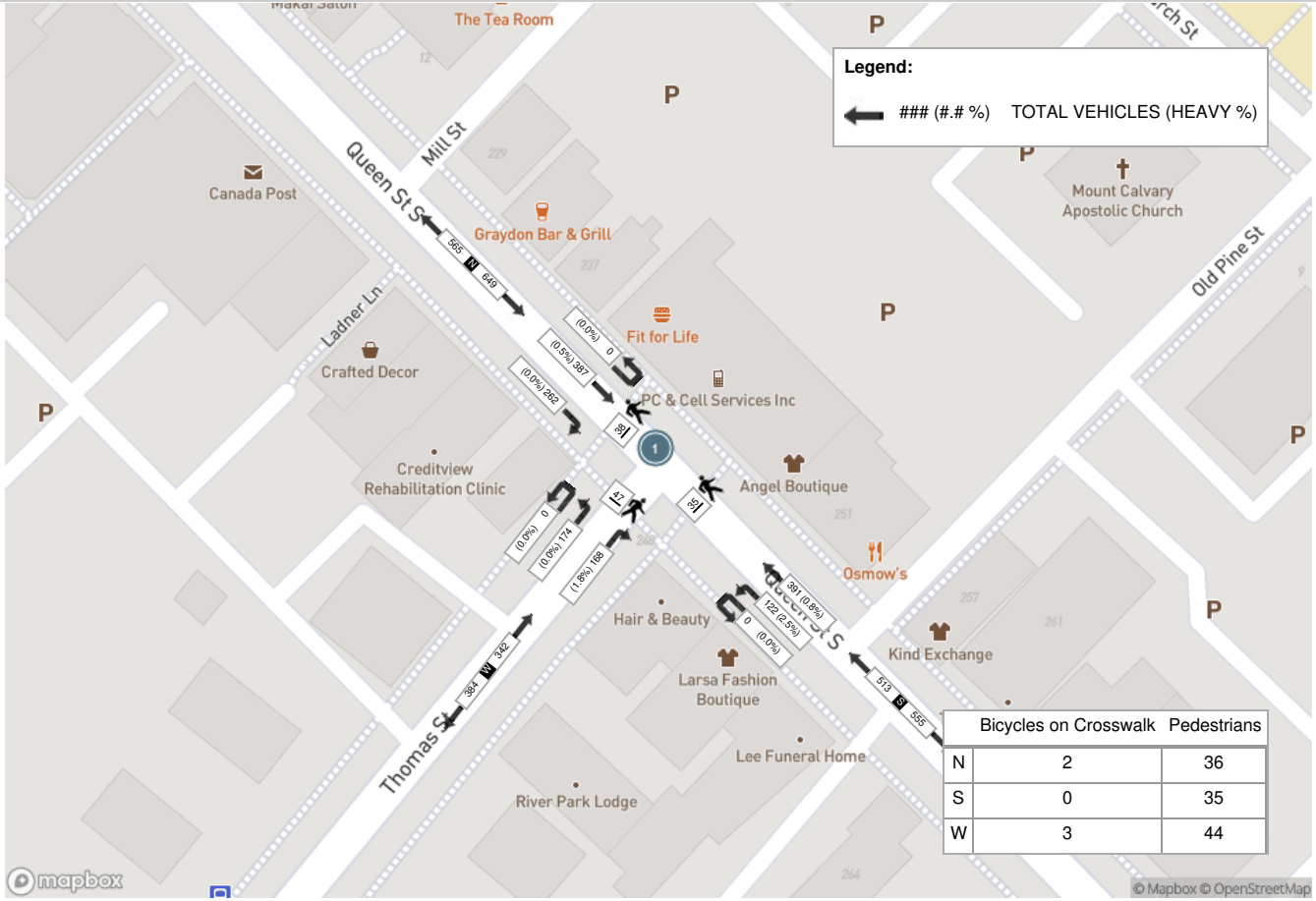
Peak Hour: 08:00 AM - 09:00 AM Weather: Scattered Clouds (6.79 °C)



	Bicycles on Crosswalk	Pedestrians
N	0	5
S	0	4
W	1	8

Crozier & Associates
SUITE 301 211 YONGE
STREET
TORONTO ONTARIO, M5B 1M4
CANADA

Peak Hour: 05:00 PM - 06:00 PM Weather: Broken Clouds (20.49 °C)



	Bicycles on Crosswalk	Pedestrians
N	2	36
S	0	35
W	3	44

Spectrum

Turning Movement Count
Location Name: THOMAS ST & BROADWAY ST
Date: Wed, May 10, 2023 Deployment Lead: Walter Fugaj

Crozier & Associates
SUITE 301 40 HURON STREET
COLLINGWOOD ONTARIO, L9Y 4R3
CANADA

Turning Movement Count (2 . 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	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
07:00:00	4	0	0	0	2	4	0	33	0	0	0	33	0	0	0	0	2	0	0	39	3	0	0	42	79	
07:15:00	12	0	0	0	3	12	1	38	0	0	0	39	0	0	0	0	3	0	0	58	14	0	0	72	123	
07:30:00	13	0	0	0	1	13	0	49	0	0	0	49	0	0	0	0	2	0	1	63	18	0	0	82	144	
07:45:00	25	0	3	0	6	28	1	50	0	0	0	51	0	0	1	0	1	1	1	89	15	0	0	105	185	531
08:00:00	9	0	2	0	2	11	1	62	0	0	0	63	0	0	0	0	1	0	2	85	23	0	0	110	184	636
08:15:00	16	0	2	0	2	18	1	46	0	0	0	47	0	0	1	0	1	1	3	89	20	0	0	112	178	691
08:30:00	15	0	3	0	7	18	3	80	0	0	0	83	0	0	1	0	9	1	0	115	25	0	0	140	242	789
08:45:00	23	1	2	0	0	26	7	58	2	0	0	67	2	0	0	0	2	2	1	100	31	0	1	132	227	831
09:00:00	23	0	1	0	2	24	4	82	0	0	1	86	0	0	0	0	3	0	0	72	28	0	0	100	210	857
09:15:00	14	0	2	0	1	16	4	36	1	0	0	41	2	0	0	0	3	2	0	65	23	0	0	88	147	826
09:30:00	18	0	3	0	2	21	5	38	0	0	1	43	0	0	0	0	3	0	1	57	14	0	1	72	136	720
09:45:00	14	0	3	0	3	17	3	36	1	0	0	40	0	0	0	0	2	0	2	85	16	0	0	103	160	653
BREAK																										
16:00:00	37	0	6	0	4	43	2	90	0	0	0	92	2	0	1	0	5	3	1	80	14	0	1	95	233	
16:15:00	21	1	4	0	7	26	1	84	1	0	0	86	0	0	1	0	4	1	1	72	31	0	0	104	217	
16:30:00	23	0	0	0	5	23	6	90	0	0	0	96	0	0	1	0	3	1	1	65	17	0	0	83	203	
16:45:00	24	1	1	0	3	26	3	89	0	0	0	92	1	0	1	0	2	2	0	70	16	1	0	87	207	860
17:00:00	48	0	5	0	3	53	7	107	0	0	0	114	1	0	2	0	6	3	2	82	26	0	0	110	280	907
17:15:00	27	0	3	0	1	30	5	104	0	0	0	109	1	0	1	0	12	2	0	78	43	0	0	121	262	952
17:30:00	29	0	6	0	4	35	1	90	0	0	0	91	0	0	0	0	7	0	1	87	26	0	0	114	240	989
17:45:00	25	0	2	0	10	27	8	98	0	0	0	106	0	1	1	0	5	2	2	98	22	0	0	122	257	1039
18:00:00	40	0	3	0	1	43	4	78	1	1	2	84	0	0	4	0	8	4	0	87	31	0	1	118	249	1008
18:15:00	39	0	1	0	3	40	6	91	3	0	0	100	0	0	0	0	5	0	0	83	20	0	0	103	243	989
18:30:00	23	0	6	0	0	29	3	76	0	0	0	79	1	0	0	0	7	1	3	108	24	0	0	135	244	993
18:45:00	31	0	1	0	2	32	0	67	0	0	0	67	0	0	0	0	7	0	1	83	20	0	0	104	203	939
Grand Total	553	3	59	0	74	615	76	1672	9	1	4	1758	10	1	15	0	103	26	23	1910	520	1	4	2454	**4853**	-
Approach%	89.9%	0.5%	9.6%	0%		-	4.3%	95.1%	0.5%	0.1%		-	38.5%	3.8%	57.7%	0%		-	0.9%	77.8%	21.2%	0%		-	-	-
Totals %	11.4%	0.1%	1.2%	0%		12.7%	1.6%	34.5%	0.2%	0%		36.2%	0.2%	0%	0.3%	0%		0.5%	0.5%	39.4%	10.7%	0%		50.6%	-	-
Heavy	2	0	2	0		-	1	37	0	0		-	0	0	0	0		-	0	47	2	0		-	-	-
Heavy %	0.4%	0%	3.4%	0%		-	1.3%	2.2%	0%	0%		-	0%	0%	0%	0%		-	0%	2.5%	0.4%	0%		-	-	-
Bicycles	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-
Bicycle %	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-

Spectrum

Turning Movement Count
Location Name: THOMAS ST & BROADWAY ST
Date: Wed, May 10, 2023 Deployment Lead: Walter Fugaj

Crozier & Associates
SUITE 301 40 HURON STREET
COLLINGWOOD ONTARIO, L9Y 4R3
CANADA

Peak Hour: 08:15 AM - 09:15 AM Weather: Scattered Clouds (6.79 °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	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
08:15:00	16	0	2	0	2	18	1	46	0	0	0	47	0	0	1	0	1	1	3	89	20	0	0	112	178
08:30:00	15	0	3	0	7	18	3	80	0	0	0	83	0	0	1	0	9	1	0	115	25	0	0	140	242
08:45:00	23	1	2	0	0	26	7	58	2	0	0	67	2	0	0	0	2	2	1	100	31	0	1	132	227
09:00:00	23	0	1	0	2	24	4	82	0	0	1	86	0	0	0	0	3	0	0	72	28	0	0	100	210
Grand Total	77	1	8	0	11	86	15	266	2	0	1	283	2	0	2	0	15	4	4	376	104	0	1	484	**857**
Approach%	89.5%	1.2%	9.3%	0%		-	5.3%	94%	0.7%	0%		-	50%	0%	50%	0%		-	0.8%	77.7%	21.5%	0%		-	**-**
Totals %	9%	0.1%	0.9%	0%		10%	1.8%	31%	0.2%	0%		33%	0.2%	0%	0.2%	0%		0.5%	0.5%	43.9%	12.1%	0%		56.5%	**-**
PHF	0.84	0.25	0.67	0		0.83	0.54	0.81	0.25	0		0.82	0.25	0	0.5	0		0.5	0.33	0.82	0.84	0		0.86	**-**
Heavy	2	0	0	0		2	1	11	0	0		12	0	0	0	0		0	0	9	1	0		10	**-**
Heavy %	2.6%	0%	0%	0%		2.3%	6.7%	4.1%	0%	0%		4.2%	0%	0%	0%	0%		0%	0%	2.4%	1%	0%		2.1%	**-**
Lights	75	1	8	0		84	14	254	2	0		270	2	0	2	0		4	4	367	103	0		474	**-**
Lights %	97.4%	100%	100%	0%		97.7%	93.3%	95.5%	100%	0%		95.4%	100%	0%	100%	0%		100%	100%	97.6%	99%	0%		97.9%	**-**
Single-Unit Trucks	1	0	0	0		1	0	2	0	0		2	0	0	0	0		0	0	1	0	0		1	**-**
Single-Unit Trucks %	1.3%	0%	0%	0%		1.2%	0%	0.8%	0%	0%		0.7%	0%	0%	0%	0%		0%	0%	0.3%	0%	0%		0.2%	**-**
Buses	1	0	0	0		1	1	9	0	0		10	0	0	0	0		0	0	8	1	0		9	**-**
Buses %	1.3%	0%	0%	0%		1.2%	6.7%	3.4%	0%	0%		3.5%	0%	0%	0%	0%		0%	0%	2.1%	1%	0%		1.9%	**-**
Bicycles on Road	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	0	0	0	0		0	**-**
Bicycles on Road %	0%	0%	0%	0%		0%	0%	0.4%	0%	0%		0.4%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	11	-	-	-	-	-	1	-	-	-	-	-	15	-	-	-	-	-	1	-	**-**
Pedestrians%	-	-	-	-	39.3%		-	-	-	-	3.6%		-	-	-	-	53.6%		-	-	-	-	3.6%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

Spectrum

Turning Movement Count
Location Name: THOMAS ST & BROADWAY ST
Date: Wed, May 10, 2023 Deployment Lead: Walter Fugaj

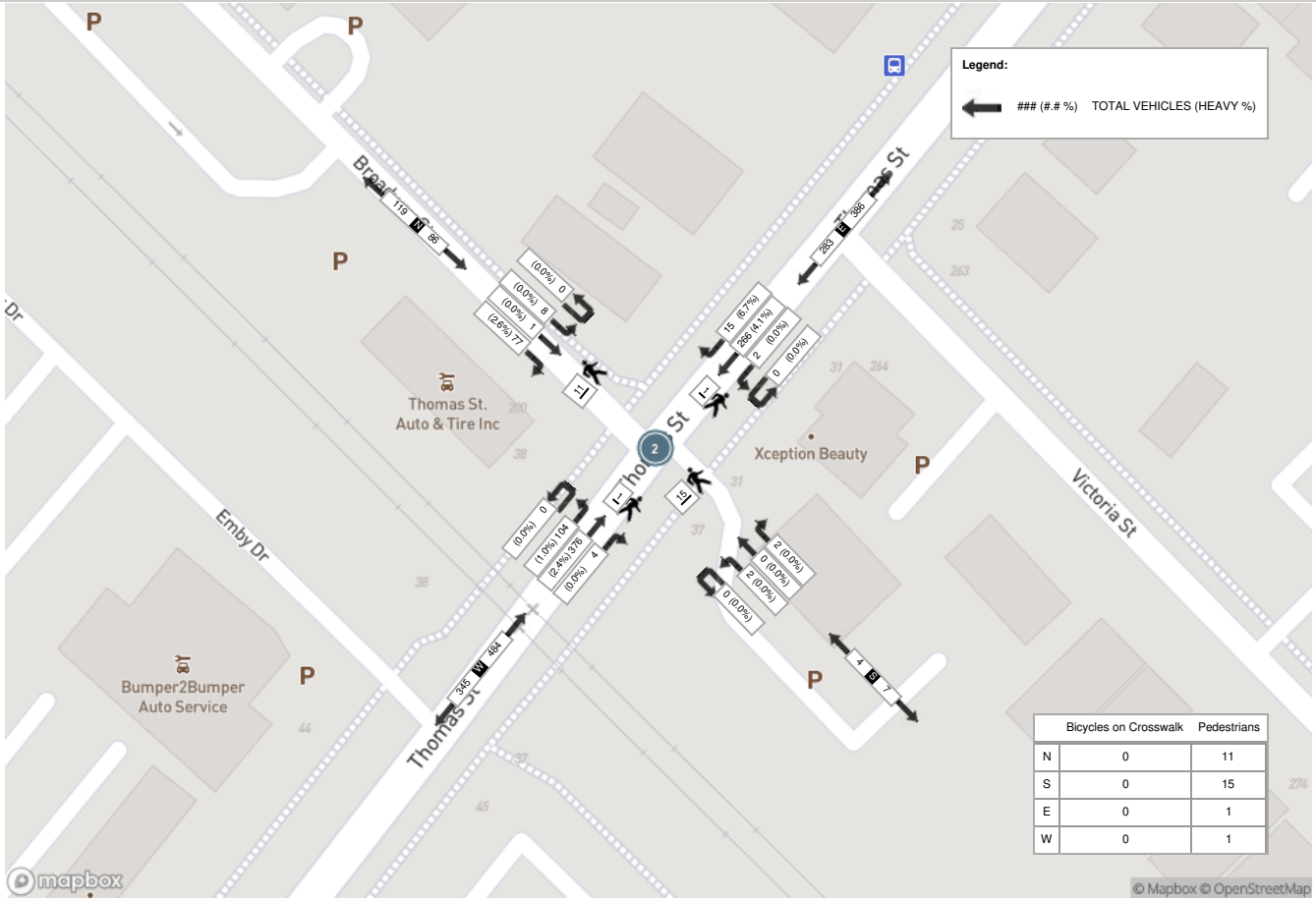
Crozier & Associates
SUITE 301 40 HURON STREET
COLLINGWOOD ONTARIO, L9Y 4R3
CANADA

Peak Hour: 05:00 PM - 06:00 PM Weather: Broken Clouds (20.49 °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	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
17:00:00	48	0	5	0	3	53	7	107	0	0	0	114	1	0	2	0	6	3	2	82	26	0	0	110	280
17:15:00	27	0	3	0	1	30	5	104	0	0	0	109	1	0	1	0	12	2	0	78	43	0	0	121	262
17:30:00	29	0	6	0	4	35	1	90	0	0	0	91	0	0	0	0	7	0	1	87	26	0	0	114	240
17:45:00	25	0	2	0	10	27	8	98	0	0	0	106	0	1	1	0	5	2	2	98	22	0	0	122	257
Grand Total	129	0	16	0	18	145	21	399	0	0	0	420	2	1	4	0	30	7	5	345	117	0	0	467	**1039**
Approach%	89%	0%	11%	0%		-	5%	95%	0%	0%		-	28.6%	14.3%	57.1%	0%		-	1.1%	73.9%	25.1%	0%		-	**-**
Totals %	12.4%	0%	1.5%	0%		14%	2%	38.4%	0%	0%		40.4%	0.2%	0.1%	0.4%	0%		0.7%	0.5%	33.2%	11.3%	0%		44.9%	**-**
PHF	0.67	0	0.67	0		0.68	0.66	0.93	0	0		0.92	0.5	0.25	0.5	0		0.58	0.63	0.88	0.68	0		0.96	**-**
Heavy	0	0	0	0		0	0	3	0	0		3	0	0	0	0		0	0	4	0	0		4	**-**
Heavy %	0%	0%	0%	0%		0%	0%	0.8%	0%	0%		0.7%	0%	0%	0%	0%		0%	0%	1.2%	0%	0%		0.9%	**-**
Lights	129	0	16	0		145	21	396	0	0		417	2	1	4	0		7	5	340	117	0		462	**-**
Lights %	100%	0%	100%	0%		100%	100%	99.2%	0%	0%		99.3%	100%	100%	100%	0%		100%	100%	98.6%	100%	0%		98.9%	**-**
Single-Unit Trucks	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	**-**
Single-Unit Trucks %	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	3	0	0		3	0	0	0	0		0	0	4	0	0		4	**-**
Buses %	0%	0%	0%	0%		0%	0%	0.8%	0%	0%		0.7%	0%	0%	0%	0%		0%	0%	1.2%	0%	0%		0.9%	**-**
Bicycles on Road	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	1	0	0		1	**-**
Bicycles on Road %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0.3%	0%	0%		0.2%	**-**
Pedestrians	-	-	-	-	17	-	-	-	-	-	0	-	-	-	-	-	28	-	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	-	35.4%		-	-	-	-	0%		-	-	-	-	58.3%		-	-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	2.1%		-	-	-	-	0%		-	-	-	-	4.2%		-	-	-	-	0%		**-**

Crozier & Associates
SUITE 301 40 HURON STREET
COLLINGWOOD ONTARIO, L9Y 4R3
CANADA

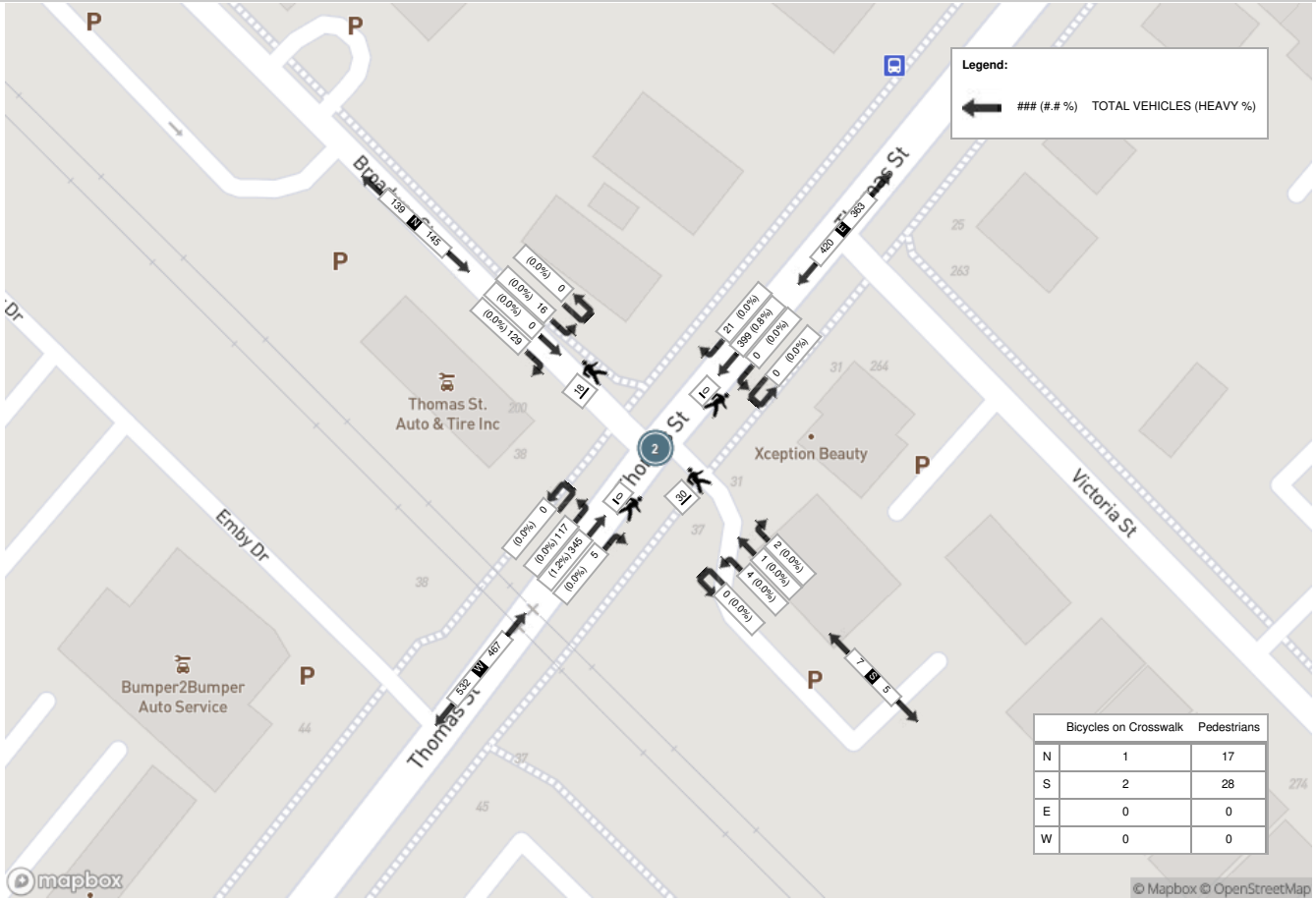
Peak Hour: 08:15 AM - 09:15 AM **Weather: Scattered Clouds (6.79 °C)**



	Bicycles on Crosswalk	Pedestrians
N	0	11
S	0	15
E	0	1
W	0	1

Crozier & Associates
SUITE 301 40 HURON STREET
COLLINGWOOD ONTARIO, L9Y 4R3
CANADA

Peak Hour: 05:00 PM - 06:00 PM **Weather: Broken Clouds (20.49 °C)**



	Bicycles on Crosswalk	Pedestrians
N	1	17
S	2	28
E	0	0
W	0	0

Spectrum

Turning Movement Count
Location Name: THOMAS ST & STREETSVILLE GO STATION PARKING LOT ENTRANCE
Date: Wed, May 10, 2023 Deployment Lead: Walter Fugaj

Crozier & Associates
SUITE 301 211 YONGE
STREET
TORONTO ONTARIO, M5B 1M4
CANADA

Turning Movement Count (3 . 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	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
07:00:00	0	0	1	0	1	1	0	18	18	0	0	36	5	0	19	0	1	24	72	38	0	0	0	110	171	
07:15:00	1	0	0	0	5	1	0	30	20	0	3	50	18	1	36	0	1	55	134	56	0	0	0	190	296	
07:30:00	0	0	0	0	4	0	0	34	29	0	0	63	17	0	66	0	3	83	148	67	0	0	1	215	361	
07:45:00	0	0	0	0	10	0	0	41	31	0	7	72	23	0	62	0	1	85	170	81	0	0	1	251	408	1236
08:00:00	1	0	0	0	1	1	0	63	5	0	0	68	6	0	24	0	2	30	21	101	0	0	0	122	221	1286
08:15:00	0	0	0	0	2	0	0	66	0	0	3	66	1	0	2	0	3	3	10	115	0	0	2	125	194	1184
08:30:00	0	0	0	0	4	0	0	79	12	0	3	91	7	0	20	0	7	27	73	132	1	0	3	206	324	1147
08:45:00	0	0	0	0	1	0	1	75	2	0	0	78	4	0	23	0	4	27	22	130	1	0	0	153	258	997
09:00:00	1	0	0	0	4	1	0	105	2	0	0	107	0	0	0	0	2	0	2	102	0	0	0	104	212	988
09:15:00	0	0	0	0	1	0	0	47	2	0	0	49	2	0	5	0	1	7	1	87	0	0	0	88	144	938
09:30:00	1	0	2	0	2	3	2	50	1	0	0	53	1	0	0	0	2	1	2	72	0	0	0	74	131	745
09:45:00	0	0	2	0	1	2	1	44	3	0	0	48	2	0	4	0	0	6	2	105	2	0	0	109	165	652
BREAK																										
16:00:00	0	0	0	0	3	0	0	121	3	0	0	124	3	0	1	0	3	4	9	85	1	0	0	95	223	
16:15:00	4	0	1	0	8	5	2	100	7	0	1	109	22	0	66	0	5	88	13	82	2	0	3	97	299	
16:30:00	0	0	1	0	4	1	3	119	3	0	0	125	3	0	8	0	2	11	7	78	0	0	1	85	222	
16:45:00	0	0	2	0	4	2	2	106	2	0	0	110	0	0	5	0	1	5	18	86	2	0	0	106	223	967
17:00:00	4	0	1	0	4	5	3	134	13	1	1	151	29	0	79	0	4	108	31	85	4	0	0	120	384	1128
17:15:00	0	0	1	0	4	1	1	139	8	0	1	148	21	0	61	0	4	82	19	88	0	0	0	107	338	1167
17:30:00	5	0	1	0	5	6	1	113	12	0	2	126	37	1	114	0	11	152	33	91	0	0	4	124	408	1353
17:45:00	1	0	0	0	9	1	1	117	11	0	3	129	5	0	29	0	3	34	21	110	2	0	0	133	297	1427
18:00:00	0	0	0	0	4	0	3	107	15	0	1	125	39	0	104	0	7	143	35	76	0	0	2	111	379	1422
18:15:00	4	0	2	0	2	6	0	126	7	0	0	133	7	0	51	0	4	58	19	95	2	0	0	116	313	1397
18:30:00	1	0	1	0	5	2	0	91	7	0	1	98	24	0	86	0	7	110	21	109	2	0	0	132	342	1331
18:45:00	1	0	0	0	2	1	2	97	4	0	0	103	1	0	13	0	5	14	6	102	0	0	1	108	226	1260
Grand Total	24	0	15	0	90	39	22	2022	217	1	26	2262	277	2	878	0	83	1157	889	2173	19	0	18	3081	**6539**	-
Approach%	61.5%	0%	38.5%	0%		-	1%	89.4%	9.6%	0%		-	23.9%	0.2%	75.9%	0%		-	28.9%	70.5%	0.6%	0%		-	**-**	-
Totals %	0.4%	0%	0.2%	0%		0.6%	0.3%	30.9%	3.3%	0%		34.6%	4.2%	0%	13.4%	0%		17.7%	13.6%	33.2%	0.3%	0%		47.1%	**-**	-
Heavy	0	0	0	0		-	1	35	6	0		-	5	0	20	0		-	18	40	0	0		-	**-**	-
Heavy %	0%	0%	0%	0%		-	4.5%	1.7%	2.8%	0%		-	1.8%	0%	2.3%	0%		-	2%	1.8%	0%	0%		-	**-**	-
Bicycles	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	**-**	-
Bicycle %	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	**-**	-

Spectrum

Turning Movement Count
Location Name: THOMAS ST & STREETSVILLE GO STATION PARKING LOT ENTRANCE
Date: Wed, May 10, 2023 Deployment Lead: Walter Fugaj

Crozier & Associates
SUITE 301 211 YONGE
STREET
TORONTO ONTARIO, M5B 1M4
CANADA

Peak Hour: 07:15 AM - 08:15 AM Weather: Scattered Clouds (6.79 °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	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
07:15:00	1	0	0	0	5	1	0	30	20	0	3	50	18	1	36	0	1	55	134	56	0	0	0	190	296
07:30:00	0	0	0	0	4	0	0	34	29	0	0	63	17	0	66	0	3	83	148	67	0	0	1	215	361
07:45:00	0	0	0	0	10	0	0	41	31	0	7	72	23	0	62	0	1	85	170	81	0	0	1	251	408
08:00:00	1	0	0	0	1	1	0	63	5	0	0	68	6	0	24	0	2	30	21	101	0	0	0	122	221
Grand Total	2	0	0	0	20	2	0	168	85	0	10	253	64	1	188	0	7	253	473	305	0	0	2	778	**1286**
Approach%	100%	0%	0%	0%		-	0%	66.4%	33.6%	0%		-	25.3%	0.4%	74.3%	0%		-	60.8%	39.2%	0%	0%		-	**-**
Totals %	0.2%	0%	0%	0%		0.2%	0%	13.1%	6.6%	0%		19.7%	5%	0.1%	14.6%	0%		19.7%	36.8%	23.7%	0%	0%		60.5%	**-**
PHF	0.5	0	0	0		0.5	0	0.67	0.69	0		0.88	0.7	0.25	0.71	0		0.74	0.7	0.75	0	0		0.77	**-**
Heavy	0	0	0	0		0	0	10	0	0		10	3	0	2	0		5	5	9	0	0		14	**-**
Heavy %	0%	0%	0%	0%		0%	0%	6%	0%	0%		4%	4.7%	0%	1.1%	0%		2%	1.1%	3%	0%	0%		1.8%	**-**
Lights	2	0	0	0		2	0	157	85	0		242	61	1	186	0		248	468	295	0	0		763	**-**
Lights %	100%	0%	0%	0%		100%	0%	93.5%	100%	0%		95.7%	95.3%	100%	98.9%	0%		98%	98.9%	96.7%	0%	0%		98.1%	**-**
Single-Unit Trucks	0	0	0	0		0	0	4	0	0		4	0	0	0	0		0	0	2	0	0		2	**-**
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	2.4%	0%	0%		1.6%	0%	0%	0%	0%		0%	0%	0.7%	0%	0%		0.3%	**-**
Buses	0	0	0	0		0	0	6	0	0		6	3	0	2	0		5	5	7	0	0		12	**-**
Buses %	0%	0%	0%	0%		0%	0%	3.6%	0%	0%		2.4%	4.7%	0%	1.1%	0%		2%	1.1%	2.3%	0%	0%		1.5%	**-**
Bicycles on Road	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	0	1	0	0		1	**-**
Bicycles on Road %	0%	0%	0%	0%		0%	0%	0.6%	0%	0%		0.4%	0%	0%	0%	0%		0%	0%	0.3%	0%	0%		0.1%	**-**
Pedestrians	-	-	-	-	16	-	-	-	-	-	10	-	-	-	-	-	7	-	-	-	-	-	2	-	**-**
Pedestrians%	-	-	-	-	41%		-	-	-	-	25.6%		-	-	-	-	17.9%		-	-	-	-	5.1%		**-**
Bicycles on Crosswalk	-	-	-	-	4	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	10.3%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

Spectrum

Turning Movement Count
Location Name: THOMAS ST & STREETSVILLE GO STATION PARKING LOT ENTRANCE
Date: Wed, May 10, 2023 Deployment Lead: Walter Fugaj

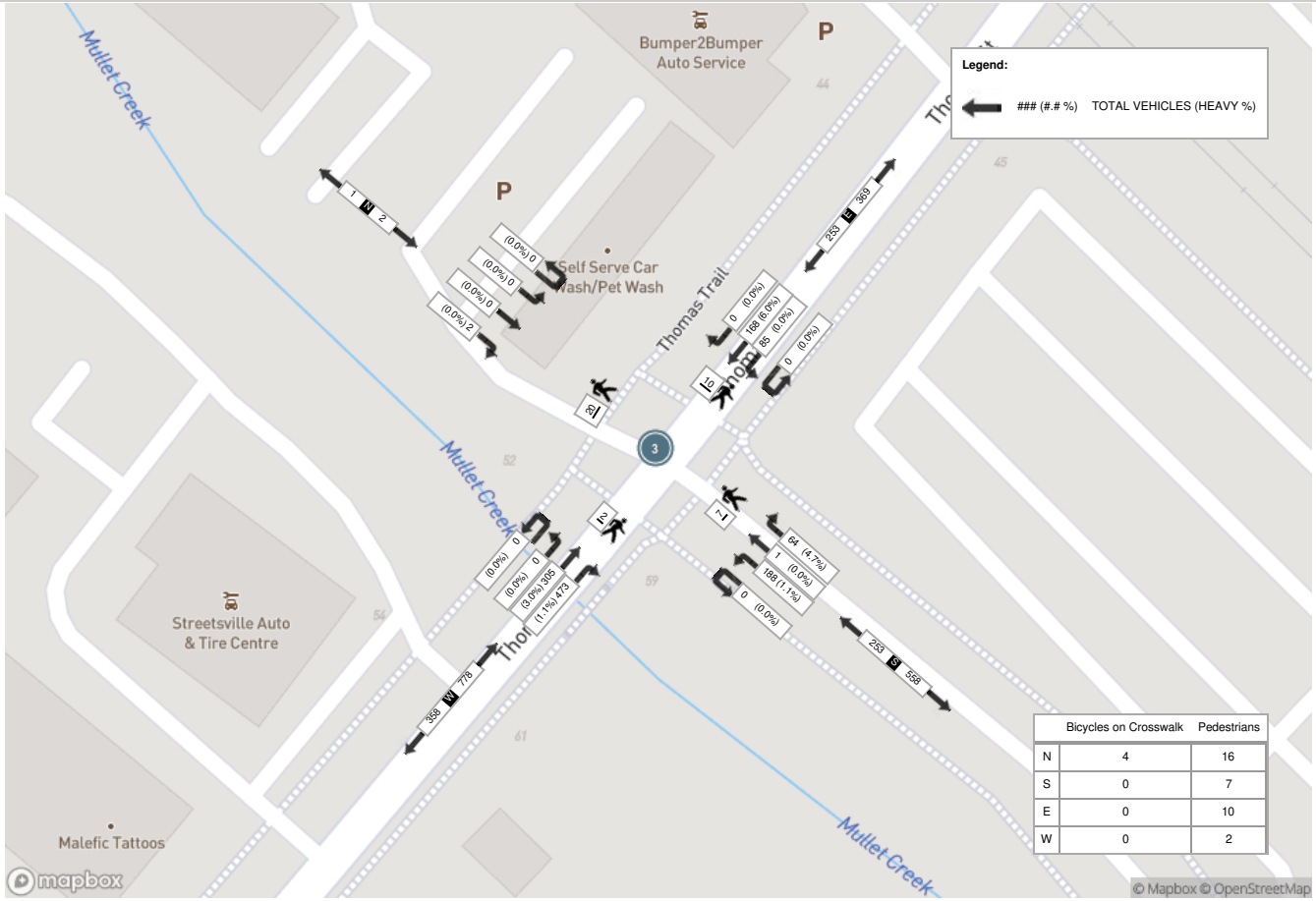
Crozier & Associates
SUITE 301 211 YONGE
STREET
TORONTO ONTARIO, M5B 1M4
CANADA

Peak Hour: 05:00 PM - 06:00 PM Weather: Broken Clouds (20.49 °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	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
17:00:00	4	0	1	0	4	5	3	134	13	1	1	151	29	0	79	0	4	108	31	85	4	0	0	120	384
17:15:00	0	0	1	0	4	1	1	139	8	0	1	148	21	0	61	0	4	82	19	88	0	0	0	107	338
17:30:00	5	0	1	0	5	6	1	113	12	0	2	126	37	1	114	0	11	152	33	91	0	0	4	124	408
17:45:00	1	0	0	0	9	1	1	117	11	0	3	129	5	0	29	0	3	34	21	110	2	0	0	133	297
Grand Total	10	0	3	0	22	13	6	503	44	1	7	554	92	1	283	0	22	376	104	374	6	0	4	484	**1427**
Approach%	76.9%	0%	23.1%	0%		-	1.1%	90.8%	7.9%	0.2%		-	24.5%	0.3%	75.3%	0%		-	21.5%	77.3%	1.2%	0%		-	**-**
Totals %	0.7%	0%	0.2%	0%		0.9%	0.4%	35.2%	3.1%	0.1%		38.8%	6.4%	0.1%	19.8%	0%		26.3%	7.3%	26.2%	0.4%	0%		33.9%	**-**
PHF	0.5	0	0.75	0		0.54	0.5	0.9	0.85	0.25		0.92	0.62	0.25	0.62	0		0.62	0.79	0.85	0.38	0		0.91	**-**
Heavy	0	0	0	0		0	0	0	2	0		2	0	0	4	0		4	2	4	0	0		6	**-**
Heavy %	0%	0%	0%	0%		0%	0%	0%	4.5%	0%		0.4%	0%	0%	1.4%	0%		1.1%	1.9%	1.1%	0%	0%		1.2%	**-**
Lights	10	0	3	0		13	6	503	42	1		552	92	1	279	0		372	102	370	6	0		478	**-**
Lights %	100%	0%	100%	0%		100%	100%	100%	95.5%	100%		99.6%	100%	100%	98.6%	0%		98.9%	98.1%	98.9%	100%	0%		98.8%	**-**
Single-Unit Trucks	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	1	0	0		1	**-**
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0.3%	0%	0%		0.2%	**-**
Buses	0	0	0	0		0	0	0	2	0		2	0	0	4	0		4	2	3	0	0		5	**-**
Buses %	0%	0%	0%	0%		0%	0%	0%	4.5%	0%		0.4%	0%	0%	1.4%	0%		1.1%	1.9%	0.8%	0%	0%		1%	**-**
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%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	20	-	-	-	-	-	7	-	-	-	-	-	21	-	-	-	-	-	4	-	**-**
Pedestrians%	-	-	-	-	36.4%		-	-	-	-	12.7%		-	-	-	-	38.2%		-	-	-	-	7.3%		**-**
Bicycles on Crosswalk	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	3.6%		-	-	-	-	0%		-	-	-	-	1.8%		-	-	-	-	0%		**-**

Crozier & Associates
SUITE 301 211 YONGE
STREET
TORONTO ONTARIO, M5B 1M4
CANADA

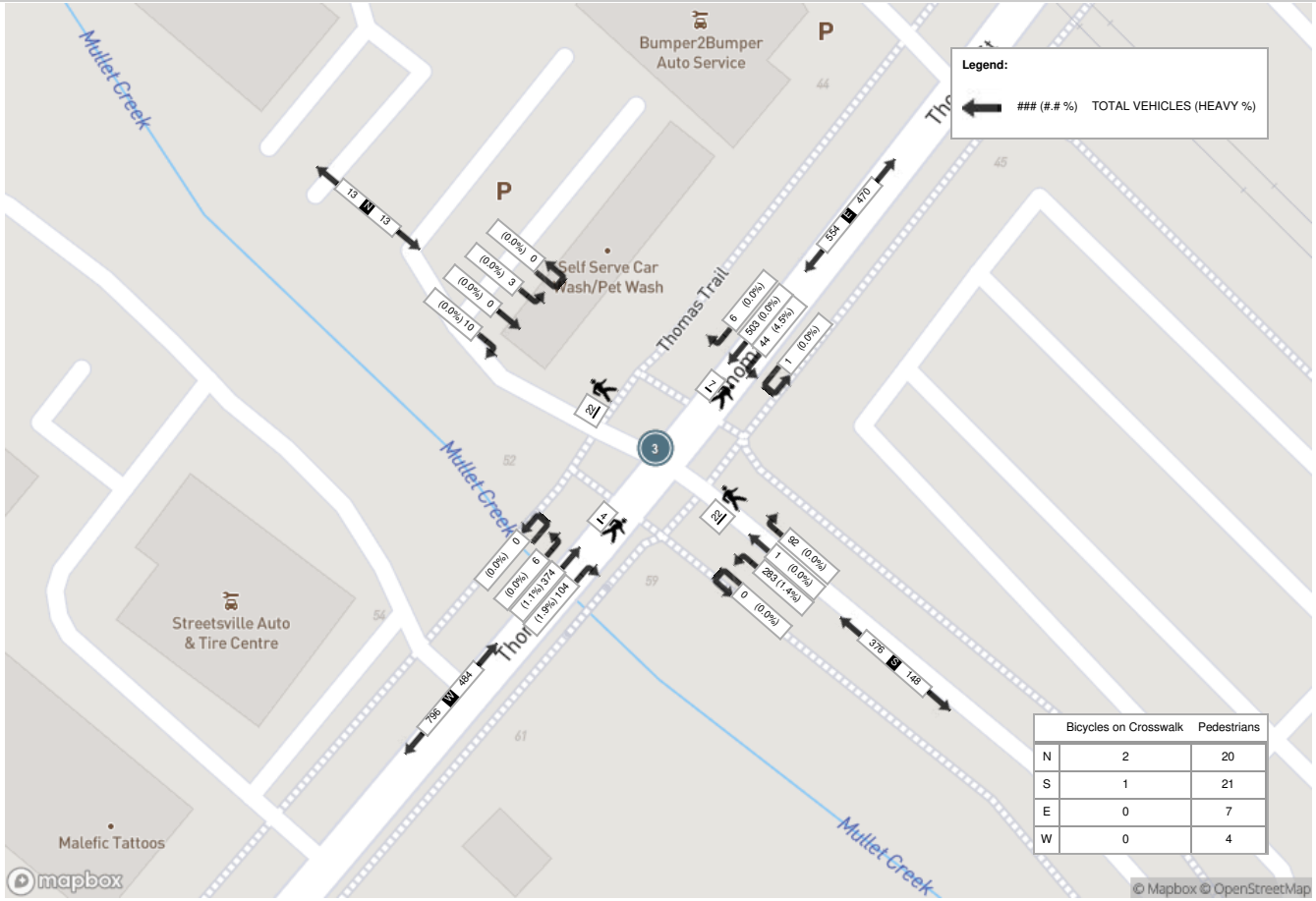
Peak Hour: 07:15 AM - 08:15 AM **Weather: Scattered Clouds (6.79 °C)**



	Bicycles on Crosswalk	Pedestrians
N	4	16
S	0	7
E	0	10
W	0	2

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CANADA

Peak Hour: 05:00 PM - 06:00 PM **Weather: Broken Clouds (20.49 °C)**



	Bicycles on Crosswalk	Pedestrians
N	2	20
S	1	21
E	0	7
W	0	4

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COLLINGWOOD ONTARIO, L9Y 4R3
CANADA

Turning Movement Count (4 . 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	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	UTurn E:E	Peds E:	Approach Total	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
07:00:00	8	3	0	2	11	2	31	0	0	33	104	13	0	0	117	161	
07:15:00	10	3	0	3	13	5	57	0	0	62	193	19	0	0	212	287	
07:30:00	7	4	0	1	11	7	95	0	1	102	206	24	0	0	230	343	
07:45:00	18	8	0	4	26	8	91	0	0	99	246	41	0	0	287	412	1203
08:00:00	54	7	0	2	61	15	79	0	1	94	113	68	0	0	181	336	1378
08:15:00	39	8	0	0	47	7	62	0	0	69	117	26	0	0	143	259	1350
08:30:00	15	7	0	3	22	8	89	0	1	97	200	25	0	0	225	344	1351
08:45:00	16	2	0	2	18	7	97	0	0	104	154	23	0	0	177	299	1238
09:00:00	33	2	0	4	35	2	104	0	0	106	100	28	0	0	128	269	1171
09:15:00	13	6	0	0	19	4	44	0	0	48	88	19	0	0	107	174	1086
09:30:00	17	0	0	3	17	2	53	0	1	55	68	12	0	0	80	152	894
09:45:00	13	5	0	0	18	5	39	0	0	44	102	14	0	0	116	178	773
BREAK																	
16:00:00	30	4	0	2	34	6	117	0	1	123	92	19	0	0	111	268	
16:15:00	31	8	0	7	39	10	158	0	0	168	91	23	0	0	114	321	
16:30:00	26	4	0	2	30	5	119	0	0	124	76	20	0	0	96	250	
16:45:00	33	7	0	3	40	7	102	0	1	109	99	18	0	0	117	266	1105
17:00:00	35	5	0	2	40	10	199	0	0	209	122	26	0	0	148	397	1234
17:15:00	37	5	0	3	42	9	197	0	0	206	102	21	0	0	123	371	1284
17:30:00	37	13	0	2	50	7	216	0	0	223	120	17	0	0	137	410	1444
17:45:00	27	8	0	6	35	9	146	0	0	155	123	14	0	0	137	327	1505
18:00:00	26	1	0	3	27	8	191	0	0	199	113	18	0	0	131	357	1465
18:15:00	24	3	0	1	27	6	174	0	1	180	109	17	0	1	126	333	1427
18:30:00	26	5	0	3	31	7	182	0	1	189	125	20	0	0	145	365	1382
18:45:00	20	3	0	3	23	7	112	0	0	119	105	15	0	0	120	262	1317
Grand Total	595	121	0	61	716	163	2754	0	8	2917	2968	540	0	1	3508	**7141**	-
Approach%	83.1%	16.9%	0%		-	5.6%	94.4%	0%		-	84.6%	15.4%	0%		-	**-**	-
Totals %	8.3%	1.7%	0%		10%	2.3%	38.6%	0%		40.8%	41.6%	7.6%	0%		49.1%	**-**	-
Heavy	18	1	0		-	2	53	0		-	56	11	0		-	**-**	-
Heavy %	3%	0.8%	0%		-	1.2%	1.9%	0%		-	1.9%	2%	0%		-	**-**	-
Bicycles	-	-	-		-	-	-	-		-	-	-	-		-	**-**	-
Bicycle %	-	-	-		-	-	-	-		-	-	-	-		-	**-**	-

Crozier & Associates
SUITE 301 40 HURON STREET
COLLINGWOOD ONTARIO, L9Y 4R3
CANADA

Peak Hour: 07:15 AM - 08:15 AM Weather: Scattered Clouds (6.79 °C)

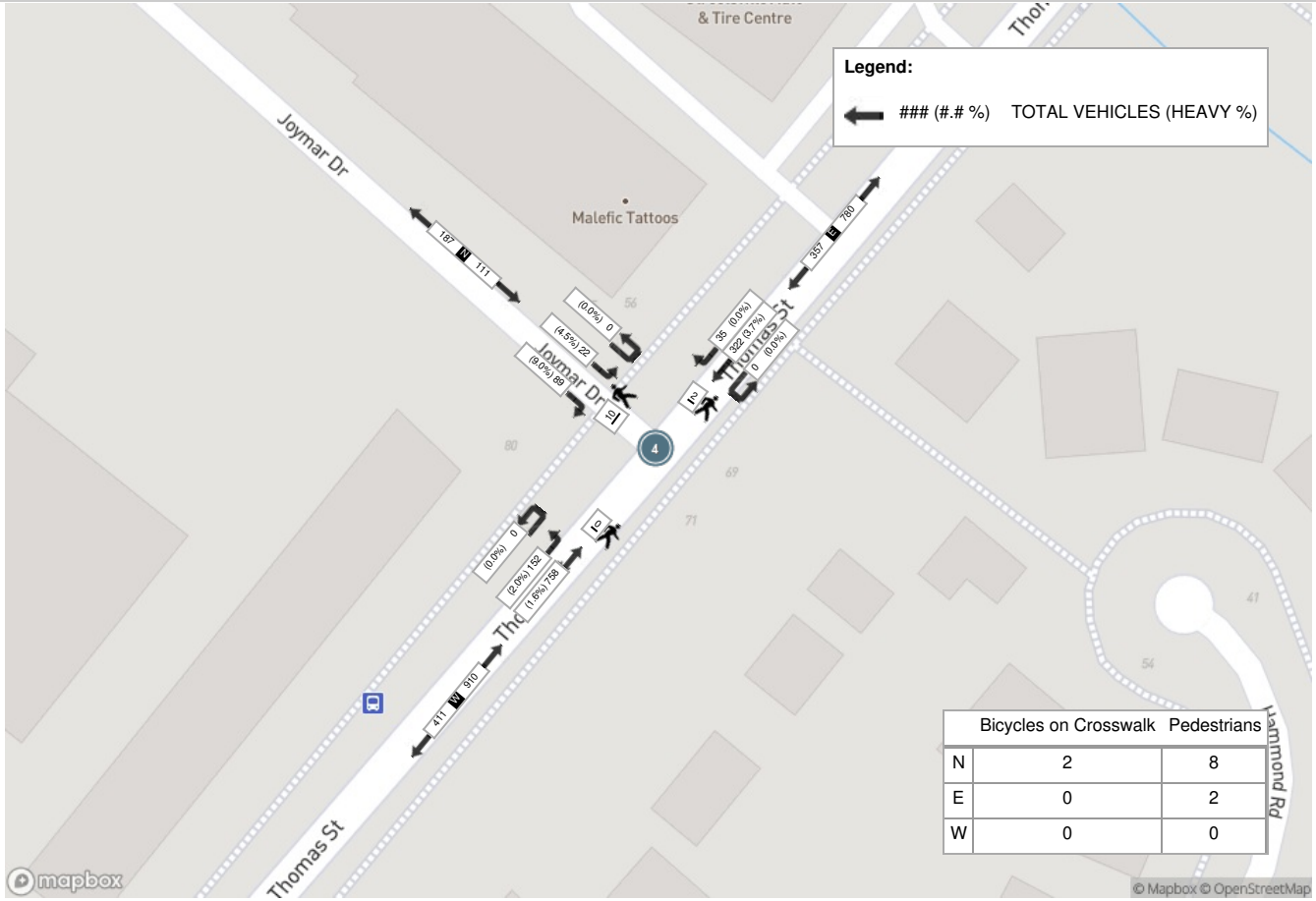
Start Time	N Approach JOYMAR DR					E Approach THOMAS ST					W Approach THOMAS ST					Int. Total (15 min)
	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	Thru	Left	UTurn	Peds	Approach Total	
07:15:00	10	3	0	3	13	5	57	0	0	62	193	19	0	0	212	287
07:30:00	7	4	0	1	11	7	95	0	1	102	206	24	0	0	230	343
07:45:00	18	8	0	4	26	8	91	0	0	99	246	41	0	0	287	412
08:00:00	54	7	0	2	61	15	79	0	1	94	113	68	0	0	181	336
Grand Total	89	22	0	10	111	35	322	0	2	357	758	152	0	0	910	**1378**
Approach%	80.2%	19.8%	0%		-	9.8%	90.2%	0%		-	83.3%	16.7%	0%		-	**-**
Totals %	6.5%	1.6%	0%		8.1%	2.5%	23.4%	0%		25.9%	55%	11%	0%		66%	**-**
PHF	0.41	0.69	0		0.45	0.58	0.85	0		0.88	0.77	0.56	0		0.79	**-**
Heavy	8	1	0		9	0	12	0		12	12	3	0		15	**-**
Heavy %	9%	4.5%	0%		8.1%	0%	3.7%	0%		3.4%	1.6%	2%	0%		1.6%	**-**
Lights	81	21	0		102	35	309	0		344	745	149	0		894	**-**
Lights %	91%	95.5%	0%		91.9%	100%	96%	0%		96.4%	98.3%	98%	0%		98.2%	**-**
Single-Unit Trucks	2	0	0		2	0	4	0		4	2	0	0		2	**-**
Single-Unit Trucks %	2.2%	0%	0%		1.8%	0%	1.2%	0%		1.1%	0.3%	0%	0%		0.2%	**-**
Buses	6	1	0		7	0	8	0		8	10	3	0		13	**-**
Buses %	6.7%	4.5%	0%		6.3%	0%	2.5%	0%		2.2%	1.3%	2%	0%		1.4%	**-**
Bicycles on Road	0	0	0		0	0	1	0		1	1	0	0		1	**-**
Bicycles on Road %	0%	0%	0%		0%	0%	0.3%	0%		0.3%	0.1%	0%	0%		0.1%	**-**
Pedestrians	-	-	-	8	-	-	-	-	2	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	66.7%		-	-	-	16.7%		-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	2	-	-	-	-	0	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	16.7%		-	-	-	0%		-	-	-	0%		**-**

Crozier & Associates
SUITE 301 40 HURON STREET
COLLINGWOOD ONTARIO, L9Y 4R3
CANADA

Peak Hour: 05:00 PM - 06:00 PM Weather: Broken Clouds (20.49 °C)

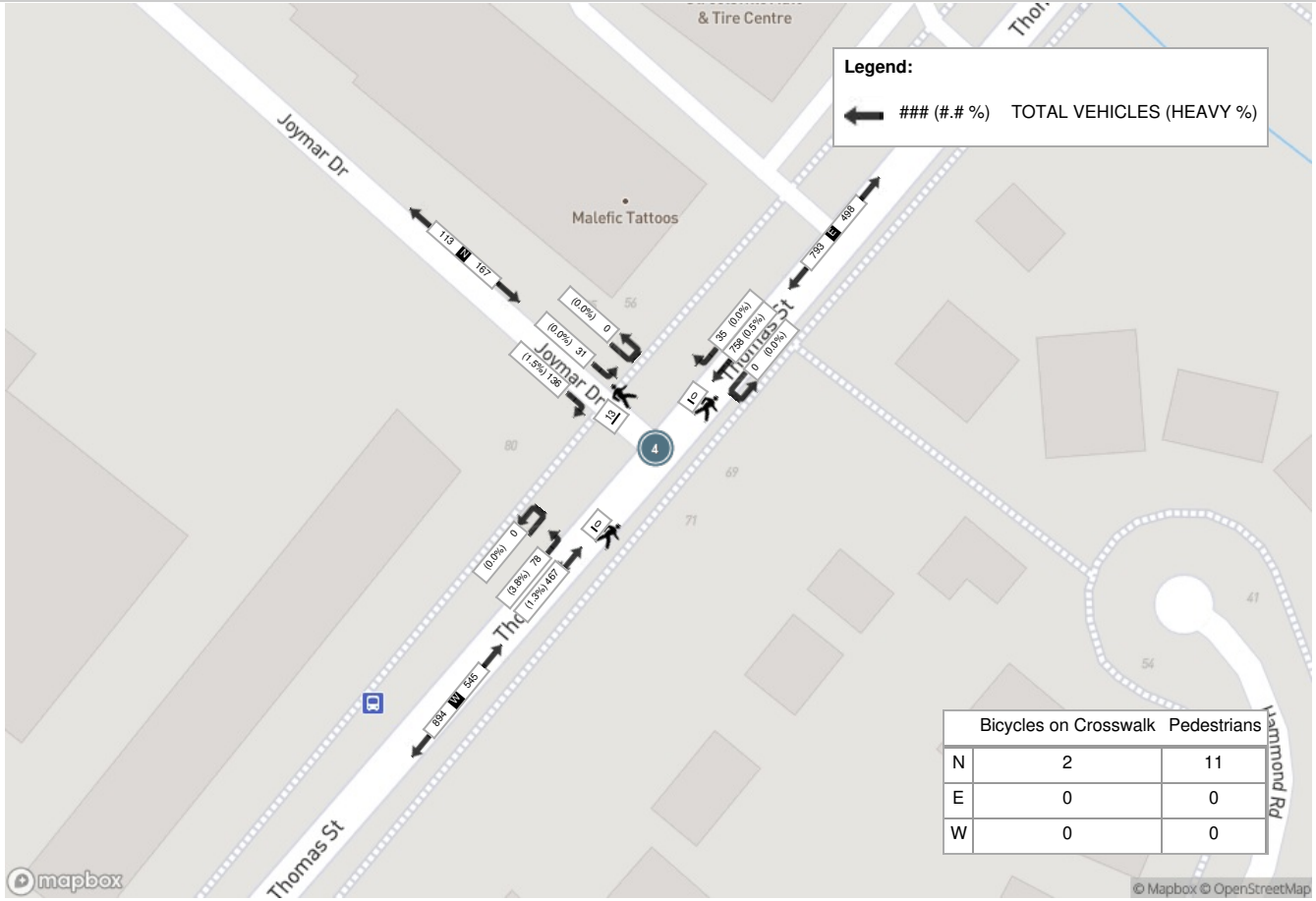
Start Time	N Approach JOYMAR DR					E Approach THOMAS ST					W Approach THOMAS ST					Int. Total (15 min)
	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	Thru	Left	UTurn	Peds	Approach Total	
17:00:00	35	5	0	2	40	10	199	0	0	209	122	26	0	0	148	397
17:15:00	37	5	0	3	42	9	197	0	0	206	102	21	0	0	123	371
17:30:00	37	13	0	2	50	7	216	0	0	223	120	17	0	0	137	410
17:45:00	27	8	0	6	35	9	146	0	0	155	123	14	0	0	137	327
Grand Total	136	31	0	13	167	35	758	0	0	793	467	78	0	0	545	**1505**
Approach%	81.4%	18.6%	0%		-	4.4%	95.6%	0%		-	85.7%	14.3%	0%		-	**-**
Totals %	9%	2.1%	0%		11.1%	2.3%	50.4%	0%		52.7%	31%	5.2%	0%		36.2%	**-**
PHF	0.92	0.6	0		0.84	0.88	0.88	0		0.89	0.95	0.75	0		0.92	**-**
Heavy	2	0	0		2	0	4	0		4	6	3	0		9	**-**
Heavy %	1.5%	0%	0%		1.2%	0%	0.5%	0%		0.5%	1.3%	3.8%	0%		1.7%	**-**
Lights	134	30	0		164	35	754	0		789	460	75	0		535	**-**
Lights %	98.5%	96.8%	0%		98.2%	100%	99.5%	0%		99.5%	98.5%	96.2%	0%		98.2%	**-**
Single-Unit Trucks	2	0	0		2	0	0	0		0	1	3	0		4	**-**
Single-Unit Trucks %	1.5%	0%	0%		1.2%	0%	0%	0%		0%	0.2%	3.8%	0%		0.7%	**-**
Buses	0	0	0		0	0	4	0		4	5	0	0		5	**-**
Buses %	0%	0%	0%		0%	0%	0.5%	0%		0.5%	1.1%	0%	0%		0.9%	**-**
Bicycles on Road	0	1	0		1	0	0	0		0	1	0	0		1	**-**
Bicycles on Road %	0%	3.2%	0%		0.6%	0%	0%	0%		0%	0.2%	0%	0%		0.2%	**-**
Pedestrians	-	-	-	11	-	-	-	-	0	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	84.6%		-	-	-	0%		-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	2	-	-	-	-	0	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	15.4%		-	-	-	0%		-	-	-	0%		**-**

Peak Hour: 07:15 AM - 08:15 AM Weather: Scattered Clouds (6.79 °C)



	Bicycles on Crosswalk	Pedestrians
N	2	8
E	0	2
W	0	0

Peak Hour: 05:00 PM - 06:00 PM Weather: Broken Clouds (20.49 °C)



	Bicycles on Crosswalk	Pedestrians
N	2	11
E	0	0
W	0	0

Spectrum

Turning Movement Count
Location Name: JOYMAR DR & TANNERY ST
Date: Wed, May 10, 2023 Deployment Lead: Walter Fugaj

Crozier & Associates
SUITE 301 211 YONGE
STREET
TORONTO ONTARIO, M5B 1M4
CANADA

Turning Movement Count (7 . 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	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
07:00:00	3	7	3	0	0	13	0	1	7	0	0	8	4	13	1	0	0	18	2	1	0	0	2	3	42	
07:15:00	0	8	5	0	4	13	8	3	5	0	0	16	7	9	3	0	0	19	2	0	0	0	3	2	50	
07:30:00	4	7	8	0	6	19	6	2	2	0	0	10	3	15	8	0	1	26	1	1	0	0	5	2	57	
07:45:00	5	16	17	0	16	38	8	15	11	0	1	34	13	16	19	0	1	48	4	9	6	0	7	19	139	288
08:00:00	7	29	34	0	51	70	16	34	8	0	0	58	7	31	33	0	3	71	17	29	6	0	11	52	251	497
08:15:00	10	26	32	0	14	68	21	14	8	0	2	43	10	25	10	0	0	45	12	17	0	0	9	29	185	632
08:30:00	3	13	16	0	34	32	8	4	10	0	2	22	12	15	3	0	2	30	1	1	0	0	5	2	86	661
08:45:00	1	8	11	0	0	20	8	1	9	0	0	18	18	9	0	0	0	27	0	2	0	0	7	2	67	589
09:00:00	0	16	3	0	4	19	4	1	11	0	0	16	15	11	0	0	2	26	0	0	0	0	4	0	61	399
09:15:00	4	12	7	0	25	23	5	0	12	0	1	17	11	10	0	0	0	21	0	0	2	0	1	2	63	277
09:30:00	0	5	7	0	22	12	3	1	9	0	1	13	6	9	0	0	0	15	1	3	3	0	6	7	47	238
09:45:00	0	10	11	0	5	21	7	1	4	0	1	12	7	4	0	0	0	11	1	1	1	0	1	3	47	218
BREAK																										
16:00:00	1	17	16	0	31	34	21	4	14	0	0	39	11	15	1	0	0	27	3	2	3	0	6	8	108	
16:15:00	0	12	13	0	9	25	16	0	14	0	1	30	15	16	0	0	3	31	0	1	0	0	1	1	87	
16:30:00	0	9	8	0	4	17	21	2	15	0	2	38	9	17	0	0	0	26	0	1	0	0	1	1	82	
16:45:00	0	10	7	0	5	17	9	0	20	0	2	29	14	7	0	0	0	21	0	0	0	0	2	0	67	344
17:00:00	0	7	6	0	4	13	14	1	28	0	3	43	22	21	0	0	1	43	0	1	0	0	8	1	100	336
17:15:00	0	13	9	0	3	22	22	0	27	0	0	49	15	21	0	0	3	36	2	0	1	0	4	3	110	359
17:30:00	0	22	11	0	2	33	23	0	22	0	0	45	11	22	1	0	0	34	1	0	0	0	3	1	113	390
17:45:00	1	8	17	0	4	26	20	0	19	0	0	39	9	19	0	0	0	28	0	0	0	0	4	0	93	416
18:00:00	0	8	9	0	0	17	18	0	16	0	0	34	11	13	0	0	2	24	0	0	0	0	3	0	75	391
18:15:00	0	10	12	0	11	22	20	0	17	0	0	37	6	11	0	0	1	17	1	0	0	0	1	1	77	358
18:30:00	0	11	8	0	4	19	12	1	17	0	1	30	13	13	0	0	1	26	1	0	0	0	1	1	76	321
18:45:00	0	8	8	0	7	16	6	0	20	0	0	26	7	9	0	0	2	16	0	3	0	0	3	3	61	289
Grand Total	39	292	278	0	265	609	296	85	325	0	17	706	256	351	79	0	22	686	49	72	22	0	98	143	**2144**	-
Approach%	6.4%	47.9%	45.6%	0%		-	41.9%	12%	46%	0%		-	37.3%	51.2%	11.5%	0%		-	34.3%	50.3%	15.4%	0%		-	-	-
Totals %	1.8%	13.6%	13%	0%		28.4%	13.8%	4%	15.2%	0%		32.9%	11.9%	16.4%	3.7%	0%		32%	2.3%	3.4%	1%	0%		6.7%	-	-
Heavy	0	11	8	0		-	5	1	4	0		-	3	6	1	0		-	1	0	0	0		-	-	-
Heavy %	0%	3.8%	2.9%	0%		-	1.7%	1.2%	1.2%	0%		-	1.2%	1.7%	1.3%	0%		-	2%	0%	0%	0%		-	-	-
Bicycles	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-
Bicycle %	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-

Spectrum

Turning Movement Count
Location Name: JOYMAR DR & TANNERY ST
Date: Wed, May 10, 2023 Deployment Lead: Walter Fugaj

Crozier & Associates
SUITE 301 211 YONGE
STREET
TORONTO ONTARIO, M5B 1M4
CANADA

Peak Hour: 07:45 AM - 08:45 AM Weather: Scattered Clouds (6.79 °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	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
07:45:00	5	16	17	0	16	38	8	15	11	0	1	34	13	16	19	0	1	48	4	9	6	0	7	19	139
08:00:00	7	29	34	0	51	70	16	34	8	0	0	58	7	31	33	0	3	71	17	29	6	0	11	52	251
08:15:00	10	26	32	0	14	68	21	14	8	0	2	43	10	25	10	0	0	45	12	17	0	0	9	29	185
08:30:00	3	13	16	0	34	32	8	4	10	0	2	22	12	15	3	0	2	30	1	1	0	0	5	2	86
Grand Total	25	84	99	0	115	208	53	67	37	0	5	157	42	87	65	0	6	194	34	56	12	0	32	102	**661**
Approach%	12%	40.4%	47.6%	0%		-	33.8%	42.7%	23.6%	0%		-	21.6%	44.8%	33.5%	0%		-	33.3%	54.9%	11.8%	0%		-	**-**
Totals %	3.8%	12.7%	15%	0%		31.5%	8%	10.1%	5.6%	0%		23.8%	6.4%	13.2%	9.8%	0%		29.3%	5.1%	8.5%	1.8%	0%		15.4%	**-**
PHF	0.63	0.72	0.73	0		0.74	0.63	0.49	0.84	0		0.68	0.81	0.7	0.49	0		0.68	0.5	0.48	0.5	0		0.49	**-**
Heavy	0	6	6	0		12	2	1	3	0		6	1	2	1	0		4	0	0	0	0		0	**-**
Heavy %	0%	7.1%	6.1%	0%		5.8%	3.8%	1.5%	8.1%	0%		3.8%	2.4%	2.3%	1.5%	0%		2.1%	0%	0%	0%	0%		0%	**-**
Lights	25	78	92	0		195	48	66	34	0		148	41	85	64	0		190	34	56	12	0		102	**-**
Lights %	100%	92.9%	92.9%	0%		93.8%	90.6%	98.5%	91.9%	0%		94.3%	97.6%	97.7%	98.5%	0%		97.9%	100%	100%	100%	0%		100%	**-**
Single-Unit Trucks	0	1	0	0		1	1	0	1	0		2	0	0	0	0		0	0	0	0	0		0	**-**
Single-Unit Trucks %	0%	1.2%	0%	0%		0.5%	1.9%	0%	2.7%	0%		1.3%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	**-**
Buses	0	5	6	0		11	1	1	2	0		4	0	2	1	0		3	0	0	0	0		0	**-**
Buses %	0%	6%	6.1%	0%		5.3%	1.9%	1.5%	5.4%	0%		2.5%	0%	2.3%	1.5%	0%		1.5%	0%	0%	0%	0%		0%	**-**
Articulated Trucks	0	0	0	0		0	0	0	0	0		0	1	0	0	0		1	0	0	0	0		0	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	2.4%	0%	0%	0%		0.5%	0%	0%	0%	0%		0%	**-**
Bicycles on Road	0	0	1	0		1	3	0	0	0		3	0	0	0	0		0	0	0	0	0		0	**-**
Bicycles on Road %	0%	0%	1%	0%		0.5%	5.7%	0%	0%	0%		1.9%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	105	-	-	-	-	-	4	-	-	-	-	-	4	-	-	-	-	-	30	-	**-**
Pedestrians%	-	-	-	-	66.5%		-	-	-	-	2.5%		-	-	-	-	2.5%		-	-	-	-	19%		**-**
Bicycles on Crosswalk	-	-	-	-	10	-	-	-	-	-	1	-	-	-	-	-	2	-	-	-	-	-	2	-	**-**
Bicycles on Crosswalk%	-	-	-	-	6.3%		-	-	-	-	0.6%		-	-	-	-	1.3%		-	-	-	-	1.3%		**-**

Spectrum

Turning Movement Count
Location Name: JOYMAR DR & TANNERY ST
Date: Wed, May 10, 2023 Deployment Lead: Walter Fugaj

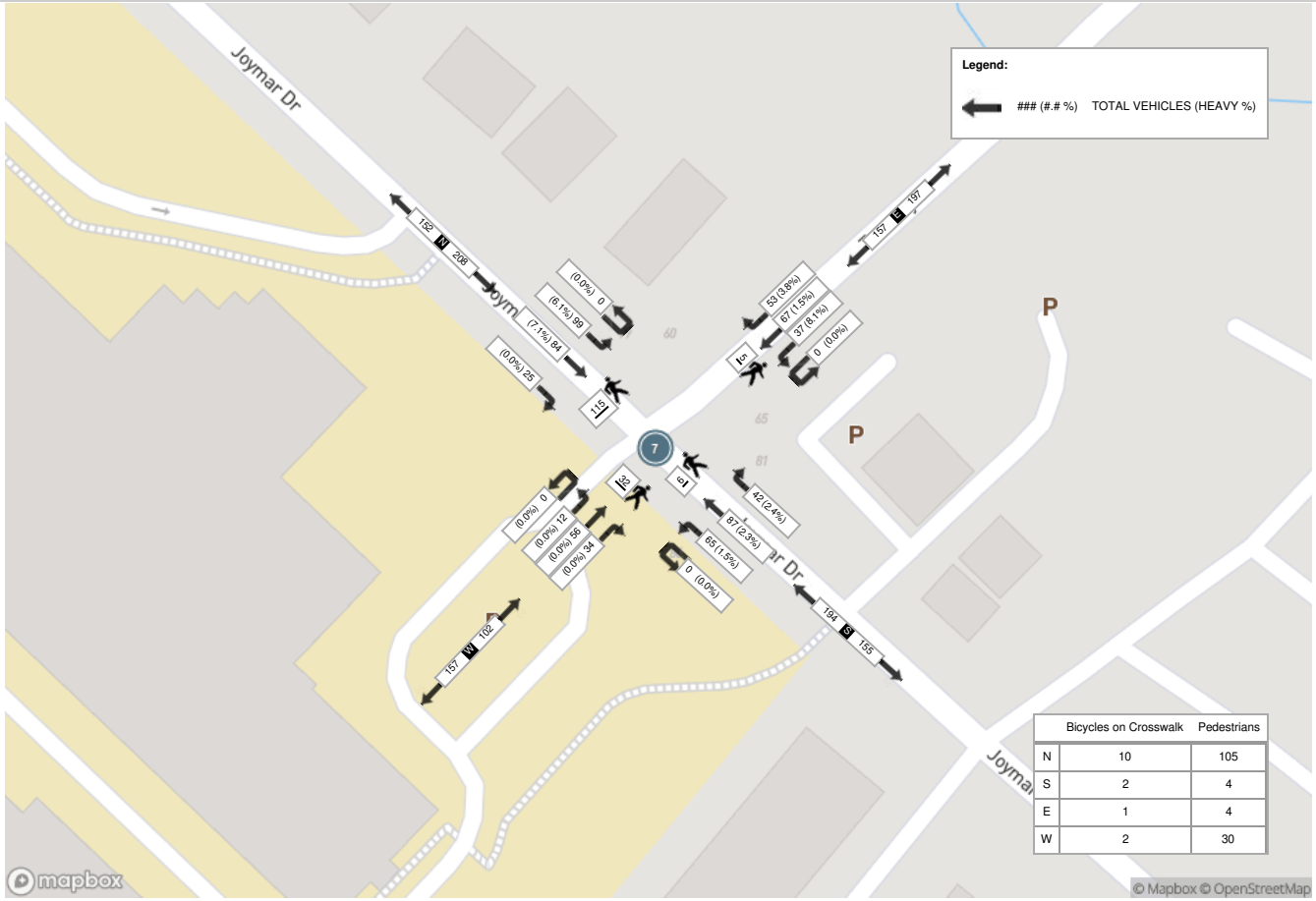
Crozier & Associates
SUITE 301 211 YONGE
STREET
TORONTO ONTARIO, M5B 1M4
CANADA

Peak Hour: 05:00 PM - 06:00 PM Weather: Broken Clouds (20.49 °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	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
17:00:00	0	7	6	0	4	13	14	1	28	0	3	43	22	21	0	0	1	43	0	1	0	0	8	1	100
17:15:00	0	13	9	0	3	22	22	0	27	0	0	49	15	21	0	0	3	36	2	0	1	0	4	3	110
17:30:00	0	22	11	0	2	33	23	0	22	0	0	45	11	22	1	0	0	34	1	0	0	0	3	1	113
17:45:00	1	8	17	0	4	26	20	0	19	0	0	39	9	19	0	0	0	28	0	0	0	0	4	0	93
Grand Total	1	50	43	0	13	94	79	1	96	0	3	176	57	83	1	0	4	141	3	1	1	0	19	5	**416**
Approach%	1.1%	53.2%	45.7%	0%		-	44.9%	0.6%	54.5%	0%		-	40.4%	58.9%	0.7%	0%		-	60%	20%	20%	0%		-	**-**
Totals %	0.2%	12%	10.3%	0%		22.6%	19%	0.2%	23.1%	0%		42.3%	13.7%	20%	0.2%	0%		33.9%	0.7%	0.2%	0.2%	0%		1.2%	**-**
PHF	0.25	0.57	0.63	0		0.71	0.86	0.25	0.86	0		0.9	0.65	0.94	0.25	0		0.82	0.38	0.25	0.25	0		0.42	**-**
Heavy	0	1	0	0		1	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	**-**
Heavy %	0%	2%	0%	0%		1.1%	0%	0%	0%	0%		0%	0%	1.2%	0%	0%		0.7%	0%	0%	0%	0%		0%	**-**
Lights	1	48	43	0		92	79	1	96	0		176	57	81	1	0		139	3	1	1	0		5	**-**
Lights %	100%	96%	100%	0%		97.9%	100%	100%	100%	0%		100%	100%	97.6%	100%	0%		98.6%	100%	100%	100%	0%		100%	**-**
Single-Unit Trucks	0	1	0	0		1	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	**-**
Single-Unit Trucks %	0%	2%	0%	0%		1.1%	0%	0%	0%	0%		0%	0%	1.2%	0%	0%		0.7%	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%	**-**
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%	**-**
Bicycles on Road	0	1	0	0		1	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	**-**
Bicycles on Road %	0%	2%	0%	0%		1.1%	0%	0%	0%	0%		0%	0%	1.2%	0%	0%		0.7%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	13	-	-	-	-	-	3	-	-	-	-	-	4	-	-	-	-	-	19	-	**-**
Pedestrians%	-	-	-	-	33.3%		-	-	-	-	7.7%		-	-	-	-	10.3%		-	-	-	-	48.7%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

Crozier & Associates
SUITE 301 211 YONGE
STREET
TORONTO ONTARIO, M5B 1M4
CANADA

Peak Hour: 07:45 AM - 08:45 AM **Weather: Scattered Clouds (6.79 °C)**



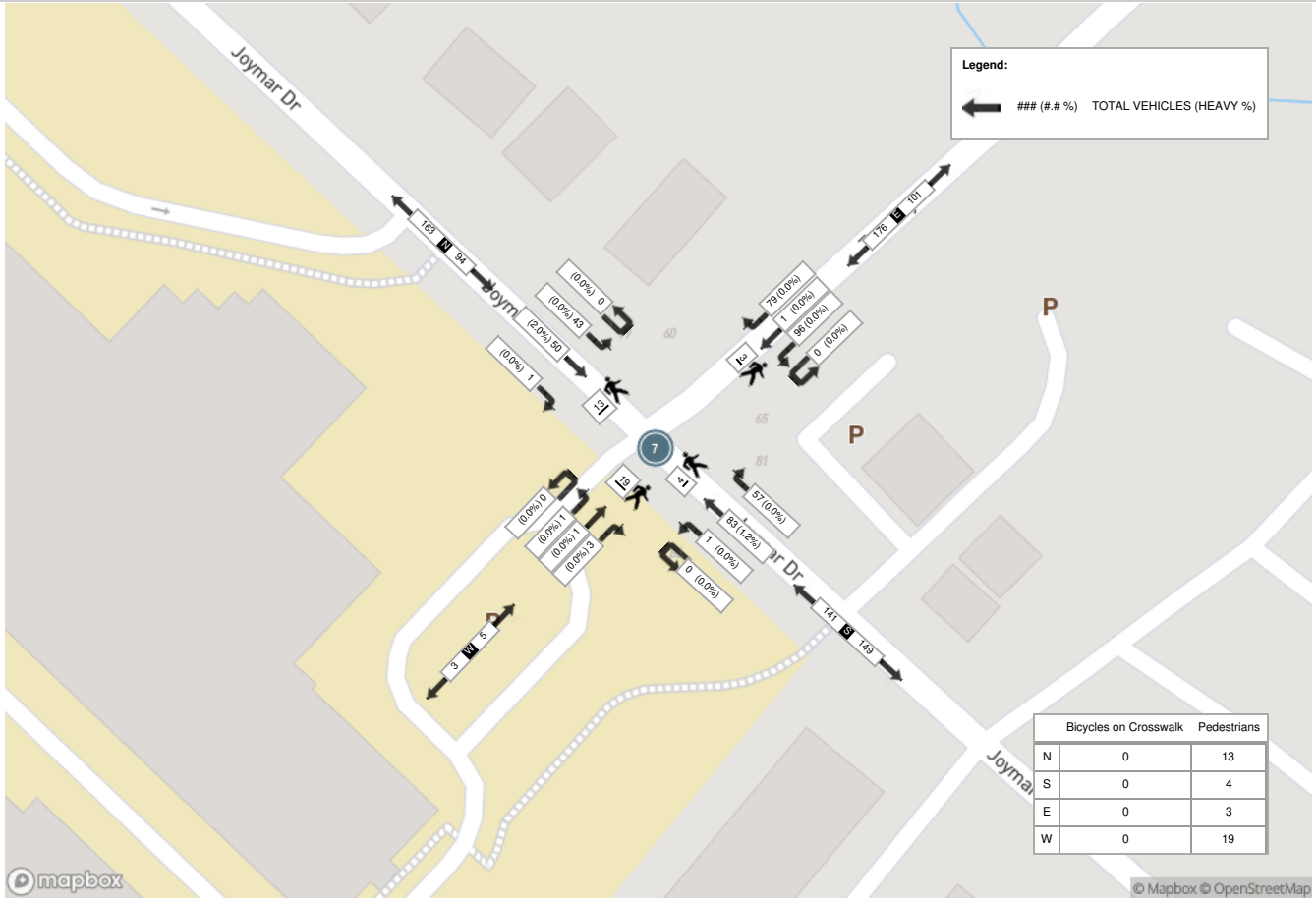
	Bicycles on Crosswalk	Pedestrians
N	10	105
S	2	4
E	1	4
W	2	30

Spectrum

Turning Movement Count
Location Name: JOYMAR DR & TANNERY ST
Date: Wed, May 10, 2023 Deployment Lead: Walter Fugaj

Crozier & Associates
SUITE 301 211 YONGE
STREET
TORONTO ONTARIO, M5B 1M4
CANADA

Peak Hour: 05:00 PM - 06:00 PM **Weather: Broken Clouds (20.49 °C)**



	Bicycles on Crosswalk	Pedestrians
N	0	13
S	0	4
E	0	3
W	0	19

Crozier & Associates
SUITE 301 40 HURON STREET
COLLINGWOOD ONTARIO, L9Y 4R3
CANADA

Turning Movement Count (8 . TANNERY ST & RUTLEDGE RD)

Start Time	N Approach RUTLEDGE RD					E Approach TANNERY ST					W Approach TANNERY ST					Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	UTurn E:E	Peds E:	Approach Total	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
07:00:00	1	1	0	0	2	0	5	0	0	5	7	0	0	0	7	14	
07:15:00	0	0	0	1	0	1	16	0	0	17	12	1	0	1	13	30	
07:30:00	0	1	0	6	1	2	11	0	0	13	10	2	0	0	12	26	
07:45:00	1	2	0	13	3	4	38	0	0	42	39	0	0	1	39	84	154
08:00:00	0	2	0	39	2	1	63	0	0	64	70	1	0	0	71	137	277
08:15:00	0	0	0	9	0	0	40	0	1	40	60	0	0	0	60	100	347
08:30:00	0	1	0	35	1	1	21	0	0	22	28	1	0	0	29	52	373
08:45:00	0	0	0	0	0	1	17	0	0	18	29	2	0	0	31	49	338
09:00:00	1	2	0	3	3	1	17	0	1	18	17	1	0	0	18	39	240
09:15:00	0	1	0	33	1	1	18	0	0	19	17	1	0	0	18	38	178
09:30:00	2	2	0	13	4	4	11	0	0	15	14	3	0	0	17	36	162
09:45:00	1	1	0	3	2	2	13	0	0	15	18	0	0	0	18	35	148
BREAK																	
16:00:00	3	0	0	20	3	1	33	0	0	34	28	1	0	0	29	66	
16:15:00	1	4	0	10	5	0	29	0	0	29	27	1	1	0	29	63	
16:30:00	4	0	0	5	4	1	34	0	0	35	16	2	0	0	18	57	
16:45:00	2	2	0	2	4	1	25	0	1	26	19	1	0	0	20	50	236
17:00:00	4	1	0	1	5	1	42	0	2	43	27	2	0	0	29	77	247
17:15:00	1	2	0	5	3	2	46	0	0	48	23	1	0	0	24	75	259
17:30:00	0	0	0	4	0	0	44	0	0	44	22	0	0	0	22	66	268
17:45:00	0	0	0	6	0	1	41	0	0	42	26	0	0	0	26	68	286
18:00:00	1	1	0	2	2	1	31	0	0	32	20	0	0	0	20	54	263
18:15:00	0	0	0	9	0	0	40	0	0	40	17	1	0	0	18	58	246
18:30:00	2	2	0	2	4	1	28	0	0	29	21	0	0	0	21	54	234
18:45:00	2	1	0	8	3	0	21	0	0	21	15	1	0	0	16	40	206
Grand Total	26	26	0	229	52	27	684	0	5	711	582	22	1	2	605	**1368**	-
Approach%	50%	50%	0%		-	3.8%	96.2%	0%		-	96.2%	3.6%	0.2%		-	**-**	-
Totals %	1.9%	1.9%	0%		3.8%	2%	50%	0%		52%	42.5%	1.6%	0.1%		44.2%	**-**	-
Heavy	2	1	0		-	2	9	0		-	12	1	0		-	**-**	-
Heavy %	7.7%	3.8%	0%		-	7.4%	1.3%	0%		-	2.1%	4.5%	0%		-	**-**	-
Bicycles	-	-	-		-	-	-	-		-	-	-	-		-	**-**	-
Bicycle %	-	-	-		-	-	-	-		-	-	-	-		-	**-**	-

Crozier & Associates
SUITE 301 40 HURON STREET
COLLINGWOOD ONTARIO, L9Y 4R3
CANADA

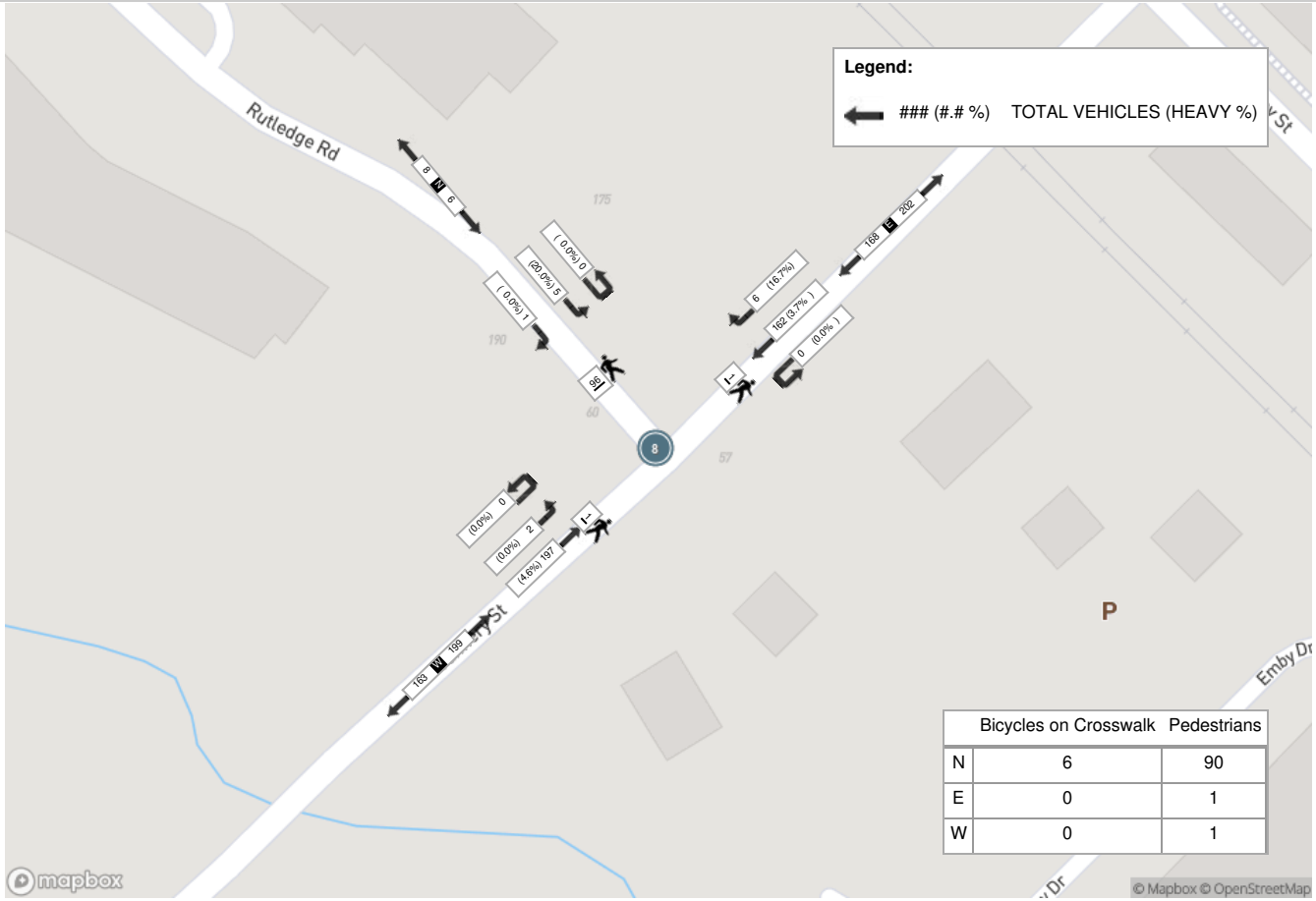
Peak Hour: 07:45 AM - 08:45 AM Weather: Scattered Clouds (6.79 °C)

Start Time	N Approach RUTLEDGE RD					E Approach TANNERY ST					W Approach TANNERY ST					Int. Total (15 min)
	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	Thru	Left	UTurn	Peds	Approach Total	
07:45:00	1	2	0	13	3	4	38	0	0	42	39	0	0	1	39	84
08:00:00	0	2	0	39	2	1	63	0	0	64	70	1	0	0	71	137
08:15:00	0	0	0	9	0	0	40	0	1	40	60	0	0	0	60	100
08:30:00	0	1	0	35	1	1	21	0	0	22	28	1	0	0	29	52
Grand Total	1	5	0	96	6	6	162	0	1	168	197	2	0	1	199	**373**
Approach%	16.7%	83.3%	0%		-	3.6%	96.4%	0%		-	99%	1%	0%		-	**-**
Totals %	0.3%	1.3%	0%		1.6%	1.6%	43.4%	0%		45%	52.8%	0.5%	0%		53.4%	**-**
PHF	0.25	0.63	0		0.5	0.38	0.64	0		0.66	0.7	0.5	0		0.7	**-**
Heavy	0	1	0		1	1	6	0		7	9	0	0		9	**-**
Heavy %	0%	20%	0%		16.7%	16.7%	3.7%	0%		4.2%	4.6%	0%	0%		4.5%	**-**
Lights	1	4	0		5	5	149	0		154	187	2	0		189	**-**
Lights %	100%	80%	0%		83.3%	83.3%	92%	0%		91.7%	94.9%	100%	0%		95%	**-**
Single-Unit Trucks	0	1	0		1	1	2	0		3	2	0	0		2	**-**
Single-Unit Trucks %	0%	20%	0%		16.7%	16.7%	1.2%	0%		1.8%	1%	0%	0%		1%	**-**
Buses	0	0	0		0	0	4	0		4	6	0	0		6	**-**
Buses %	0%	0%	0%		0%	0%	2.5%	0%		2.4%	3%	0%	0%		3%	**-**
Articulated Trucks	0	0	0		0	0	0	0		0	1	0	0		1	**-**
Articulated Trucks %	0%	0%	0%		0%	0%	0%	0%		0%	0.5%	0%	0%		0.5%	**-**
Bicycles on Road	0	0	0		0	0	7	0		7	1	0	0		1	**-**
Bicycles on Road %	0%	0%	0%		0%	0%	4.3%	0%		4.2%	0.5%	0%	0%		0.5%	**-**
Pedestrians	-	-	-	90	-	-	-	-	1	-	-	-	-	1	-	**-**
Pedestrians%	-	-	-	91.8%		-	-	-	1%		-	-	-	1%		**-**
Bicycles on Crosswalk	-	-	-	6	-	-	-	-	0	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	6.1%		-	-	-	0%		-	-	-	0%		**-**

Peak Hour: 05:00 PM - 06:00 PM Weather: Broken Clouds (20.49 °C)

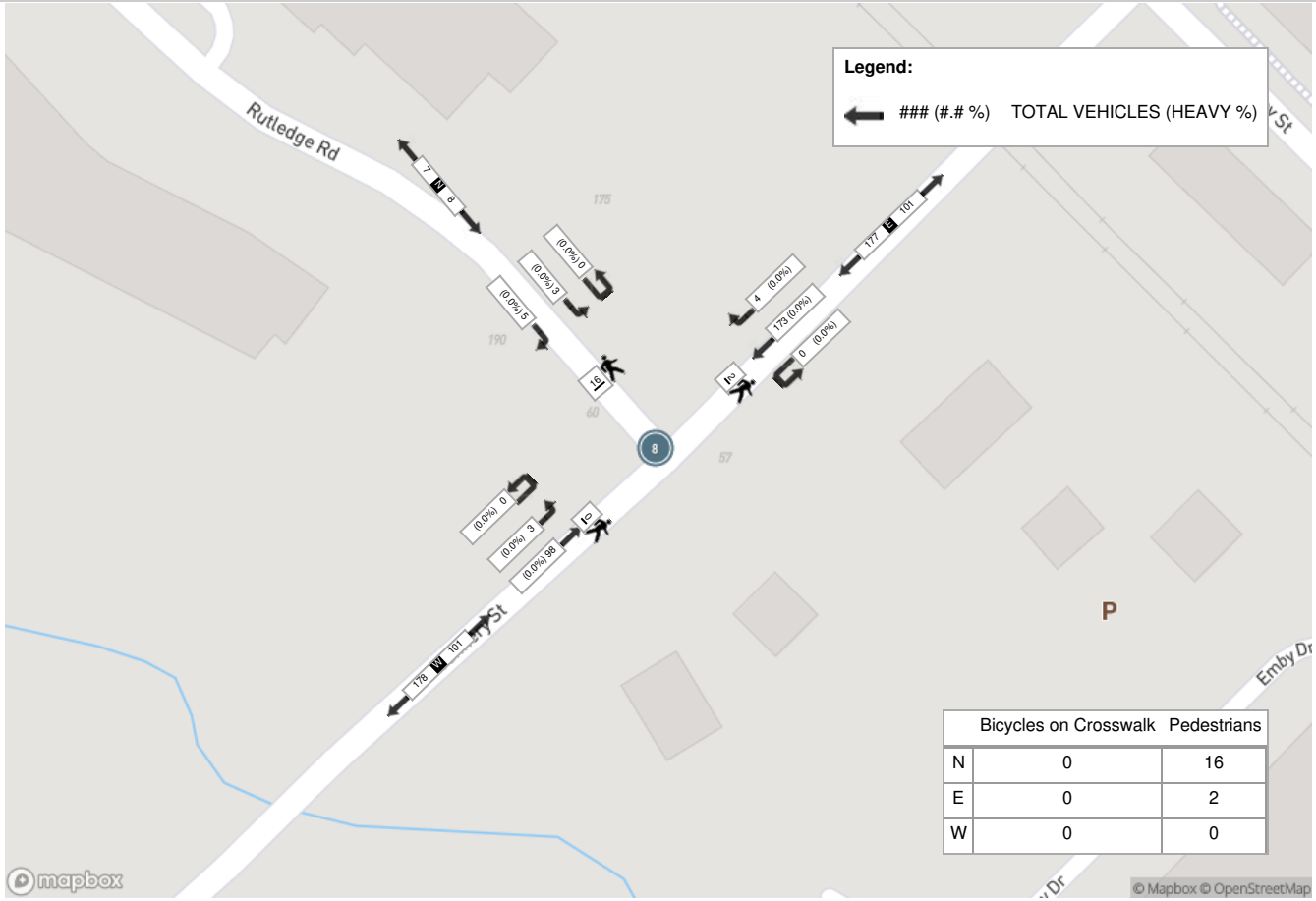
Start Time	N Approach RUTLEDGE RD					E Approach TANNERY ST					W Approach TANNERY ST					Int. Total (15 min)
	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	Thru	Left	UTurn	Peds	Approach Total	
17:00:00	4	1	0	1	5	1	42	0	2	43	27	2	0	0	29	77
17:15:00	1	2	0	5	3	2	46	0	0	48	23	1	0	0	24	75
17:30:00	0	0	0	4	0	0	44	0	0	44	22	0	0	0	22	66
17:45:00	0	0	0	6	0	1	41	0	0	42	26	0	0	0	26	68
Grand Total	5	3	0	16	8	4	173	0	2	177	98	3	0	0	101	**286**
Approach%	62.5%	37.5%	0%		-	2.3%	97.7%	0%		-	97%	3%	0%		-	**-**
Totals %	1.7%	1%	0%		2.8%	1.4%	60.5%	0%		61.9%	34.3%	1%	0%		35.3%	**-**
PHF	0.31	0.38	0		0.4	0.5	0.94	0		0.92	0.91	0.38	0		0.87	**-**
Heavy	0	0	0		0	0	0	0		0	0	0	0		0	**-**
Heavy %	0%	0%	0%		0%	0%	0%	0%		0%	0%	0%	0%		0%	**-**
Lights	5	3	0		8	4	173	0		177	98	3	0		101	**-**
Lights %	100%	100%	0%		100%	100%	100%	0%		100%	100%	100%	0%		100%	**-**
Single-Unit Trucks	0	0	0		0	0	0	0		0	0	0	0		0	**-**
Single-Unit Trucks %	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	**-**
Buses %	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	**-**
Articulated Trucks %	0%	0%	0%		0%	0%	0%	0%		0%	0%	0%	0%		0%	**-**
Bicycles on Road	0	0	0		0	0	0	0		0	0	0	0		0	**-**
Bicycles on Road %	0%	0%	0%		0%	0%	0%	0%		0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	16	-	-	-	-	2	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	88.9%		-	-	-	11.1%		-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	0%		-	-	-	0%		-	-	-	0%		**-**

Peak Hour: 07:45 AM - 08:45 AM Weather: Scattered Clouds (6.79 °C)



	Bicycles on Crosswalk	Pedestrians
N	6	90
E	0	1
W	0	1

Peak Hour: 05:00 PM - 06:00 PM Weather: Broken Clouds (20.49 °C)



	Bicycles on Crosswalk	Pedestrians
N	0	16
E	0	2
W	0	0

Generic ASC | 3808 | QUEEN STREET N @ Thomas Street

Phase - Parameter 1-16	Units	1	2	3	4	5	6	7	8
Walk	Sec	0	10	0	10	0	10	0	10
Ped Clear	Sec	0	12	0	10	0	12	0	10
Min Green	Sec	0	10	0	10	0	10	0	10
Passage	Sec	0.0	3.0	0.0	3.0	0.0	3.0	0.0	3.0
Maximum 1	Sec	0	35	0	30	0	35	0	30
Maximum 2	Sec	0	35	0	30	0	35	0	30
Yellow Change	Sec	3.0	3.0	3.0	3.5	3.0	3.0	3.0	3.5
Red Clearance	Sec	0.0	3.5	0.0	2.0	0.0	3.5	0.0	2.0
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 Reduction	Sec	0	0	0	0	0	0	0	0
Cars Before Reduction	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	other	redClear	other	phaseNotOn	other	redClear	other	phaseNotOn
[P2] Options	Bit		0:Enabled Phase 3:Non-Actuated 1 7:Max Vehicle Recall 8:Ped. Recall 10:Dual Entry Phase 13:Actuated Rest In Walk		0:Enabled Phase 5:Non Lock Detector Memory 10:Dual Entry Phase		0:Enabled Phase 3:Non-Actuated 1 7:Max Vehicle Recall 8:Ped. Recall 10:Dual Entry Phase 13:Actuated Rest In Walk		0:Enabled Phase 5:Non Lock Detector Memory 10:Dual Entry Phase
[P2] Ring	Ring	0	1	0	1	0	2	0	2
[P2] Concurrency	Phase (,)	()	(6)	()	(8)	()	(2)	()	(4)

Phase - Parameter 1-16	Units	9	10	11	12	13	14	15	16
Walk	Sec	0	0	0	0	0	0	0	0
Ped Clear	Sec	0	0	0	0	0	0	0	0
Min Green	Sec	0	0	1	1	1	1	1	1
Passage	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Maximum 1	Sec	0	0	0	0	0	0	0	0
Maximum 2	Sec	0	0	0	0	0	0	0	0
Yellow Change	Sec	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clearance	Sec	0.0	0.0	0.0	0.0	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 Reduction	Sec	0	0	0	0	0	0	0	0
Cars Before Reduction	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	other	other	other	other	other	other	other	other
[P2] Options	Bit								
[P2] Ring	Ring	0	0	0	0	0	0	0	0
[P2] Concurrency	Phase (,)	()	()	()	()	()	()	()	()

Coordination - Pattern 1-16	Units	1	2	3	4	5	6	7	8
Cycle Time	Sec	100	70	110	0	0	0	0	0
Offset	Sec	70	44	58	0	0	0	0	0
Split	Split	1	2	3	4	5	6	7	8
Sequence	Sequence	1	1	1	1	1	1	1	1

Coordination - Pattern 1-16	Units	9	10	11	12	13	14	15
Cycle Time	Sec	0	0	0	0	0	0	0
Offset	Sec	0	0	0	0	0	0	0

Split	Split	9	10	11	12	13	14	15	
Sequence	Sequence	1	1	1	1	1	1	1	
Coordination - Splits	**Units**	**Phase 2**	**Phase 4**	**Phase 6**	**Phase 8**				
Split 1 - Mode	Enum	none	pedestrianRecall	none	pedestrianRecall				
Split 1 - Time	Sec	62	38	62	38				
Split 1 - Coord	Enum	True	False	True	False				
Split 2 - Mode	Enum	none	pedestrianRecall	none	pedestrianRecall				
Split 2 - Time	Sec	40	30	40	30				
Split 2 - Coord	Enum	True	False	True	False				
Split 3 - Mode	Enum	none	pedestrianRecall	none	pedestrianRecall				
Split 3 - Time	Sec	78	32	78	32				
Split 3 - Coord	Enum	True	False	True	False				
Time Base - Schedule 1-16	**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	-M-----	-M-----	-----F-	-M-----	-----F-
Day of Month	Bit	12345678901234567 89012345678901	12345678901234567 89012345678901	12345678901234567 89012345678901	--3---------- -	----------1---------- -	----------5---------- -	----------3------ -	1---------- -
Day Plan	Number	1	3	2	3	3	3	3	3
Time Base - Schedule 1-16	**Units**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Month	Bit	-------A----	--------S---	---------O--	----------D	----------D	----------D	--------S---	----------
Day of Week	Bit	-M-----	-M-----	-M-----	--T----	-M-----	---W---	-----F-	SMTWTFS
Day of Month	Bit	1---------- -	----5---------- -	--------0---------- -	----------7-- -	----------6--- -	----------8---------- -	0-	---------- -
Day Plan	Number	3	3	3	3	3	3	3	0
Time Base - Day Plans	**Units**	**Evt 1**	**Evt 2**	**Evt 3**	**Evt 4**	**Evt 5**	**Evt 6**	**Evt 7**	
Plan 1 Hour	Hour	0	7	9	16	18	21	3	
Plan 1 Minute	Min	0	0	0	0	30	30	0	
Plan 1 Action	Number	8	1	2	3	2	8	7	
Plan 2 Hour	Hour	0	9	21	3	0	0	0	
Plan 2 Minute	Min	0	0	30	0	0	0	0	
Plan 2 Action	Number	8	2	8	7	0	0	0	
Plan 3 Hour	Hour	0	10	18	3	0	0	0	
Plan 3 Minute	Min	0	0	30	0	0	0	0	
Plan 3 Action	Number	8	2	8	7	0	0	0	
Time Base - Action 1-16	**Units**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Pattern	Enum	Pattern 1	Pattern 2	Pattern 3	Pattern 4	Pattern 5	Pattern 6	Free	Free
Aux. Functions	Bit								
Spec. Functions	Bit								
Time Base - Action 1-16	**Units**	**9**	**10**						
Pattern	Enum	Pattern 9	Pattern 10						
Aux. Functions	Bit								
Spec. Functions	Bit								
Time Base - Daylight Saving	**Units**	**Value**							
Begin Month	Enum	march							
Begin Occurrence	Enum	second							
Begin DOW	Enum	sunday							
Begin DOM	Date	1							
Begin Seconds	Sec	7200							
End Month	Enum	november							
End Occurrence	Enum	first							

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 E

Level of Service Definitions

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

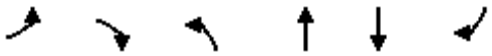
Signalized Intersections

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 F

2023 Detailed Capacity Analysis



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	247	120	75	336	331	168
Future Volume (vph)	247	120	75	336	331	168
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0	20.0	15.0			0.0
Storage Lanes	0	0	1			0
Taper Length (m)	0.0		100.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	0.97	1.00		0.99	
Frt		0.850			0.955	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1722	1512	1772	1746	1630	0
Flt Permitted	0.950		0.408			
Satd. Flow (perm)	1700	1467	758	1746	1630	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		130			41	
Link Speed (k/h)	50			40	40	
Link Distance (m)	168.1			211.1	113.7	
Travel Time (s)	12.1			19.0	10.2	
Confl. Peds. (#/hr)	5	4	9			9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	6%	8%	3%	10%	14%	7%
Adj. Flow (vph)	268	130	82	365	360	183
Shared Lane Traffic (%)						
Lane Group Flow (vph)	268	130	82	365	543	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.9			4.9	4.9	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	0	0	0	
Detector Template	Left			Thru	Thru	
Leading Detector (m)	8.5	8.5	0.0	0.0	0.0	
Trailing Detector (m)	-0.2	-0.5	0.0	0.0	0.0	
Detector 1 Position(m)	-0.2	-0.5	-0.5	0.0	0.0	
Detector 1 Size(m)	8.7	9.0	9.0	1.8	1.8	
Detector 1 Type	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	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	Perm	Perm	NA	NA	
Protected Phases				6	2	
Permitted Phases	8	8	6	6	2	
Detector Phase	8	8	6	6	2	
Switch Phase						

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	26.5	26.5	28.5	28.5	28.5	
Total Split (s)	38.0	38.0	62.0	62.0	62.0	
Total Split (%)	38.0%	38.0%	62.0%	62.0%	62.0%	
Maximum Green (s)	32.5	32.5	55.5	55.5	55.5	
Yellow Time (s)	3.5	3.5	3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0	3.5	3.5	3.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.5	6.5	6.5	6.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	C-Max	C-Max	C-Max	
Walk Time (s)	10.0	10.0	10.0	10.0	10.0	
Flash Dont Walk (s)	10.0	10.0	12.0	12.0	12.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	
Act Effct Green (s)	21.1	21.1	66.9	66.9	66.9	
Actuated g/C Ratio	0.21	0.21	0.67	0.67	0.67	
v/c Ratio	0.75	0.32	0.16	0.31	0.49	
Control Delay	44.6	5.2	8.5	8.7	9.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	44.6	5.2	8.5	8.7	9.3	
LOS	D	A	A	A	A	
Approach Delay	31.7			8.7	9.3	
Approach LOS	C			A	A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 70 (70%), Referenced to phase 2:SBT and 6:NBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 15.5		Intersection LOS: B	
Intersection Capacity Utilization 65.8%		ICU Level of Service C	
Analysis Period (min) 15			

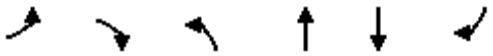
Splits and Phases: 1: Queen st & Thomas St





Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	268	130	82	365	543
v/c Ratio	0.75	0.32	0.16	0.31	0.49
Control Delay	44.6	5.2	8.5	8.7	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	44.6	5.2	8.5	8.7	9.3
Queue Length 50th (m)	46.2	3.0	4.9	24.4	37.6
Queue Length 95th (m)	66.0	4.6	12.9	46.6	61.7
Internal Link Dist (m)	144.1			187.1	89.7
Turn Bay Length (m)	20.0	20.0	15.0		
Base Capacity (vph)	552	564	507	1168	1103
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.49	0.23	0.16	0.31	0.49

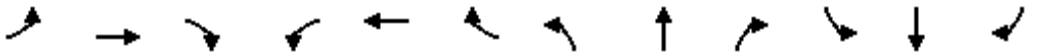
Intersection Summary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	247	120	75	336	331	168
Future Volume (vph)	247	120	75	336	331	168
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	6.5	6.5	6.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	0.97	1.00	1.00	0.99	
Flpb, ped/bikes	0.99	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.95	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1700	1467	1763	1746	1629	
Flt Permitted	0.95	1.00	0.41	1.00	1.00	
Satd. Flow (perm)	1700	1467	757	1746	1629	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	268	130	82	365	360	183
RTOR Reduction (vph)	0	103	0	0	14	0
Lane Group Flow (vph)	268	27	82	365	529	0
Confl. Peds. (#/hr)	5	4	9			9
Heavy Vehicles (%)	6%	8%	3%	10%	14%	7%
Turn Type	Perm	Perm	Perm	NA	NA	
Protected Phases				6	2	
Permitted Phases	8	8	6	6	2	
Actuated Green, G (s)	21.1	21.1	66.9	66.9	66.9	
Effective Green, g (s)	21.1	21.1	66.9	66.9	66.9	
Actuated g/C Ratio	0.21	0.21	0.67	0.67	0.67	
Clearance Time (s)	5.5	5.5	6.5	6.5	6.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	358	309	506	1168	1089	
v/s Ratio Prot				0.21	c0.32	
v/s Ratio Perm	c0.16	0.02	0.11			
v/c Ratio	0.75	0.09	0.16	0.31	0.49	
Uniform Delay, d1	37.0	31.7	6.1	6.9	8.1	
Progression Factor	0.87	0.60	1.00	1.00	0.89	
Incremental Delay, d2	8.2	0.1	0.7	0.7	1.5	
Delay (s)	40.3	19.1	6.8	7.6	8.7	
Level of Service	D	B	A	A	A	
Approach Delay (s)	33.4			7.5	8.7	
Approach LOS	C			A	A	

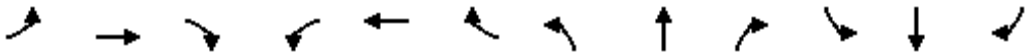
Intersection Summary			
HCM 2000 Control Delay	15.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	376	4	2	266	15	2	0	2	8	1	77
Future Volume (vph)	104	376	4	2	266	15	2	0	2	8	1	77
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												
Frt		0.999			0.992			0.932			0.879	
Flt Protected		0.989						0.976			0.995	
Satd. Flow (prot)	0	3363	0	0	3279	0	0	1713	0	0	1647	0
Flt Permitted		0.989						0.976			0.995	
Satd. Flow (perm)	0	3363	0	0	3279	0	0	1713	0	0	1647	0
Link Speed (k/h)		50			50			30			40	
Link Distance (m)		125.4			168.1			64.9			284.3	
Travel Time (s)		9.0			12.1			7.8			25.6	
Confl. Peds. (#/hr)	11		15	15		11	1		1	1		1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	9%	2%	2%	11%	1%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	113	409	4	2	289	16	2	0	2	9	1	84
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	526	0	0	307	0	0	4	0	0	94	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)		4.9			4.9			1.6			4.9	
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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 38.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	376	4	2	266	15	2	0	2	8	1	77
Future Volume (Veh/h)	104	376	4	2	266	15	2	0	2	8	1	77
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	113	409	4	2	289	16	2	0	2	9	1	84
Pedestrians		1			1			15			11	
Lane Width (m)		3.7			3.7			3.7			3.7	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		0			0			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		125			168							
pX, platoon unblocked												
vC, conflicting volume	316			428			886	972	222	746	966	164
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	316			428			886	972	222	746	966	164
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	91			100			99	100	100	97	100	90
cM capacity (veh/h)	1235			1112			193	222	769	272	224	842

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	318	208	146	160	4	94
Volume Left	113	0	2	0	2	9
Volume Right	0	4	0	16	2	84
cSH	1235	1700	1112	1700	308	684
Volume to Capacity	0.09	0.12	0.00	0.09	0.01	0.14
Queue Length 95th (m)	2.1	0.0	0.0	0.0	0.3	3.3
Control Delay (s)	3.5	0.0	0.1	0.0	16.8	11.1
Lane LOS	A		A		C	B
Approach Delay (s)	2.1		0.1		16.8	11.1
Approach LOS					C	B

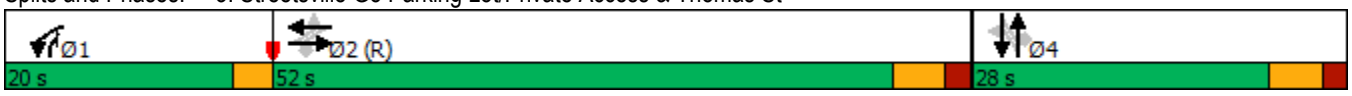
Intersection Summary				
Average Delay	2.4			
Intersection Capacity Utilization	38.8%	ICU Level of Service		A
Analysis Period (min)	15			

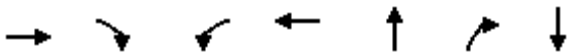
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	305	473	85	168	0	188	1	64	0	0	2
Future Volume (vph)	0	305	473	85	168	0	188	1	64	0	0	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	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	0.97		0.98	
Frt			0.850						0.850		0.865	
Flt Protected				0.950				0.953				
Satd. Flow (prot)	0	1762	1555	1789	1746	0	0	1795	1585	0	1604	0
Flt Permitted				0.534				0.727				
Satd. Flow (perm)	0	1762	1491	995	1746	0	0	1364	1537	0	1604	0
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)			514								723	
Link Speed (k/h)		50			50			40			30	
Link Distance (m)		129.3			125.4			171.6			40.7	
Travel Time (s)		9.3			9.0			15.4			4.9	
Confl. Peds. (#/hr)	20		7	7		20	2		10	10		2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	9%	5%	2%	10%	2%	2%	2%	3%	2%	2%	2%
Adj. Flow (vph)	0	332	514	92	183	0	204	1	70	0	0	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	332	514	92	183	0	0	205	70	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)		4.9			4.9			4.9			4.9	
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	0	0	1	0		1	1	1	1	1	
Detector Template	Left	Thru	Right		Thru		Left			Left		
Leading Detector (m)	6.1	0.0	0.0	21.8	0.0		6.1	6.0	6.0	6.1	8.8	
Trailing Detector (m)	0.0	0.0	0.0	12.8	0.0		0.0	-3.0	-3.0	0.0	-0.2	
Detector 1 Position(m)	0.0	0.0	0.0	12.8	0.0		0.0	-3.0	-3.0	0.0	-0.2	
Detector 1 Size(m)	6.1	1.8	6.1	9.0	1.8		6.1	9.0	9.0	6.1	9.0	
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	
Turn Type		NA	Perm	pm+pt	NA		Perm	NA	pm+ov		NA	
Protected Phases		2		1	2			4	1		4	
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)	25.0	25.0	25.0	9.5	25.0		25.0	25.0	9.5	25.0	25.0	
Total Split (s)	52.0	52.0	52.0	20.0	52.0		28.0	28.0	20.0	28.0	28.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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	17.0	46.0		22.0	22.0	17.0	22.0	22.0	
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0		4.0	4.0	3.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	0.0	2.0		2.0	2.0	0.0	2.0	2.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)		6.0	6.0	3.0	6.0			6.0	3.0		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	C-Max	C-Max	C-Max	None	C-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	
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)		61.5	61.5	69.8	61.5			18.8	28.1		18.8	
Actuated g/C Ratio		0.62	0.62	0.70	0.62			0.19	0.28		0.19	
v/c Ratio		0.31	0.46	0.12	0.17			0.80	0.16		0.00	
Control Delay		11.4	2.5	3.0	7.8			61.1	24.2		0.0	
Queue Delay		0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Delay		11.4	2.5	3.0	7.8			61.1	24.2		0.0	
LOS		B	A	A	A			E	C		A	
Approach Delay		6.0			6.2			51.7				
Approach LOS		A			A			D				

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 11 (11%), Referenced to phase 2:EBWB, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.80			
Intersection Signal Delay: 15.0		Intersection LOS: B	
Intersection Capacity Utilization 65.5%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: Streetsville Go Parking Lot/Private Access & Thomas St





Lane Group	EBT	EBR	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	332	514	92	183	205	70	2
v/c Ratio	0.31	0.46	0.12	0.17	0.80	0.16	0.00
Control Delay	11.4	2.5	3.0	7.8	61.1	24.2	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.4	2.5	3.0	7.8	61.1	24.2	0.0
Queue Length 50th (m)	28.3	0.0	4.2	15.8	34.5	8.8	0.0
Queue Length 95th (m)	47.1	12.6	3.0	24.7	#60.1	17.1	0.0
Internal Link Dist (m)	105.3			101.4	147.6		16.7
Turn Bay Length (m)							
Base Capacity (vph)	1083	1114	853	1073	300	604	916
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.46	0.11	0.17	0.68	0.12	0.00

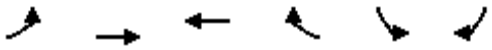
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	305	473	85	168	0	188	1	64	0	0	2
Future Volume (vph)	0	305	473	85	168	0	188	1	64	0	0	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	3.0	6.0			6.0	3.0		6.0	
Lane Util. Factor		1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frpb, ped/bikes		1.00	0.96	1.00	1.00			1.00	0.98		0.98	
Flpb, ped/bikes		1.00	1.00	0.99	1.00			1.00	1.00		1.00	
Frt		1.00	0.85	1.00	1.00			1.00	0.85		0.86	
Flt Protected		1.00	1.00	0.95	1.00			0.95	1.00		1.00	
Satd. Flow (prot)		1762	1491	1778	1746			1787	1548		1604	
Flt Permitted		1.00	1.00	0.53	1.00			0.73	1.00		1.00	
Satd. Flow (perm)		1762	1491	1000	1746			1364	1548		1604	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	332	514	92	183	0	204	1	70	0	0	2
RTOR Reduction (vph)	0	0	201	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	332	313	92	183	0	0	205	70	0	0	0
Confl. Peds. (#/hr)	20		7	7		20	2		10	10		2
Heavy Vehicles (%)	2%	9%	5%	2%	10%	2%	2%	2%	3%	2%	2%	2%
Turn Type		NA	Perm	pm+pt	NA		Perm	NA	pm+ov		NA	
Protected Phases		2		1	2			4	1		4	
Permitted Phases	2		2	2			4		4	4		
Actuated Green, G (s)		60.9	60.9	66.2	60.9			18.8	24.1		18.8	
Effective Green, g (s)		60.9	60.9	66.2	60.9			18.8	24.1		18.8	
Actuated g/C Ratio		0.61	0.61	0.66	0.61			0.19	0.24		0.19	
Clearance Time (s)		6.0	6.0	3.0	6.0			6.0	3.0		6.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		1073	908	703	1063			256	373		301	
v/s Ratio Prot		0.19		0.01	0.10				c0.01		0.00	
v/s Ratio Perm			c0.21	0.08				c0.15	0.04			
v/c Ratio		0.31	0.34	0.13	0.17			0.80	0.19		0.00	
Uniform Delay, d1		9.4	9.7	6.1	8.5			38.8	30.2		33.0	
Progression Factor		1.00	1.00	0.57	0.76			1.00	1.00		1.00	
Incremental Delay, d2		0.7	1.0	0.1	0.3			16.3	0.2		0.0	
Delay (s)		10.2	10.7	3.5	6.8			55.1	30.4		33.0	
Level of Service		B	B	A	A			E	C		C	
Approach Delay (s)		10.5			5.7			48.8			33.0	
Approach LOS		B			A			D			C	

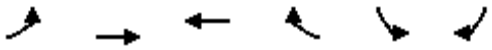
Intersection Summary			
HCM 2000 Control Delay	17.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	65.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	152	758	322	35	22	89
Future Volume (vph)	152	758	322	35	22	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0			0.0	10.0	0.0
Storage Lanes	0			0	1	1
Taper Length (m)	7.6				25.0	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.985			0.850
Flt Protected		0.992			0.950	
Satd. Flow (prot)	0	3277	3238	0	1807	1512
Flt Permitted		0.992			0.950	
Satd. Flow (perm)	0	3277	3238	0	1807	1512
Link Speed (k/h)		50	50		40	
Link Distance (m)		82.7	129.3		311.9	
Travel Time (s)		6.0	9.3		28.1	
Confl. Peds. (#/hr)	10			10	2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	12%	12%	2%	1%	8%
Adj. Flow (vph)	165	824	350	38	24	97
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	989	388	0	24	97
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.7	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.9	4.9		4.9	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

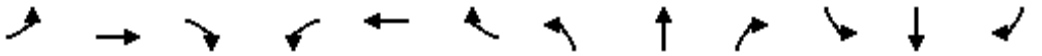
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 49.7%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	152	758	322	35	22	89
Future Volume (Veh/h)	152	758	322	35	22	89
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	165	824	350	38	24	97
Pedestrians			2		10	
Lane Width (m)			3.7		3.7	
Walking Speed (m/s)			1.1		1.1	
Percent Blockage			0		1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			129			
pX, platoon unblocked						
vC, conflicting volume	398				1123	204
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	398				1123	204
tC, single (s)	4.2				6.8	7.1
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.4
p0 queue free %	86				86	88
cM capacity (veh/h)	1139				170	777

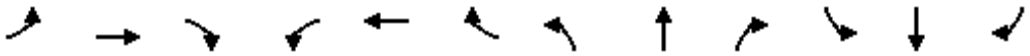
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total	440	549	233	155	24	97
Volume Left	165	0	0	0	24	0
Volume Right	0	0	0	38	0	97
cSH	1139	1700	1700	1700	170	777
Volume to Capacity	0.14	0.32	0.14	0.09	0.14	0.12
Queue Length 95th (m)	3.5	0.0	0.0	0.0	3.4	3.0
Control Delay (s)	4.2	0.0	0.0	0.0	29.6	10.3
Lane LOS	A				D	B
Approach Delay (s)	1.9		0.0		14.1	
Approach LOS					B	

Intersection Summary			
Average Delay	2.4		
Intersection Capacity Utilization	49.7%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	56	34	37	67	53	65	87	42	99	84	25
Future Volume (vph)	12	56	34	37	67	53	65	87	42	99	84	25
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												
Frt		0.955			0.954			0.971			0.984	
Flt Protected		0.994			0.988			0.984			0.977	
Satd. Flow (prot)	0	1824	0	0	1779	0	0	1809	0	0	1754	0
Flt Permitted		0.994			0.988			0.984			0.977	
Satd. Flow (perm)	0	1824	0	0	1779	0	0	1809	0	0	1754	0
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		53.6			165.4			311.9			123.6	
Travel Time (s)		4.8			14.9			28.1			11.1	
Confl. Peds. (#/hr)	115		6	6		115	32		5	5		32
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	3%	1%	2%	1%	2%	1%	6%	6%	0%
Adj. Flow (vph)	13	61	37	40	73	58	71	95	46	108	91	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	111	0	0	171	0	0	212	0	0	226	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			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			4.9			4.9			4.9	
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
Sign Control		Stop			Stop			Stop			Stop	

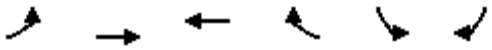
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	42.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	12	56	34	37	67	53	65	87	42	99	84	25
Future Volume (vph)	12	56	34	37	67	53	65	87	42	99	84	25
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	61	37	40	73	58	71	95	46	108	91	27

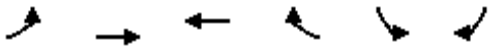
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	111	171	212	226
Volume Left (vph)	13	40	71	108
Volume Right (vph)	37	58	46	27
Hadj (s)	-0.18	-0.13	-0.04	0.11
Departure Headway (s)	5.1	5.1	4.9	5.0
Degree Utilization, x	0.16	0.24	0.29	0.32
Capacity (veh/h)	631	648	684	669
Control Delay (s)	9.0	9.6	9.9	10.4
Approach Delay (s)	9.0	9.6	9.9	10.4
Approach LOS	A	A	A	B

Intersection Summary				
Delay	9.9			
Level of Service	A			
Intersection Capacity Utilization	42.1%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	2	197	162	6	5	1
Future Volume (vph)	2	197	162	6	5	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.995		0.977	
Flt Protected					0.960	
Satd. Flow (prot)	0	1764	1807	0	1767	0
Flt Permitted					0.960	
Satd. Flow (perm)	0	1764	1807	0	1767	0
Link Speed (k/h)		40	40		40	
Link Distance (m)		165.4	107.5		111.8	
Travel Time (s)		14.9	9.7		10.1	
Confl. Peds. (#/hr)	96			96	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	9%	6%	1%	2%	2%
Adj. Flow (vph)	2	214	176	7	5	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	216	183	0	6	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.7	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.9	4.9		4.9	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

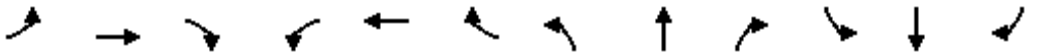
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 23.5%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	197	162	6	5	1
Future Volume (Veh/h)	2	197	162	6	5	1
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	214	176	7	5	1
Pedestrians		1	1		96	
Lane Width (m)		3.7	3.7		3.7	
Walking Speed (m/s)		1.1	1.1		1.1	
Percent Blockage		0	0		9	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			276			
pX, platoon unblocked						
vC, conflicting volume	279				494	276
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	279				494	276
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	100
cM capacity (veh/h)	1169				485	693

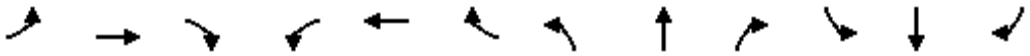
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	216	183	6
Volume Left	2	0	5
Volume Right	0	7	1
cSH	1169	1700	511
Volume to Capacity	0.00	0.11	0.01
Queue Length 95th (m)	0.0	0.0	0.2
Control Delay (s)	0.1	0.0	12.1
Lane LOS	A		B
Approach Delay (s)	0.1	0.0	12.1
Approach LOS			B

Intersection Summary			
Average Delay		0.2	
Intersection Capacity Utilization		23.5%	ICU Level of Service
Analysis Period (min)		15	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	129	64	19	141	6	24	26	25	9	25	12
Future Volume (vph)	24	129	64	19	141	6	24	26	25	9	25	12
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												
Frt		0.960			0.995			0.955			0.965	
Flt Protected		0.995			0.994			0.984			0.990	
Satd. Flow (prot)	0	1768	0	0	1847	0	0	1775	0	0	1812	0
Flt Permitted		0.995			0.994			0.984			0.990	
Satd. Flow (perm)	0	1768	0	0	1847	0	0	1775	0	0	1812	0
Link Speed (k/h)		40			40			40			48	
Link Distance (m)		107.5			52.2			284.3			52.6	
Travel Time (s)		9.7			4.7			25.6			3.9	
Confl. Peds. (#/hr)	43		8	8		43	4		2	2		4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	5%	2%	2%	3%	2%	1%	2%	2%	1%	1%	2%
Adj. Flow (vph)	26	140	70	21	153	7	26	28	27	10	27	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	236	0	0	181	0	0	81	0	0	50	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)		4.9			4.9			4.9			4.9	
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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 30.2%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	129	64	19	141	6	24	26	25	9	25	12
Future Volume (Veh/h)	24	129	64	19	141	6	24	26	25	9	25	12
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	26	140	70	21	153	7	26	28	27	10	27	13
Pedestrians		4			2			8			43	
Lane Width (m)		3.7			3.7			3.7			3.7	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		0			0			1			4	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					168							
pX, platoon unblocked												
vC, conflicting volume	203			218			464	480	185	512	512	204
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	203			218			464	480	185	512	512	204
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			98			94	94	97	97	94	98
cM capacity (veh/h)	1314			1341			443	446	849	393	429	801

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	236	181	81	50
Volume Left	26	21	26	10
Volume Right	70	7	27	13
cSH	1314	1341	529	478
Volume to Capacity	0.02	0.02	0.15	0.10
Queue Length 95th (m)	0.4	0.3	3.8	2.4
Control Delay (s)	1.0	1.0	13.0	13.4
Lane LOS	A	A	B	B
Approach Delay (s)	1.0	1.0	13.0	13.4
Approach LOS			B	B

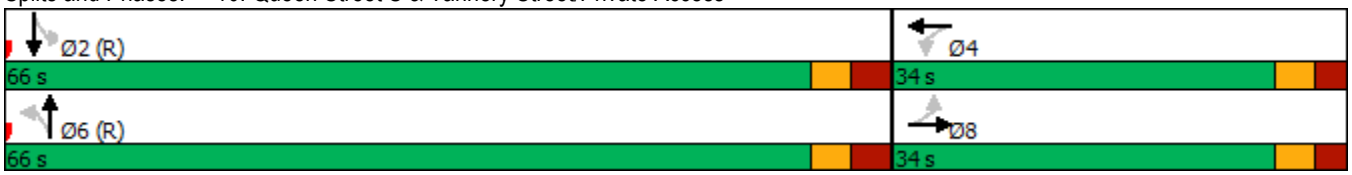
Intersection Summary				
Average Delay	3.9			
Intersection Capacity Utilization	30.2%	ICU Level of Service	A	
Analysis Period (min)	15			

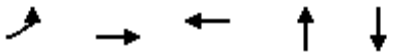
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	98	12	56	6	5	7	66	361	7	9	318	85
Future Volume (vph)	98	12	56	6	5	7	66	361	7	9	318	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		0	0		0
Taper Length (m)	40.0			2.5			2.5			2.5		
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	0.98	0.98			0.98			1.00			0.99	
Frt		0.876			0.946			0.998			0.972	
Flt Protected	0.950				0.983			0.992			0.999	
Satd. Flow (prot)	1772	1630	0	0	1721	0	0	1725	0	0	1650	0
Flt Permitted	0.744				0.903			0.875			0.989	
Satd. Flow (perm)	1356	1630	0	0	1579	0	0	1518	0	0	1632	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		61			8			2			23	
Link Speed (k/h)		40			30			40			40	
Link Distance (m)		115.8			36.8			153.4			69.8	
Travel Time (s)		10.4			4.4			13.8			6.3	
Confl. Peds. (#/hr)	10		2	2		10	16		16	16		16
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	2%	1%	2%	2%	2%	1%	12%	2%	2%	15%	1%
Adj. Flow (vph)	107	13	61	7	5	8	72	392	8	10	346	92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	107	74	0	0	20	0	0	472	0	0	448	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	1		1	1		1	0		1	0	
Detector Template	Left			Left			Left	Thru		Left	Thru	
Leading Detector (m)	8.5	8.5		2.0	8.5		2.0	0.0		2.0	0.0	
Trailing Detector (m)	-0.2	-0.5		0.0	-0.5		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	-0.2	-0.5		0.0	-0.5		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	8.7	9.0		2.0	9.0		2.0	0.6		2.0	0.6	
Detector 1 Type	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	
Detector 1 Queue (s)	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	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Detector Phase	8	8		4	4		6	6		2	2	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	26.5	26.5		26.5	26.5		29.0	29.0		29.0	29.0	
Total Split (s)	34.0	34.0		34.0	34.0		66.0	66.0		66.0	66.0	
Total Split (%)	34.0%	34.0%		34.0%	34.0%		66.0%	66.0%		66.0%	66.0%	
Maximum Green (s)	28.5	28.5		28.5	28.5		60.0	60.0		60.0	60.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	
Total Lost Time (s)	5.5	5.5			5.5			6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		13.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	13.7	13.7			13.7			74.8			74.8	
Actuated g/C Ratio	0.14	0.14			0.14			0.75			0.75	
v/c Ratio	0.58	0.27			0.09			0.42			0.37	
Control Delay	52.1	15.0			26.6			7.7			5.6	
Queue Delay	0.0	0.0			0.0			0.0			0.0	
Total Delay	52.1	15.0			26.6			7.7			5.6	
LOS	D	B			C			A			A	
Approach Delay		36.9			26.6			7.7			5.6	
Approach LOS		D			C			A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 84 (84%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.58			
Intersection Signal Delay: 11.9		Intersection LOS: B	
Intersection Capacity Utilization 72.9%		ICU Level of Service C	
Analysis Period (min) 15			

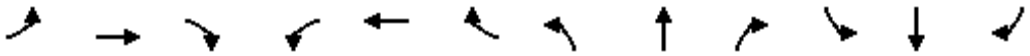
Splits and Phases: 10: Queen Street S & Tannery Street/Private Access





Lane Group	EBL	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	107	74	20	472	448
v/c Ratio	0.58	0.27	0.09	0.42	0.37
Control Delay	52.1	15.0	26.6	7.7	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	52.1	15.0	26.6	7.7	5.6
Queue Length 50th (m)	18.3	2.1	1.9	41.6	21.0
Queue Length 95th (m)	31.8	12.6	7.5	54.5	42.1
Internal Link Dist (m)		91.8	12.8	129.4	45.8
Turn Bay Length (m)	20.0				
Base Capacity (vph)	386	508	455	1135	1225
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.28	0.15	0.04	0.42	0.37

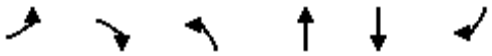
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	98	12	56	6	5	7	66	361	7	9	318	85
Future Volume (vph)	98	12	56	6	5	7	66	361	7	9	318	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5			5.5			6.0			6.0	
Lane Util. Factor	1.00	1.00			1.00			1.00			1.00	
Frpb, ped/bikes	1.00	0.98			0.98			1.00			0.99	
Flpb, ped/bikes	0.98	1.00			1.00			1.00			1.00	
Frt	1.00	0.88			0.95			1.00			0.97	
Flt Protected	0.95	1.00			0.98			0.99			1.00	
Satd. Flow (prot)	1731	1630			1718			1721			1649	
Flt Permitted	0.74	1.00			0.90			0.88			0.99	
Satd. Flow (perm)	1356	1630			1578			1517			1633	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	107	13	61	7	5	8	72	392	8	10	346	92
RTOR Reduction (vph)	0	53	0	0	7	0	0	1	0	0	6	0
Lane Group Flow (vph)	107	21	0	0	13	0	0	471	0	0	442	0
Confl. Peds. (#/hr)	10		2	2		10	16		16	16		16
Heavy Vehicles (%)	3%	2%	1%	2%	2%	2%	1%	12%	2%	2%	15%	1%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	13.7	13.7			13.7			74.8			74.8	
Effective Green, g (s)	13.7	13.7			13.7			74.8			74.8	
Actuated g/C Ratio	0.14	0.14			0.14			0.75			0.75	
Clearance Time (s)	5.5	5.5			5.5			6.0			6.0	
Vehicle Extension (s)	3.0	3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)	185	223			216			1134			1221	
v/s Ratio Prot		0.01										
v/s Ratio Perm	c0.08				0.01			c0.31			0.27	
v/c Ratio	0.58	0.10			0.06			0.42			0.36	
Uniform Delay, d1	40.4	37.7			37.6			4.6			4.4	
Progression Factor	1.00	1.00			1.00			1.26			1.00	
Incremental Delay, d2	4.3	0.2			0.1			1.1			0.8	
Delay (s)	44.8	37.9			37.7			6.9			5.2	
Level of Service	D	D			D			A			A	
Approach Delay (s)		42.0			37.7			6.9			5.2	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	12.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	72.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

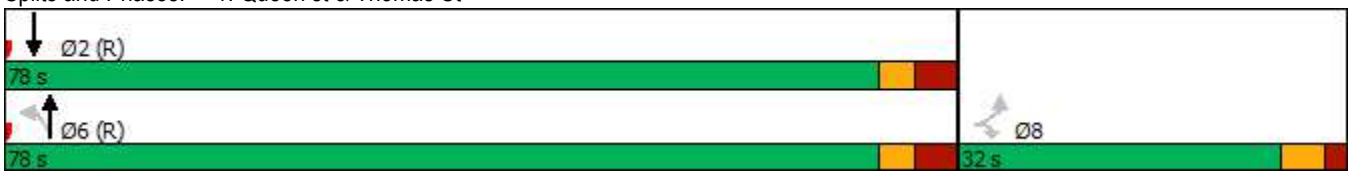


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	174	168	122	391	387	262
Future Volume (vph)	174	168	122	391	387	262
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0	20.0	15.0			0.0
Storage Lanes	0	0	1			0
Taper Length (m)	0.0		100.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.90	0.89	0.98		0.97	
Frt		0.850			0.946	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1789	1585	1772	1865	1723	0
Flt Permitted	0.950		0.332			
Satd. Flow (perm)	1602	1404	610	1865	1723	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		183			63	
Link Speed (k/h)	50			40	40	
Link Distance (m)	168.1			211.1	113.7	
Travel Time (s)	12.1			19.0	10.2	
Confl. Peds. (#/hr)	38	35	47			47
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	3%	3%	3%	2%	2%
Adj. Flow (vph)	189	183	133	425	421	285
Shared Lane Traffic (%)						
Lane Group Flow (vph)	189	183	133	425	706	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.9			4.9	4.9	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	0	0	0	
Detector Template	Left			Thru	Thru	
Leading Detector (m)	8.5	8.5	0.0	0.0	0.0	
Trailing Detector (m)	-0.2	-0.5	0.0	0.0	0.0	
Detector 1 Position(m)	-0.2	-0.5	-0.5	0.0	0.0	
Detector 1 Size(m)	8.7	9.0	9.0	1.8	1.8	
Detector 1 Type	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	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	Perm	Perm	NA	NA	
Protected Phases				6	2	
Permitted Phases	8	8	6	6	2	
Detector Phase	8	8	6	6	2	
Switch Phase						

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	26.5	26.5	28.5	28.5	28.5	
Total Split (s)	32.0	32.0	78.0	78.0	78.0	
Total Split (%)	29.1%	29.1%	70.9%	70.9%	70.9%	
Maximum Green (s)	26.5	26.5	71.5	71.5	71.5	
Yellow Time (s)	3.5	3.5	3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0	3.5	3.5	3.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.5	6.5	6.5	6.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	C-Max	C-Max	C-Max	
Walk Time (s)	10.0	10.0	10.0	10.0	10.0	
Flash Dont Walk (s)	10.0	10.0	12.0	12.0	12.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	
Act Effct Green (s)	18.2	18.2	79.8	79.8	79.8	
Actuated g/C Ratio	0.17	0.17	0.73	0.73	0.73	
v/c Ratio	0.71	0.48	0.30	0.31	0.56	
Control Delay	50.7	11.4	8.5	6.7	6.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	50.7	11.4	8.5	6.7	6.8	
LOS	D	B	A	A	A	
Approach Delay	31.3			7.2	6.8	
Approach LOS	C			A	A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 58 (53%), Referenced to phase 2:SBT and 6:NBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 12.5		Intersection LOS: B	
Intersection Capacity Utilization 76.1%		ICU Level of Service D	
Analysis Period (min) 15			

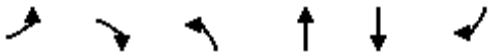
Splits and Phases: 1: Queen st & Thomas St





Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	189	183	133	425	706
v/c Ratio	0.71	0.48	0.30	0.31	0.56
Control Delay	50.7	11.4	8.5	6.7	6.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	50.7	11.4	8.5	6.7	6.8
Queue Length 50th (m)	36.8	9.6	8.0	26.0	16.4
Queue Length 95th (m)	54.9	22.2	20.4	47.8	100.3
Internal Link Dist (m)	144.1			187.1	89.7
Turn Bay Length (m)	20.0	20.0	15.0		
Base Capacity (vph)	385	477	442	1352	1267
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.49	0.38	0.30	0.31	0.56

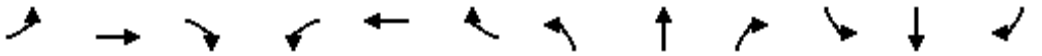
Intersection Summary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	174	168	122	391	387	262
Future Volume (vph)	174	168	122	391	387	262
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	6.5	6.5	6.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	0.89	1.00	1.00	0.97	
Flpb, ped/bikes	0.90	1.00	0.98	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.95	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1602	1404	1739	1865	1723	
Flt Permitted	0.95	1.00	0.33	1.00	1.00	
Satd. Flow (perm)	1602	1404	608	1865	1723	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	189	183	133	425	421	285
RTOR Reduction (vph)	0	153	0	0	17	0
Lane Group Flow (vph)	189	30	133	425	689	0
Confl. Peds. (#/hr)	38	35	47			47
Heavy Vehicles (%)	2%	3%	3%	3%	2%	2%
Turn Type	Perm	Perm	Perm	NA	NA	
Protected Phases				6	2	
Permitted Phases	8	8	6	6	2	
Actuated Green, G (s)	18.2	18.2	79.8	79.8	79.8	
Effective Green, g (s)	18.2	18.2	79.8	79.8	79.8	
Actuated g/C Ratio	0.17	0.17	0.73	0.73	0.73	
Clearance Time (s)	5.5	5.5	6.5	6.5	6.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	265	232	441	1352	1249	
v/s Ratio Prot				0.23	c0.40	
v/s Ratio Perm	c0.12	0.02	0.22			
v/c Ratio	0.71	0.13	0.30	0.31	0.55	
Uniform Delay, d1	43.4	39.2	5.3	5.4	6.9	
Progression Factor	0.84	1.33	1.00	1.00	0.70	
Incremental Delay, d2	8.5	0.2	1.8	0.6	1.7	
Delay (s)	45.1	52.4	7.1	6.0	6.5	
Level of Service	D	D	A	A	A	
Approach Delay (s)	48.7			6.2	6.5	
Approach LOS	D			A	A	

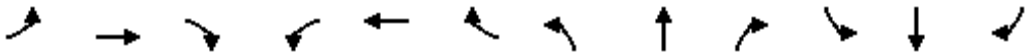
Intersection Summary			
HCM 2000 Control Delay	16.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	76.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	117	345	5	0	399	21	4	1	2	16	0	129
Future Volume (vph)	117	345	5	0	399	21	4	1	2	16	0	129
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												
Frt		0.999			0.992			0.961			0.880	
Flt Protected		0.988						0.972			0.995	
Satd. Flow (prot)	0	3482	0	0	3517	0	0	1759	0	0	1649	0
Flt Permitted		0.988						0.972			0.995	
Satd. Flow (perm)	0	3482	0	0	3517	0	0	1759	0	0	1649	0
Link Speed (k/h)		50			50			30			40	
Link Distance (m)		125.4			168.1			64.9			284.3	
Travel Time (s)		9.0			12.1			7.8			25.6	
Confl. Peds. (#/hr)	18		30	30		18						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	4%	2%	2%	3%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	127	375	5	0	434	23	4	1	2	17	0	140
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	507	0	0	457	0	0	7	0	0	157	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)		4.9			4.9			1.6			4.9	
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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	44.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	117	345	5	0	399	21	4	1	2	16	0	129
Future Volume (Veh/h)	117	345	5	0	399	21	4	1	2	16	0	129
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	127	375	5	0	434	23	4	1	2	17	0	140
Pedestrians								30			18	
Lane Width (m)								3.7			3.7	
Walking Speed (m/s)								1.1			1.1	
Percent Blockage								3			2	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		125			168							
pX, platoon unblocked												
vC, conflicting volume	475			410			1018	1136	220	908	1128	246
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	475			410			1018	1136	220	908	1128	246
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	88			100			97	99	100	91	100	81
cM capacity (veh/h)	1064			1112			132	168	761	197	171	740

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	314	192	217	240	7	157
Volume Left	127	0	0	0	4	17
Volume Right	0	5	0	23	2	140
cSH	1064	1700	1112	1700	180	570
Volume to Capacity	0.12	0.11	0.00	0.14	0.04	0.28
Queue Length 95th (m)	2.8	0.0	0.0	0.0	0.8	7.8
Control Delay (s)	4.3	0.0	0.0	0.0	25.8	13.7
Lane LOS	A				D	B
Approach Delay (s)	2.7		0.0		25.8	13.7
Approach LOS					D	B

Intersection Summary				
Average Delay	3.3			
Intersection Capacity Utilization	44.6%	ICU Level of Service		A
Analysis Period (min)	15			

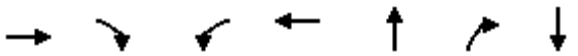
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	374	104	44	503	6	283	1	92	3	0	10
Future Volume (vph)	6	374	104	44	503	6	283	1	92	3	0	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	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			0.91		1.00			0.99	0.97		0.98	
Frt			0.850		0.998				0.850		0.894	
Flt Protected		0.999		0.950				0.953			0.989	
Satd. Flow (prot)	0	1846	1601	1789	1877	0	0	1761	1601	0	1639	0
Flt Permitted		0.991		0.453				0.717			0.944	
Satd. Flow (perm)	0	1831	1450	853	1877	0	0	1314	1559	0	1561	0
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)			113		1						30	
Link Speed (k/h)		50			50			40			30	
Link Distance (m)		129.3			125.4			171.6			40.7	
Travel Time (s)		9.3			9.0			15.4			4.9	
Confl. Peds. (#/hr)	22		22	22		22	4		7	7		4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	4%	2%	2%	2%	2%	4%	2%	2%	2%	2%	2%
Adj. Flow (vph)	7	407	113	48	547	7	308	1	100	3	0	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	414	113	48	554	0	0	309	100	0	14	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)		4.9			4.9			4.9			4.9	
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	0	0	1	0		1	1	1	1	1	
Detector Template	Left	Thru	Right		Thru		Left			Left		
Leading Detector (m)	6.1	0.0	0.0	21.8	0.0		6.1	6.0	6.0	6.1	8.8	
Trailing Detector (m)	0.0	0.0	0.0	12.8	0.0		0.0	-3.0	-3.0	0.0	-0.2	
Detector 1 Position(m)	0.0	0.0	0.0	12.8	0.0		0.0	-3.0	-3.0	0.0	-0.2	
Detector 1 Size(m)	6.1	1.8	6.1	9.0	1.8		6.1	9.0	9.0	6.1	9.0	
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	
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2		2	2			4		4	4		
Detector Phase	2	2	2	2	2		4	4	4	4	4	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	25.0	25.0	25.0	25.0	25.0		25.0	25.0	25.0	25.0	25.0	
Total Split (s)	30.0	30.0	30.0	30.0	30.0		80.0	80.0	80.0	80.0	80.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	27.3%	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	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	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)		6.0	6.0	6.0	6.0			6.0	6.0		6.0	
Lead/Lag												
Lead-Lag Optimize?												
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	C-Max	C-Max	C-Max	C-Max	C-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	8.0	
Flash Dont Walk (s)	8.0	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	0	
Act Effct Green (s)		62.8	62.8	62.8	62.8			35.2	35.2		35.2	
Actuated g/C Ratio		0.57	0.57	0.57	0.57			0.32	0.32		0.32	
v/c Ratio		0.40	0.13	0.10	0.52			0.74	0.20		0.03	
Control Delay		16.8	3.6	10.0	14.3			42.7	25.3		2.3	
Queue Delay		0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Delay		16.8	3.6	10.0	14.3			42.7	25.3		2.3	
LOS		B	A	A	B			D	C		A	
Approach Delay		14.0			14.0			38.5			2.3	
Approach LOS		B			B			D			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 10 (9%), Referenced to phase 2:EBWB, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay: 20.3		Intersection LOS: C	
Intersection Capacity Utilization 69.0%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: Streetsville Go Parking Lot/Private Access & Thomas St

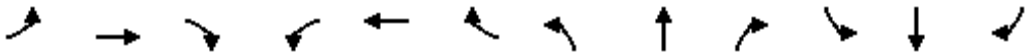




Lane Group	EBT	EBR	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	414	113	48	554	309	100	14
v/c Ratio	0.40	0.13	0.10	0.52	0.74	0.20	0.03
Control Delay	16.8	3.6	10.0	14.3	42.7	25.3	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.8	3.6	10.0	14.3	42.7	25.3	2.3
Queue Length 50th (m)	42.4	0.0	3.0	62.5	54.5	14.4	0.0
Queue Length 95th (m)	84.4	9.1	m9.8	121.6	66.6	20.7	1.5
Internal Link Dist (m)	105.3			101.4	147.6		16.7
Turn Bay Length (m)							
Base Capacity (vph)	1045	876	487	1072	883	1048	1059
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.13	0.10	0.52	0.35	0.10	0.01

Intersection Summary

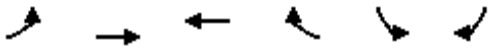
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	374	104	44	503	6	283	1	92	3	0	10
Future Volume (vph)	6	374	104	44	503	6	283	1	92	3	0	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0			6.0	6.0		6.0	
Lane Util. Factor		1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frpb, ped/bikes		1.00	0.91	1.00	1.00			1.00	0.97		0.98	
Flpb, ped/bikes		1.00	1.00	0.97	1.00			0.99	1.00		1.00	
Frt		1.00	0.85	1.00	1.00			1.00	0.85		0.89	
Flt Protected		1.00	1.00	0.95	1.00			0.95	1.00		0.99	
Satd. Flow (prot)		1846	1450	1732	1878			1745	1559		1637	
Flt Permitted		0.99	1.00	0.45	1.00			0.72	1.00		0.94	
Satd. Flow (perm)		1831	1450	826	1878			1314	1559		1563	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	7	407	113	48	547	7	308	1	100	3	0	11
RTOR Reduction (vph)	0	0	48	0	0	0	0	0	0	0	10	0
Lane Group Flow (vph)	0	414	65	48	554	0	0	309	100	0	4	0
Confl. Peds. (#/hr)	22		22	22		22	4		7	7		4
Heavy Vehicles (%)	2%	4%	2%	2%	2%	2%	4%	2%	2%	2%	2%	2%
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2		2	2			4		4	4		
Actuated Green, G (s)		62.8	62.8	62.8	62.8			35.2	35.2		35.2	
Effective Green, g (s)		62.8	62.8	62.8	62.8			35.2	35.2		35.2	
Actuated g/C Ratio		0.57	0.57	0.57	0.57			0.32	0.32		0.32	
Clearance Time (s)		6.0	6.0	6.0	6.0			6.0	6.0		6.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		1045	827	471	1072			420	498		500	
v/s Ratio Prot					c0.29							
v/s Ratio Perm		0.23	0.04	0.06				c0.24	0.06		0.00	
v/c Ratio		0.40	0.08	0.10	0.52			0.74	0.20		0.01	
Uniform Delay, d1		13.1	10.6	10.8	14.4			33.3	27.2		25.5	
Progression Factor		1.00	1.00	0.65	0.73			1.00	1.00		1.00	
Incremental Delay, d2		1.1	0.2	0.4	1.7			6.6	0.2		0.0	
Delay (s)		14.2	10.8	7.4	12.2			39.8	27.4		25.5	
Level of Service		B	B	A	B			D	C		C	
Approach Delay (s)		13.5			11.9			36.8			25.5	
Approach LOS		B			B			D			C	

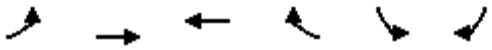
Intersection Summary			
HCM 2000 Control Delay	19.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	69.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	78	467	758	35	31	136
Future Volume (vph)	78	467	758	35	31	136
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0			0.0	10.0	0.0
Storage Lanes	0			0	1	1
Taper Length (m)	7.6				25.0	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.993			0.850
Flt Protected		0.993			0.950	
Satd. Flow (prot)	0	3433	3488	0	1789	1601
Flt Permitted		0.993			0.950	
Satd. Flow (perm)	0	3433	3488	0	1789	1601
Link Speed (k/h)		50	50		40	
Link Distance (m)		82.7	129.3		311.9	
Travel Time (s)		6.0	9.3		28.1	
Confl. Peds. (#/hr)	13					
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	6%	4%	2%	2%	2%
Adj. Flow (vph)	85	508	824	38	34	148
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	593	862	0	34	148
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.7	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.9	4.9		4.9	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

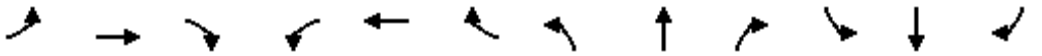
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 50.6%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	78	467	758	35	31	136
Future Volume (Veh/h)	78	467	758	35	31	136
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	85	508	824	38	34	148
Pedestrians					13	
Lane Width (m)					3.7	
Walking Speed (m/s)					1.1	
Percent Blockage					1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			129			
pX, platoon unblocked						
vC, conflicting volume	875				1280	444
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	875				1280	444
tC, single (s)	4.2				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	89				75	73
cM capacity (veh/h)	751				138	554

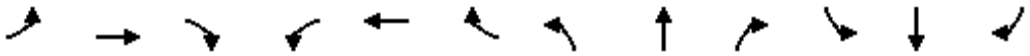
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total	254	339	549	313	34	148
Volume Left	85	0	0	0	34	0
Volume Right	0	0	0	38	0	148
cSH	751	1700	1700	1700	138	554
Volume to Capacity	0.11	0.20	0.32	0.18	0.25	0.27
Queue Length 95th (m)	2.7	0.0	0.0	0.0	6.4	7.5
Control Delay (s)	4.3	0.0	0.0	0.0	39.4	13.8
Lane LOS	A				E	B
Approach Delay (s)	1.9		0.0		18.6	
Approach LOS					C	

Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	50.6%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1	3	96	1	79	1	83	57	43	50	1
Future Volume (vph)	1	1	3	96	1	79	1	83	57	43	50	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												
Frt		0.919			0.939			0.945			0.999	
Flt Protected		0.990			0.973						0.977	
Satd. Flow (prot)	0	1714	0	0	1721	0	0	1790	0	0	1865	0
Flt Permitted		0.990			0.973						0.977	
Satd. Flow (perm)	0	1714	0	0	1721	0	0	1790	0	0	1865	0
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		53.6			165.4			311.9			123.6	
Travel Time (s)		4.8			14.9			28.1			11.1	
Confl. Peds. (#/hr)	13		4	4		13	19		3	3		19
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	1%	2%	0%	1%	2%
Adj. Flow (vph)	1	1	3	104	1	86	1	90	62	47	54	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	5	0	0	191	0	0	153	0	0	102	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			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			4.9			4.9			4.9	
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
Sign Control		Stop			Stop			Stop			Stop	

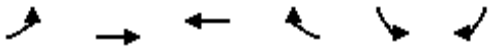
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	45.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	1	1	3	96	1	79	1	83	57	43	50	1
Future Volume (vph)	1	1	3	96	1	79	1	83	57	43	50	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	1	3	104	1	86	1	90	62	47	54	1

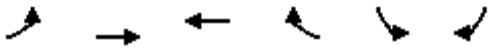
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	5	191	153	102
Volume Left (vph)	1	104	1	47
Volume Right (vph)	3	86	62	1
Hadj (s)	-0.29	-0.13	-0.22	0.10
Departure Headway (s)	4.4	4.4	4.3	4.6
Degree Utilization, x	0.01	0.23	0.18	0.13
Capacity (veh/h)	742	777	802	733
Control Delay (s)	7.5	8.7	8.2	8.3
Approach Delay (s)	7.5	8.7	8.2	8.3
Approach LOS	A	A	A	A

Intersection Summary			
Delay	8.4		
Level of Service	A		
Intersection Capacity Utilization	45.0%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	3	98	173	4	3	5
Future Volume (vph)	3	98	173	4	3	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.997		0.916	
Flt Protected		0.999			0.982	
Satd. Flow (prot)	0	1882	1878	0	1694	0
Flt Permitted		0.999			0.982	
Satd. Flow (perm)	0	1882	1878	0	1694	0
Link Speed (k/h)		40	40		40	
Link Distance (m)		165.4	107.5		111.8	
Travel Time (s)		14.9	9.7		10.1	
Confl. Peds. (#/hr)	16			16	2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	107	188	4	3	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	110	192	0	8	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.7	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.9	4.9		4.9	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

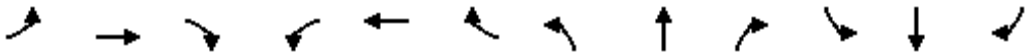
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	21.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	98	173	4	3	5
Future Volume (Veh/h)	3	98	173	4	3	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	107	188	4	3	5
Pedestrians			2		16	
Lane Width (m)			3.7		3.7	
Walking Speed (m/s)			1.1		1.1	
Percent Blockage			0		2	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			276			
pX, platoon unblocked						
vC, conflicting volume	208				321	206
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	208				321	206
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	99
cM capacity (veh/h)	1342				659	821

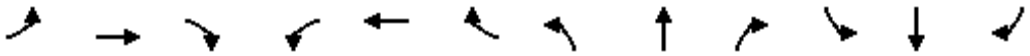
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	110	192	8
Volume Left	3	0	3
Volume Right	0	4	5
cSH	1342	1700	752
Volume to Capacity	0.00	0.11	0.01
Queue Length 95th (m)	0.0	0.0	0.2
Control Delay (s)	0.2	0.0	9.8
Lane LOS	A		A
Approach Delay (s)	0.2	0.0	9.8
Approach LOS			A

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	21.0%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	60	18	28	77	15	25	40	45	10	38	40
Future Volume (vph)	32	60	18	28	77	15	25	40	45	10	38	40
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												
Frt		0.977			0.983			0.944			0.939	
Flt Protected		0.986			0.989			0.989			0.994	
Satd. Flow (prot)	0	1814	0	0	1831	0	0	1758	0	0	1758	0
Flt Permitted		0.986			0.989			0.989			0.994	
Satd. Flow (perm)	0	1814	0	0	1831	0	0	1758	0	0	1758	0
Link Speed (k/h)		40			40			40			48	
Link Distance (m)		107.5			52.2			284.3			52.6	
Travel Time (s)		9.7			4.7			25.6			3.9	
Confl. Peds. (#/hr)	10		15	15		10	5		11	11		5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	65	20	30	84	16	27	43	49	11	41	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	120	0	0	130	0	0	119	0	0	95	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)		4.9			4.9			4.9			4.9	
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
Sign Control		Free			Free			Stop			Stop	

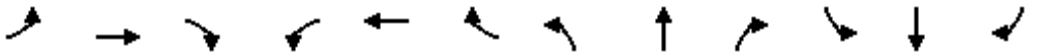
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.4%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	60	18	28	77	15	25	40	45	10	38	40
Future Volume (Veh/h)	32	60	18	28	77	15	25	40	45	10	38	40
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	35	65	20	30	84	16	27	43	49	11	41	43
Pedestrians		5			11			15			10	
Lane Width (m)		3.7			3.7			3.7			3.7	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		0			1			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					168							
pX, platoon unblocked												
vC, conflicting volume	110			100			380	330	101	388	332	107
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	110			100			380	330	101	388	332	107
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			98			94	92	95	98	93	95
cM capacity (veh/h)	1466			1471			483	550	930	472	548	933

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	120	130	119	95
Volume Left	35	30	27	11
Volume Right	20	16	49	43
cSH	1466	1471	637	659
Volume to Capacity	0.02	0.02	0.19	0.14
Queue Length 95th (m)	0.5	0.4	4.8	3.5
Control Delay (s)	2.3	1.9	11.9	11.4
Lane LOS	A	A	B	B
Approach Delay (s)	2.3	1.9	11.9	11.4
Approach LOS			B	B

Intersection Summary			
Average Delay	6.5		
Intersection Capacity Utilization	29.4%	ICU Level of Service	A
Analysis Period (min)	15		

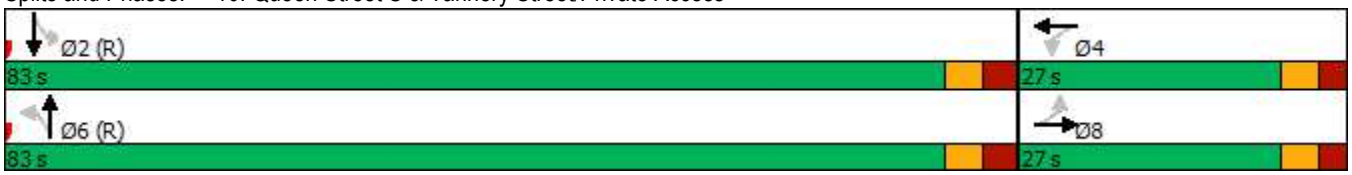


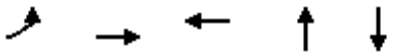
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	6	44	2	4	8	53	503	3	2	447	84
Future Volume (vph)	80	6	44	2	4	8	53	503	3	2	447	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		0	0		0
Taper Length (m)	40.0			2.5			2.5			2.5		
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	0.95			0.96			0.99			0.98	
Frt		0.869			0.919			0.999			0.979	
Flt Protected	0.950				0.993			0.995				
Satd. Flow (prot)	1789	1553	0	0	1656	0	0	1807	0	0	1770	0
Flt Permitted	0.748				0.963			0.904			0.999	
Satd. Flow (perm)	1351	1553	0	0	1598	0	0	1633	0	0	1767	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		48			9			1			20	
Link Speed (k/h)		40			30			40			40	
Link Distance (m)		115.8			36.8			153.4			69.8	
Travel Time (s)		10.4			4.4			13.8			6.3	
Confl. Peds. (#/hr)	16		15	15		16	58		70	70		58
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	6%	2%	2%	4%	2%
Adj. Flow (vph)	87	7	48	2	4	9	58	547	3	2	486	91
Shared Lane Traffic (%)												
Lane Group Flow (vph)	87	55	0	0	15	0	0	608	0	0	579	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	1		1	1		1	0		1	0	
Detector Template	Left			Left			Left	Thru		Left	Thru	
Leading Detector (m)	8.5	8.5		2.0	8.5		2.0	0.0		2.0	0.0	
Trailing Detector (m)	-0.2	-0.5		0.0	-0.5		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	-0.2	-0.5		0.0	-0.5		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	8.7	9.0		2.0	9.0		2.0	0.6		2.0	0.6	
Detector 1 Type	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	
Detector 1 Queue (s)	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	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Detector Phase	8	8		4	4		6	6		2	2	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	26.5	26.5		26.5	26.5		29.0	29.0		29.0	29.0	
Total Split (s)	27.0	27.0		27.0	27.0		83.0	83.0		83.0	83.0	
Total Split (%)	24.5%	24.5%		24.5%	24.5%		75.5%	75.5%		75.5%	75.5%	
Maximum Green (s)	21.5	21.5		21.5	21.5		77.0	77.0		77.0	77.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	
Total Lost Time (s)	5.5	5.5			5.5			6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		13.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	13.0	13.0			13.0			89.8			89.8	
Actuated g/C Ratio	0.12	0.12			0.12			0.82			0.82	
v/c Ratio	0.55	0.24			0.08			0.46			0.40	
Control Delay	58.0	17.0			27.5			3.9			4.8	
Queue Delay	0.0	0.0			0.0			0.0			0.0	
Total Delay	58.0	17.0			27.5			3.9			4.8	
LOS	E	B			C			A			A	
Approach Delay		42.2			27.5			3.9			4.8	
Approach LOS		D			C			A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 37 (34%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.55			
Intersection Signal Delay: 8.6		Intersection LOS: A	
Intersection Capacity Utilization 87.2%		ICU Level of Service E	
Analysis Period (min) 15			

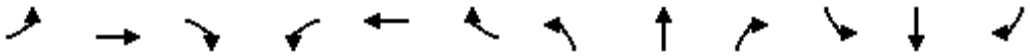
Splits and Phases: 10: Queen Street S & Tannery Street/Private Access





Lane Group	EBL	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	87	55	15	608	579
v/c Ratio	0.55	0.24	0.08	0.46	0.40
Control Delay	58.0	17.0	27.5	3.9	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	58.0	17.0	27.5	3.9	4.8
Queue Length 50th (m)	16.6	1.3	1.1	19.8	28.6
Queue Length 95th (m)	30.0	11.4	6.4	34.9	53.9
Internal Link Dist (m)		91.8	12.8	129.4	45.8
Turn Bay Length (m)	20.0				
Base Capacity (vph)	264	342	319	1333	1446
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.33	0.16	0.05	0.46	0.40

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	6	44	2	4	8	53	503	3	2	447	84
Future Volume (vph)	80	6	44	2	4	8	53	503	3	2	447	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5			5.5			6.0			6.0	
Lane Util. Factor	1.00	1.00			1.00			1.00			1.00	
Frpb, ped/bikes	1.00	0.95			0.96			1.00			0.98	
Flpb, ped/bikes	0.96	1.00			1.00			0.99			1.00	
Frt	1.00	0.87			0.92			1.00			0.98	
Flt Protected	0.95	1.00			0.99			1.00			1.00	
Satd. Flow (prot)	1716	1553			1648			1798			1768	
Flt Permitted	0.75	1.00			0.96			0.90			1.00	
Satd. Flow (perm)	1350	1553			1598			1632			1767	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	7	48	2	4	9	58	547	3	2	486	91
RTOR Reduction (vph)	0	43	0	0	8	0	0	0	0	0	4	0
Lane Group Flow (vph)	87	12	0	0	7	0	0	608	0	0	575	0
Confl. Peds. (#/hr)	16		15	15		16	58		70	70		58
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	6%	2%	2%	4%	2%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	11.0	11.0			11.0			87.5			87.5	
Effective Green, g (s)	11.0	11.0			11.0			87.5			87.5	
Actuated g/C Ratio	0.10	0.10			0.10			0.80			0.80	
Clearance Time (s)	5.5	5.5			5.5			6.0			6.0	
Vehicle Extension (s)	3.0	3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)	135	155			159			1298			1405	
v/s Ratio Prot		0.01										
v/s Ratio Perm	c0.06				0.00			c0.37			0.33	
v/c Ratio	0.64	0.08			0.04			0.47			0.41	
Uniform Delay, d1	47.6	44.9			44.7			3.7			3.4	
Progression Factor	1.00	1.00			1.00			0.62			1.00	
Incremental Delay, d2	10.1	0.2			0.1			1.2			0.9	
Delay (s)	57.7	45.1			44.9			3.4			4.3	
Level of Service	E	D			D			A			A	
Approach Delay (s)		52.8			44.9			3.4			4.3	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	87.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

APPENDIX G

Background Development Traffic Volumes

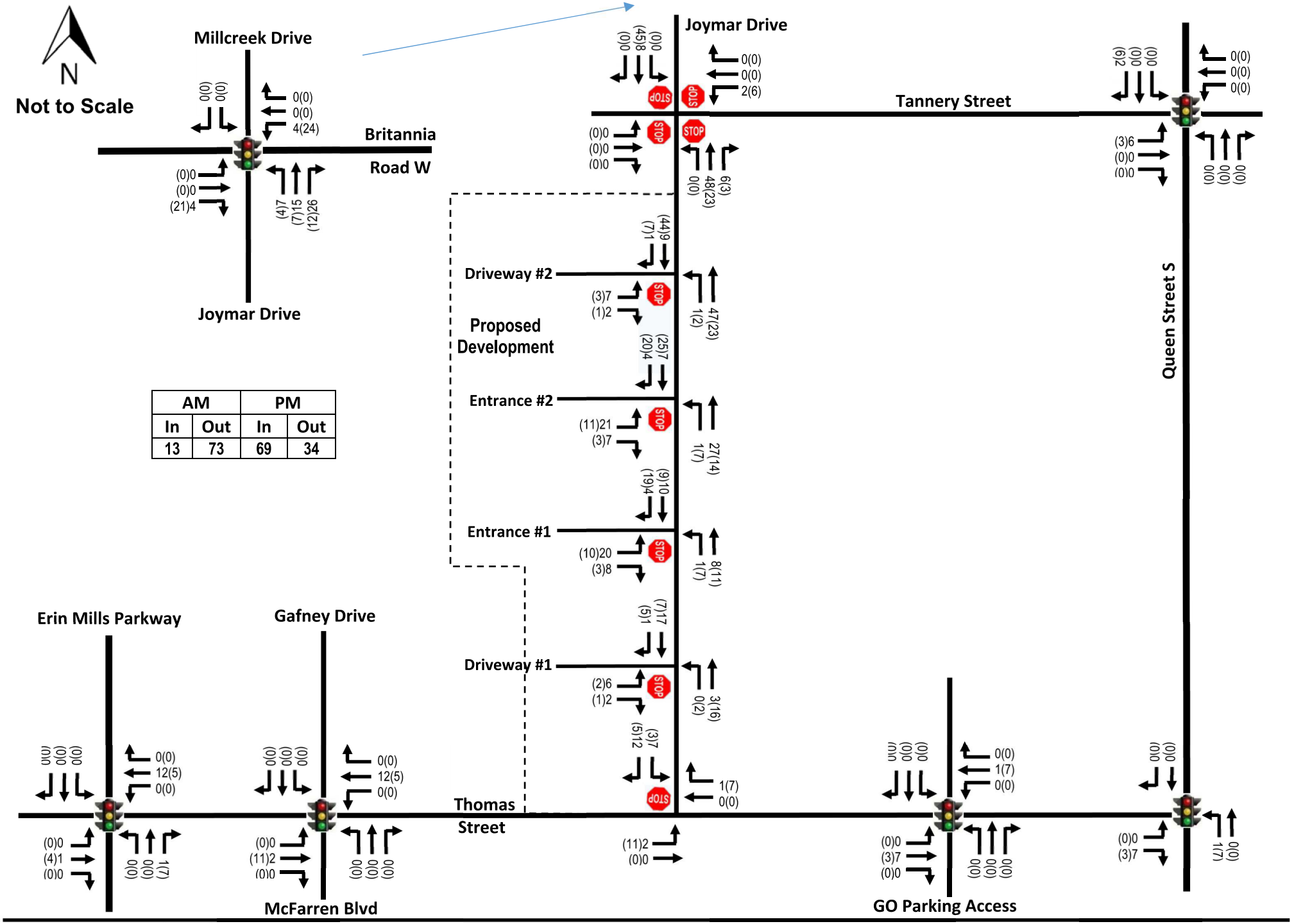
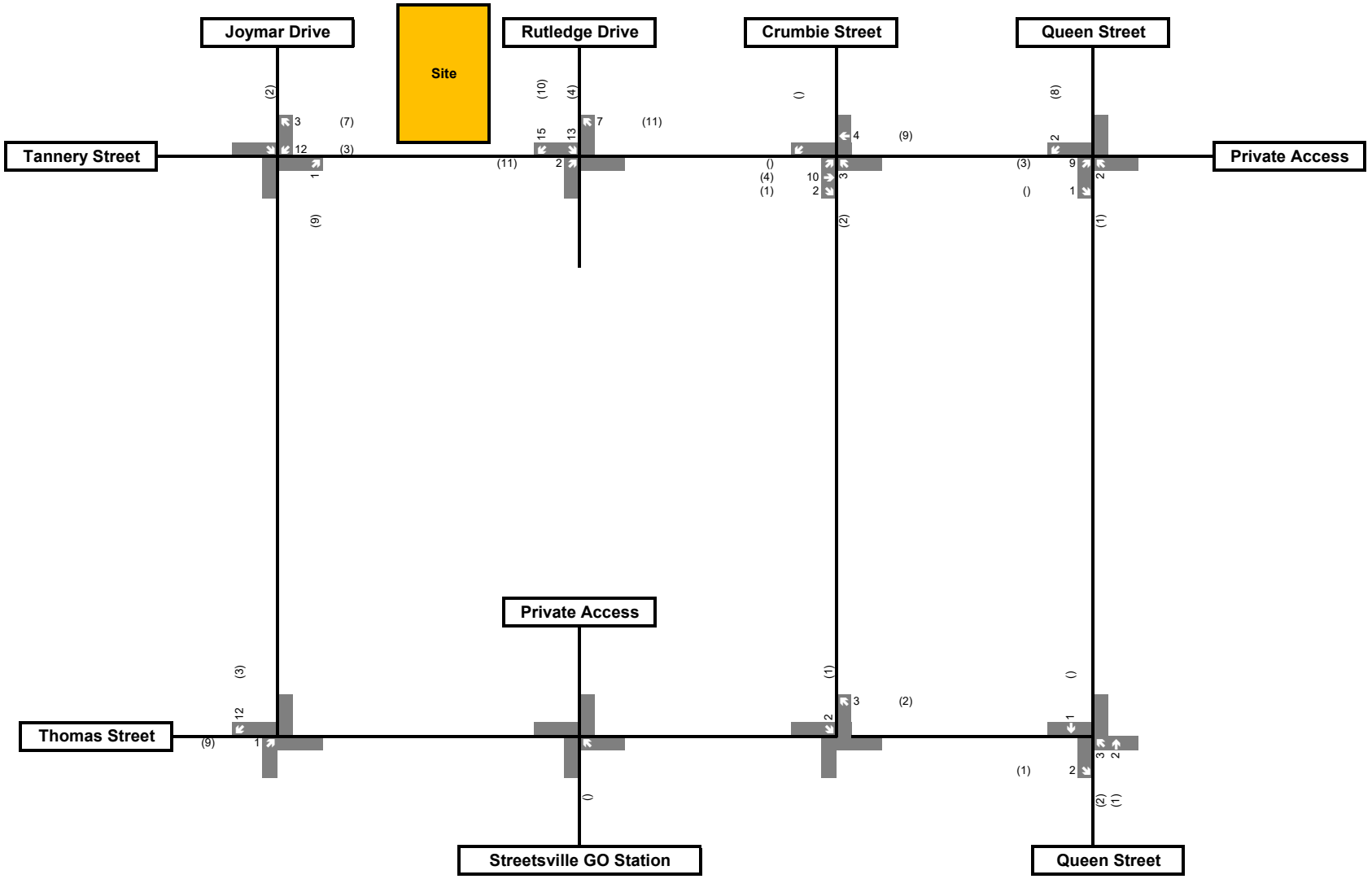


Figure 4-1 Site Traffic Volumes



Legend

xx A.M. Peak Hour Traffic Volumes
(xx) P.M. Peak Hour Traffic Volumes
{xx} Weekend Peak Hour Traffic Volumes

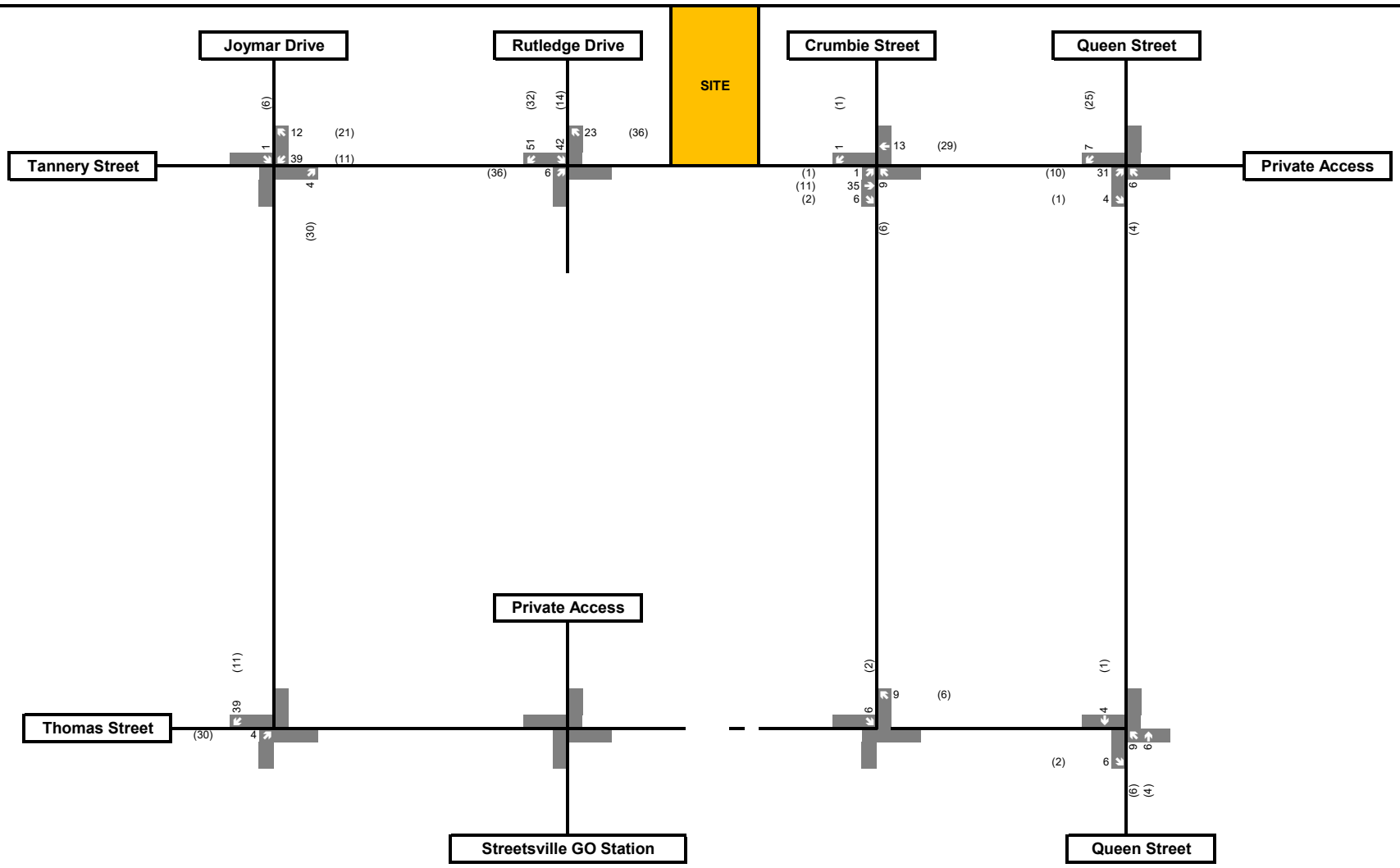
180 Rutledge Road

Site Generated Trips

CROZIER CONSULTING ENGINEERS

Figure 4

Project No. 1241-6659
Date. 11/12/2021
Analyst. Aarzoo D



Legend

xx A.M. Peak Hour Traffic Volumes
(xx) P.M. Peak Hour Traffic Volumes
{xx} Weekend Peak Hour Traffic Volumes

150 Rutledge Road

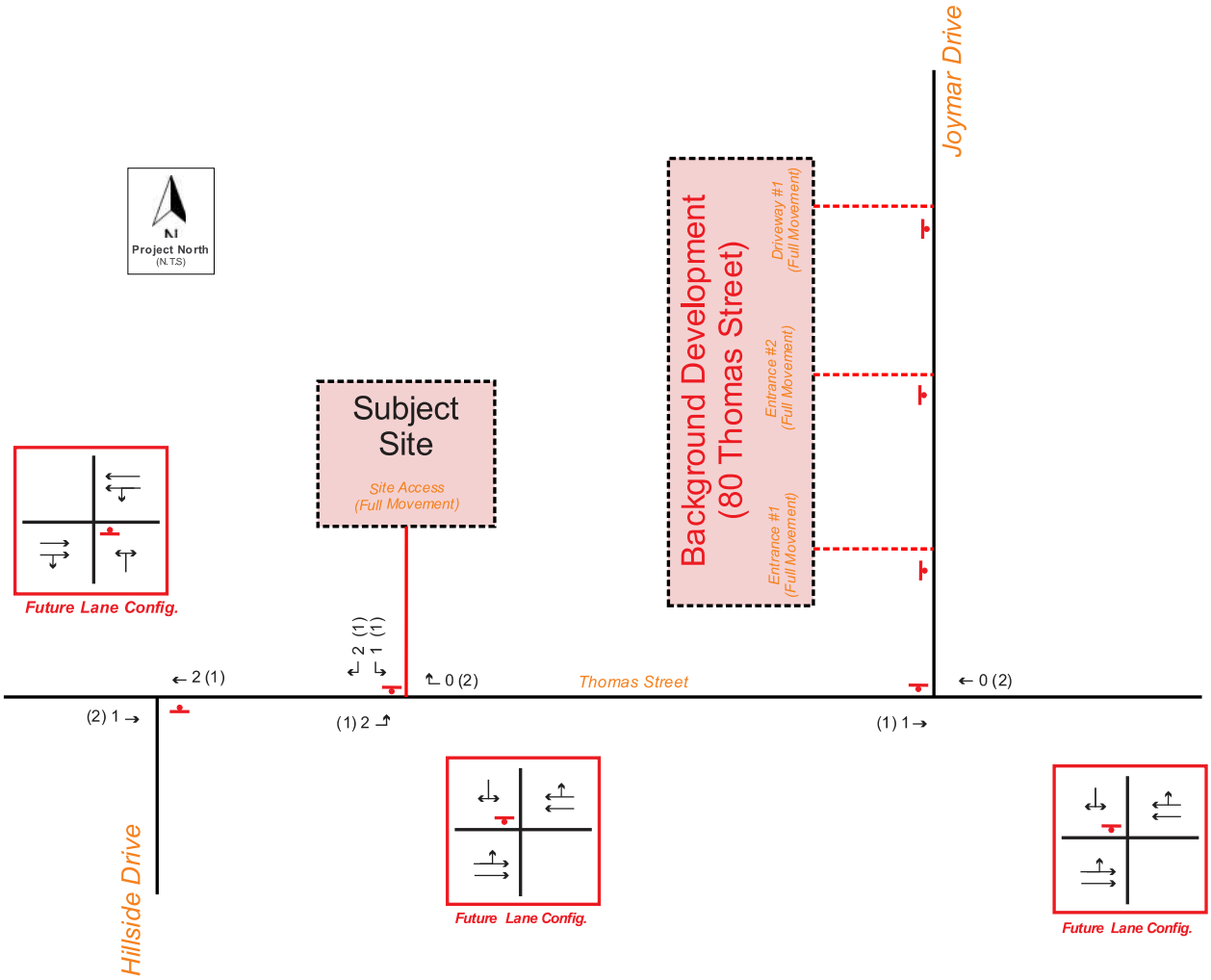
Site Generated Trips

CROZIER CONSULTING ENGINEERS

Figure 4

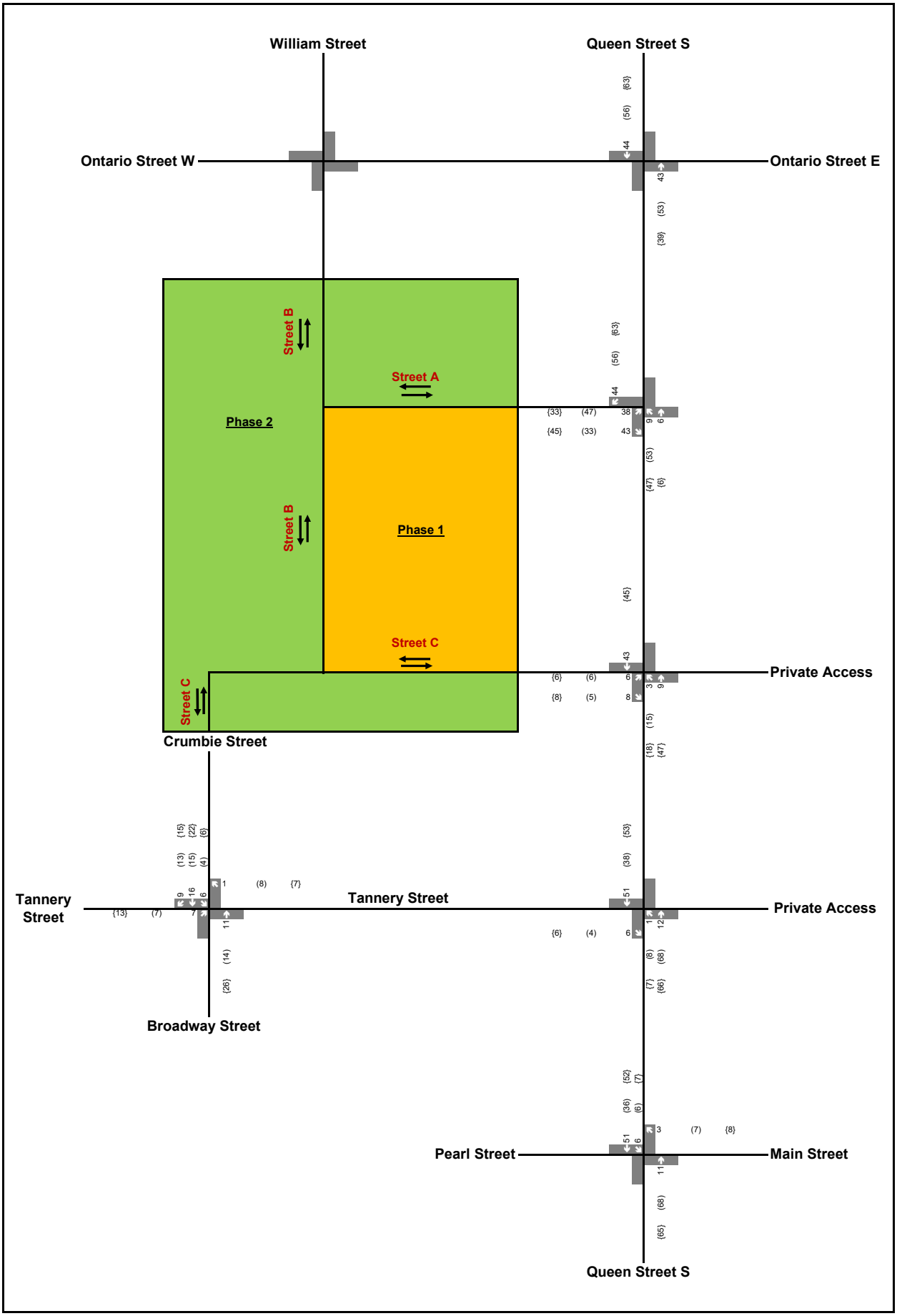
Project No. 1241-6659
Date. 11/12/2021
Analyst. Aarzoo D

Figure 4-1 – Site Generated Traffic Volumes

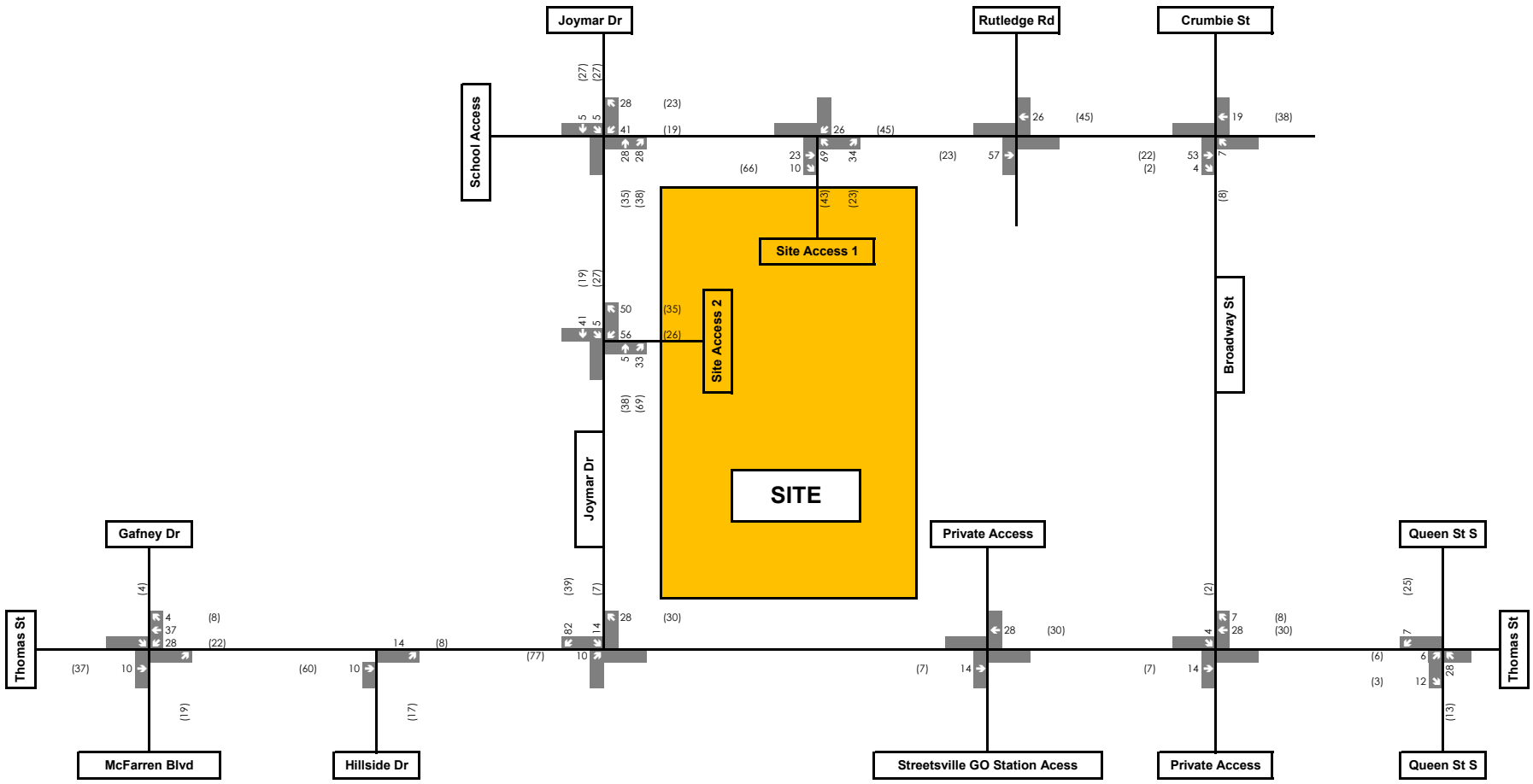


5.0 FUTURE TOTAL TRAFFIC CONDITIONS

The forecasted 2024 future total traffic volumes (future background traffic volumes plus site generated traffic volumes) are illustrated in **Figure 5-1**, and were analyzed using Synchro 10 software. The detailed calculations are provided in **Appendix F** and summarized in **Table 5.1**.



Legend		142-148 Queen Street South	CROZIER CONSULTING ENGINEERS	Figure 9
xx	A.M. Peak Hour Traffic Volumes	2027 Site Generated Traffic Volumes		Project No. 1419-6615 Date. 14-07-2023 Analyst. Aarzoo.D
(xx)	P.M. Peak Hour Traffic Volumes			
{xx}	Weekend Peak Hour Traffic Volumes			



Legend

xx A.M. Peak Hour Traffic Volumes
(xx) P.M. Peak Hour Traffic Volumes
{xx} Weekend Peak Hour Traffic Volumes

66 Thomas Street

Site Generated Trips

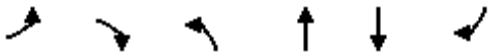
CROZIER CONSULTING ENGINEERS

Figure 7

Project No. 1419-4679
Date. 07/14/2023
Analyst. Aarzoo D

APPENDIX H

2028 Future Background Detailed Capacity Analysis



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	264	152	118	363	385	198
Future Volume (vph)	264	152	118	363	385	198
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0	20.0	15.0			0.0
Storage Lanes	0	0	1			0
Taper Length (m)	0.0		100.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	0.97	1.00		0.99	
Frt		0.850			0.954	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1722	1512	1772	1746	1629	0
Flt Permitted	0.950		0.347			
Satd. Flow (perm)	1700	1467	645	1746	1629	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		165			42	
Link Speed (k/h)	50			40	40	
Link Distance (m)	168.1			211.1	113.7	
Travel Time (s)	12.1			19.0	10.2	
Confl. Peds. (#/hr)	5	4	9			9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	6%	8%	3%	10%	14%	7%
Adj. Flow (vph)	287	165	128	395	418	215
Shared Lane Traffic (%)						
Lane Group Flow (vph)	287	165	128	395	633	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.9			4.9	4.9	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	0	0	0	
Detector Template	Left			Thru	Thru	
Leading Detector (m)	8.5	8.5	0.0	0.0	0.0	
Trailing Detector (m)	-0.2	-0.5	0.0	0.0	0.0	
Detector 1 Position(m)	-0.2	-0.5	-0.5	0.0	0.0	
Detector 1 Size(m)	8.7	9.0	9.0	1.8	1.8	
Detector 1 Type	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	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	Perm	Perm	NA	NA	
Protected Phases				6	2	
Permitted Phases	8	8	6	6	2	
Detector Phase	8	8	6	6	2	
Switch Phase						

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	26.5	26.5	28.5	28.5	28.5	
Total Split (s)	38.0	38.0	62.0	62.0	62.0	
Total Split (%)	38.0%	38.0%	62.0%	62.0%	62.0%	
Maximum Green (s)	32.5	32.5	55.5	55.5	55.5	
Yellow Time (s)	3.5	3.5	3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0	3.5	3.5	3.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.5	6.5	6.5	6.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	C-Max	C-Max	C-Max	
Walk Time (s)	10.0	10.0	10.0	10.0	10.0	
Flash Dont Walk (s)	10.0	10.0	12.0	12.0	12.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	
Act Effct Green (s)	22.2	22.2	65.8	65.8	65.8	
Actuated g/C Ratio	0.22	0.22	0.66	0.66	0.66	
v/c Ratio	0.76	0.36	0.30	0.34	0.58	
Control Delay	43.9	4.8	11.1	9.5	12.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	43.9	4.8	11.1	9.5	12.5	
LOS	D	A	B	A	B	
Approach Delay	29.7			9.9	12.5	
Approach LOS	C			A	B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 70 (70%), Referenced to phase 2:SBT and 6:NBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 16.5		Intersection LOS: B	
Intersection Capacity Utilization 71.3%		ICU Level of Service C	
Analysis Period (min) 15			

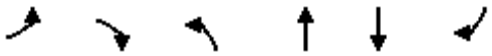
Splits and Phases: 1: Queen st & Thomas St





Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	287	165	128	395	633
v/c Ratio	0.76	0.36	0.30	0.34	0.58
Control Delay	43.9	4.8	11.1	9.5	12.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	43.9	4.8	11.1	9.5	12.5
Queue Length 50th (m)	49.3	4.8	8.8	28.2	46.9
Queue Length 95th (m)	69.3	4.1	22.5	53.0	89.2
Internal Link Dist (m)	144.1			187.1	89.7
Turn Bay Length (m)	20.0	20.0	15.0		
Base Capacity (vph)	552	588	424	1148	1086
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.52	0.28	0.30	0.34	0.58

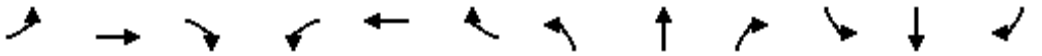
Intersection Summary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	264	152	118	363	385	198
Future Volume (vph)	264	152	118	363	385	198
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	6.5	6.5	6.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	0.97	1.00	1.00	0.99	
Flpb, ped/bikes	0.99	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.95	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1700	1467	1765	1746	1629	
Flt Permitted	0.95	1.00	0.35	1.00	1.00	
Satd. Flow (perm)	1700	1467	644	1746	1629	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	287	165	128	395	418	215
RTOR Reduction (vph)	0	128	0	0	14	0
Lane Group Flow (vph)	287	37	128	395	619	0
Confl. Peds. (#/hr)	5	4	9			9
Heavy Vehicles (%)	6%	8%	3%	10%	14%	7%
Turn Type	Perm	Perm	Perm	NA	NA	
Protected Phases				6	2	
Permitted Phases	8	8	6	6	2	
Actuated Green, G (s)	22.2	22.2	65.8	65.8	65.8	
Effective Green, g (s)	22.2	22.2	65.8	65.8	65.8	
Actuated g/C Ratio	0.22	0.22	0.66	0.66	0.66	
Clearance Time (s)	5.5	5.5	6.5	6.5	6.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	377	325	423	1148	1071	
v/s Ratio Prot				0.23	c0.38	
v/s Ratio Perm	c0.17	0.02	0.20			
v/c Ratio	0.76	0.11	0.30	0.34	0.58	
Uniform Delay, d1	36.4	31.0	7.3	7.6	9.4	
Progression Factor	0.86	0.56	1.00	1.00	1.00	
Incremental Delay, d2	8.7	0.2	1.8	0.8	2.2	
Delay (s)	40.0	17.6	9.1	8.4	11.6	
Level of Service	D	B	A	A	B	
Approach Delay (s)	31.8			8.6	11.6	
Approach LOS	C			A	B	

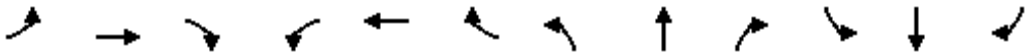
Intersection Summary			
HCM 2000 Control Delay	16.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	71.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	412	4	2	320	34	2	0	2	20	1	77
Future Volume (vph)	104	412	4	2	320	34	2	0	2	20	1	77
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												
Frt		0.999			0.986			0.932			0.894	
Flt Protected		0.990						0.976			0.990	
Satd. Flow (prot)	0	3363	0	0	3272	0	0	1713	0	0	1667	0
Flt Permitted		0.990						0.976			0.990	
Satd. Flow (perm)	0	3363	0	0	3272	0	0	1713	0	0	1667	0
Link Speed (k/h)		50			50			30			40	
Link Distance (m)		125.4			168.1			64.9			284.3	
Travel Time (s)		9.0			12.1			7.8			25.6	
Confl. Peds. (#/hr)	11		15	15		11	1		1	1		1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	9%	2%	2%	11%	1%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	113	448	4	2	348	37	2	0	2	22	1	84
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	565	0	0	387	0	0	4	0	0	107	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)		4.9			4.9			1.6			4.9	
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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	42.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	412	4	2	320	34	2	0	2	20	1	77
Future Volume (Veh/h)	104	412	4	2	320	34	2	0	2	20	1	77
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	113	448	4	2	348	37	2	0	2	22	1	84
Pedestrians		1			1			15			11	
Lane Width (m)		3.7			3.7			3.7			3.7	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		0			0			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		125			168							
pX, platoon unblocked												
vC, conflicting volume	396			467			954	1091	242	834	1074	204
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	396			467			954	1091	242	834	1074	204
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	90			100			99	100	100	91	99	89
cM capacity (veh/h)	1154			1076			170	188	747	233	192	793

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	337	228	176	211	4	107
Volume Left	113	0	2	0	2	22
Volume Right	0	4	0	37	2	84
cSH	1154	1700	1076	1700	276	521
Volume to Capacity	0.10	0.13	0.00	0.12	0.01	0.21
Queue Length 95th (m)	2.3	0.0	0.0	0.0	0.3	5.4
Control Delay (s)	3.5	0.0	0.1	0.0	18.2	13.7
Lane LOS	A		A		C	B
Approach Delay (s)	2.1		0.1		18.2	13.7
Approach LOS					C	B

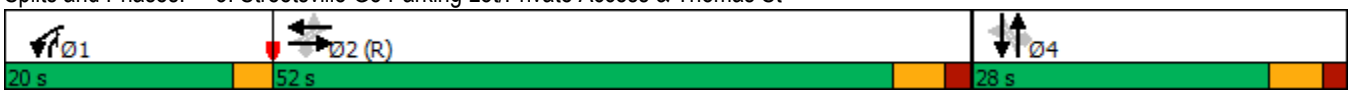
Intersection Summary				
Average Delay	2.6			
Intersection Capacity Utilization	42.1%	ICU Level of Service		A
Analysis Period (min)	15			

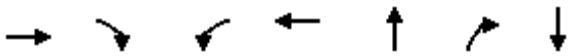
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	339	473	85	220	0	188	1	64	0	0	2
Future Volume (vph)	0	339	473	85	220	0	188	1	64	0	0	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	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	0.97		0.98	
Frt			0.850						0.850		0.865	
Flt Protected				0.950				0.953				
Satd. Flow (prot)	0	1762	1555	1789	1746	0	0	1795	1585	0	1604	0
Flt Permitted				0.506				0.727				
Satd. Flow (perm)	0	1762	1491	944	1746	0	0	1364	1537	0	1604	0
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)			514								660	
Link Speed (k/h)		50			50			40			30	
Link Distance (m)		129.3			125.4			171.6			40.7	
Travel Time (s)		9.3			9.0			15.4			4.9	
Confl. Peds. (#/hr)	20		7	7		20	2		10	10		2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	9%	5%	2%	10%	2%	2%	2%	3%	2%	2%	2%
Adj. Flow (vph)	0	368	514	92	239	0	204	1	70	0	0	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	368	514	92	239	0	0	205	70	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)		4.9			4.9			4.9			4.9	
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	0	0	1	0		1	1	1	1	1	
Detector Template	Left	Thru	Right		Thru		Left			Left		
Leading Detector (m)	6.1	0.0	0.0	21.8	0.0		6.1	6.0	6.0	6.1	8.8	
Trailing Detector (m)	0.0	0.0	0.0	12.8	0.0		0.0	-3.0	-3.0	0.0	-0.2	
Detector 1 Position(m)	0.0	0.0	0.0	12.8	0.0		0.0	-3.0	-3.0	0.0	-0.2	
Detector 1 Size(m)	6.1	1.8	6.1	9.0	1.8		6.1	9.0	9.0	6.1	9.0	
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	
Turn Type		NA	Perm	pm+pt	NA		Perm	NA	pm+ov		NA	
Protected Phases		2		1	2			4	1		4	
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)	25.0	25.0	25.0	9.5	25.0		25.0	25.0	9.5	25.0	25.0	
Total Split (s)	52.0	52.0	52.0	20.0	52.0		28.0	28.0	20.0	28.0	28.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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	17.0	46.0		22.0	22.0	17.0	22.0	22.0	
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0		4.0	4.0	3.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	0.0	2.0		2.0	2.0	0.0	2.0	2.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)		6.0	6.0	3.0	6.0			6.0	3.0		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	C-Max	C-Max	C-Max	None	C-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	
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)		61.5	61.5	69.8	61.5			18.8	28.1		18.8	
Actuated g/C Ratio		0.62	0.62	0.70	0.62			0.19	0.28		0.19	
v/c Ratio		0.34	0.46	0.13	0.22			0.80	0.16		0.00	
Control Delay		11.8	2.5	2.6	7.3			61.1	24.2		0.0	
Queue Delay		0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Delay		11.8	2.5	2.6	7.3			61.1	24.2		0.0	
LOS		B	A	A	A			E	C		A	
Approach Delay		6.4			6.0			51.7				
Approach LOS		A			A			D				

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 11 (11%), Referenced to phase 2:EBWB, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.80			
Intersection Signal Delay: 14.7		Intersection LOS: B	
Intersection Capacity Utilization 65.5%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: Streetsville Go Parking Lot/Private Access & Thomas St



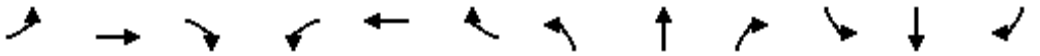


Lane Group	EBT	EBR	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	368	514	92	239	205	70	2
v/c Ratio	0.34	0.46	0.13	0.22	0.80	0.16	0.00
Control Delay	11.8	2.5	2.6	7.3	61.1	24.2	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.8	2.5	2.6	7.3	61.1	24.2	0.0
Queue Length 50th (m)	32.2	0.0	2.9	21.3	34.5	8.8	0.0
Queue Length 95th (m)	52.9	12.6	m2.6	28.2	#60.1	17.1	0.0
Internal Link Dist (m)	105.3			101.4	147.6		16.7
Turn Bay Length (m)							
Base Capacity (vph)	1083	1114	825	1073	300	604	867
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.46	0.11	0.22	0.68	0.12	0.00

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

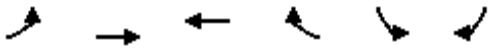
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	339	473	85	220	0	188	1	64	0	0	2
Future Volume (vph)	0	339	473	85	220	0	188	1	64	0	0	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	3.0	6.0			6.0	3.0		6.0	
Lane Util. Factor		1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frpb, ped/bikes		1.00	0.96	1.00	1.00			1.00	0.98		0.98	
Flpb, ped/bikes		1.00	1.00	0.99	1.00			1.00	1.00		1.00	
Frt		1.00	0.85	1.00	1.00			1.00	0.85		0.86	
Flt Protected		1.00	1.00	0.95	1.00			0.95	1.00		1.00	
Satd. Flow (prot)		1762	1491	1779	1746			1787	1548		1604	
Flt Permitted		1.00	1.00	0.51	1.00			0.73	1.00		1.00	
Satd. Flow (perm)		1762	1491	948	1746			1364	1548		1604	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	368	514	92	239	0	204	1	70	0	0	2
RTOR Reduction (vph)	0	0	201	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	368	313	92	239	0	0	205	70	0	0	0
Confl. Peds. (#/hr)	20		7	7		20	2		10	10		2
Heavy Vehicles (%)	2%	9%	5%	2%	10%	2%	2%	2%	3%	2%	2%	2%
Turn Type		NA	Perm	pm+pt	NA		Perm	NA	pm+ov		NA	
Protected Phases		2		1	2			4	1		4	
Permitted Phases	2		2	2			4		4	4		
Actuated Green, G (s)		60.9	60.9	66.2	60.9			18.8	24.1		18.8	
Effective Green, g (s)		60.9	60.9	66.2	60.9			18.8	24.1		18.8	
Actuated g/C Ratio		0.61	0.61	0.66	0.61			0.19	0.24		0.19	
Clearance Time (s)		6.0	6.0	3.0	6.0			6.0	3.0		6.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		1073	908	671	1063			256	373		301	
v/s Ratio Prot		0.21		0.01	0.14				c0.01		0.00	
v/s Ratio Perm			c0.21	0.08				c0.15	0.04			
v/c Ratio		0.34	0.34	0.14	0.22			0.80	0.19		0.00	
Uniform Delay, d1		9.7	9.7	6.1	8.9			38.8	30.2		33.0	
Progression Factor		1.00	1.00	0.46	0.67			1.00	1.00		1.00	
Incremental Delay, d2		0.9	1.0	0.1	0.5			16.3	0.2		0.0	
Delay (s)		10.5	10.7	2.9	6.4			55.1	30.4		33.0	
Level of Service		B	B	A	A			E	C		C	
Approach Delay (s)		10.6			5.5			48.8			33.0	
Approach LOS		B			A			D			C	

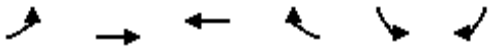
Intersection Summary			
HCM 2000 Control Delay	16.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	65.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	174	783	349	64	36	240
Future Volume (vph)	174	783	349	64	36	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0			0.0	10.0	0.0
Storage Lanes	0			0	1	1
Taper Length (m)	7.6				25.0	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.977			0.850
Flt Protected		0.991			0.950	
Satd. Flow (prot)	0	3278	3229	0	1807	1512
Flt Permitted		0.991			0.950	
Satd. Flow (perm)	0	3278	3229	0	1807	1512
Link Speed (k/h)		50	50		40	
Link Distance (m)		82.7	129.3		311.9	
Travel Time (s)		6.0	9.3		28.1	
Confl. Peds. (#/hr)	10			10	2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	12%	12%	2%	1%	8%
Adj. Flow (vph)	189	851	379	70	39	261
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1040	449	0	39	261
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.7	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.9	4.9		4.9	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

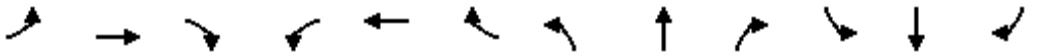
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 52.3%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	174	783	349	64	36	240
Future Volume (Veh/h)	174	783	349	64	36	240
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	189	851	379	70	39	261
Pedestrians			2		10	
Lane Width (m)			3.7		3.7	
Walking Speed (m/s)			1.1		1.1	
Percent Blockage			0		1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			129			
pX, platoon unblocked						
vC, conflicting volume	459				1230	234
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	459				1230	234
tC, single (s)	4.2				6.8	7.1
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.4
p0 queue free %	83				72	65
cM capacity (veh/h)	1081				140	742

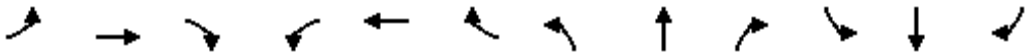
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total	473	567	253	196	39	261
Volume Left	189	0	0	0	39	0
Volume Right	0	0	0	70	0	261
cSH	1081	1700	1700	1700	140	742
Volume to Capacity	0.17	0.33	0.15	0.12	0.28	0.35
Queue Length 95th (m)	4.4	0.0	0.0	0.0	7.5	11.1
Control Delay (s)	4.8	0.0	0.0	0.0	40.4	12.5
Lane LOS	A				E	B
Approach Delay (s)	2.2		0.0		16.1	
Approach LOS					C	

Intersection Summary			
Average Delay	4.0		
Intersection Capacity Utilization	52.3%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	56	34	137	67	100	65	163	86	108	97	25
Future Volume (vph)	12	56	34	137	67	100	65	163	86	108	97	25
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												
Frt		0.955			0.956			0.963			0.985	
Flt Protected		0.994			0.978			0.990			0.977	
Satd. Flow (prot)	0	1824	0	0	1757	0	0	1804	0	0	1755	0
Flt Permitted		0.994			0.978			0.990			0.977	
Satd. Flow (perm)	0	1824	0	0	1757	0	0	1804	0	0	1755	0
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		53.6			165.4			311.9			123.6	
Travel Time (s)		4.8			14.9			28.1			11.1	
Confl. Peds. (#/hr)	115		6	6		115	32		5	5		32
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	3%	1%	2%	1%	2%	1%	6%	6%	0%
Adj. Flow (vph)	13	61	37	149	73	109	71	177	93	117	105	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	111	0	0	331	0	0	341	0	0	249	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			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			4.9			4.9			4.9	
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
Sign Control		Stop			Stop			Stop			Stop	

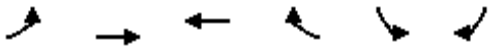
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 58.4%		ICU Level of Service B	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	12	56	34	137	67	100	65	163	86	108	97	25
Future Volume (vph)	12	56	34	137	67	100	65	163	86	108	97	25
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	61	37	149	73	109	71	177	93	117	105	27

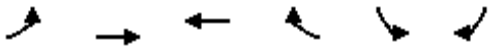
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	111	331	341	249
Volume Left (vph)	13	149	71	117
Volume Right (vph)	37	109	93	27
Hadj (s)	-0.18	-0.07	-0.10	0.12
Departure Headway (s)	6.2	5.8	5.6	6.0
Degree Utilization, x	0.19	0.53	0.54	0.42
Capacity (veh/h)	486	578	597	541
Control Delay (s)	10.6	15.2	15.0	13.2
Approach Delay (s)	10.6	15.2	15.0	13.2
Approach LOS	B	C	B	B

Intersection Summary				
Delay	14.2			
Level of Service	B			
Intersection Capacity Utilization	58.4%	ICU Level of Service	B	
Analysis Period (min)	15			



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	10	267	199	36	60	67
Future Volume (vph)	10	267	199	36	60	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.979		0.929	
Flt Protected		0.998			0.977	
Satd. Flow (prot)	0	1763	1787	0	1709	0
Flt Permitted		0.998			0.977	
Satd. Flow (perm)	0	1763	1787	0	1709	0
Link Speed (k/h)		40	40		40	
Link Distance (m)		165.4	107.5		111.8	
Travel Time (s)		14.9	9.7		10.1	
Confl. Peds. (#/hr)	96			96	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	9%	6%	1%	2%	2%
Adj. Flow (vph)	11	290	216	39	65	73
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	301	255	0	138	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.7	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.9	4.9		4.9	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

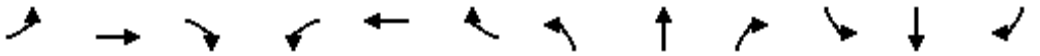
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 36.5%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	267	199	36	60	67
Future Volume (Veh/h)	10	267	199	36	60	67
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	290	216	39	65	73
Pedestrians		1	1		96	
Lane Width (m)		3.7	3.7		3.7	
Walking Speed (m/s)		1.1	1.1		1.1	
Percent Blockage		0	0		9	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			276			
pX, platoon unblocked						
vC, conflicting volume	351				644	332
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	351				644	332
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				83	89
cM capacity (veh/h)	1099				393	645

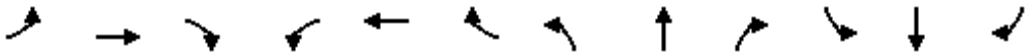
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	301	255	138
Volume Left	11	0	65
Volume Right	0	39	73
cSH	1099	1700	496
Volume to Capacity	0.01	0.15	0.28
Queue Length 95th (m)	0.2	0.0	7.9
Control Delay (s)	0.4	0.0	15.0
Lane LOS	A		C
Approach Delay (s)	0.4	0.0	15.0
Approach LOS			C

Intersection Summary			
Average Delay	3.2		
Intersection Capacity Utilization	36.5%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	233	76	19	179	7	44	37	25	15	41	22
Future Volume (vph)	32	233	76	19	179	7	44	37	25	15	41	22
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												
Frt		0.970			0.995			0.968			0.962	
Flt Protected		0.995			0.995			0.980			0.991	
Satd. Flow (prot)	0	1782	0	0	1849	0	0	1794	0	0	1808	0
Flt Permitted		0.995			0.995			0.980			0.991	
Satd. Flow (perm)	0	1782	0	0	1849	0	0	1794	0	0	1808	0
Link Speed (k/h)		40			40			40			48	
Link Distance (m)		107.5			52.2			284.3			52.6	
Travel Time (s)		9.7			4.7			25.6			3.9	
Confl. Peds. (#/hr)	43		8	8		43	4		2	2		4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	5%	2%	2%	3%	2%	1%	2%	2%	1%	1%	2%
Adj. Flow (vph)	35	253	83	21	195	8	48	40	27	16	45	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	371	0	0	224	0	0	115	0	0	85	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)		4.9			4.9			4.9			4.9	
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
Sign Control		Free			Free			Stop			Stop	

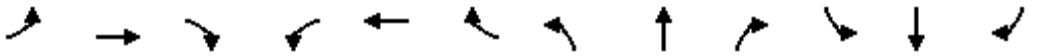
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	43.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	233	76	19	179	7	44	37	25	15	41	22
Future Volume (Veh/h)	32	233	76	19	179	7	44	37	25	15	41	22
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	35	253	83	21	195	8	48	40	27	16	45	24
Pedestrians		4			2			8			43	
Lane Width (m)		3.7			3.7			3.7			3.7	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		0			0			1			4	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					168							
pX, platoon unblocked												
vC, conflicting volume	246			344			664	660	304	698	698	246
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	246			344			664	660	304	698	698	246
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			98			84	89	96	94	86	97
cM capacity (veh/h)	1267			1206			301	348	728	280	333	758

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	371	224	115	85
Volume Left	35	21	48	16
Volume Right	83	8	27	24
cSH	1267	1206	369	379
Volume to Capacity	0.03	0.02	0.31	0.22
Queue Length 95th (m)	0.6	0.4	9.1	5.9
Control Delay (s)	1.0	0.9	19.1	17.2
Lane LOS	A	A	C	C
Approach Delay (s)	1.0	0.9	19.1	17.2
Approach LOS			C	C

Intersection Summary				
Average Delay	5.3			
Intersection Capacity Utilization	43.1%	ICU Level of Service	A	
Analysis Period (min)	15			

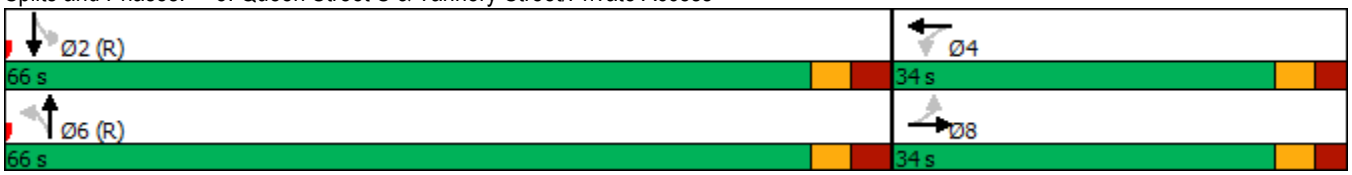


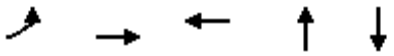
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	197	12	67	6	5	7	75	389	7	9	385	115
Future Volume (vph)	197	12	67	6	5	7	75	389	7	9	385	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		0	0		0
Taper Length (m)	40.0			2.5			2.5			2.5		
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	0.98	0.98			0.98			1.00			0.99	
Frt		0.873			0.946			0.998			0.969	
Flt Protected	0.950				0.983			0.992			0.999	
Satd. Flow (prot)	1772	1623	0	0	1721	0	0	1726	0	0	1646	0
Flt Permitted	0.744				0.920			0.842			0.990	
Satd. Flow (perm)	1356	1623	0	0	1608	0	0	1462	0	0	1631	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		73			8			1			26	
Link Speed (k/h)		40			30			40			40	
Link Distance (m)		115.8			36.8			153.4			69.8	
Travel Time (s)		10.4			4.4			13.8			6.3	
Confl. Peds. (#/hr)	10		2	2		10	16		16	16		16
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	2%	1%	2%	2%	2%	1%	12%	2%	2%	15%	1%
Adj. Flow (vph)	214	13	73	7	5	8	82	423	8	10	418	125
Shared Lane Traffic (%)												
Lane Group Flow (vph)	214	86	0	0	20	0	0	513	0	0	553	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	1		1	1		1	0		1	0	
Detector Template	Left			Left			Left	Thru		Left	Thru	
Leading Detector (m)	8.5	8.5		2.0	8.5		2.0	0.0		2.0	0.0	
Trailing Detector (m)	-0.2	-0.5		0.0	-0.5		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	-0.2	-0.5		0.0	-0.5		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	8.7	9.0		2.0	9.0		2.0	0.6		2.0	0.6	
Detector 1 Type	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	
Detector 1 Queue (s)	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	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Detector Phase	8	8		4	4		6	6		2	2	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	26.5	26.5		26.5	26.5		29.0	29.0		29.0	29.0	
Total Split (s)	34.0	34.0		34.0	34.0		66.0	66.0		66.0	66.0	
Total Split (%)	34.0%	34.0%		34.0%	34.0%		66.0%	66.0%		66.0%	66.0%	
Maximum Green (s)	28.5	28.5		28.5	28.5		60.0	60.0		60.0	60.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	
Total Lost Time (s)	5.5	5.5			5.5			6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		13.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	20.9	20.9			20.9			67.6			67.6	
Actuated g/C Ratio	0.21	0.21			0.21			0.68			0.68	
v/c Ratio	0.76	0.22			0.06			0.52			0.50	
Control Delay	53.5	10.4			20.9			14.7			10.4	
Queue Delay	0.0	0.0			0.0			0.0			0.0	
Total Delay	53.5	10.4			20.9			14.7			10.4	
LOS	D	B			C			B			B	
Approach Delay		41.1			20.9			14.7			10.4	
Approach LOS		D			C			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 84 (84%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 18.8		Intersection LOS: B	
Intersection Capacity Utilization 85.3%		ICU Level of Service E	
Analysis Period (min) 15			

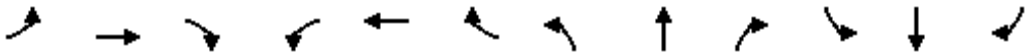
Splits and Phases: 8: Queen Street S & Tannery Street/Private Access





Lane Group	EBL	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	214	86	20	513	553
v/c Ratio	0.76	0.22	0.06	0.52	0.50
Control Delay	53.5	10.4	20.9	14.7	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	53.5	10.4	20.9	14.7	10.4
Queue Length 50th (m)	36.1	1.9	1.7	72.0	40.6
Queue Length 95th (m)	53.8	11.7	6.6	108.1	79.0
Internal Link Dist (m)		91.8	12.8	129.4	45.8
Turn Bay Length (m)	20.0				
Base Capacity (vph)	386	514	464	989	1111
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.55	0.17	0.04	0.52	0.50

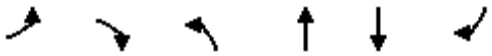
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	197	12	67	6	5	7	75	389	7	9	385	115
Future Volume (vph)	197	12	67	6	5	7	75	389	7	9	385	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5			5.5			6.0			6.0	
Lane Util. Factor	1.00	1.00			1.00			1.00			1.00	
Frpb, ped/bikes	1.00	0.98			0.98			1.00			0.99	
Flpb, ped/bikes	0.98	1.00			1.00			1.00			1.00	
Frt	1.00	0.87			0.95			1.00			0.97	
Flt Protected	0.95	1.00			0.98			0.99			1.00	
Satd. Flow (prot)	1731	1623			1718			1722			1647	
Flt Permitted	0.74	1.00			0.92			0.84			0.99	
Satd. Flow (perm)	1356	1623			1609			1462			1632	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	214	13	73	7	5	8	82	423	8	10	418	125
RTOR Reduction (vph)	0	58	0	0	6	0	0	0	0	0	8	0
Lane Group Flow (vph)	214	28	0	0	14	0	0	513	0	0	545	0
Confl. Peds. (#/hr)	10		2	2		10	16		16	16		16
Heavy Vehicles (%)	3%	2%	1%	2%	2%	2%	1%	12%	2%	2%	15%	1%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	20.9	20.9			20.9			67.6			67.6	
Effective Green, g (s)	20.9	20.9			20.9			67.6			67.6	
Actuated g/C Ratio	0.21	0.21			0.21			0.68			0.68	
Clearance Time (s)	5.5	5.5			5.5			6.0			6.0	
Vehicle Extension (s)	3.0	3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)	283	339			336			988			1103	
v/s Ratio Prot		0.02										
v/s Ratio Perm	c0.16				0.01			c0.35			0.33	
v/c Ratio	0.76	0.08			0.04			0.52			0.49	
Uniform Delay, d1	37.2	31.8			31.6			8.1			7.9	
Progression Factor	1.00	1.00			1.00			1.34			1.00	
Incremental Delay, d2	10.9	0.1			0.0			1.8			1.6	
Delay (s)	48.1	31.9			31.6			12.6			9.5	
Level of Service	D	C			C			B			A	
Approach Delay (s)		43.5			31.6			12.6			9.5	
Approach LOS		D			C			B			A	

Intersection Summary			
HCM 2000 Control Delay	18.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	85.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	208	183	156	460	428	307
Future Volume (vph)	208	183	156	460	428	307
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0	20.0	15.0			0.0
Storage Lanes	0	0	1			0
Taper Length (m)	0.0		100.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.90	0.89			0.97	
Frt		0.850			0.944	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1789	1585	1772	1865	1718	0
Flt Permitted	0.950		0.273			
Satd. Flow (perm)	1602	1404	509	1865	1718	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		199			67	
Link Speed (k/h)	50			40	40	
Link Distance (m)	168.1			211.1	113.7	
Travel Time (s)	12.1			19.0	10.2	
Confl. Peds. (#/hr)	38	35	47			47
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	3%	3%	3%	2%	2%
Adj. Flow (vph)	226	199	170	500	465	334
Shared Lane Traffic (%)						
Lane Group Flow (vph)	226	199	170	500	799	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.9			4.9	4.9	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	0	0	0	
Detector Template	Left			Thru	Thru	
Leading Detector (m)	8.5	8.5	0.0	0.0	0.0	
Trailing Detector (m)	-0.2	-0.5	0.0	0.0	0.0	
Detector 1 Position(m)	-0.2	-0.5	-0.5	0.0	0.0	
Detector 1 Size(m)	8.7	9.0	9.0	1.8	1.8	
Detector 1 Type	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	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	Perm	Perm	NA	NA	
Protected Phases				6	2	
Permitted Phases	8	8	6	6	2	
Detector Phase	8	8	6	6	2	
Switch Phase						

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	26.5	26.5	28.5	28.5	28.5	
Total Split (s)	32.0	32.0	78.0	78.0	78.0	
Total Split (%)	29.1%	29.1%	70.9%	70.9%	70.9%	
Maximum Green (s)	26.5	26.5	71.5	71.5	71.5	
Yellow Time (s)	3.5	3.5	3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0	3.5	3.5	3.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.5	6.5	6.5	6.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	C-Max	C-Max	C-Max	
Walk Time (s)	10.0	10.0	10.0	10.0	10.0	
Flash Dont Walk (s)	10.0	10.0	12.0	12.0	12.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	
Act Effct Green (s)	20.4	20.4	77.6	77.6	77.6	
Actuated g/C Ratio	0.19	0.19	0.71	0.71	0.71	
v/c Ratio	0.76	0.47	0.47	0.38	0.65	
Control Delay	50.7	10.6	13.9	8.2	7.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	50.7	10.6	13.9	8.2	7.7	
LOS	D	B	B	A	A	
Approach Delay	31.9			9.6	7.7	
Approach LOS	C			A	A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 58 (53%), Referenced to phase 2:SBT and 6:NBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 13.8		Intersection LOS: B	
Intersection Capacity Utilization 82.0%		ICU Level of Service D	
Analysis Period (min) 15			

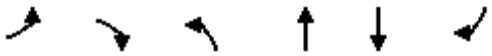
Splits and Phases: 1: Queen st & Thomas St





Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	226	199	170	500	799
v/c Ratio	0.76	0.47	0.47	0.38	0.65
Control Delay	50.7	10.6	13.9	8.2	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	50.7	10.6	13.9	8.2	7.7
Queue Length 50th (m)	43.8	11.4	13.2	35.4	19.5
Queue Length 95th (m)	64.4	20.8	34.7	61.4	87.8
Internal Link Dist (m)	144.1			187.1	89.7
Turn Bay Length (m)	20.0	20.0	15.0		
Base Capacity (vph)	385	489	358	1316	1232
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.59	0.41	0.47	0.38	0.65

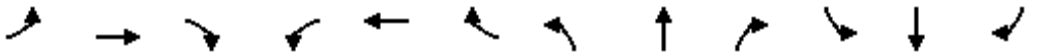
Intersection Summary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	208	183	156	460	428	307
Future Volume (vph)	208	183	156	460	428	307
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	6.5	6.5	6.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	0.89	1.00	1.00	0.97	
Flpb, ped/bikes	0.90	1.00	0.99	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.94	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1602	1404	1749	1865	1717	
Flt Permitted	0.95	1.00	0.27	1.00	1.00	
Satd. Flow (perm)	1602	1404	503	1865	1717	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	226	199	170	500	465	334
RTOR Reduction (vph)	0	162	0	0	20	0
Lane Group Flow (vph)	226	37	170	500	779	0
Confl. Peds. (#/hr)	38	35	47			47
Heavy Vehicles (%)	2%	3%	3%	3%	2%	2%
Turn Type	Perm	Perm	Perm	NA	NA	
Protected Phases				6	2	
Permitted Phases	8	8	6	6	2	
Actuated Green, G (s)	20.4	20.4	77.6	77.6	77.6	
Effective Green, g (s)	20.4	20.4	77.6	77.6	77.6	
Actuated g/C Ratio	0.19	0.19	0.71	0.71	0.71	
Clearance Time (s)	5.5	5.5	6.5	6.5	6.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	297	260	354	1315	1211	
v/s Ratio Prot				0.27	c0.45	
v/s Ratio Perm	c0.14	0.03	0.34			
v/c Ratio	0.76	0.14	0.48	0.38	0.64	
Uniform Delay, d1	42.5	37.5	7.2	6.5	8.7	
Progression Factor	0.83	1.38	1.00	1.00	0.57	
Incremental Delay, d2	10.4	0.2	4.6	0.8	2.4	
Delay (s)	45.5	52.0	11.8	7.4	7.4	
Level of Service	D	D	B	A	A	
Approach Delay (s)	48.5			8.5	7.4	
Approach LOS	D			A	A	

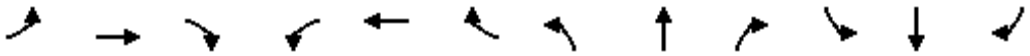
Intersection Summary			
HCM 2000 Control Delay	17.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	82.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	117	388	5	0	462	37	4	1	2	21	0	129
Future Volume (vph)	117	388	5	0	462	37	4	1	2	21	0	129
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												
Frt		0.999			0.989			0.961			0.884	
Flt Protected		0.989						0.972			0.993	
Satd. Flow (prot)	0	3484	0	0	3507	0	0	1759	0	0	1653	0
Flt Permitted		0.989						0.972			0.993	
Satd. Flow (perm)	0	3484	0	0	3507	0	0	1759	0	0	1653	0
Link Speed (k/h)		50			50			30			40	
Link Distance (m)		125.4			168.1			64.9			284.3	
Travel Time (s)		9.0			12.1			7.8			25.6	
Confl. Peds. (#/hr)	18		30	30		18						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	4%	2%	2%	3%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	127	422	5	0	502	40	4	1	2	23	0	140
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	554	0	0	542	0	0	7	0	0	163	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)		4.9			4.9			1.6			4.9	
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
Sign Control		Free			Free			Stop			Stop	

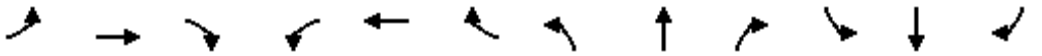
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	47.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	117	388	5	0	462	37	4	1	2	21	0	129
Future Volume (Veh/h)	117	388	5	0	462	37	4	1	2	21	0	129
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	127	422	5	0	502	40	4	1	2	23	0	140
Pedestrians								30			18	
Lane Width (m)								3.7			3.7	
Walking Speed (m/s)								1.1			1.1	
Percent Blockage								3			2	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		125			168							
pX, platoon unblocked												
vC, conflicting volume	560			457			1100	1268	244	1008	1251	289
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	560			457			1100	1268	244	1008	1251	289
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	87			100			96	99	100	86	100	80
cM capacity (veh/h)	989			1068			113	139	735	165	142	695

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	338	216	251	291	7	163
Volume Left	127	0	0	0	4	23
Volume Right	0	5	0	40	2	140
cSH	989	1700	1068	1700	154	479
Volume to Capacity	0.13	0.13	0.00	0.17	0.05	0.34
Queue Length 95th (m)	3.1	0.0	0.0	0.0	1.0	10.4
Control Delay (s)	4.3	0.0	0.0	0.0	29.5	16.4
Lane LOS	A				D	C
Approach Delay (s)	2.6		0.0		29.5	16.4
Approach LOS					D	C

Intersection Summary				
Average Delay	3.4			
Intersection Capacity Utilization	47.5%	ICU Level of Service		A
Analysis Period (min)	15			

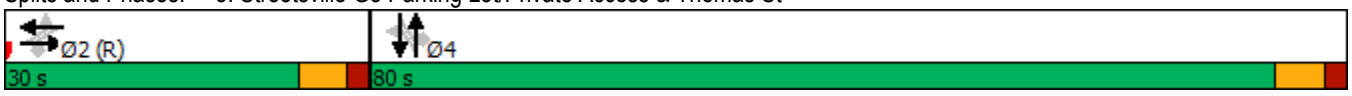


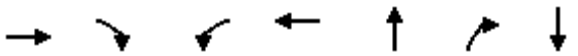
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	418	104	44	568	6	283	1	92	3	0	10
Future Volume (vph)	6	418	104	44	568	6	283	1	92	3	0	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	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			0.91		1.00			0.99	0.97		0.98	
Frt			0.850		0.998				0.850		0.894	
Flt Protected		0.999		0.950				0.953			0.989	
Satd. Flow (prot)	0	1846	1601	1789	1878	0	0	1761	1601	0	1639	0
Flt Permitted		0.991		0.417				0.717			0.944	
Satd. Flow (perm)	0	1831	1450	785	1878	0	0	1314	1559	0	1561	0
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)			113								30	
Link Speed (k/h)		50			50			40			30	
Link Distance (m)		129.3			125.4			171.6			40.7	
Travel Time (s)		9.3			9.0			15.4			4.9	
Confl. Peds. (#/hr)	22		22	22		22	4		7	7		4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	4%	2%	2%	2%	2%	4%	2%	2%	2%	2%	2%
Adj. Flow (vph)	7	454	113	48	617	7	308	1	100	3	0	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	461	113	48	624	0	0	309	100	0	14	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)		4.9			4.9			4.9			4.9	
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	0	0	1	0		1	1	1	1	1	
Detector Template	Left	Thru	Right		Thru		Left			Left		
Leading Detector (m)	6.1	0.0	0.0	21.8	0.0		6.1	6.0	6.0	6.1	8.8	
Trailing Detector (m)	0.0	0.0	0.0	12.8	0.0		0.0	-3.0	-3.0	0.0	-0.2	
Detector 1 Position(m)	0.0	0.0	0.0	12.8	0.0		0.0	-3.0	-3.0	0.0	-0.2	
Detector 1 Size(m)	6.1	1.8	6.1	9.0	1.8		6.1	9.0	9.0	6.1	9.0	
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	
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2		2	2			4		4	4		
Detector Phase	2	2	2	2	2		4	4	4	4	4	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	25.0	25.0	25.0	25.0	25.0		25.0	25.0	25.0	25.0	25.0	
Total Split (s)	30.0	30.0	30.0	30.0	30.0		80.0	80.0	80.0	80.0	80.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	27.3%	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	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	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)		6.0	6.0	6.0	6.0			6.0	6.0		6.0	
Lead/Lag												
Lead-Lag Optimize?												
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	C-Max	C-Max	C-Max	C-Max	C-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	8.0	
Flash Dont Walk (s)	8.0	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	0	
Act Effct Green (s)		62.8	62.8	62.8	62.8			35.2	35.2		35.2	
Actuated g/C Ratio		0.57	0.57	0.57	0.57			0.32	0.32		0.32	
v/c Ratio		0.44	0.13	0.11	0.58			0.74	0.20		0.03	
Control Delay		17.5	3.6	8.8	14.0			42.7	25.3		2.3	
Queue Delay		0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Delay		17.5	3.6	8.8	14.0			42.7	25.3		2.3	
LOS		B	A	A	B			D	C		A	
Approach Delay		14.8			13.6			38.5			2.3	
Approach LOS		B			B			D			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 10 (9%), Referenced to phase 2:EBWB, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay: 20.0		Intersection LOS: C	
Intersection Capacity Utilization 69.0%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: Streetsville Go Parking Lot/Private Access & Thomas St

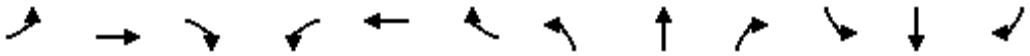




Lane Group	EBT	EBR	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	461	113	48	624	309	100	14
v/c Ratio	0.44	0.13	0.11	0.58	0.74	0.20	0.03
Control Delay	17.5	3.6	8.8	14.0	42.7	25.3	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.5	3.6	8.8	14.0	42.7	25.3	2.3
Queue Length 50th (m)	48.8	0.0	2.2	68.4	54.5	14.4	0.0
Queue Length 95th (m)	96.3	9.1	m7.6	142.1	66.6	20.7	1.5
Internal Link Dist (m)	105.3			101.4	147.6		16.7
Turn Bay Length (m)							
Base Capacity (vph)	1045	876	448	1072	883	1048	1059
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.13	0.11	0.58	0.35	0.10	0.01

Intersection Summary

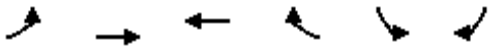
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	418	104	44	568	6	283	1	92	3	0	10
Future Volume (vph)	6	418	104	44	568	6	283	1	92	3	0	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0			6.0	6.0		6.0	
Lane Util. Factor		1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frpb, ped/bikes		1.00	0.91	1.00	1.00			1.00	0.97		0.98	
Flpb, ped/bikes		1.00	1.00	0.97	1.00			0.99	1.00		1.00	
Frt		1.00	0.85	1.00	1.00			1.00	0.85		0.89	
Flt Protected		1.00	1.00	0.95	1.00			0.95	1.00		0.99	
Satd. Flow (prot)		1846	1450	1741	1878			1745	1559		1637	
Flt Permitted		0.99	1.00	0.42	1.00			0.72	1.00		0.94	
Satd. Flow (perm)		1831	1450	763	1878			1314	1559		1563	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	7	454	113	48	617	7	308	1	100	3	0	11
RTOR Reduction (vph)	0	0	48	0	0	0	0	0	0	0	10	0
Lane Group Flow (vph)	0	461	65	48	624	0	0	309	100	0	4	0
Confl. Peds. (#/hr)	22		22	22		22	4		7	7		4
Heavy Vehicles (%)	2%	4%	2%	2%	2%	2%	4%	2%	2%	2%	2%	2%
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2		2	2			4		4	4		
Actuated Green, G (s)		62.8	62.8	62.8	62.8			35.2	35.2		35.2	
Effective Green, g (s)		62.8	62.8	62.8	62.8			35.2	35.2		35.2	
Actuated g/C Ratio		0.57	0.57	0.57	0.57			0.32	0.32		0.32	
Clearance Time (s)		6.0	6.0	6.0	6.0			6.0	6.0		6.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		1045	827	435	1072			420	498		500	
v/s Ratio Prot					c0.33							
v/s Ratio Perm		0.25	0.04	0.06				c0.24	0.06		0.00	
v/c Ratio		0.44	0.08	0.11	0.58			0.74	0.20		0.01	
Uniform Delay, d1		13.5	10.6	10.8	15.2			33.3	27.2		25.5	
Progression Factor		1.00	1.00	0.56	0.65			1.00	1.00		1.00	
Incremental Delay, d2		1.4	0.2	0.5	2.1			6.6	0.2		0.0	
Delay (s)		14.9	10.8	6.5	12.0			39.8	27.4		25.5	
Level of Service		B	B	A	B			D	C		C	
Approach Delay (s)		14.1			11.6			36.8			25.5	
Approach LOS		B			B			D			C	

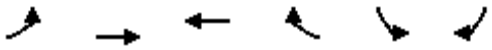
Intersection Summary			
HCM 2000 Control Delay	18.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	69.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	210	503	793	72	38	202
Future Volume (vph)	210	503	793	72	38	202
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0			0.0	10.0	0.0
Storage Lanes	0			0	1	1
Taper Length (m)	7.6				25.0	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.988			0.850
Flt Protected		0.986			0.950	
Satd. Flow (prot)	0	3424	3473	0	1789	1601
Flt Permitted		0.986			0.950	
Satd. Flow (perm)	0	3424	3473	0	1789	1601
Link Speed (k/h)		50	50		40	
Link Distance (m)		82.7	129.3		311.9	
Travel Time (s)		6.0	9.3		28.1	
Confl. Peds. (#/hr)	13					
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	6%	4%	2%	2%	2%
Adj. Flow (vph)	228	547	862	78	41	220
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	775	940	0	41	220
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.7	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.9	4.9		4.9	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

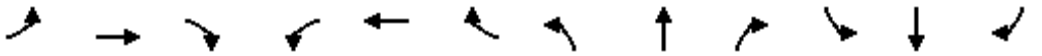
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 57.6%		ICU Level of Service B	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	210	503	793	72	38	202
Future Volume (Veh/h)	210	503	793	72	38	202
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	228	547	862	78	41	220
Pedestrians					13	
Lane Width (m)					3.7	
Walking Speed (m/s)					1.1	
Percent Blockage					1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			129			
pX, platoon unblocked						
vC, conflicting volume	953				1644	483
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	953				1644	483
tC, single (s)	4.2				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	68				32	58
cM capacity (veh/h)	702				60	523

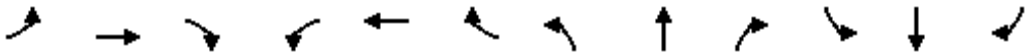
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total	410	365	575	365	41	220
Volume Left	228	0	0	0	41	0
Volume Right	0	0	0	78	0	220
cSH	702	1700	1700	1700	60	523
Volume to Capacity	0.32	0.21	0.34	0.21	0.68	0.42
Queue Length 95th (m)	9.9	0.0	0.0	0.0	20.3	14.5
Control Delay (s)	9.0	0.0	0.0	0.0	145.7	16.8
Lane LOS	A				F	C
Approach Delay (s)	4.8		0.0		37.0	
Approach LOS					E	

Intersection Summary			
Average Delay	6.8		
Intersection Capacity Utilization	57.6%	ICU Level of Service	B
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1	3	143	1	136	1	141	142	81	122	1
Future Volume (vph)	1	1	3	143	1	136	1	141	142	81	122	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												
Frt		0.919			0.934			0.932			0.999	
Flt Protected		0.990			0.975						0.981	
Satd. Flow (prot)	0	1714	0	0	1715	0	0	1764	0	0	1871	0
Flt Permitted		0.990			0.975						0.981	
Satd. Flow (perm)	0	1714	0	0	1715	0	0	1764	0	0	1871	0
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		53.6			165.4			311.9			123.6	
Travel Time (s)		4.8			14.9			28.1			11.1	
Confl. Peds. (#/hr)	13		4	4		13	19		3	3		19
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	1%	2%	0%	1%	2%
Adj. Flow (vph)	1	1	3	155	1	148	1	153	154	88	133	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	5	0	0	304	0	0	308	0	0	222	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			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			4.9			4.9			4.9	
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
Sign Control		Stop			Stop			Stop			Stop	

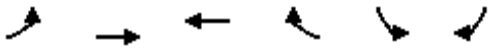
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	62.0%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	1	1	3	143	1	136	1	141	142	81	122	1
Future Volume (vph)	1	1	3	143	1	136	1	141	142	81	122	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	1	3	155	1	148	1	153	154	88	133	1

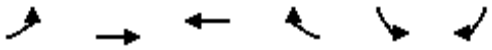
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	5	304	308	222
Volume Left (vph)	1	155	1	88
Volume Right (vph)	3	148	154	1
Hadj (s)	-0.29	-0.16	-0.27	0.09
Departure Headway (s)	5.5	5.1	4.8	5.2
Degree Utilization, x	0.01	0.43	0.41	0.32
Capacity (veh/h)	549	660	711	643
Control Delay (s)	8.5	11.8	11.1	10.7
Approach Delay (s)	8.5	11.8	11.1	10.7
Approach LOS	A	B	B	B

Intersection Summary				
Delay	11.3			
Level of Service	B			
Intersection Capacity Utilization	62.0%	ICU Level of Service	B	
Analysis Period (min)	15			



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	50	131	237	51	21	47
Future Volume (vph)	50	131	237	51	21	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.976		0.907	
Flt Protected		0.986			0.985	
Satd. Flow (prot)	0	1857	1838	0	1683	0
Flt Permitted		0.986			0.985	
Satd. Flow (perm)	0	1857	1838	0	1683	0
Link Speed (k/h)		40	40		40	
Link Distance (m)		165.4	107.5		111.8	
Travel Time (s)		14.9	9.7		10.1	
Confl. Peds. (#/hr)	16			16	2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	142	258	55	23	51
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	196	313	0	74	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.7	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.9	4.9		4.9	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

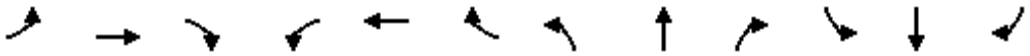
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 39.6%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	50	131	237	51	21	47
Future Volume (Veh/h)	50	131	237	51	21	47
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	142	258	55	23	51
Pedestrians			2		16	
Lane Width (m)			3.7		3.7	
Walking Speed (m/s)			1.1		1.1	
Percent Blockage			0		2	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			276			
pX, platoon unblocked						
vC, conflicting volume	329				554	302
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	329				554	302
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				95	93
cM capacity (veh/h)	1211				463	727

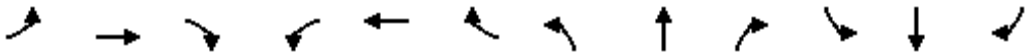
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	196	313	74
Volume Left	54	0	23
Volume Right	0	55	51
cSH	1211	1700	618
Volume to Capacity	0.04	0.18	0.12
Queue Length 95th (m)	1.0	0.0	2.8
Control Delay (s)	2.5	0.0	11.6
Lane LOS	A		B
Approach Delay (s)	2.5	0.0	11.6
Approach LOS			B

Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	39.6%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	100	23	28	159	23	33	54	45	14	53	54
Future Volume (vph)	40	100	23	28	159	23	33	54	45	14	53	54
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												
Frt		0.981			0.985			0.954			0.940	
Flt Protected		0.988			0.993			0.988			0.994	
Satd. Flow (prot)	0	1825	0	0	1842	0	0	1775	0	0	1760	0
Flt Permitted		0.988			0.993			0.988			0.994	
Satd. Flow (perm)	0	1825	0	0	1842	0	0	1775	0	0	1760	0
Link Speed (k/h)		40			40			40			48	
Link Distance (m)		107.5			52.2			284.3			52.6	
Travel Time (s)		9.7			4.7			25.6			3.9	
Confl. Peds. (#/hr)	10		15	15		10	5		11	11		5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	109	25	30	173	25	36	59	49	15	58	59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	177	0	0	228	0	0	144	0	0	132	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)		4.9			4.9			4.9			4.9	
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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 36.0%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	100	23	28	159	23	33	54	45	14	53	54
Future Volume (Veh/h)	40	100	23	28	159	23	33	54	45	14	53	54
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	43	109	25	30	173	25	36	59	49	15	58	59
Pedestrians		5			11			15			10	
Lane Width (m)		3.7			3.7			3.7			3.7	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		0			1			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					168							
pX, platoon unblocked												
vC, conflicting volume	208			149			561	490	148	552	490	200
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	208			149			561	490	148	552	490	200
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			98			89	87	94	96	87	93
cM capacity (veh/h)	1350			1411			339	442	877	348	442	828

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	177	228	144	132
Volume Left	43	30	36	15
Volume Right	25	25	49	59
cSH	1350	1411	487	538
Volume to Capacity	0.03	0.02	0.30	0.25
Queue Length 95th (m)	0.7	0.5	8.6	6.7
Control Delay (s)	2.1	1.2	15.5	13.9
Lane LOS	A	A	C	B
Approach Delay (s)	2.1	1.2	15.5	13.9
Approach LOS			C	B

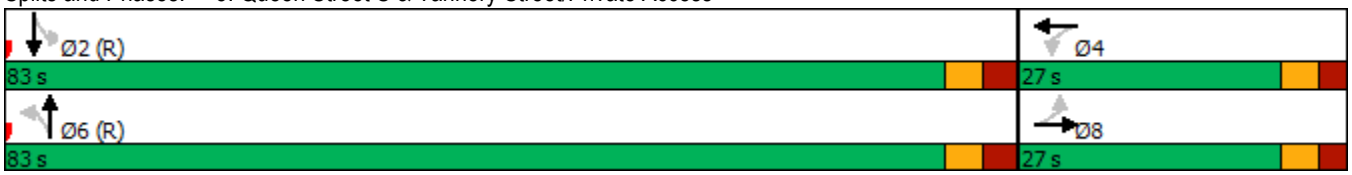
Intersection Summary				
Average Delay	6.9			
Intersection Capacity Utilization	36.0%	ICU Level of Service	A	
Analysis Period (min)	15			

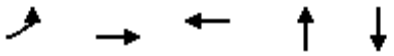
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	118	6	49	2	4	8	66	590	3	2	522	161
Future Volume (vph)	118	6	49	2	4	8	66	590	3	2	522	161
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		0	0		0
Taper Length (m)	40.0			2.5			2.5			2.5		
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	0.95			0.96			1.00			0.96	
Frt		0.867			0.919			0.999			0.968	
Flt Protected	0.950				0.993			0.995				
Satd. Flow (prot)	1789	1549	0	0	1656	0	0	1807	0	0	1730	0
Flt Permitted	0.748				0.971			0.866			0.999	
Satd. Flow (perm)	1351	1549	0	0	1611	0	0	1567	0	0	1728	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		53			9						34	
Link Speed (k/h)		40			30			40			40	
Link Distance (m)		115.8			36.8			153.4			69.8	
Travel Time (s)		10.4			4.4			13.8			6.3	
Confl. Peds. (#/hr)	16		15	15		16	58		70	70		58
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	6%	2%	2%	4%	2%
Adj. Flow (vph)	128	7	53	2	4	9	72	641	3	2	567	175
Shared Lane Traffic (%)												
Lane Group Flow (vph)	128	60	0	0	15	0	0	716	0	0	744	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	1		1	1		1	0		1	0	
Detector Template	Left			Left			Left	Thru		Left	Thru	
Leading Detector (m)	8.5	8.5		2.0	8.5		2.0	0.0		2.0	0.0	
Trailing Detector (m)	-0.2	-0.5		0.0	-0.5		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	-0.2	-0.5		0.0	-0.5		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	8.7	9.0		2.0	9.0		2.0	0.6		2.0	0.6	
Detector 1 Type	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	
Detector 1 Queue (s)	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	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Detector Phase	8	8		4	4		6	6		2	2	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	26.5	26.5		26.5	26.5		29.0	29.0		29.0	29.0	
Total Split (s)	27.0	27.0		27.0	27.0		83.0	83.0		83.0	83.0	
Total Split (%)	24.5%	24.5%		24.5%	24.5%		75.5%	75.5%		75.5%	75.5%	
Maximum Green (s)	21.5	21.5		21.5	21.5		77.0	77.0		77.0	77.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	
Total Lost Time (s)	5.5	5.5			5.5			6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		13.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	15.7	15.7			15.7			82.8			82.8	
Actuated g/C Ratio	0.14	0.14			0.14			0.75			0.75	
v/c Ratio	0.67	0.23			0.06			0.61			0.57	
Control Delay	60.6	14.7			25.2			6.4			8.3	
Queue Delay	0.0	0.0			0.0			0.0			0.0	
Total Delay	60.6	14.7			25.2			6.4			8.3	
LOS	E	B			C			A			A	
Approach Delay		46.0			25.2			6.4			8.3	
Approach LOS		D			C			A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 37 (34%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay: 11.9		Intersection LOS: B	
Intersection Capacity Utilization 102.8%		ICU Level of Service G	
Analysis Period (min) 15			

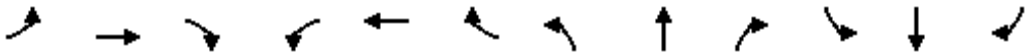
Splits and Phases: 8: Queen Street S & Tannery Street/Private Access





Lane Group	EBL	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	128	60	15	716	744
v/c Ratio	0.67	0.23	0.06	0.61	0.57
Control Delay	60.6	14.7	25.2	6.4	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	60.6	14.7	25.2	6.4	8.3
Queue Length 50th (m)	24.3	1.2	1.0	29.7	50.8
Queue Length 95th (m)	40.1	11.2	6.1	46.2	94.3
Internal Link Dist (m)		91.8	12.8	129.4	45.8
Turn Bay Length (m)	20.0				
Base Capacity (vph)	264	345	322	1179	1309
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.48	0.17	0.05	0.61	0.57

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	118	6	49	2	4	8	66	590	3	2	522	161
Future Volume (vph)	118	6	49	2	4	8	66	590	3	2	522	161
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5			5.5			6.0			6.0	
Lane Util. Factor	1.00	1.00			1.00			1.00			1.00	
Frpb, ped/bikes	1.00	0.95			0.96			1.00			0.96	
Flpb, ped/bikes	0.96	1.00			1.00			1.00			1.00	
Frt	1.00	0.87			0.92			1.00			0.97	
Flt Protected	0.95	1.00			0.99			0.99			1.00	
Satd. Flow (prot)	1716	1549			1648			1800			1730	
Flt Permitted	0.75	1.00			0.97			0.87			1.00	
Satd. Flow (perm)	1350	1549			1612			1567			1729	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	128	7	53	2	4	9	72	641	3	2	567	175
RTOR Reduction (vph)	0	45	0	0	8	0	0	0	0	0	8	0
Lane Group Flow (vph)	128	15	0	0	7	0	0	716	0	0	736	0
Confl. Peds. (#/hr)	16		15	15		16	58		70	70		58
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	6%	2%	2%	4%	2%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	15.7	15.7			15.7			82.8			82.8	
Effective Green, g (s)	15.7	15.7			15.7			82.8			82.8	
Actuated g/C Ratio	0.14	0.14			0.14			0.75			0.75	
Clearance Time (s)	5.5	5.5			5.5			6.0			6.0	
Vehicle Extension (s)	3.0	3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)	192	221			230			1179			1301	
v/s Ratio Prot		0.01										
v/s Ratio Perm	c0.09				0.00			c0.46			0.43	
v/c Ratio	0.67	0.07			0.03			0.61			0.57	
Uniform Delay, d1	44.7	40.8			40.6			6.2			5.9	
Progression Factor	1.00	1.00			1.00			0.58			1.00	
Incremental Delay, d2	8.4	0.1			0.1			2.1			1.8	
Delay (s)	53.1	40.9			40.7			5.7			7.6	
Level of Service	D	D			D			A			A	
Approach Delay (s)		49.2			40.7			5.7			7.6	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	11.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	102.8%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

APPENDIX I

ITE Trip Generation

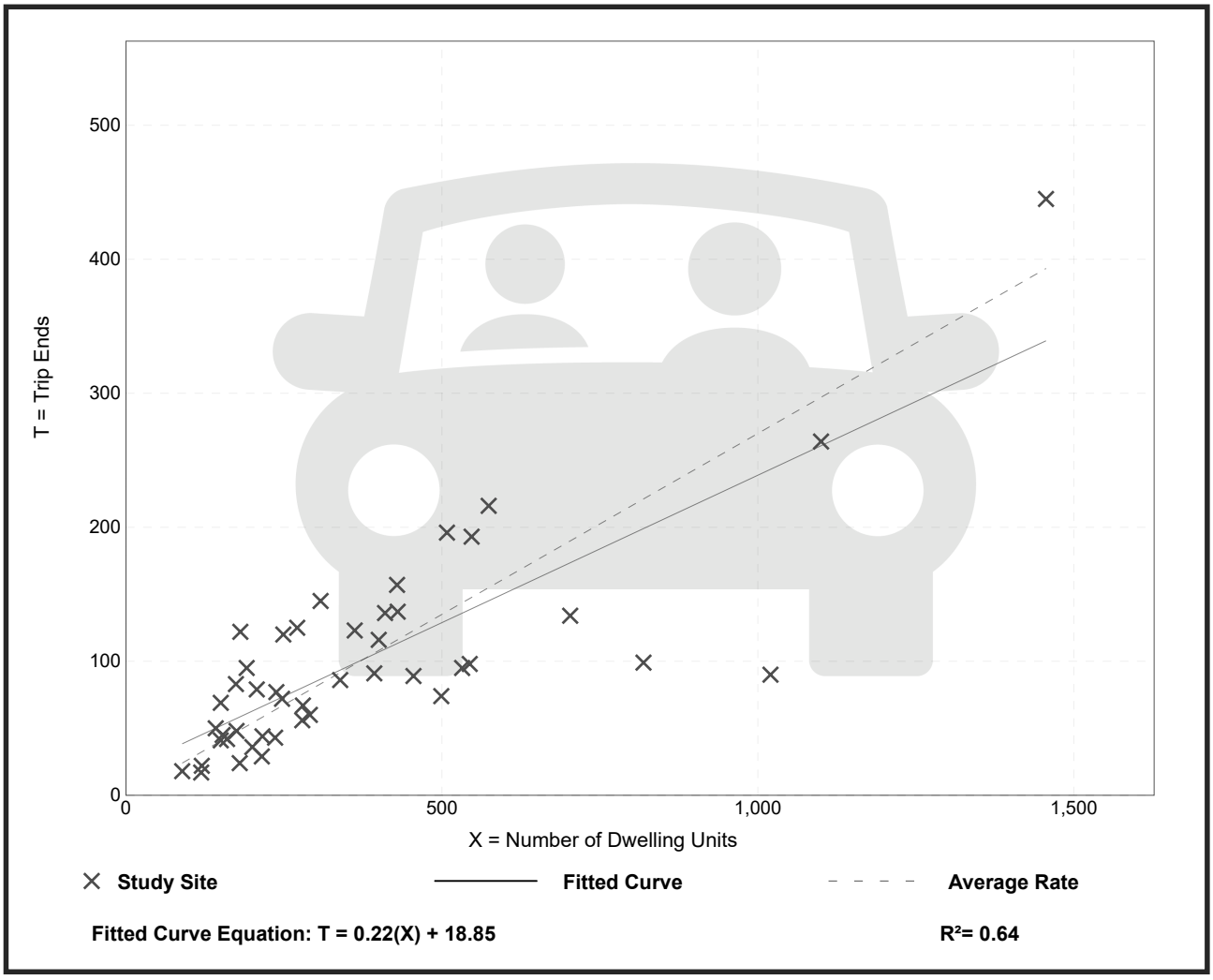
Multifamily Housing (High-Rise)
Not Close to Rail Transit (222)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 45
Avg. Num. of Dwelling Units: 372
Directional Distribution: 26% entering, 74% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.27	0.09 - 0.67	0.11

Data Plot and Equation



Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

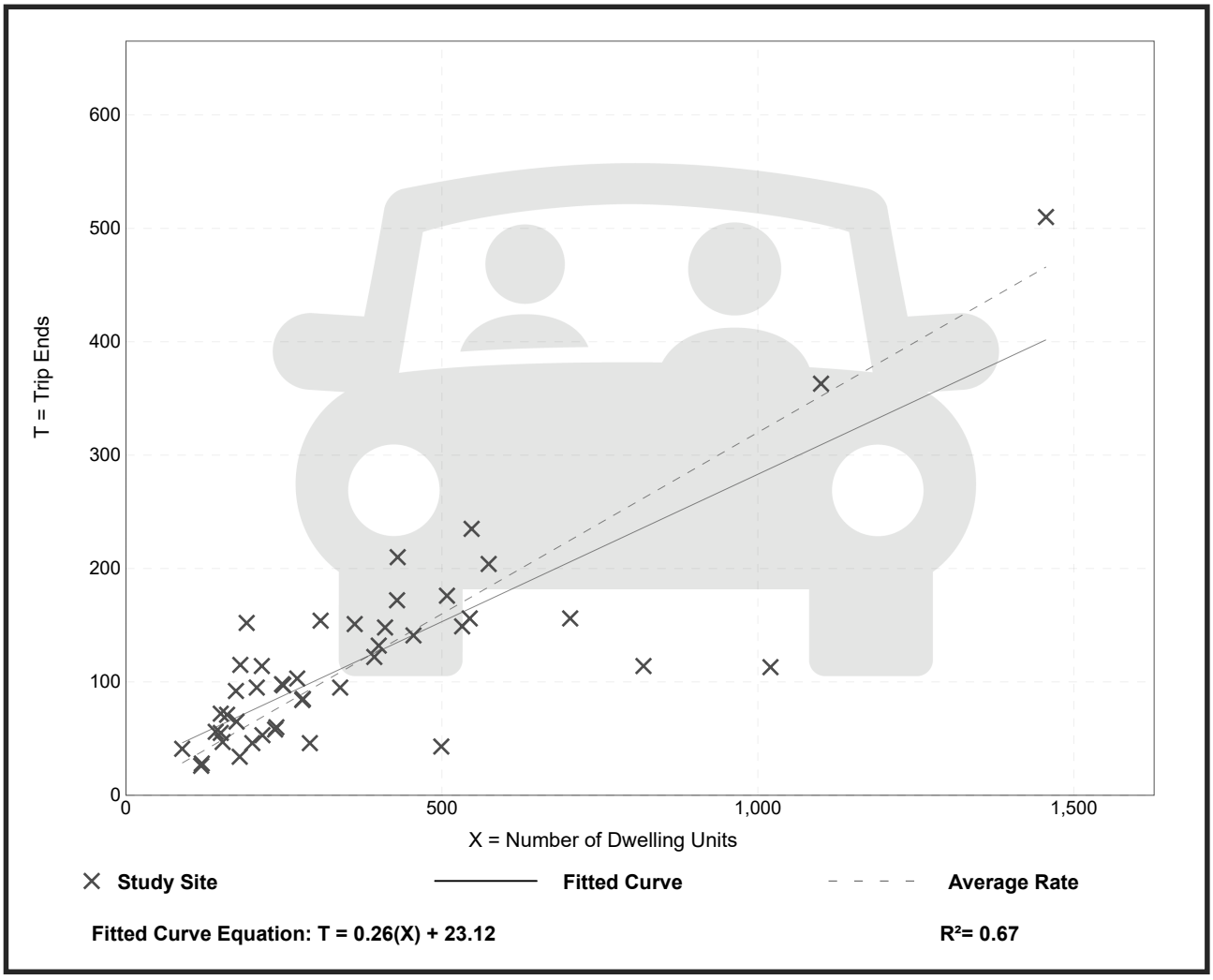
Multifamily Housing (High-Rise)
Not Close to Rail Transit (222)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 45
Avg. Num. of Dwelling Units: 372
Directional Distribution: 62% entering, 38% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.32	0.09 - 0.80	0.13

Data Plot and Equation



Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

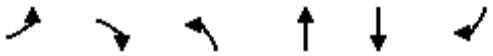
APPENDIX J

TTS Analysis

Time Period	Internal								External								Total
	NW	N	NE	E	SE	S	SW	W	NW	N	NE	E	SE	S	SW	W	
AM (IN)	0.0%	0.0%	7.8%	11.9%	52.4%	0.0%	0.0%	0.0%	0.0%	0.0%	5.7%	13.9%	2.7%	2.9%	2.7%	0.0%	100.0%
AM (OUT)	3.4%	6.9%	10.2%	15.3%	8.2%	6.8%	13.4%	0.0%	1.1%	5.6%	3.3%	8.2%	7.7%	0.0%	8.2%	1.8%	100.0%
PM (IN)	0.0%	8.5%	6.8%	19.4%	9.1%	8.1%	9.4%	0.0%	2.5%	2.8%	2.9%	11.6%	14.3%	0.0%	2.6%	2.1%	100.0%
PM (OUT)	39.7%	12.5%	0.0%	20.2%	3.1%	6.2%	17.7%	0.0%	0.0%	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%

APPENDIX K

2028 Future Total Detailed Capacity Analysis



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	264	161	134	373	391	198
Future Volume (vph)	264	161	134	373	391	198
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0	20.0	15.0			0.0
Storage Lanes	0	0	1			0
Taper Length (m)	0.0		100.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	0.97	1.00		0.99	
Frt		0.850			0.955	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1722	1512	1772	1746	1630	0
Flt Permitted	0.950		0.342			
Satd. Flow (perm)	1700	1467	636	1746	1630	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		175			41	
Link Speed (k/h)	50			40	40	
Link Distance (m)	168.1			211.1	113.7	
Travel Time (s)	12.1			19.0	10.2	
Confl. Peds. (#/hr)	5	4	9			9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	6%	8%	3%	10%	14%	7%
Adj. Flow (vph)	287	175	146	405	425	215
Shared Lane Traffic (%)						
Lane Group Flow (vph)	287	175	146	405	640	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.9			4.9	4.9	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	0	0	0	
Detector Template	Left			Thru	Thru	
Leading Detector (m)	8.5	8.5	0.0	0.0	0.0	
Trailing Detector (m)	-0.2	-0.5	0.0	0.0	0.0	
Detector 1 Position(m)	-0.2	-0.5	-0.5	0.0	0.0	
Detector 1 Size(m)	8.7	9.0	9.0	1.8	1.8	
Detector 1 Type	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	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	Perm	Perm	NA	NA	
Protected Phases				6	2	
Permitted Phases	8	8	6	6	2	
Detector Phase	8	8	6	6	2	
Switch Phase						

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	26.5	26.5	28.5	28.5	28.5	
Total Split (s)	38.0	38.0	62.0	62.0	62.0	
Total Split (%)	38.0%	38.0%	62.0%	62.0%	62.0%	
Maximum Green (s)	32.5	32.5	55.5	55.5	55.5	
Yellow Time (s)	3.5	3.5	3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0	3.5	3.5	3.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.5	6.5	6.5	6.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	C-Max	C-Max	C-Max	
Walk Time (s)	10.0	10.0	10.0	10.0	10.0	
Flash Dont Walk (s)	10.0	10.0	12.0	12.0	12.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	
Act Effct Green (s)	22.3	22.3	65.7	65.7	65.7	
Actuated g/C Ratio	0.22	0.22	0.66	0.66	0.66	
v/c Ratio	0.76	0.38	0.35	0.35	0.59	
Control Delay	43.5	4.8	12.1	9.7	13.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	43.5	4.8	12.1	9.7	13.3	
LOS	D	A	B	A	B	
Approach Delay	28.9			10.4	13.3	
Approach LOS	C			B	B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 70 (70%), Referenced to phase 2:SBT and 6:NBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 16.7		Intersection LOS: B	
Intersection Capacity Utilization 71.6%		ICU Level of Service C	
Analysis Period (min) 15			

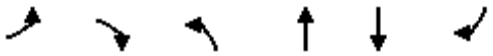
Splits and Phases: 1: Queen st & Thomas St





Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	287	175	146	405	640
v/c Ratio	0.76	0.38	0.35	0.35	0.59
Control Delay	43.5	4.8	12.1	9.7	13.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	43.5	4.8	12.1	9.7	13.3
Queue Length 50th (m)	49.3	5.0	10.4	29.0	47.7
Queue Length 95th (m)	68.6	4.3	27.1	55.8	92.3
Internal Link Dist (m)	144.1			187.1	89.7
Turn Bay Length (m)	20.0	20.0	15.0		
Base Capacity (vph)	552	594	417	1146	1084
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.52	0.29	0.35	0.35	0.59

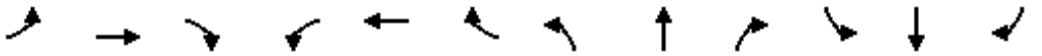
Intersection Summary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	264	161	134	373	391	198
Future Volume (vph)	264	161	134	373	391	198
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	6.5	6.5	6.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	0.97	1.00	1.00	0.99	
Flpb, ped/bikes	0.99	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.95	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1700	1467	1765	1746	1629	
Flt Permitted	0.95	1.00	0.34	1.00	1.00	
Satd. Flow (perm)	1700	1467	636	1746	1629	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	287	175	146	405	425	215
RTOR Reduction (vph)	0	136	0	0	14	0
Lane Group Flow (vph)	287	39	146	405	626	0
Confl. Peds. (#/hr)	5	4	9			9
Heavy Vehicles (%)	6%	8%	3%	10%	14%	7%
Turn Type	Perm	Perm	Perm	NA	NA	
Protected Phases				6	2	
Permitted Phases	8	8	6	6	2	
Actuated Green, G (s)	22.3	22.3	65.7	65.7	65.7	
Effective Green, g (s)	22.3	22.3	65.7	65.7	65.7	
Actuated g/C Ratio	0.22	0.22	0.66	0.66	0.66	
Clearance Time (s)	5.5	5.5	6.5	6.5	6.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	379	327	417	1147	1070	
v/s Ratio Prot				0.23	c0.38	
v/s Ratio Perm	c0.17	0.03	0.23			
v/c Ratio	0.76	0.12	0.35	0.35	0.58	
Uniform Delay, d1	36.3	31.0	7.6	7.7	9.6	
Progression Factor	0.86	0.56	1.00	1.00	1.05	
Incremental Delay, d2	8.3	0.2	2.3	0.9	2.2	
Delay (s)	39.6	17.6	9.9	8.5	12.2	
Level of Service	D	B	A	A	B	
Approach Delay (s)	31.3			8.9	12.2	
Approach LOS	C			A	B	

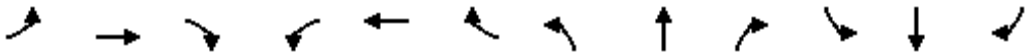
Intersection Summary			
HCM 2000 Control Delay	16.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	71.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	412	4	2	320	50	2	0	2	29	1	77
Future Volume (vph)	104	412	4	2	320	50	2	0	2	29	1	77
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												
Frt		0.999			0.980			0.932			0.903	
Flt Protected		0.990						0.976			0.987	
Satd. Flow (prot)	0	3363	0	0	3263	0	0	1713	0	0	1679	0
Flt Permitted		0.990						0.976			0.987	
Satd. Flow (perm)	0	3363	0	0	3263	0	0	1713	0	0	1679	0
Link Speed (k/h)		50			50			30			40	
Link Distance (m)		125.4			168.1			64.9			284.3	
Travel Time (s)		9.0			12.1			7.8			25.6	
Confl. Peds. (#/hr)	11		15	15		11	1		1	1		1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	9%	2%	2%	11%	1%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	113	448	4	2	348	54	2	0	2	32	1	84
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	565	0	0	404	0	0	4	0	0	117	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)		4.9			4.9			1.6			4.9	
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
Sign Control		Free			Free			Stop			Stop	

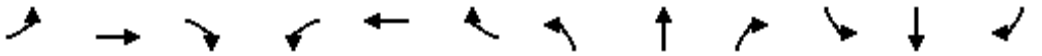
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	43.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	412	4	2	320	50	2	0	2	29	1	77
Future Volume (Veh/h)	104	412	4	2	320	50	2	0	2	29	1	77
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	113	448	4	2	348	54	2	0	2	32	1	84
Pedestrians		1			1			15			11	
Lane Width (m)		3.7			3.7			3.7			3.7	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		0			0			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		125			168							
pX, platoon unblocked												
vC, conflicting volume	413			467			954	1108	242	843	1083	213
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	413			467			954	1108	242	843	1083	213
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	90			100			99	100	100	86	99	89
cM capacity (veh/h)	1138			1076			169	183	747	229	189	783

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	337	228	176	228	4	117
Volume Left	113	0	2	0	2	32
Volume Right	0	4	0	54	2	84
cSH	1138	1700	1076	1700	276	464
Volume to Capacity	0.10	0.13	0.00	0.13	0.01	0.25
Queue Length 95th (m)	2.3	0.0	0.0	0.0	0.3	6.9
Control Delay (s)	3.5	0.0	0.1	0.0	18.2	15.3
Lane LOS	A		A		C	C
Approach Delay (s)	2.1		0.0		18.2	15.3
Approach LOS					C	C

Intersection Summary				
Average Delay	2.8			
Intersection Capacity Utilization	43.2%	ICU Level of Service		A
Analysis Period (min)	15			

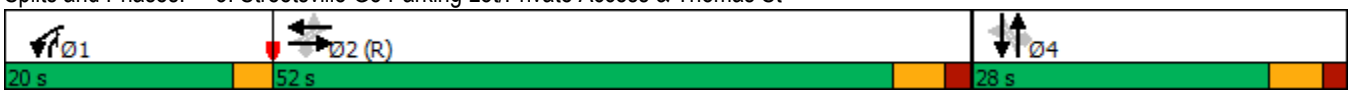


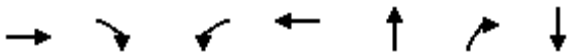
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	339	473	85	220	0	188	1	64	0	0	2
Future Volume (vph)	0	339	473	85	220	0	188	1	64	0	0	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	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	0.97		0.98	
Frt			0.850						0.850		0.865	
Flt Protected				0.950				0.953				
Satd. Flow (prot)	0	1762	1555	1789	1746	0	0	1795	1585	0	1604	0
Flt Permitted				0.506				0.727				
Satd. Flow (perm)	0	1762	1491	944	1746	0	0	1364	1537	0	1604	0
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)			514								660	
Link Speed (k/h)		50			50			40			30	
Link Distance (m)		129.3			125.4			171.6			40.7	
Travel Time (s)		9.3			9.0			15.4			4.9	
Confl. Peds. (#/hr)	20		7	7		20	2		10	10		2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	9%	5%	2%	10%	2%	2%	2%	3%	2%	2%	2%
Adj. Flow (vph)	0	368	514	92	239	0	204	1	70	0	0	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	368	514	92	239	0	0	205	70	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)		4.9			4.9			4.9			4.9	
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	0	0	1	0		1	1	1	1	1	
Detector Template	Left	Thru	Right		Thru		Left			Left		
Leading Detector (m)	6.1	0.0	0.0	21.8	0.0		6.1	6.0	6.0	6.1	8.8	
Trailing Detector (m)	0.0	0.0	0.0	12.8	0.0		0.0	-3.0	-3.0	0.0	-0.2	
Detector 1 Position(m)	0.0	0.0	0.0	12.8	0.0		0.0	-3.0	-3.0	0.0	-0.2	
Detector 1 Size(m)	6.1	1.8	6.1	9.0	1.8		6.1	9.0	9.0	6.1	9.0	
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	
Turn Type		NA	Perm	pm+pt	NA		Perm	NA	pm+ov		NA	
Protected Phases		2		1	2			4	1		4	
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)	25.0	25.0	25.0	9.5	25.0		25.0	25.0	9.5	25.0	25.0	
Total Split (s)	52.0	52.0	52.0	20.0	52.0		28.0	28.0	20.0	28.0	28.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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	17.0	46.0		22.0	22.0	17.0	22.0	22.0	
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0		4.0	4.0	3.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	0.0	2.0		2.0	2.0	0.0	2.0	2.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)		6.0	6.0	3.0	6.0			6.0	3.0		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	C-Max	C-Max	C-Max	None	C-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	
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)		61.5	61.5	69.8	61.5			18.8	28.1		18.8	
Actuated g/C Ratio		0.62	0.62	0.70	0.62			0.19	0.28		0.19	
v/c Ratio		0.34	0.46	0.13	0.22			0.80	0.16		0.00	
Control Delay		11.8	2.5	2.5	7.1			61.1	24.2		0.0	
Queue Delay		0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Delay		11.8	2.5	2.5	7.1			61.1	24.2		0.0	
LOS		B	A	A	A			E	C		A	
Approach Delay		6.4			5.8			51.7				
Approach LOS		A			A			D				

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 11 (11%), Referenced to phase 2:EBWB, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.80			
Intersection Signal Delay: 14.6		Intersection LOS: B	
Intersection Capacity Utilization 65.5%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: Streetsville Go Parking Lot/Private Access & Thomas St





Lane Group	EBT	EBR	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	368	514	92	239	205	70	2
v/c Ratio	0.34	0.46	0.13	0.22	0.80	0.16	0.00
Control Delay	11.8	2.5	2.5	7.1	61.1	24.2	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.8	2.5	2.5	7.1	61.1	24.2	0.0
Queue Length 50th (m)	32.2	0.0	2.8	21.6	34.5	8.8	0.0
Queue Length 95th (m)	52.9	12.6	m2.5	25.3	#60.1	17.1	0.0
Internal Link Dist (m)	105.3			101.4	147.6		16.7
Turn Bay Length (m)							
Base Capacity (vph)	1083	1114	825	1073	300	604	867
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.46	0.11	0.22	0.68	0.12	0.00

Intersection Summary

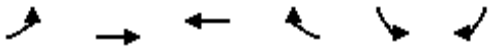
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	339	473	85	220	0	188	1	64	0	0	2
Future Volume (vph)	0	339	473	85	220	0	188	1	64	0	0	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	3.0	6.0			6.0	3.0		6.0	
Lane Util. Factor		1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frpb, ped/bikes		1.00	0.96	1.00	1.00			1.00	0.98		0.98	
Flpb, ped/bikes		1.00	1.00	0.99	1.00			1.00	1.00		1.00	
Frt		1.00	0.85	1.00	1.00			1.00	0.85		0.86	
Flt Protected		1.00	1.00	0.95	1.00			0.95	1.00		1.00	
Satd. Flow (prot)		1762	1491	1779	1746			1787	1548		1604	
Flt Permitted		1.00	1.00	0.51	1.00			0.73	1.00		1.00	
Satd. Flow (perm)		1762	1491	948	1746			1364	1548		1604	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	368	514	92	239	0	204	1	70	0	0	2
RTOR Reduction (vph)	0	0	201	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	368	313	92	239	0	0	205	70	0	0	0
Confl. Peds. (#/hr)	20		7	7		20	2		10	10		2
Heavy Vehicles (%)	2%	9%	5%	2%	10%	2%	2%	2%	3%	2%	2%	2%
Turn Type		NA	Perm	pm+pt	NA		Perm	NA	pm+ov		NA	
Protected Phases		2		1	2			4	1		4	
Permitted Phases	2		2	2			4		4	4		
Actuated Green, G (s)		60.9	60.9	66.2	60.9			18.8	24.1		18.8	
Effective Green, g (s)		60.9	60.9	66.2	60.9			18.8	24.1		18.8	
Actuated g/C Ratio		0.61	0.61	0.66	0.61			0.19	0.24		0.19	
Clearance Time (s)		6.0	6.0	3.0	6.0			6.0	3.0		6.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		1073	908	671	1063			256	373		301	
v/s Ratio Prot		0.21		0.01	0.14				c0.01		0.00	
v/s Ratio Perm			c0.21	0.08				c0.15	0.04			
v/c Ratio		0.34	0.34	0.14	0.22			0.80	0.19		0.00	
Uniform Delay, d1		9.7	9.7	6.1	8.9			38.8	30.2		33.0	
Progression Factor		1.00	1.00	0.44	0.66			1.00	1.00		1.00	
Incremental Delay, d2		0.9	1.0	0.1	0.5			16.3	0.2		0.0	
Delay (s)		10.5	10.7	2.8	6.3			55.1	30.4		33.0	
Level of Service		B	B	A	A			E	C		C	
Approach Delay (s)		10.6			5.3			48.8			33.0	
Approach LOS		B			A			D			C	

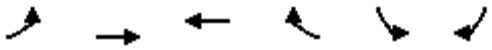
Intersection Summary			
HCM 2000 Control Delay	16.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	65.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	181	783	349	64	36	293
Future Volume (vph)	181	783	349	64	36	293
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0			0.0	10.0	0.0
Storage Lanes	0			0	1	1
Taper Length (m)	7.6				25.0	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.977			0.850
Flt Protected		0.991			0.950	
Satd. Flow (prot)	0	3279	3229	0	1807	1512
Flt Permitted		0.991			0.950	
Satd. Flow (perm)	0	3279	3229	0	1807	1512
Link Speed (k/h)		50	50		40	
Link Distance (m)		82.7	129.3		311.9	
Travel Time (s)		6.0	9.3		28.1	
Confl. Peds. (#/hr)	10			10	2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	12%	12%	2%	1%	8%
Adj. Flow (vph)	197	851	379	70	39	318
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1048	449	0	39	318
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.7	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.9	4.9		4.9	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

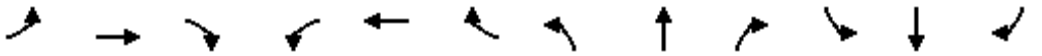
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 52.5%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	181	783	349	64	36	293
Future Volume (Veh/h)	181	783	349	64	36	293
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	197	851	379	70	39	318
Pedestrians			2		10	
Lane Width (m)			3.7		3.7	
Walking Speed (m/s)			1.1		1.1	
Percent Blockage			0		1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			129			
pX, platoon unblocked						
vC, conflicting volume	459				1246	234
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	459				1246	234
tC, single (s)	4.2				6.8	7.1
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.4
p0 queue free %	82				71	57
cM capacity (veh/h)	1081				135	742

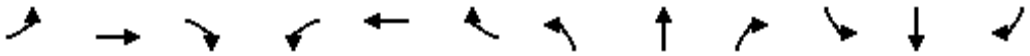
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total	481	567	253	196	39	318
Volume Left	197	0	0	0	39	0
Volume Right	0	0	0	70	0	318
cSH	1081	1700	1700	1700	135	742
Volume to Capacity	0.18	0.33	0.15	0.12	0.29	0.43
Queue Length 95th (m)	4.7	0.0	0.0	0.0	7.8	15.1
Control Delay (s)	4.9	0.0	0.0	0.0	42.0	13.4
Lane LOS	A				E	B
Approach Delay (s)	2.2		0.0		16.6	
Approach LOS					C	

Intersection Summary			
Average Delay	4.5		
Intersection Capacity Utilization	52.5%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	56	42	182	75	116	65	163	93	110	97	25
Future Volume (vph)	12	56	42	182	75	116	65	163	93	110	97	25
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												
Frt		0.948			0.958			0.961			0.986	
Flt Protected		0.995			0.976			0.990			0.977	
Satd. Flow (prot)	0	1812	0	0	1756	0	0	1801	0	0	1757	0
Flt Permitted		0.995			0.976			0.990			0.977	
Satd. Flow (perm)	0	1812	0	0	1756	0	0	1801	0	0	1757	0
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		53.6			165.4			311.9			123.6	
Travel Time (s)		4.8			14.9			28.1			11.1	
Confl. Peds. (#/hr)	115		6	6		115	32		5	5		32
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	3%	1%	2%	1%	2%	1%	6%	6%	0%
Adj. Flow (vph)	13	61	46	198	82	126	71	177	101	120	105	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	120	0	0	406	0	0	349	0	0	252	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			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			4.9			4.9			4.9	
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
Sign Control		Stop			Stop			Stop			Stop	

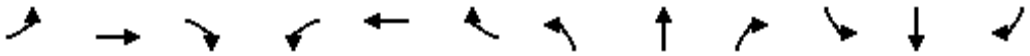
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	12	56	42	182	75	116	65	163	93	110	97	25
Future Volume (vph)	12	56	42	182	75	116	65	163	93	110	97	25
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	61	46	198	82	126	71	177	101	120	105	27

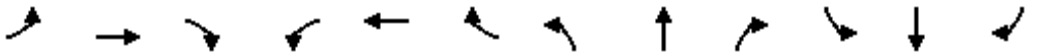
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	120	406	349	252
Volume Left (vph)	13	198	71	120
Volume Right (vph)	46	126	101	27
Hadj (s)	-0.21	-0.05	-0.11	0.12
Departure Headway (s)	6.5	6.0	6.0	6.4
Degree Utilization, x	0.22	0.68	0.58	0.45
Capacity (veh/h)	452	569	557	501
Control Delay (s)	11.4	20.7	17.2	14.6
Approach Delay (s)	11.4	20.7	17.2	14.6
Approach LOS	B	C	C	B

Intersection Summary				
Delay	17.2			
Level of Service	C			
Intersection Capacity Utilization	62.9%	ICU Level of Service	B	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	267	10	37	199	36	70	0	57	60	0	67
Future Volume (vph)	10	267	10	37	199	36	70	0	57	60	0	67
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												
Frt		0.995			0.982			0.939			0.929	
Flt Protected		0.998			0.993			0.973			0.977	
Satd. Flow (prot)	0	1758	0	0	1788	0	0	1721	0	0	1709	0
Flt Permitted		0.998			0.993			0.973			0.977	
Satd. Flow (perm)	0	1758	0	0	1788	0	0	1721	0	0	1709	0
Link Speed (k/h)		40			40			30			40	
Link Distance (m)		165.4			107.5			87.0			111.8	
Travel Time (s)		14.9			9.7			10.4			10.1	
Confl. Peds. (#/hr)	96					96				1		1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	9%	2%	2%	6%	1%	2%	2%	2%	2%	1%	2%
Adj. Flow (vph)	11	290	11	40	216	39	76	0	62	65	0	73
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	312	0	0	295	0	0	138	0	0	138	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)		4.9			4.9			1.6			4.9	
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
Sign Control		Free			Free			Stop			Stop	

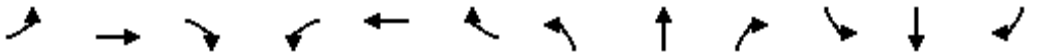
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	46.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	267	10	37	199	36	70	0	57	60	0	67
Future Volume (Veh/h)	10	267	10	37	199	36	70	0	57	60	0	67
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	290	11	40	216	39	76	0	62	65	0	73
Pedestrians		1			1						96	
Lane Width (m)		3.7			3.7						3.7	
Walking Speed (m/s)		1.1			1.1						1.1	
Percent Blockage		0			0						9	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					276							
pX, platoon unblocked												
vC, conflicting volume	351			301			707	748	296	792	734	332
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	351			301			707	748	296	792	734	332
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			97			73	100	92	72	100	89
cM capacity (veh/h)	1099			1260			280	297	742	231	304	645

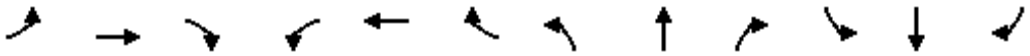
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	312	295	138	138
Volume Left	11	40	76	65
Volume Right	11	39	62	73
cSH	1099	1260	389	350
Volume to Capacity	0.01	0.03	0.36	0.39
Queue Length 95th (m)	0.2	0.7	11.0	12.8
Control Delay (s)	0.4	1.3	19.3	21.9
Lane LOS	A	A	C	C
Approach Delay (s)	0.4	1.3	19.3	21.9
Approach LOS			C	C

Intersection Summary				
Average Delay	7.0			
Intersection Capacity Utilization	46.6%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	281	85	19	200	7	60	37	25	15	41	23
Future Volume (vph)	33	281	85	19	200	7	60	37	25	15	41	23
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												
Frt		0.971			0.996			0.972			0.961	
Flt Protected		0.996			0.996			0.976			0.991	
Satd. Flow (prot)	0	1785	0	0	1852	0	0	1795	0	0	1806	0
Flt Permitted		0.996			0.996			0.976			0.991	
Satd. Flow (perm)	0	1785	0	0	1852	0	0	1795	0	0	1806	0
Link Speed (k/h)		40			40			40			48	
Link Distance (m)		107.5			52.2			284.3			52.6	
Travel Time (s)		9.7			4.7			25.6			3.9	
Confl. Peds. (#/hr)	43		8	8		43	4		2	2		4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	5%	2%	2%	3%	2%	1%	2%	2%	1%	1%	2%
Adj. Flow (vph)	36	305	92	21	217	8	65	40	27	16	45	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	433	0	0	246	0	0	132	0	0	86	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)		4.9			4.9			4.9			4.9	
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
Sign Control		Free			Free			Stop			Stop	

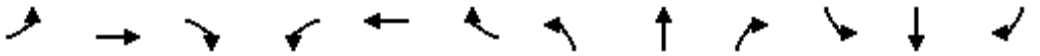
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	48.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	281	85	19	200	7	60	37	25	15	41	23
Future Volume (Veh/h)	33	281	85	19	200	7	60	37	25	15	41	23
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	36	305	92	21	217	8	65	40	27	16	45	25
Pedestrians		4			2			8			43	
Lane Width (m)		3.7			3.7			3.7			3.7	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		0			0			1			4	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					168							
pX, platoon unblocked												
vC, conflicting volume	268			405			746	741	361	778	783	268
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	268			405			746	741	361	778	783	268
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			98			75	87	96	93	85	97
cM capacity (veh/h)	1244			1145			260	313	677	243	297	737

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	433	246	132	86
Volume Left	36	21	65	16
Volume Right	92	8	27	25
cSH	1244	1145	316	342
Volume to Capacity	0.03	0.02	0.42	0.25
Queue Length 95th (m)	0.6	0.4	13.9	6.8
Control Delay (s)	0.9	0.9	24.3	19.0
Lane LOS	A	A	C	C
Approach Delay (s)	0.9	0.9	24.3	19.0
Approach LOS			C	C

Intersection Summary				
Average Delay	6.1			
Intersection Capacity Utilization	48.8%	ICU Level of Service	A	
Analysis Period (min)	15			

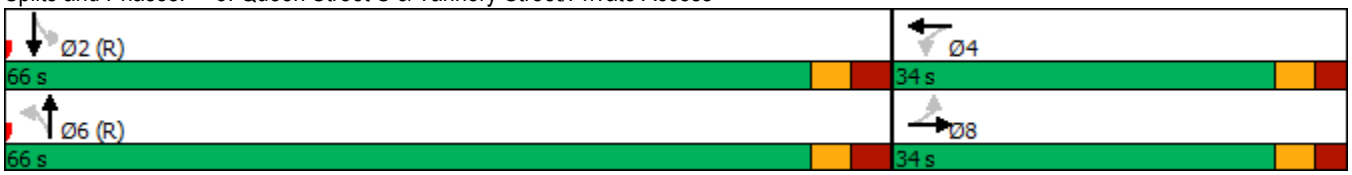


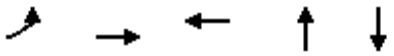
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	239	12	73	6	5	7	86	389	7	9	385	126
Future Volume (vph)	239	12	73	6	5	7	86	389	7	9	385	126
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		0	0		0
Taper Length (m)	40.0			2.5			2.5			2.5		
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	0.98	0.98			0.98			1.00			0.99	
Frt		0.871			0.946			0.998			0.967	
Flt Protected	0.950				0.983			0.991			0.999	
Satd. Flow (prot)	1772	1619	0	0	1721	0	0	1728	0	0	1644	0
Flt Permitted	0.744				0.923			0.819			0.990	
Satd. Flow (perm)	1356	1619	0	0	1614	0	0	1424	0	0	1629	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		79			8			1			29	
Link Speed (k/h)		40			30			40			40	
Link Distance (m)		115.8			36.8			153.4			69.8	
Travel Time (s)		10.4			4.4			13.8			6.3	
Confl. Peds. (#/hr)	10		2	2		10	16		16	16		16
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	2%	1%	2%	2%	2%	1%	12%	2%	2%	15%	1%
Adj. Flow (vph)	260	13	79	7	5	8	93	423	8	10	418	137
Shared Lane Traffic (%)												
Lane Group Flow (vph)	260	92	0	0	20	0	0	524	0	0	565	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	1		1	1		1	0		1	0	
Detector Template	Left			Left			Left	Thru		Left	Thru	
Leading Detector (m)	8.5	8.5		2.0	8.5		2.0	0.0		2.0	0.0	
Trailing Detector (m)	-0.2	-0.5		0.0	-0.5		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	-0.2	-0.5		0.0	-0.5		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	8.7	9.0		2.0	9.0		2.0	0.6		2.0	0.6	
Detector 1 Type	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	
Detector 1 Queue (s)	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	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Detector Phase	8	8		4	4		6	6		2	2	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	26.5	26.5		26.5	26.5		29.0	29.0		29.0	29.0	
Total Split (s)	34.0	34.0		34.0	34.0		66.0	66.0		66.0	66.0	
Total Split (%)	34.0%	34.0%		34.0%	34.0%		66.0%	66.0%		66.0%	66.0%	
Maximum Green (s)	28.5	28.5		28.5	28.5		60.0	60.0		60.0	60.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	
Total Lost Time (s)	5.5	5.5			5.5			6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		13.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	23.3	23.3			23.3			65.2			65.2	
Actuated g/C Ratio	0.23	0.23			0.23			0.65			0.65	
v/c Ratio	0.82	0.21			0.05			0.56			0.53	
Control Delay	56.9	9.5			19.9			17.2			11.8	
Queue Delay	0.0	0.0			0.0			0.0			0.0	
Total Delay	56.9	9.5			19.9			17.2			11.8	
LOS	E	A			B			B			B	
Approach Delay		44.5			19.9			17.2			11.8	
Approach LOS		D			B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 84 (84%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.82			
Intersection Signal Delay: 21.8		Intersection LOS: C	
Intersection Capacity Utilization 89.0%		ICU Level of Service E	
Analysis Period (min) 15			

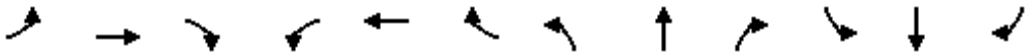
Splits and Phases: 8: Queen Street S & Tannery Street/Private Access





Lane Group	EBL	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	260	92	20	524	565
v/c Ratio	0.82	0.21	0.05	0.56	0.53
Control Delay	56.9	9.5	19.9	17.2	11.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	56.9	9.5	19.9	17.2	11.8
Queue Length 50th (m)	43.6	1.8	1.6	75.4	47.1
Queue Length 95th (m)	66.5	12.0	6.6	111.5	81.4
Internal Link Dist (m)		91.8	12.8	129.4	45.8
Turn Bay Length (m)	20.0				
Base Capacity (vph)	386	517	465	928	1072
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.67	0.18	0.04	0.56	0.53

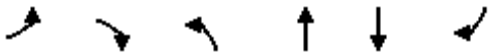
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	239	12	73	6	5	7	86	389	7	9	385	126
Future Volume (vph)	239	12	73	6	5	7	86	389	7	9	385	126
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5			5.5			6.0			6.0	
Lane Util. Factor	1.00	1.00			1.00			1.00			1.00	
Frpb, ped/bikes	1.00	0.98			0.98			1.00			0.99	
Flpb, ped/bikes	0.98	1.00			1.00			1.00			1.00	
Frt	1.00	0.87			0.95			1.00			0.97	
Flt Protected	0.95	1.00			0.98			0.99			1.00	
Satd. Flow (prot)	1731	1620			1718			1724			1645	
Flt Permitted	0.74	1.00			0.92			0.82			0.99	
Satd. Flow (perm)	1356	1620			1614			1425			1630	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	260	13	79	7	5	8	93	423	8	10	418	137
RTOR Reduction (vph)	0	61	0	0	6	0	0	0	0	0	10	0
Lane Group Flow (vph)	260	31	0	0	14	0	0	524	0	0	555	0
Confl. Peds. (#/hr)	10		2	2		10	16		16	16		16
Heavy Vehicles (%)	3%	2%	1%	2%	2%	2%	1%	12%	2%	2%	15%	1%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	23.3	23.3			23.3			65.2			65.2	
Effective Green, g (s)	23.3	23.3			23.3			65.2			65.2	
Actuated g/C Ratio	0.23	0.23			0.23			0.65			0.65	
Clearance Time (s)	5.5	5.5			5.5			6.0			6.0	
Vehicle Extension (s)	3.0	3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)	315	377			376			929			1062	
v/s Ratio Prot		0.02										
v/s Ratio Perm	c0.19				0.01			c0.37			0.34	
v/c Ratio	0.83	0.08			0.04			0.56			0.52	
Uniform Delay, d1	36.4	30.0			29.7			9.6			9.2	
Progression Factor	1.00	1.00			1.00			1.34			1.00	
Incremental Delay, d2	16.0	0.1			0.0			2.3			1.8	
Delay (s)	52.4	30.1			29.7			15.1			11.0	
Level of Service	D	C			C			B			B	
Approach Delay (s)		46.6			29.7			15.1			11.0	
Approach LOS		D			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	21.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	89.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	208	187	167	466	430	307
Future Volume (vph)	208	187	167	466	430	307
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0	20.0	15.0			0.0
Storage Lanes	0	0	1			0
Taper Length (m)	0.0		100.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.90	0.89			0.97	
Frt		0.850			0.944	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1722	1585	1772	1865	1683	0
Flt Permitted	0.950		0.270			
Satd. Flow (perm)	1542	1404	504	1865	1683	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		203			67	
Link Speed (k/h)	50			40	40	
Link Distance (m)	168.1			211.1	113.7	
Travel Time (s)	12.1			19.0	10.2	
Confl. Peds. (#/hr)	38	35	47			47
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	6%	3%	3%	3%	2%	7%
Adj. Flow (vph)	226	203	182	507	467	334
Shared Lane Traffic (%)						
Lane Group Flow (vph)	226	203	182	507	801	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.9			4.9	4.9	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	0	0	0	
Detector Template	Left			Thru	Thru	
Leading Detector (m)	8.5	8.5	0.0	0.0	0.0	
Trailing Detector (m)	-0.2	-0.5	0.0	0.0	0.0	
Detector 1 Position(m)	-0.2	-0.5	-0.5	0.0	0.0	
Detector 1 Size(m)	8.7	9.0	9.0	1.8	1.8	
Detector 1 Type	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	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	Perm	Perm	NA	NA	
Protected Phases				6	2	
Permitted Phases	8	8	6	6	2	
Detector Phase	8	8	6	6	2	
Switch Phase						

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	26.5	26.5	28.5	28.5	28.5	
Total Split (s)	32.0	32.0	78.0	78.0	78.0	
Total Split (%)	29.1%	29.1%	70.9%	70.9%	70.9%	
Maximum Green (s)	26.5	26.5	71.5	71.5	71.5	
Yellow Time (s)	3.5	3.5	3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0	3.5	3.5	3.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.5	6.5	6.5	6.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	C-Max	C-Max	C-Max	
Walk Time (s)	10.0	10.0	10.0	10.0	10.0	
Flash Dont Walk (s)	10.0	10.0	12.0	12.0	12.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	
Act Effct Green (s)	20.8	20.8	77.2	77.2	77.2	
Actuated g/C Ratio	0.19	0.19	0.70	0.70	0.70	
v/c Ratio	0.78	0.47	0.52	0.39	0.67	
Control Delay	52.0	10.5	15.4	8.4	7.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	52.0	10.5	15.4	8.4	7.8	
LOS	D	B	B	A	A	
Approach Delay	32.4			10.3	7.8	
Approach LOS	C			B	A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 58 (53%), Referenced to phase 2:SBT and 6:NBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 14.2		Intersection LOS: B	
Intersection Capacity Utilization 82.7%		ICU Level of Service E	
Analysis Period (min) 15			

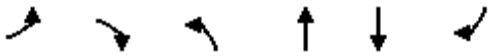
Splits and Phases: 1: Queen st & Thomas St





Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	226	203	182	507	801
v/c Ratio	0.78	0.47	0.52	0.39	0.67
Control Delay	52.0	10.5	15.4	8.4	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	52.0	10.5	15.4	8.4	7.8
Queue Length 50th (m)	43.9	11.6	15.1	37.0	20.4
Queue Length 95th (m)	64.9	21.0	39.2	62.6	81.4
Internal Link Dist (m)	144.1			187.1	89.7
Turn Bay Length (m)	20.0	20.0	15.0		
Base Capacity (vph)	371	492	353	1308	1201
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.61	0.41	0.52	0.39	0.67

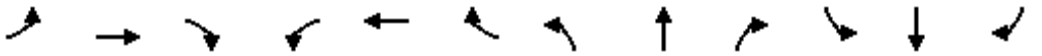
Intersection Summary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	208	187	167	466	430	307
Future Volume (vph)	208	187	167	466	430	307
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	6.5	6.5	6.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	0.89	1.00	1.00	0.97	
Flpb, ped/bikes	0.90	1.00	0.99	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.94	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1542	1404	1749	1865	1683	
Flt Permitted	0.95	1.00	0.27	1.00	1.00	
Satd. Flow (perm)	1542	1404	497	1865	1683	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	226	203	182	507	467	334
RTOR Reduction (vph)	0	165	0	0	20	0
Lane Group Flow (vph)	226	38	182	507	781	0
Confl. Peds. (#/hr)	38	35	47			47
Heavy Vehicles (%)	6%	3%	3%	3%	2%	7%
Turn Type	Perm	Perm	Perm	NA	NA	
Protected Phases				6	2	
Permitted Phases	8	8	6	6	2	
Actuated Green, G (s)	20.8	20.8	77.2	77.2	77.2	
Effective Green, g (s)	20.8	20.8	77.2	77.2	77.2	
Actuated g/C Ratio	0.19	0.19	0.70	0.70	0.70	
Clearance Time (s)	5.5	5.5	6.5	6.5	6.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	291	265	348	1308	1181	
v/s Ratio Prot				0.27	c0.46	
v/s Ratio Perm	c0.15	0.03	0.37			
v/c Ratio	0.78	0.14	0.52	0.39	0.66	
Uniform Delay, d1	42.4	37.2	7.7	6.7	9.1	
Progression Factor	0.83	1.38	1.00	1.00	0.53	
Incremental Delay, d2	11.7	0.2	5.5	0.9	2.7	
Delay (s)	46.9	51.7	13.3	7.6	7.5	
Level of Service	D	D	B	A	A	
Approach Delay (s)	49.2			9.1	7.5	
Approach LOS	D			A	A	

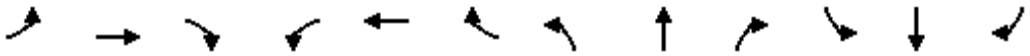
Intersection Summary			
HCM 2000 Control Delay	17.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	82.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	117	388	5	0	462	48	4	1	2	25	0	129
Future Volume (vph)	117	388	5	0	462	48	4	1	2	25	0	129
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												
Frt		0.999			0.986			0.961			0.887	
Flt Protected		0.989						0.972			0.992	
Satd. Flow (prot)	0	3491	0	0	3501	0	0	1759	0	0	1657	0
Flt Permitted		0.989						0.972			0.992	
Satd. Flow (perm)	0	3491	0	0	3501	0	0	1759	0	0	1657	0
Link Speed (k/h)		50			50			30			40	
Link Distance (m)		125.4			168.1			64.9			284.3	
Travel Time (s)		9.0			12.1			7.8			25.6	
Confl. Peds. (#/hr)	18		30	30		18						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	4%	2%	2%	3%	1%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	127	422	5	0	502	52	4	1	2	27	0	140
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	554	0	0	554	0	0	7	0	0	167	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)		4.9			4.9			1.6			4.9	
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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	48.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	117	388	5	0	462	48	4	1	2	25	0	129
Future Volume (Veh/h)	117	388	5	0	462	48	4	1	2	25	0	129
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	127	422	5	0	502	52	4	1	2	27	0	140
Pedestrians								30			18	
Lane Width (m)								3.7			3.7	
Walking Speed (m/s)								1.1			1.1	
Percent Blockage								3			2	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		125			168							
pX, platoon unblocked												
vC, conflicting volume	572			457			1100	1280	244	1014	1257	295
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	572			457			1100	1280	244	1014	1257	295
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	87			100			96	99	100	83	100	80
cM capacity (veh/h)	986			1068			112	137	735	164	141	689

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	338	216	251	303	7	167
Volume Left	127	0	0	0	4	27
Volume Right	0	5	0	52	2	140
cSH	986	1700	1068	1700	153	453
Volume to Capacity	0.13	0.13	0.00	0.18	0.05	0.37
Queue Length 95th (m)	3.1	0.0	0.0	0.0	1.0	11.7
Control Delay (s)	4.3	0.0	0.0	0.0	29.6	17.5
Lane LOS	A				D	C
Approach Delay (s)	2.6		0.0		29.6	17.5
Approach LOS					D	C

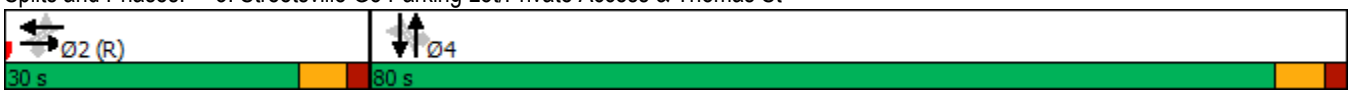
Intersection Summary				
Average Delay	3.6			
Intersection Capacity Utilization	48.1%	ICU Level of Service		A
Analysis Period (min)	15			

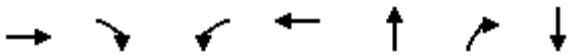
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	418	104	44	568	6	283	1	92	3	0	10
Future Volume (vph)	6	418	104	44	568	6	283	1	92	3	0	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	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			0.91		1.00			0.99	0.97		0.98	
Frt			0.850		0.998				0.850		0.894	
Flt Protected		0.999		0.950				0.953			0.989	
Satd. Flow (prot)	0	1846	1601	1789	1743	0	0	1761	1585	0	1639	0
Flt Permitted		0.991		0.417				0.717			0.944	
Satd. Flow (perm)	0	1831	1450	785	1743	0	0	1314	1544	0	1561	0
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)			113								30	
Link Speed (k/h)		50			50			40			30	
Link Distance (m)		129.3			125.4			171.6			40.7	
Travel Time (s)		9.3			9.0			15.4			4.9	
Confl. Peds. (#/hr)	22		22	22		22	4		7	7		4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	4%	2%	2%	10%	2%	4%	2%	3%	2%	2%	2%
Adj. Flow (vph)	7	454	113	48	617	7	308	1	100	3	0	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	461	113	48	624	0	0	309	100	0	14	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)		4.9			4.9			4.9			4.9	
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	0	0	1	0		1	1	1	1	1	
Detector Template	Left	Thru	Right		Thru		Left			Left		
Leading Detector (m)	6.1	0.0	0.0	21.8	0.0		6.1	6.0	6.0	6.1	8.8	
Trailing Detector (m)	0.0	0.0	0.0	12.8	0.0		0.0	-3.0	-3.0	0.0	-0.2	
Detector 1 Position(m)	0.0	0.0	0.0	12.8	0.0		0.0	-3.0	-3.0	0.0	-0.2	
Detector 1 Size(m)	6.1	1.8	6.1	9.0	1.8		6.1	9.0	9.0	6.1	9.0	
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	
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2		2	2			4		4	4		
Detector Phase	2	2	2	2	2		4	4	4	4	4	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	25.0	25.0	25.0	25.0	25.0		25.0	25.0	25.0	25.0	25.0	
Total Split (s)	30.0	30.0	30.0	30.0	30.0		80.0	80.0	80.0	80.0	80.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	27.3%	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	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	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)		6.0	6.0	6.0	6.0			6.0	6.0		6.0	
Lead/Lag												
Lead-Lag Optimize?												
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	C-Max	C-Max	C-Max	C-Max	C-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	8.0	
Flash Dont Walk (s)	8.0	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	0	
Act Effct Green (s)		62.8	62.8	62.8	62.8			35.2	35.2		35.2	
Actuated g/C Ratio		0.57	0.57	0.57	0.57			0.32	0.32		0.32	
v/c Ratio		0.44	0.13	0.11	0.63			0.74	0.20		0.03	
Control Delay		17.5	3.6	8.7	15.3			42.7	25.3		2.3	
Queue Delay		0.0	0.0	0.0	0.0			0.0	0.0		0.0	
Total Delay		17.5	3.6	8.7	15.3			42.7	25.3		2.3	
LOS		B	A	A	B			D	C		A	
Approach Delay		14.8			14.8			38.5			2.3	
Approach LOS		B			B			D			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 10 (9%), Referenced to phase 2:EBWB, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay: 20.5		Intersection LOS: C	
Intersection Capacity Utilization 69.0%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: Streetsville Go Parking Lot/Private Access & Thomas St



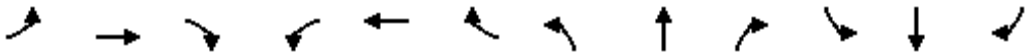


Lane Group	EBT	EBR	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	461	113	48	624	309	100	14
v/c Ratio	0.44	0.13	0.11	0.63	0.74	0.20	0.03
Control Delay	17.5	3.6	8.7	15.3	42.7	25.3	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.5	3.6	8.7	15.3	42.7	25.3	2.3
Queue Length 50th (m)	48.8	0.0	2.1	71.7	54.5	14.4	0.0
Queue Length 95th (m)	96.3	9.1	m7.1	#155.8	66.6	20.7	1.5
Internal Link Dist (m)	105.3			101.4	147.6		16.7
Turn Bay Length (m)							
Base Capacity (vph)	1045	876	448	995	883	1038	1059
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.13	0.11	0.63	0.35	0.10	0.01

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

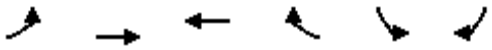
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	418	104	44	568	6	283	1	92	3	0	10
Future Volume (vph)	6	418	104	44	568	6	283	1	92	3	0	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0			6.0	6.0		6.0	
Lane Util. Factor		1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frpb, ped/bikes		1.00	0.91	1.00	1.00			1.00	0.97		0.98	
Flpb, ped/bikes		1.00	1.00	0.97	1.00			0.99	1.00		1.00	
Frt		1.00	0.85	1.00	1.00			1.00	0.85		0.89	
Flt Protected		1.00	1.00	0.95	1.00			0.95	1.00		0.99	
Satd. Flow (prot)		1846	1450	1741	1743			1745	1544		1637	
Flt Permitted		0.99	1.00	0.42	1.00			0.72	1.00		0.94	
Satd. Flow (perm)		1831	1450	763	1743			1314	1544		1563	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	7	454	113	48	617	7	308	1	100	3	0	11
RTOR Reduction (vph)	0	0	48	0	0	0	0	0	0	0	10	0
Lane Group Flow (vph)	0	461	65	48	624	0	0	309	100	0	4	0
Confl. Peds. (#/hr)	22		22	22		22	4		7	7		4
Heavy Vehicles (%)	2%	4%	2%	2%	10%	2%	4%	2%	3%	2%	2%	2%
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2		2	2			4		4	4		
Actuated Green, G (s)		62.8	62.8	62.8	62.8			35.2	35.2		35.2	
Effective Green, g (s)		62.8	62.8	62.8	62.8			35.2	35.2		35.2	
Actuated g/C Ratio		0.57	0.57	0.57	0.57			0.32	0.32		0.32	
Clearance Time (s)		6.0	6.0	6.0	6.0			6.0	6.0		6.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		1045	827	435	995			420	494		500	
v/s Ratio Prot					c0.36							
v/s Ratio Perm		0.25	0.04	0.06				c0.24	0.06		0.00	
v/c Ratio		0.44	0.08	0.11	0.63			0.74	0.20		0.01	
Uniform Delay, d1		13.5	10.6	10.8	15.8			33.3	27.2		25.5	
Progression Factor		1.00	1.00	0.55	0.64			1.00	1.00		1.00	
Incremental Delay, d2		1.4	0.2	0.5	2.8			6.6	0.2		0.0	
Delay (s)		14.9	10.8	6.4	12.8			39.8	27.4		25.5	
Level of Service		B	B	A	B			D	C		C	
Approach Delay (s)		14.1			12.4			36.8			25.5	
Approach LOS		B			B			D			C	

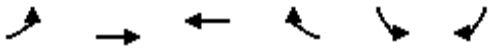
Intersection Summary			
HCM 2000 Control Delay	19.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	69.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	264	503	793	72	38	221
Future Volume (vph)	264	503	793	72	38	221
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0			0.0	10.0	0.0
Storage Lanes	0			0	1	1
Taper Length (m)	7.6				25.0	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.988			0.850
Flt Protected		0.983			0.950	
Satd. Flow (prot)	0	3418	3473	0	1807	1601
Flt Permitted		0.983			0.950	
Satd. Flow (perm)	0	3418	3473	0	1807	1601
Link Speed (k/h)		50	50		40	
Link Distance (m)		82.7	129.3		311.9	
Travel Time (s)		6.0	9.3		28.1	
Confl. Peds. (#/hr)	13					
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	6%	4%	2%	1%	2%
Adj. Flow (vph)	287	547	862	78	41	240
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	834	940	0	41	240
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.7	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.9	4.9		4.9	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

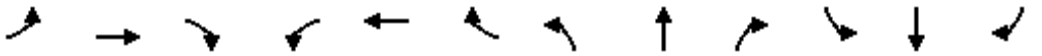
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 59.1%		ICU Level of Service B	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	264	503	793	72	38	221
Future Volume (Veh/h)	264	503	793	72	38	221
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	287	547	862	78	41	240
Pedestrians					13	
Lane Width (m)					3.7	
Walking Speed (m/s)					1.1	
Percent Blockage					1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			129			
pX, platoon unblocked						
vC, conflicting volume	953				1762	483
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	953				1762	483
tC, single (s)	4.2				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	59				8	54
cM capacity (veh/h)	702				45	523

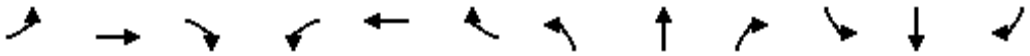
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total	469	365	575	365	41	240
Volume Left	287	0	0	0	41	0
Volume Right	0	0	0	78	0	240
cSH	702	1700	1700	1700	45	523
Volume to Capacity	0.41	0.21	0.34	0.21	0.92	0.46
Queue Length 95th (m)	14.0	0.0	0.0	0.0	26.0	16.7
Control Delay (s)	10.8	0.0	0.0	0.0	252.0	17.6
Lane LOS	B				F	C
Approach Delay (s)	6.1		0.0		51.8	
Approach LOS					F	

Intersection Summary			
Average Delay	9.5		
Intersection Capacity Utilization	59.1%	ICU Level of Service	B
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1	3	162	1	172	1	141	196	92	122	1
Future Volume (vph)	1	1	3	162	1	172	1	141	196	92	122	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												
Frt		0.919			0.931			0.922			0.999	
Flt Protected		0.990			0.976						0.979	
Satd. Flow (prot)	0	1748	0	0	1703	0	0	1754	0	0	1868	0
Flt Permitted		0.990			0.976						0.979	
Satd. Flow (perm)	0	1748	0	0	1703	0	0	1754	0	0	1868	0
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		53.6			165.4			311.9			123.6	
Travel Time (s)		4.8			14.9			28.1			11.1	
Confl. Peds. (#/hr)	13		4	4		13	19		3	3		19
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	3%	1%	2%	1%	1%	1%	0%	1%	0%
Adj. Flow (vph)	1	1	3	176	1	187	1	153	213	100	133	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	5	0	0	364	0	0	367	0	0	234	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			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			4.9			4.9			4.9	
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
Sign Control		Stop			Stop			Stop			Stop	

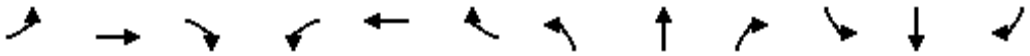
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	69.0%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	1	1	3	162	1	172	1	141	196	92	122	1
Future Volume (vph)	1	1	3	162	1	172	1	141	196	92	122	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	1	3	176	1	187	1	153	213	100	133	1

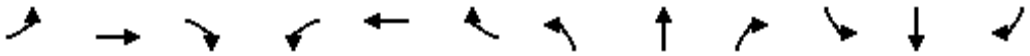
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	5	364	367	234
Volume Left (vph)	1	176	1	100
Volume Right (vph)	3	187	213	1
Hadj (s)	-0.32	-0.17	-0.33	0.09
Departure Headway (s)	5.9	5.3	5.0	5.6
Degree Utilization, x	0.01	0.54	0.51	0.36
Capacity (veh/h)	487	638	677	602
Control Delay (s)	8.9	14.2	13.1	11.7
Approach Delay (s)	8.9	14.2	13.1	11.7
Approach LOS	A	B	B	B

Intersection Summary				
Delay	13.2			
Level of Service	B			
Intersection Capacity Utilization	69.0%	ICU Level of Service	C	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	131	65	62	237	51	55	0	24	21	0	47
Future Volume (vph)	50	131	65	62	237	51	55	0	24	21	0	47
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												
Frt		0.964			0.980			0.959			0.907	
Flt Protected		0.990			0.991			0.966			0.985	
Satd. Flow (prot)	0	1734	0	0	1784	0	0	1745	0	0	1683	0
Flt Permitted		0.990			0.991			0.966			0.985	
Satd. Flow (perm)	0	1734	0	0	1784	0	0	1745	0	0	1683	0
Link Speed (k/h)		40			40			30			40	
Link Distance (m)		165.4			107.5			87.0			111.8	
Travel Time (s)		14.9			9.7			10.4			10.1	
Confl. Peds. (#/hr)	16					16				2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	9%	2%	2%	6%	1%	2%	2%	2%	2%	1%	2%
Adj. Flow (vph)	54	142	71	67	258	55	60	0	26	23	0	51
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	267	0	0	380	0	0	86	0	0	74	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)		4.9			4.9			1.6			4.9	
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		97	97		14	97		97	24		14
Sign Control		Free			Free			Stop			Stop	

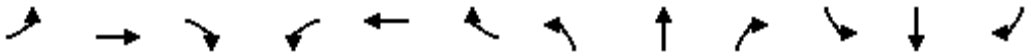
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	40.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	131	65	62	237	51	55	0	24	21	0	47
Future Volume (Veh/h)	50	131	65	62	237	51	55	0	24	21	0	47
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	142	71	67	258	55	60	0	26	23	0	51
Pedestrians					2						16	
Lane Width (m)					3.7						3.7	
Walking Speed (m/s)					1.1						1.1	
Percent Blockage					0						2	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					276							
pX, platoon unblocked												
vC, conflicting volume	329			213			756	748	180	749	756	302
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	329			213			756	748	180	749	756	302
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			95			78	100	97	92	100	93
cM capacity (veh/h)	1211			1357			277	305	862	287	302	727

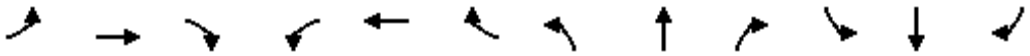
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	267	380	86	74
Volume Left	54	67	60	23
Volume Right	71	55	26	51
cSH	1211	1357	349	492
Volume to Capacity	0.04	0.05	0.25	0.15
Queue Length 95th (m)	1.0	1.1	6.7	3.7
Control Delay (s)	2.0	1.8	18.7	13.6
Lane LOS	A	A	C	B
Approach Delay (s)	2.0	1.8	18.7	13.6
Approach LOS			C	B

Intersection Summary			
Average Delay	4.7		
Intersection Capacity Utilization	40.5%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	120	27	28	210	23	44	54	45	14	53	55
Future Volume (vph)	41	120	27	28	210	23	44	54	45	14	53	55
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												
Frt		0.981			0.988			0.958			0.939	
Flt Protected		0.989			0.995			0.985			0.994	
Satd. Flow (prot)	0	1794	0	0	1837	0	0	1783	0	0	1767	0
Flt Permitted		0.989			0.995			0.985			0.994	
Satd. Flow (perm)	0	1794	0	0	1837	0	0	1783	0	0	1767	0
Link Speed (k/h)		40			40			40			48	
Link Distance (m)		107.5			52.2			284.3			52.6	
Travel Time (s)		9.7			4.7			25.6			3.9	
Confl. Peds. (#/hr)	10		15	15		10	5		11	11		5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	5%	2%	2%	3%	2%	1%	2%	2%	1%	1%	2%
Adj. Flow (vph)	45	130	29	30	228	25	48	59	49	15	58	60
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	204	0	0	283	0	0	156	0	0	133	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)		4.9			4.9			4.9			4.9	
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
Sign Control		Free			Free			Stop			Stop	

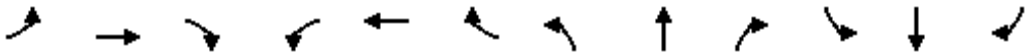
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 39.9%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	120	27	28	210	23	44	54	45	14	53	55
Future Volume (Veh/h)	41	120	27	28	210	23	44	54	45	14	53	55
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	45	130	29	30	228	25	48	59	49	15	58	60
Pedestrians		5			11			15			10	
Lane Width (m)		3.7			3.7			3.7			3.7	
Walking Speed (m/s)		1.1			1.1			1.1			1.1	
Percent Blockage		0			1			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					168							
pX, platoon unblocked												
vC, conflicting volume	263			174			644	572	170	634	574	256
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	263			174			644	572	170	634	574	256
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			98			84	85	94	95	85	92
cM capacity (veh/h)	1288			1382			293	396	851	302	396	772

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	204	283	156	133
Volume Left	45	30	48	15
Volume Right	29	25	49	60
cSH	1288	1382	421	486
Volume to Capacity	0.03	0.02	0.37	0.27
Queue Length 95th (m)	0.8	0.5	11.8	7.7
Control Delay (s)	2.0	1.0	18.5	15.2
Lane LOS	A	A	C	C
Approach Delay (s)	2.0	1.0	18.5	15.2
Approach LOS			C	C

Intersection Summary				
Average Delay	7.2			
Intersection Capacity Utilization	39.9%	ICU Level of Service	A	
Analysis Period (min)	15			

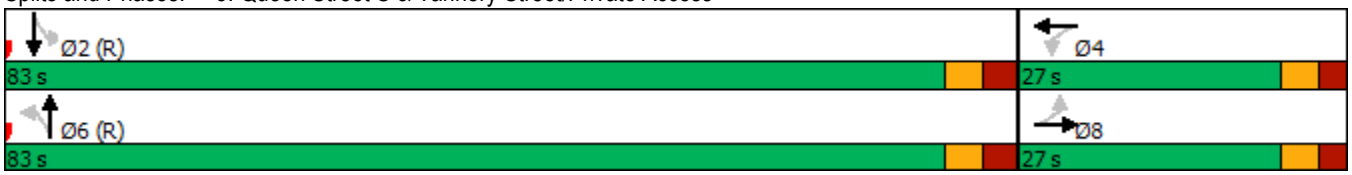


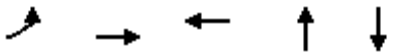
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	6	52	2	4	8	73	590	3	2	522	205
Future Volume (vph)	135	6	52	2	4	8	73	590	3	2	522	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		0	0		0
Taper Length (m)	40.0			2.5			2.5			2.5		
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	0.95			0.96			1.00			0.96	
Frt		0.866			0.919			0.999			0.962	
Flt Protected	0.950				0.993			0.995				
Satd. Flow (prot)	1772	1560	0	0	1656	0	0	1810	0	0	1713	0
Flt Permitted	0.748				0.972			0.844			0.999	
Satd. Flow (perm)	1338	1560	0	0	1613	0	0	1529	0	0	1711	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		57			9						43	
Link Speed (k/h)		40			30			40			40	
Link Distance (m)		115.8			36.8			153.4			69.8	
Travel Time (s)		10.4			4.4			13.8			6.3	
Confl. Peds. (#/hr)	16		15	15		16	58		70	70		58
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	2%	1%	2%	2%	2%	1%	6%	2%	2%	4%	1%
Adj. Flow (vph)	147	7	57	2	4	9	79	641	3	2	567	223
Shared Lane Traffic (%)												
Lane Group Flow (vph)	147	64	0	0	15	0	0	723	0	0	792	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	1		1	1		1	0		1	0	
Detector Template	Left			Left			Left	Thru		Left	Thru	
Leading Detector (m)	8.5	8.5		2.0	8.5		2.0	0.0		2.0	0.0	
Trailing Detector (m)	-0.2	-0.5		0.0	-0.5		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	-0.2	-0.5		0.0	-0.5		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	8.7	9.0		2.0	9.0		2.0	0.6		2.0	0.6	
Detector 1 Type	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	
Detector 1 Queue (s)	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	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Detector Phase	8	8		4	4		6	6		2	2	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	26.5	26.5		26.5	26.5		29.0	29.0		29.0	29.0	
Total Split (s)	27.0	27.0		27.0	27.0		83.0	83.0		83.0	83.0	
Total Split (%)	24.5%	24.5%		24.5%	24.5%		75.5%	75.5%		75.5%	75.5%	
Maximum Green (s)	21.5	21.5		21.5	21.5		77.0	77.0		77.0	77.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	
Total Lost Time (s)	5.5	5.5			5.5			6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		13.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	16.7	16.7			16.7			81.8			81.8	
Actuated g/C Ratio	0.15	0.15			0.15			0.74			0.74	
v/c Ratio	0.73	0.23			0.06			0.64			0.62	
Control Delay	64.1	14.0			24.8			7.2			9.5	
Queue Delay	0.0	0.0			0.0			0.0			0.0	
Total Delay	64.1	14.0			24.8			7.2			9.5	
LOS	E	B			C			A			A	
Approach Delay		48.9			24.8			7.2			9.5	
Approach LOS		D			C			A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 37 (34%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay: 13.4		Intersection LOS: B	
Intersection Capacity Utilization 106.6%		ICU Level of Service G	
Analysis Period (min) 15			

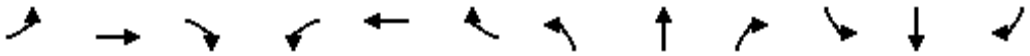
Splits and Phases: 8: Queen Street S & Tannery Street/Private Access





Lane Group	EBL	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	147	64	15	723	792
v/c Ratio	0.73	0.23	0.06	0.64	0.62
Control Delay	64.1	14.0	24.8	7.2	9.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	64.1	14.0	24.8	7.2	9.5
Queue Length 50th (m)	27.9	1.2	1.0	33.1	61.0
Queue Length 95th (m)	45.7	11.4	6.1	46.7	106.4
Internal Link Dist (m)		91.8	12.8	129.4	45.8
Turn Bay Length (m)	20.0				
Base Capacity (vph)	261	350	322	1137	1283
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.56	0.18	0.05	0.64	0.62

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	6	52	2	4	8	73	590	3	2	522	205
Future Volume (vph)	135	6	52	2	4	8	73	590	3	2	522	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5			5.5			6.0			6.0	
Lane Util. Factor	1.00	1.00			1.00			1.00			1.00	
Frpb, ped/bikes	1.00	0.95			0.96			1.00			0.96	
Flpb, ped/bikes	0.96	1.00			1.00			1.00			1.00	
Frt	1.00	0.87			0.92			1.00			0.96	
Flt Protected	0.95	1.00			0.99			0.99			1.00	
Satd. Flow (prot)	1699	1560			1648			1802			1713	
Flt Permitted	0.75	1.00			0.97			0.84			1.00	
Satd. Flow (perm)	1337	1560			1614			1529			1711	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	147	7	57	2	4	9	79	641	3	2	567	223
RTOR Reduction (vph)	0	48	0	0	8	0	0	0	0	0	11	0
Lane Group Flow (vph)	147	16	0	0	7	0	0	723	0	0	781	0
Confl. Peds. (#/hr)	16		15	15		16	58		70	70		58
Heavy Vehicles (%)	3%	2%	1%	2%	2%	2%	1%	6%	2%	2%	4%	1%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	16.7	16.7			16.7			81.8			81.8	
Effective Green, g (s)	16.7	16.7			16.7			81.8			81.8	
Actuated g/C Ratio	0.15	0.15			0.15			0.74			0.74	
Clearance Time (s)	5.5	5.5			5.5			6.0			6.0	
Vehicle Extension (s)	3.0	3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)	202	236			245			1137			1272	
v/s Ratio Prot		0.01										
v/s Ratio Perm	c0.11				0.00			c0.47			0.46	
v/c Ratio	0.73	0.07			0.03			0.64			0.61	
Uniform Delay, d1	44.5	40.0			39.7			6.9			6.7	
Progression Factor	1.00	1.00			1.00			0.58			1.00	
Incremental Delay, d2	12.3	0.1			0.1			2.5			2.2	
Delay (s)	56.8	40.1			39.8			6.4			8.9	
Level of Service	E	D			D			A			A	
Approach Delay (s)		51.7			39.8			6.4			8.9	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	13.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	106.6%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

APPENDIX L

Signal Warrant

TRAFFIC SIGNAL WARRANTS - JUSTIFICATION 7 (PROJECTED VOLUMES)

GENERAL INFORMATION **2028 Future Total**

Analyst	Placeholder	**Jurisdiction**	City of Mississauga	
Agency or Company	Crozier	**Date**	April 30, 2024	
Analysis Period	2028 Total	**East-West Street**	Thomas Street	
		North-South Street	Joymar Drive	
Flow Conditions	Restricted flow (urban)	**Major Street**	East-West	
'T' Intersection	Yes	**Approach lanes per direction**	2	Major Street
Existing Intersection	Yes	**Approach lanes per direction**	1	Minor Street
Additional Comments				

Justification 1: Minimum Vehicle Volumes **JUSTIFIED** **No**

Justification	Guidance Approach Lanes				Compliance			120%
	1 Lanes		2 or More Lanes		Sectional		Entire %	Satisfied
Flow Conditions	**Free Flow**	**Restricted Flow**	**Free Flow**	**Restricted Flow**	**Average Hourly Volumes**	**%**		
A. Vehicle volume, all approaches				900	**899**	67%	67%	No
B. Vehicle volume, along minor streets				170	**147**	58%	58%	No

Justification 2: Delay To Cross Traffic **JUSTIFIED** **No**

Justification	Guidance Approach Lanes				Compliance			120%
	1 Lanes		2 or More Lanes [1]		Sectional		Entire %	Satisfied
Flow Conditions	**Free Flow**	**Restricted Flow**	**Free Flow**	**Restricted Flow**	**Average Hourly Volumes**	**%**		
A. Vehicle volume, major street				900	**752**	56%	56%	No
B. Combined vehicle and pedestrian volume crossing artery from minor streets				170	**52**	20%	20%	No

CONCLUSION

The results of the calculations show that justifications are not met.
Therefore traffic control signal is not justified at this intersection for the horizon year 2028 Total

APPENDIX M

City of Mississauga Zoning By-Law Excerpts

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3.1.1.12 Electric Vehicle Ready Parking Spaces

3.1.1.12.1 **Electric vehicle ready parking spaces** shall be provided in accordance with Table 3.1.1.12 - Minimum Required Number of Electric Vehicle Ready Parking Spaces. *(0117-2022)*

Table 3.1.1.12 - Minimum Required Number of Electric Vehicle Ready Parking Spaces

Column	**A**	**B**
Line 1.0	**TYPE OF USE**	**MINIMUM NUMBER OF REQUIRED ELECTRIC VEHICLE READY PARKING SPACES**
2.0	**Detached Dwelling**, **Linked Dwelling**, **Semi-Detached**, **Street Townhouse**, **Duplex**, **Triplex**, **Back to Back** and **Stacked Townhouse**	1.0 of the required **parking spaces** with an exclusive use **garage**
3.0	Condominium and Rental **Apartment**, resident parking	20% of the total required **parking spaces** or 1.0 space, whichever is greater
4.0	Condominium and Rental **Apartment**, visitor parking	10% of the total required **parking spaces** or 1.0 space, whichever is greater
5.0	**Back to back** and **stacked townhouse**, without exclusive use **garage** and/or **driveway**	20% of the total required **parking spaces** or 1.0 space, whichever is greater
6.0	Non-residential **uses** identified in Table 3.1.2.2 of this By-law, with a **parking structure** with 10 or more **parking spaces**	10% of the total required **parking spaces** or 1.0 space, whichever is greater

3.1.1.12.2 Notwithstanding Sentence 3.1.1.12.1 of this By-law, required **electric vehicle ready parking spaces** shall only be required for the construction of new **buildings**, or portions thereof, effective June 8, 2023.

3.1.1.12.3 Notwithstanding Sentence 3.1.1.12.1 of this By-law, **electric vehicle ready parking spaces** shall not be required for **transitional housing**.

3.1.1.12.4 Notwithstanding Sentence 3.1.1.12.2 of this By-law, **electric vehicle ready parking spaces** shall not be required for any additions to an **existing building** that adds three or less **dwelling units**.

3.1.2 Required Number of Parking Spaces

3.1.2.1 Required Number of Parking Spaces for Residential Uses

3.1.2.1.1 Off-street **parking spaces** for residential **uses** shall be provided in accordance with Table 3.1.2.1 - Required Number of Off-Street Parking Spaces for Residential Uses. *(0117-2022)*

Table 3.1.2.1 - Required Number of Off-Street Parking Spaces for Residential Uses
(0207-2008), (0297-2013), (0174-2017), (0179-2018), (0181-2018/LPAT Order 2019 February 15), (0111-2019/LPAT Order 2021 March 09), (0018-2021), (0117-2022), (0213-2022)

Column A		B	C	D	E	F
Line 1.0	**TYPE OF USE**	**UNIT OF MEASUREMENT**	**PRECINCT 1**	**PRECINCT 2**	**PRECINCT 3**	**PRECINCT 4**
2.0	Condominium **Apartment**	resident spaces per unit	0.8	0.9	1.0	1.1
		visitor spaces per unit	0.2	0.2	0.2	0.2
3.0	Rental **Apartment**	resident spaces per unit	0.8	0.8	0.9	1.0
		visitor spaces per unit	0.2	0.2	0.2	0.2
4.0	**Public authority dwelling unit** or **dwelling unit** provided by a **non-profit housing provider** in a rental **apartment**	resident spaces per unit	0.4	0.6	0.65	0.7
		visitor spaces per unit	0.2	0.2	0.2	0.2
5.0	**Apartment** (within CC1 to CC4 zones)	0.8 resident spaces per unit 0.15 visitor spaces per unit (1)				
6.0	**Detached Dwelling**, **Linked Dwelling**, **Semi-Detached**, **Street Townhouse**	spaces per unit	2.0	2.0	2.0	2.0
7.0	Condominium **Detached Dwelling**, Condominium **Semi-Detached**, Condominium **Townhouse**, **Detached Dwelling** on a **CEC** - **Road**, **Semi-Detached** on a **CEC** - **Road**, **Townhouse** on a **CEC** - **Road**	resident spaces per unit	2.0	2.0	2.0	2.0
		visitor spaces per unit	0.25	0.25	0.25	0.25
8.0	**Duplex**, **Triplex**	spaces per unit	1.25	1.25	1.25	1.25
9.0	**Dwelling units** located above a commercial development with a maximum **height** of three **storeys**	spaces per unit	1.0	1.0	1.0	1.0
10.0	**Group Home**	spaces per unit	2.0	2.0	2.0	2.0
11.0	**Back to Back** and **Stacked Townhouse** without exclusive use **garage** and **driveway**	resident spaces per unit	1.0	1.1	1.3	1.5
		visitor spaces per unit	0.25	0.25	0.25	0.25

Table 3.1.2.1 continued on next page

Column	A	B	C	D	E
Line 1.0	**TYPE OF USE**	**PERCENTAGE OF PEAK PERIOD (WEEKDAY)**			
Table 3.1.2.4 continued from previous page					
2.0	**TYPE OF USE**	**PERCENTAGE OF PEAK PERIOD (SATURDAY)**			
		Morning	**Noon**	**Afternoon**	**Evening**
2.1	**Office/Medical Office/Financial Institution**	10	10	10	10
2.2	Retail Centre/ **Retail Store/Service Establishment**	80	100	100	70
2.3	**Restaurant/ Convenience Restaurant/ Take-out Restaurant**	20	100	50	100
2.4	**Overnight Accommodation**	70	70	70	100
2.5	Residential - Resident (1) Residential - Visitor	90 20	65 20	90 60	100 100

NOTES: (1) See Sentence 3.1.2.4.1 of this By-law.
(2) See Sentence 3.1.1.1.7 of this By-law.

3.1.2.4.1 For the purpose of Article 3.1.2.4 of this By-law, the calculation for residential **uses** shall exclude **retirement buildings** and **long-term care buildings**. *(0174-2017), (0111-2019/ LPAT Order 2021 March 09), (0117-2022)*

3.1.3 Accessible Parking Spaces

3.1.3.1 Required Number of Accessible Parking Spaces

3.1.3.1A **Accessible parking spaces** for non-residential **uses** shall be provided in compliance with Table 3.1.3.1 - Accessible Parking Regulations. *(0144-2016)*

3.1.3.1B **Accessible parking spaces** for residential **uses** shall only apply to the total number of visitor **parking spaces** required and shall be provided in compliance with Table 3.1.3.1 - Accessible Parking Regulations. *(0144-2016)*

Table 3.1.3.1 - Accessible Parking Regulations
(0190-2014), (0144-2016), (0018-2021)

Column	A	B	C
Line 1.0	**TOTAL NUMBER OF REQUIRED NON-RESIDENTIAL PARKING SPACES**	**TOTAL NUMBER OF REQUIRED VISITOR PARKING SPACES**	**MINIMUM NUMBER OF REQUIRED ACCESSIBLE PARKING SPACES**
2.0	1-12	1-12	1.0 space (1)
3.0	13-100	13-100	4% of the total (1)(2)
4.0	101-200	101-200	1.0 space plus 3% of the total (2)
5.0	201-1 000	201-1 000	2.0 spaces plus 2% of the total (2)
6.0	1 001 and greater	1 001 and greater	11.0 spaces plus 1% of the total (2)

NOTES: (1) See Sentence 3.1.3.1.1 of this By-law.
(2) See Sentence 3.1.3.1.2 of this By-law.
(3) *deleted by 0018-2021*.

3.1.3.1.1 Where only one **accessible parking space** is required, a Type A **accessible parking space** shall be provided. *(0018-2021)*

3.1.3.1.2 Where more than one **accessible parking space** is required:
(0018-2021)

(1) if an even number of **accessible parking spaces** is required, an equal number of Type A and Type B **accessible parking spaces** must be provided;
(2) if an odd number of **accessible parking spaces** is required, an equal number of Type A and Type B **accessible parking spaces** must be provided and the odd space may be a Type B **accessible parking space**.

See Illustration No. 15 - Section 1.3 - Illustrations

3.1.3.1.3 Where a shared parking arrangement is used for the calculation of required visitor/ non-residential parking, the required **accessible parking space** requirement will be calculated on either the visitor component or non-residential component. *(0144-2016), (0018-2021)*

3.1.3.2 Location of Accessible Parking Spaces

Accessible parking spaces shall be provided and maintained on the same **lot** in proximity to the main entrances to a **building** or **structure**.

3.1.3.3 *deleted by 0117-2022*

3.1.4 Loading Regulations

3.1.4.1 Loading Space Regulations

Loading spaces shall be required for the following **uses**:

(1) **Retail Store**
(2) Retail Centre *(0379-2009)*
(3) **Office**
(4) **Medical Office**
(5) **Overnight Accommodation**
(6) **Restaurant**
(7) **Convenience Restaurant**
(8) **Manufacturing Facility**
(9) **Warehouse/Distribution Facility**
(10) **Wholesaling Facility**

3.1.4.2 Required Number of Loading Spaces for Office and/or Medical Office Buildings

Where required for **office** and/or **medical office uses**, **loading spaces** shall be provided in accordance with Table 3.1.4.2 - Required Number of Loading Spaces for Office and/or Medical Office Buildings.

Table 3.1.4.2 - Required Number of Loading Spaces for Office and/or Medical Office Buildings
(0297-2013)

Column	**A**	**B**
Line 1.0	**GROSS FLOOR AREA - NON-RESIDENTIAL OF BUILDING**	**MINIMUM NUMBER OF OFF - STREET LOADING SPACES**
2.0	Less than or equal to 2 350 m^2	None Required
3.0	Greater than 2 350 m^2 but less than or equal to 11 600 m^2	1.0 space
4.0	Greater than 11 600 m^2	1.0 space plus 1.0 additional space for each 9 300 m^2 **gross floor area - non-residential** or portion thereof

3.1.5.1.3 A **stacking lane** associated with a **financial institution** shall be measured from a point located 2.0 m beyond the middle of the drive-through bank machine.

3.1.5.1.4 A **stacking lane** associated with a **motor vehicle wash facility - commercial motor vehicle** or **motor vehicle wash facility - restricted** shall be measured from the entrance to the wash bay. *(0379-2009)*

3.1.6 Bicycle Parking Regulations
(0118-2022)

3.1.6.1 General Bicycle Parking Regulations

3.1.6.1.1 Notwithstanding Articles 3.1.6.5 and 3.1.6.6 of this By-law, required off-**street bicycle parking spaces** shall only be required for the construction of new **buildings** or portions thereof, effective June 8, 2023.

3.1.6.1.2 Notwithstanding Article 3.1.6.5 of this By-law, **bicycle parking spaces** shall not be required for residential **uses** with less than 20 **dwelling units**.

3.1.6.1.3 Notwithstanding Article 3.1.6.6 of this By-law, **bicycle parking spaces** shall not be required for non-residential **uses** with less than 1 000 m^2 of **gross floor area - non-residential**.

3.1.6.2 Location of Bicycle Parking

3.1.6.2.1 A **bicycle parking space** shall be located on the same **lot** as the **use** for which it is required.

3.1.6.2.2 Required **bicycle parking spaces** shall not be located in a **dwelling unit**, storage locker or on a **balcony**.

3.1.6.3 Bicycle Parking Space Dimensions

3.1.6.3.1 A **bicycle parking space** is to be provided in either the following sizes:

(1) minimum length of 1.8 m, a minimum width of 0.6 m, and a minimum vertical clearance from the ground of 1.9 m; or,
(2) minimum clearance from the wall of 1.2 m, minimum width of 0.6 m, and a minimum vertical clearance from the ground of 1.9 m.

See Illustration No. 18 - Section 1.3 Illustrations

3.1.6.3.2 Notwithstanding Sentence 3.1.6.3.1 of this By-law, a **bicycle parking space - stacked** shall have a minimum vertical clearance of 1.2 m.

3.1.6.4 Bicycle Parking Aisles

3.1.6.4.1 The minimum **bicycle parking aisle** width shall be 1.5 m.

3.1.6.4.2 Access to and from **bicycle parking spaces** shall be provided by unobstructed on-site **driveways** or **bicycle parking aisles**.

3.1.6.5 Required Number of Bicycle Parking Spaces

3.1.6.5.1 Required Number of Bicycle Parking Spaces for Residential Uses

Off-**street bicycle parking spaces** for residential **uses** shall be provided in accordance with Table 3.1.6.5.1 - Required Number of Bicycle Parking Spaces for Residential Uses.

Table 3.1.6.5.1 - Required Number of Bicycle Parking Spaces for Residential Uses

Column	A	B	C
Line 1.0	**TYPE OF USE**	**BICYCLE PARKING - CLASS A**	**BICYCLE PARKING - CLASS B**
2.0	**Apartment** and **stacked townhouse** without exclusive **garages**	0.6 spaces per unit	The greater of 0.05 spaces per unit or 6.0 spaces
3.0	**Apartment** and **stacked townhouse** without exclusive **garages** (within CC1 to CC4 and CCO zones)	0.8 spaces per unit	The greater of 0.1 spaces per unit or 6.0 spaces
4.0	**Long-Term Care Building**	0.2 spaces per 100 m^2 **GFA - residential**	0.2 spaces per 100 m^2 **GFA - residential**
5.0	**Long-Term Care Building** (within CC1 to CC4 and CCO zones)	0.3 spaces per 100 m^2 **GFA - residential**	0.3 spaces per 100 m^2 **GFA - residential**
6.0	**Retirement Building**	0.3 spaces per unit	The greater of 0.03 spaces per unit or 6.0 spaces
7.0	**Retirement Building** (within CC1 to CC4 and CCO zones)	0.4 spaces per unit	The greater of 0.05 spaces per unit or 6.0 spaces

3.1.6.6 Required Number of Bicycle Parking Spaces for Non-Residential Uses

Off-street **bicycle parking spaces** for non-residential **uses** shall be provided in accordance with Table 3.1.6.6 - Required Number of Bicycle Parking Spaces for Non-Residential Uses.

Table 3.1.6.6 - Required Number of Bicycle Parking Spaces for Non-Residential Uses

Column	A	B	C
Line 1.0	**TYPE OF USE**	**BICYCLE PARKING - CLASS A**	**BICYCLE PARKING - CLASS B**
2.0	**Active Recreational Use**, **Community Centre**, **Hospital**, **Library**, **Place of Religious Assembly**, and **Recreational Establishment**	0.1 spaces per 100 m^2 **GFA - non-residential**	0.1 spaces per 100 m^2 **GFA - non-residential**
3.0	**Active Recreational Use**, **Community Centre**, **Hospital, Library**, **Place of Religious Assembly**, and **Recreational Establishment** (within CC1 to CC4 and CCO zones)	0.3 spaces per 100 m^2 **GFA - non-residential**	0.3 spaces per 100 m^2 **GFA - non-residential**

Table 3.1.6.6 continued on next page

APPENDIX N

Modal Split

TTS Modal Split

GTA Zones	Transit excluding GO rail	Cycle	Auto driver	GO rail only	Joint GO rail and local transit	Auto passenger	Taxi passenger	Walk
3602	549	147	5877	311	131	913	103	1214
3604	753	178	5848	337	256	854	0	456
3715	310	15	3953	284	176	637	0	403
3718	159	0	3054	107	61	863	33	157
3836	57	0	933	0	20	196	0	0
Total	1828	340	19665	1039	644	3463	136	2230
Percentage Split	6%	1%	67%	4%	2%	12%	0%	8%